AN EXPLORATIVE ACTION RESEARCH STUDY TOWARD THE DESIGN OF A DIGITAL KNOWLEDGE ORGANISATION AS PART OF AN INDIGENOUS KNOWLEDGE MANAGEMENT SYSTEM WITH A HERERO COMMUNITY

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Abstract

Indigenous Knowledge Management Systems are being developed in order to preserve, process and retrieve knowledge. Unfortunately, most of the systems available do not take into account the different cultural ways of organising and sharing indigenous knowledge. Current technology trends and developments have hardly been informed by African indigenous and rural knowledge systems. Either substantial modifications are necessary in adapting technology to the requirements of indigenous knowledge systems, or those systems are inadequately represented through technologies. This dissertation explores different options for organising video recorded indigenous knowledge, in the pursuit of maintaining local communication patterns and practices. Furthermore, methodological perspectives on the challenges and aims of designing products suited to rural practices and conceptualisations in Southern Africa will be explored. We pursue an explorative study following and action research approach. The evolutionary design of our indigenous knowledge management system is informed by a series of interactions, reflections, discussions and prototype evaluations with a pilot community in Eastern Namibia. We have extracted themes out of the discussions and interactions to inform our design and the development of a digital knowledge organisation.

Keywords: Indigenous knowledge, video organisation, rural community, Africa

Acknowledgements and Dedications

In Otjiherero there is an expression "kokure kakuiwa naurenga". It means: "we don't know where we are going so we must prepare ourselves mentally, physically and emotionally to embark the journey". Thinking about this project, I will merely call it a journey. When I started out on this project I did not know where I would be going. Now I have reached the destination and reflecting back makes me proud. During the phases of this journey I have been awarded the opportunity to travel the world. I have been to the United Kingdom in Birmingham to present the work that I am currently involved in with Indigenous communities. I have been to Germany to attend a summer school in order to gain more ideas on how information is categorised and preserved using different methods like the semantic web, ontologies and so on. Thinking about where I was when I first started out, and where I am today makes me so confident that I can now share the experience with others who want to pursue the same path.

I would like to thank the Almighty God who has guided me through all my travels those figurative and those not.

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Glossary

Elders: people of greater age, experience and authority

(see Oxford Advanced Leaner's Dictionary, 7th Edition)

In the context of this work it refers to a group of people in the greater age category and those who are knowledgeable community members regarding indigenous knowledge.

Homestead: a house with the land and buildings around it, especially a farm

(see Oxford Advanced Leaner's Dictionary, 8th Edition)

In the context of this work it refers to the houses at the village where the story or knowledge is collected and organised.

Kraal: an area surrounded by a fence in which animals are kept

(see Oxford Advanced Leaner's Dictionary, 8th Edition)

In the context of this work it refers to the area surrounded by a fence in which cattle are kept.

Listener: a person who listens

(see Oxford Advanced Leaner's Dictionary, 8th Edition)

In the context of this work it refers to the one who is listening to a story or knowledge being shared.

Narrator: a person who tells a story

(see Oxford Advanced Leaner's Dictionary, 8th Edition)

In the context of this work it refers to the one telling a story or sharing Indigenous knowledge with an audience.

Prototype: the first design of something from which other forms are copied or developed

(see Oxford Advanced Leaner's Dictionary, 7th Edition)

In the context of this work it refers to the forms of designs used for uploading and playing back recorded videos via laptop.

Themes: the subject or main idea in a talk

(see Oxford Advanced Leaner's Dictionary, 7th Edition)

In the context of this work it refers to the ideas collected during discussions with the community members.

Video: the process of recording and showing movies and programmes using a special camera

(see Oxford Advanced Leaner's Dictionary, 7th Edition)

In the context of this work it refers to the indigenous knowledge recorded by the community members by means of video-audio recorders.

Youth: young people considered as a group

(see Oxford Advanced Leaner's Dictionary, 7th Edition)

In the context of this work it refers to the young community members.

Abbreviations

AR.   Action Research

ICT.   Information and Communication Technology

HCI.   Human-computer interaction

IKMS.   Indigenous Knowledge Management Systems

IKS.   Indigenous Knowledge Systems

List of Publications

Bidwell, N. J., Winschiers-Theophilus, H., **Kapuire, G. K.**, & Chivuno-Kuria, S. (2011). Situated interactions between audiovisual media and African herbal lore. Personal and Ubiquitous Computing, 15, 609–627. doi:10.1007/s00779-010-0337-1

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Jensen, K. L., Winschiers-Theophilus, H., Rodil, K., Winschiers-Goagoses, N., **Kapuire, G. K.**, & Kamukuendjandje, R. (2012, June). Putting it in perspective: Designing a 3D visualization to contextualize indigenous knowledge in rural Namibia. *In Proceedings of DIS 2012 (pp. 196-199).* ACM. ISBN 978-1-4503-1210-3

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Winschiers-Theophilus, H., Blake, E., Bidwell, N. J., **Kapuire, G. K.,** & Chivuno-Kuria, S. (2010). Being participated: A community approach. In *Proceedings of the 11th Biennial Participatory Design Conference* (pp. 1-10). ACM.

Winschiers-Goagoses, N., Winschiers-Theophilus, H., Rodil, K., **Kapuire, G.K.**, & Jensen, K. (2012). Design democratization with communities: Drawing toward locally meaningful design. *International Journal of Sociotechnology and Knowledge Development, 4,* 32-43.

Winschiers-Theophilus, H., Winschiers-Goagoses, N., Rodil, K., Blake, E., Zaman, T., **Kapuire, G. K.**, & Kamukuendjandje, R. (2013). Moving away from Erindi-roukambe: Transferability of a rural community-based co-design. *Proceedings of the 12th International Conference on Social Implications of Computers in Developing Countries.* Jamaica

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CHAPTER 1

INTRODUCTION

1 The Need for an Appropriate Indigenous Knowledge Management System

One of Namibia's national growth goals is the development of rural areas through the provision of electricity, water and the introduction of new technologies to communities. More and more opportunities are being provided to reach these national developmental goals. An important factor to consider for sustainable development is the existence and preservation of valid indigenous knowledge. Indigenous knowledge is an important aspect of life in the rural areas and is unique to a given culture, society or regional community. In rural African communities, indigenous knowledge has been passed on from one generation to another through oral communication practices, with storytelling being one of the most common methods (Sherwani, Ali, Penstein & Rosenfeld, 2009). Currently, indigenous knowledge is only accessible directly from the holders of that knowledge, as it is often not recorded, in written or in any other form. Thus, this knowledge is in danger of being lost and thereby forgotten, as knowledgeable elderly community members pass away and so too does the knowledge they possess.

This said knowledge, wisdom and experience, can significantly contribute to developmental methods used for local communities (Kapuire & Blake, 2011). Indigenous knowledge has, for centuries, contributed to sustainable development of communities, in aspects of their livelihoods, including health, animal husbandry, natural resource management and agriculture (Lishan, 2007; Grenier, 1998).Thus, it is

very important to record and document the knowledge before it becomes obsolete and eventually vanishes. There is no central repository where younger community members can access this knowledge and as a result communities can lose existing and significant knowledge if nothing is done to preserve it. In order for this body of knowledge to be preserved, digital media could offer a solution for both current and future generations (Winschiers-Theophilus, Bidwell, Chivuno-Kuria & Kapuire, 2010; Lishan, 2007).

Information and Communication Technology (ICT) may be the answer to bridge the gap between current and future generations. ICT can be the driver for political, social and economic progress within Southern African societies. However, ICT applications developed in urban settings do not take into account the challenges of African rural environments (Kapuire, Winschiers-Theophilus, Chivuno-Kurio, Bidwell, & Blake, 2010). Most Indigenous Knowledge Management Systems (IKMS) utilise standard models for storage and retrieval operations; these are usually not appropriate for rural African communication customs (Kapuire et al., 2010). In terms of ICT infrastructure and exposure, there is a major digital divide between urban and rural dwellers in Namibia (Kapuire & Blake, 2011). In the rural areas there is no Internet connection and the usage of mobile phones is limited due to poor or absent mobile network towers, whereas in the urban areas there is access to the internet and stable mobile network towers and their various network providers (Kapuire & Blake, 2011).

Most ICT applications are developed in the urban environment by urban-centred technologists. Thus, the applications are best suited for people in the urban context. We are cautioned to consider the degree to which the replication of Western approaches to usability methods in India and Africa is to be encouraged. The problem

is particularly acute, as evident in collaborative institutional projects in India and China. The developing local usability communities are probably too keen to implement 'best practice' from the West before fully testing its relevance in the local culture (Oyugi et al., 2008). Human-computer interaction (HCI) practitioners need to develop evaluation methods that are more appropriate for different user groups. The concepts of knowledge and forms of information communication held by an individual or community depend on their locality. Thus, it is essential that rural users are able to shape their usage of ICT without stepping outside of their cultural norms and identity. Moreover, if technology was designed in the absence of an input from the local culture, its appropriation often fails (Winschiers-Theophilus, 2009). The validity of high-level models for Software internationalization and localization, are now widely questioned due to their reliance on determinants that are locally irrelevant, data sets that are out-of-date, and generalizations of unique communities, just as long as they fall within the national boundaries (Winschiers-Theophilus, Bidwell, Blake, Kapuire & Rehm, 2010). We argue that part of the problem is the inappropriate integration of cultural models in the entire design as well as in the evaluation process.

This research paper is embedded in a long-term collaborative research project in which the aim is to develop indigenous knowledge management system with the help of a selected local Namibian community. As current systems do not support the social-cultural and communication structures of local communities, the focus of this study is to explore, formulate and design suggestions together with the community for the purpose of storage and retrieval of indigenous knowledge. Thus, for the design of an IKMS we need to understand the structure and transfer of indigenous knowledge

within the local context. The organisation and processes will be derived from existing knowledge transfer and communication patterns.

1.1 Motivation

The indigenous forms of communication are important to local level decision making processes, for the preservation and distribution of indigenous knowledge. For generations, community members have been using their indigenous knowledge and skills to prosper in the rural environment. In the past, the elders gathered the youth around the fire, where stories and knowledge were transmitted. The youth that stayed in the village absorbed the knowledge, while those that left, lost the opportunity to gain this knowledge.

However, through migration to urban areas the chain of knowledge transfer has been disturbed, albeit with the risk of losing the entirety of this indigenous knowledge. Elders no longer have the opportunity to transfer their indigenous knowledge to the future generations, and the knowledge perishes as the elders pass away. Community members that leave the village but regularly return often struggle, as they do not have the skills or knowledge to perform required activities and rites. This makes it necessary and vital to record the knowledge and archive it for those who are residing in urban areas and those yet to come.

1.2 Aims

The objective of this research project is to derive an initial digital knowledge organisation for an IKMS, which assists with the classification and organisation of digitised indigenous knowledge. The design of the digital knowledge organisation is inspired by the elders' ways of sharing their indigenous knowledge, the observation and feedback of technology evaluations, discussions and reflections. A high priority

of the research is to involve community elders and other participants through meaningful inquiry and evaluating methods to inform the design of the IKMS.

1.2.1 Problem Statement

Fundamentally, indigenous knowledge is organised, structured and communicated differently as compared to how Western knowledge is currently represented and propagated in ICTs. Thus, we are attempting to explore designs of alternative digital knowledge organisations based on local communication practices, through collaborations with a pilot community. Due to their level of technological understanding, community members do not have explicit requirements and design ideas. Thus, suitable methods need to be explored facilitating elders' input to the digital knowledge organisation.

1.2.2 Key Research Questions

The main area of concern in my research is as follows:

How can we develop a digital tool that supports members of the community to complete the indigenous knowledge transfer, in much the same manner in which they traditionally share information with others within the natural setup of their lifestyle through action research interventions?

The minor research questions therefore are as follows:

In what ways can technology probes collect sufficient data and help in the construction of an appropriate design portal of indigenous knowledge organisation?

How can design ideas be elicited from the implicitly held notions of information organisation of the elders through our interactions?

Which methods best allow elders of the community to conceive strategies for the transfer of indigenous knowledge?

How should indigenous knowledge be represented? What would be the best methods of implementation and integration of indigenous knowledge in environments focused on the dissemination of digital knowledge organisation? How is the use of technological equipment in the sharing of indigenous knowledge by elders investigated?

What are the available best practice methodologies available to researchers in representing and implementing programs that preserve indigenous knowledge for years to come?

1.3 Challenges

During the research process we faced major challenges that had to be overcome. Design challenges included, bridging a generational, an urban-rural, as well as a conceptual and technical gap. Another major challenge was to ensure maximum input and involvement from the community elders. In the absence of comprehensive literature and guidelines, suitable approaches to collect design ideas from the community were explored.

At times, interviews with camcorders hampered free discussions for various reasons, such as shyness and secrecy. Furthermore, elder community members have never interacted with technologies, such as laptops and camcorders. We thought the technology introduction may slow down design collection due to hesitations from the community members and with this in mind we always gave explanatory introductions before starting a testing session.

A number of technical challenges, such as the lack of electricity in the rural areas required improvisations. Occasionally a test session had to be concluded earlier than expected, due to low battery power of mobile phones and other technologies. We

used solar panels (see Figure 1) and inverters (see Figure 2) connected to car batteries

to charge laptops and mobile phones.
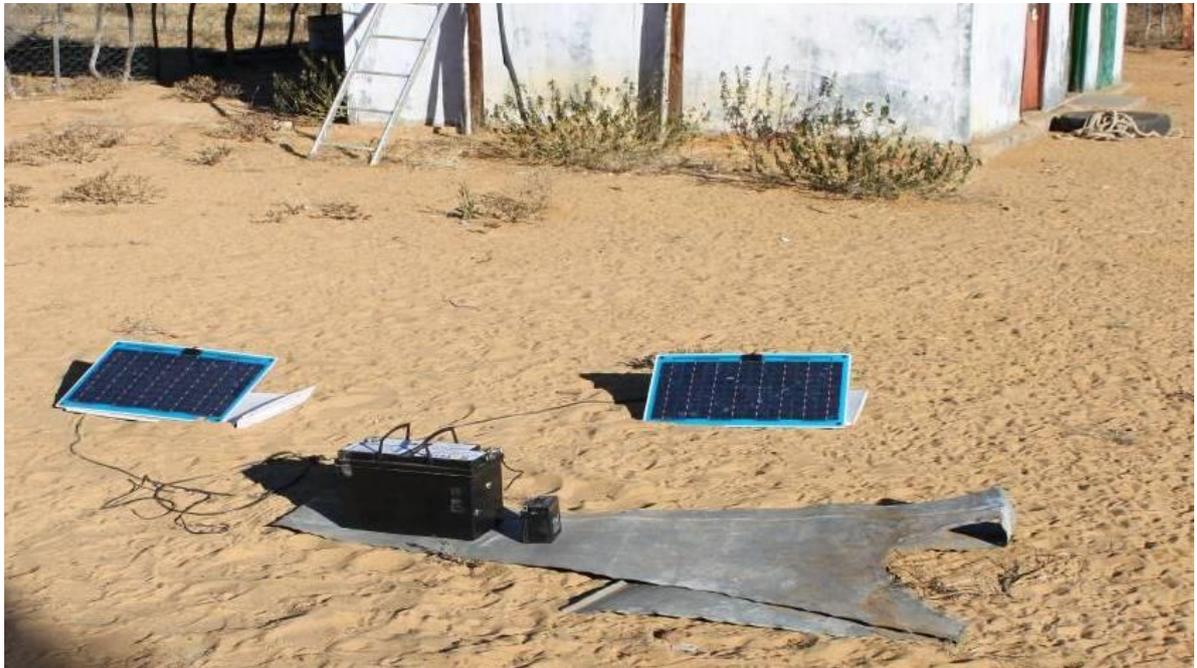
Figure 1. Using a battery and solar panels for charging laptops and mobile phones.
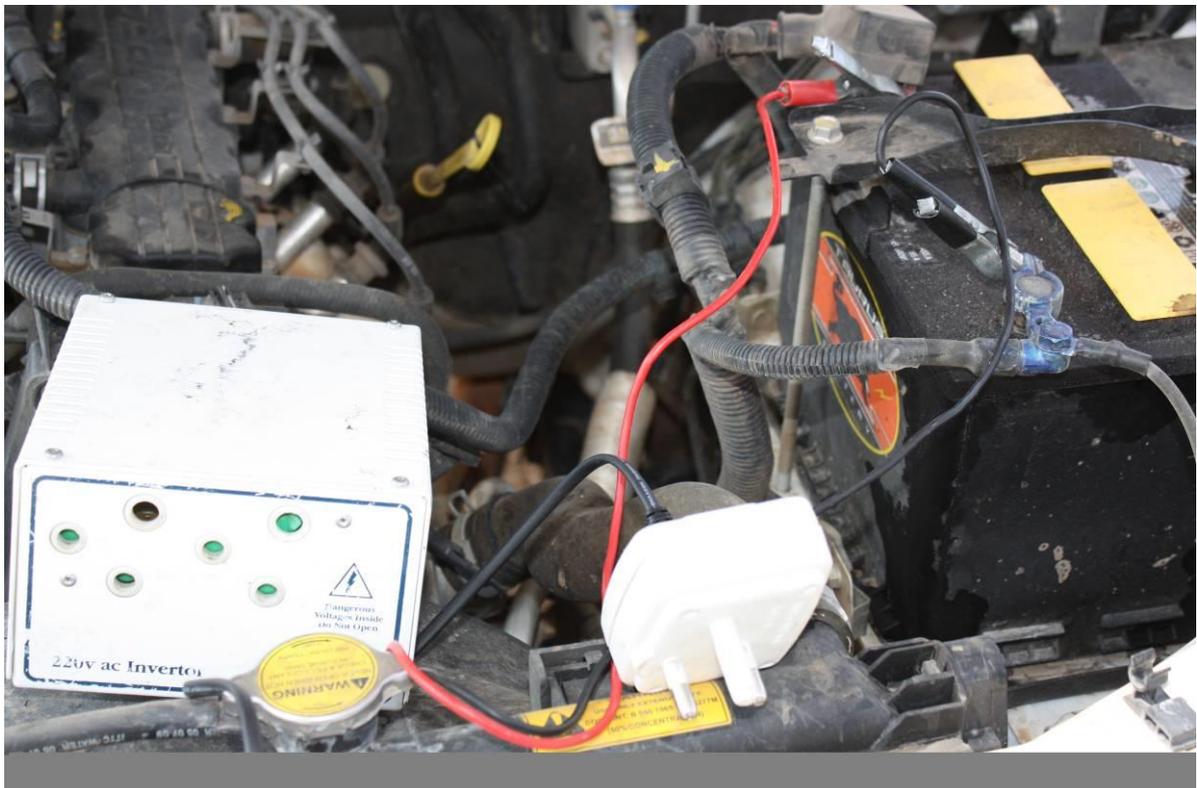
Figure 2. Using a car battery and inverters for charging laptops and mobile phones.

The physical and geographical rural environment also presented a challenge. The rain, wind, and sand caused various problems during sessions. For example, during the prototype testing the wind interfered with the sound quality, also the sun regularly affected the visual display of the laptop screens.

1.4 The Pilot Community

The pilot community is presented in order to point out the uniqueness of the local community. Describing the community in greater detail also allows for future transferability of research methods and designs to similar communities.

My position. I originate from the pilot village; where I resided until the age of twelve. Since then I have regularly returned, maintaining a homestead and an affiliation with the community members. All research activities with the community members were organised and facilitated by myself, with external co-researchers present. Being well accustomed with the community and their protocols, as well as speaking the local language, I have an advantage over external researchers. Most of the inhabitants of the village have not been to school where English was used as a language of communication, therefore the inhabitants being proficient only in their mother tongue, Otjiherero, most communication occurs in the Otjiherero language.

History. The pilot community is of Herero ethnicity. They are one of many indigenous groups residing in Namibia. The Herero people played a big part in the struggle for freedom that lead to the liberation of Namibia. Before colonization most of the indigenous groups in Namibia, including the Herero, survived from the lands natural resources and their own indigenous practices. For example, they possessed the indigenous knowledge that enabled them to grow edible plants in the arid

environmental conditions (see Figure 3), and they used plants from the environment for healing (see Figure 4).

Figure 3. An elder showing edible plants growing in the field.

Figure 4. An elder showing part of a plant for healing tooth aches.

Many Herero villages in Namibia are named after a specific yet unique feature in the village. For example, the elders who participated in this project and their ancestors lived in farms owned by white people. They needed a place to settle and so

they undertook a journey in search of resettlement. They came upon a place where there was a big river. They said the river was so big that it 'covered' the horses. People drank from the water but never go in, as it was so broad. They decided to settle in the place and named it after the extraordinary river. This is how my village got its name, Erindiroukambe, which means "river for horses".

In the past the community members used to communicate with nature. The community members would sing to summon rain, they had songs like "Ngororo jeja Ngoniha jeja maetja engororo" which says "Millipede came, traditional butter came says the millipede" in English. The elders rejoiced as they knew the rain leads to an increase in fruits and crops, the cattle will have more grass and produce more milk. The elders used the milk to make "ongoniha" a traditional butter, hence the reference in the song. The song was passed on from one generation to the next, but these songs are no longer sung.

Village location and layout. The village is located in Eastern Namibia, in the Omaheke region (see Figure 5) (S21°6'47.84", E19°7'52.32"). The village consists of 18 homesteads, with a total of 200 members, ranging in ages.

Figure 5. Map of Namibia showing the location of Omaheke region (retrieved from http://en.wikipedia.ord/wiki/File:NamibiaDetailFinal.jpg).

The layout of a village, which is almost identical in all Herero villages, plays an important role in the Herero culture. The kraal, where the cattle are kept, is always in front of the main house. The front of the house faces west, as the sun rises from the east. Constructing the houses according to this setup has been the way of the ancestors and has been passed on to the current generation. Some of the homesteads in the village have a special fire, referred to as the holy fire. The fire is always positioned in front of the main house, in front of the kraal. There is currently no electricity supply in the village. The village has a central waterpoint at which water can be collected and given to the animals to drink.

When the community members walk from one place to another, they use features of the environment, like trees, rivers, cattle paths, and footprints to determine

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their position. Environmental clues are used to travel to the next village and search for cattle.

Community structure. Within the village there are no schools and the youth have to travel to the distant town of Otjinene, approximately 70 Km away, or to even further urban areas approximately 267 Km away, to receive an education. Transportation can be costly and time consuming, resulting in many students temporarily relocating to a new town or dropping out of school due to financial constraints. Some members have not obtained a secondary education as they have been residing in the village since childhood. Most are not officially employed, as there is a lack of job opportunities within the surrounding areas. The only income they generate is by selling cattle during auctions. Additionally, the elders get monthly pensions from the government.

Many activities occurring in the village are undertaken as a community. Branding cattle is a good example of this collaboration, as numerous community members from different homesteads collectively join in this activity. No request is conveyed for assistance and many go to the kraal without being asked. The community members without adequate skills and knowledge perform the basic tasks under the guidance of more knowledgeable members. This form of rural collectively has become a norm for all members. The community members believe that people influenced by urbanised attitudes, such as individualism, are strange and not respectful.

1.5 Outline of Dissertation

Chapter 1:   This chapter introduces the need for the preservation of indigenous knowledge with an ICT approach. The challenges and reasons behind

designing an IKMS are briefly discussed. An extensive summary of the pilot community is provided; containing details about the history, location, layout, and community structure.

Chapter 2:   This chapter reviews the current literature on indigenous knowledge technology, clearly revealing its importance as a research area. The review covers existing literature on indigenous knowledge system in the African context and outside Africa, while others address methods used in designing applications for rural communities.

Chapter 3:   This chapter describes the action research methodology used in the current research. The different methods used in the design of the digital knowledge organisation are mentioned.

Chapter 4:   This chapter discusses the findings obtained throughout the different phases of the action research. Elements used to trigger design ideas are mentioned.

Chapter 5:   This chapter presents the digital knowledge organisation we suggest, based on the findings.

Chapter 6:   This chapter looks at future work and draws important conclusions.

CHAPTER 2

LITERATURE REVIEW

2 Indigenous Knowledge Systems

According to Thinyane et al. (2007) indigenous knowledge can be defined as local traditional knowledge that is unique to a particular culture and is not developed within the formal education system. It includes knowledge about medicinal plants, health care, agriculture, food, clothing, music, dance and poetry. Indigenous knowledge has become an important concept in approving local practices (Van der Velden, 2009).

Indigenous communities have their own unique way of looking at and relating to the world, as well as to each other (Ascher, 2002). The teaching processes of indigenous knowledge focus on observing natural practices, constantly altering models of survival, obtaining provisions from the animal and plant world, as well as using ecological materials to create tools (Barnhardt & Kawagley, 2005). However, these indigenous approaches are being jeopardized by the overwhelming spread of Western institutionalised forms of education (Kawagley & Barnhardt, 1998).

Indigenous knowledge systems (IKS) are distinct from Western knowledge systems in many ways. Western knowledge systems are spread universally through Western education, which is entrenched in many world cultures (Dewes, 1993). IKMS on the other hand are confined to specific areas and are being suppressed in most parts of the world (Dewes, 1993). Moreover, the content and development of IKS in Africa are not adequately researched and documented (Kolawole, 2001).

According to Winschiers-Theophilus (2009) most ICT systems used in African societies are based on Western designed and developed systems, which have been imposed universally (see also Sherwani et al., 2009). In order to design an appropriate system, it is important to distinguish between Western and African ways of sharing indigenous knowledge, to accommodate the differential behaviours displayed. Winschiers-Theophilus (2009) emphasized that the design and evaluation process needs to be appropriated to the user community, in order to prevent alien conceptualisations from being carried forward into the implementation stage. Furthermore, Winschiers-Theophilus and colleagues (2008) illustrated that community-based cultures have a different approach to information and knowledge transfer, which should be reflected in the design of information and decision support systems. This will result in a system that is accepted and usable by the target community.

To overcome the imbalance in design approaches, collaborative research specifically focusing on education and IKS need to be further developed (Harrison, 2001). Essential to this development, indigenous communities have to reposition themselves in an active leadership position, allowing the expression of authority in both the construction and implementation phases (Harrison, 2001).

2.1 Digitalising Indigenous Knowledge

A number of initiatives, in various countries, have attempted to implement software systems to capture and preserve indigenous knowledge (Fogwill, Viviers, Engelbrecht, Krause & Alberts, 2011). The usage of an open source software tool, which enables indigenous communities to preserve their knowledge through digitization, is an example of such an attempt (Lishan, 2007). However, as with all

new implementations, these tools should be preceded by an understanding of the local context and insights into who benefits from the indigenous knowledge. For certain contexts, it might even be recommended to use low-tech approaches as a starting point, as the majority of those who use IKS may not have experience with advanced technologies (Lishan, 2007). According to Lishan (2007), efforts to capture indigenous knowledge using ICTs and databases were previously not successful. He believes that this is due to inadequate frameworks for capturing and presenting the knowledge, to the people who need it and often do not have access to ICTs.

Lishan (2007) suggested that a wide range of software and platform tools could be used for the management of indigenous knowledge. The suggested tools included content management systems and databases. Duncker (2002) introduced an indigenous Maori community to digital libraries, which they could use to store and transfer their indigenous knowledge. With the digital library the Maori could transfer their knowledge in the form of songs, stories, paintings, carvings and retrieve knowledge through written and oral records (Duncker, 2002). Duncker (2002) examined the usability of the library metaphor in digital libraries. Libraries are a popular phenomenon, used extensively by cultures which use written texts to transfer knowledge (Duncker, 2000). As current digital libraries require the knowledge of Western classification, the Maori found the digital libraries difficult to use.

Lishan (2007) also suggested text- , character- , and speech- recognition tools, graphical touch screens, and tools for audio and video recordings. Frohlich et al. (2008) explored ways to support the creation and sharing of the user-generated contents in a rural Indian context. The author's explored technologies that allowed digitally impoverished groups to take part in a user-generated content revolution. Their approach involved using mobile phones to create audio-visual stories and a

touch screen display situated at a community meeting place, where the stories could be shared. A user could upload a story created on their mobile phone to a repository. All uploaded stories could then be browsed by a simple touch-screen paging mechanism and with which they could also send the story to their mobile phone (Frohlich et al., 2008). Audio-visual digital recording technologies enable oral stories, songs, dances, ceremonies and practices to be captured in original indigenous languages (Maina, 2012). According to Ossai (2010), video and radio broadcasts in local languages, could transfer indigenous knowledge practices using story-telling techniques, especially in the rural areas. Telecentres could help knowledge flow in a two way street, from the local communities outward and from the global community inward (Ossai, 2010).

The knower-centred approach views knowledge as a human resource; importance is based on generating situations which facilitate the sharing of knowledge in an informal manner, such as story-telling (Van der Velden, 2002). Technological tools used for this approach offer collaborative knowledge sharing in numerous ways, such as social networking sites and discussion forums (Van der Velden, 2002). An increasing variety of initiatives are aiming to enable rural communities to generate non-text based, digital content to share information, local stories, and concerns (Bidwell, Standley & Steffensen, 2008). Reitsma (2011) developed StoryBeads, which is an interactive story-recording device, based on African storytelling traditions. StoryBeads is a concept in which oral stories can be recorded to tangible beads; inviting both storytelling and performance. It ensures that the oral richness of the culture will stay preserved when recorded with the beadwork (Reitsma, 2011). According to Devatine (2009) orality is the restitution of memory transmitted through

diverse expressions of the voice or words of a culture. Orality also touches upon the liberation of memory and the re-creation of culture.

Alternatively, the knowledge-centred approach concentrates on the collection of knowledge and its codification (Van der Velden, 2002). This approach relies on information systems such as digital dictionaries, expert systems, and best practice databases (Van der Velden, 2002).

Digital ICTs have revolutionised the ways in which knowledge travels around the world (Greyling, 2008). For example, Web 2.0 technologies are used to create a collaborative online indigenous knowledge database (Greyling, 2008). Participation from the community ensures the collecting, recording and preserving of indigenous knowledge and ultimately accomplishes knowledge sharing, skill development, job opportunities and empowerment within communities (Greyling, 2008). The development of Web 2.0 technologies, relying on user-generated content, bottom-up exhibition, and display modes, has resulted in a dynamic platform for sharing knowledge (Christen, 2011). With the growth of new digital technologies, indigenous communities have the opportunity to collaboratively produce new models for the creation, exchange and reproduction of indigenous knowledge (Christen, 2011). While digital technologies allow for knowledge to be widely circulated, it does pose the challenge of what can be done when communities wish to maintain their traditional cultural protocols for the viewing, circulation and reproduction of their materials within the digital frame (Christen, 2011).

2.2 Categories of Indigenous Knowledge

Maina (2012) maintains that traditional knowledge cannot be separated into categories such as religion, philosophy, and science; which is seen in library and

information science classification schemes. The elders interviewed by Maina (2012) stated that traditional knowledge has to be seen as a holistic concept, in which all elements are interconnected and could not be understood in isolation. Using library classification systems based on Western organization of knowledge has resulted in misrepresentation, a general shortage of representation, and lack of access to indigenous knowledge (Maina, 2012). To overcome these limitations new classification systems, created via consultation with indigenous communities and based on local taxonomy, need to be developed (Maina, 2012).

Van der Velden (2009) gives a detailed explanation on the classification work of Jonathan, a Maasai knowledge worker from Southern Kenya. Jonathan was part of a global network organisation, in which indigenous knowledge was shared in a distributed database system to aid local development. The software, originally developed in India, was designed to be used in a variety of cultural settings and therefore had a classification system which could be adapted to the needs of the local communities. Since the database was viewed as globally neutral, it allowed for local cultural inscriptions and did not contain any categories; it was up to Jonathan to add the sub-categories. Jonathan found this classification process difficult since neither he nor the other knowledge workers had been part of the software design and its default classification system. Furthermore, they felt it was not their role and it was rather the responsibility of the designers (Van der Velden, 2009).

2.3 Community-Based Action Research

For the purpose of this dissertation, action research and participatory action research will be combined to form one conceptual term referred to as action research (AR). AR is an interpretive and qualitative method that departs from traditional social

science methodologies (Brydon-Miller, 2001; McTaggart, 1991). AR can be categorised as a research processes which gives equal weight to research and action (Dick, 2000). With these methods, researchers in collaboration with participants identify a social problem and follow a process of fact discovering, conceptualisation, planning, implementation and evaluation; with this process they simultaneously resolve the problem and generate novel knowledge (Khan & Chovanec, 2010). The methodology of AR allows for an alternative production of knowledge, based on the target users' role in setting the agendas, partaking in the data collection, analysingand controlling the outcomes (Tandon, 1989). After each AR cycle, a period of reflection is undertaken in which the results of that cycle are examined, in order to plan the next cycle (Blake & Tucker, 2006). This process makes the target users feel comfortable with the system, as they had a significant stake in the design process (Blake & Tucker, 2006). The researcher in AR plays the role of a facilitator, who collaboratively works to involve the participants in every aspect of the research process (McTaggart, 1991).

Blake (2010) affirms that AR attracts both enthusiasts and critics. This is surprising as AR applies an engineering paradigm for dealing with complex design situations, in order to achieve democratic social reconstruction (Blake, 2010). AR is an ideal method for addressing situations in which designers do not initially comprehend local issues and the local communities cannot appreciate the potential of ICT to address their development needs (Blake, 2010). AR can be especially powerful for previously oppressed communities as they have the opportunity to share and thus regain their stories and knowledge (Salazar, 1991).

To date there has been relatively little empirical documentation about the advantages of AR (Turnbull, Friesen, & Ramirez, 1998). However, Turnbull et al.

(1998) maintain that AR has the advantage of increasing the importance of research to the participants, the rigor of the research, the utilization of research by the participants, and enhancing the empowerment of participants, communities and researchers. Furthermore, AR allows participants to conduct their own research, shift research into the direction of their own interests, explore problems from their perspectives, and results in liberation through critical reflection and pursuit of knowledge (Tandon, 1989).

For rural communities, Chetty, Tucker and Blake (2004) recommend using AR to develop locally relevant software applications. Using critical AR to design software for a developing society may be even more advantageous, as it places a strong emphasis on the empowerment of groups (Blake, 2006). Existing software development methodologies, which were developed for usage in an urban context, may not be appropriate for a rural context (Yeo, Ee-Lee, Zawiyah & Samson, 2010). When examining the activities in a software development project for a rural community, Yeo and colleagues (2010) realised there was a need for community-centred software development methodologies which incorporate an AR approach.

Vital to the process of AR, specifically in rural areas, are community meetings; these can be used to discuss the problems at hand, analyse data collected, and reflect on progress (Reason, 1994). These community meetings allow for the expression of cultural activities and local knowledge sharing rituals, such as storytelling, songs, drawing and other engaging activities (Reason, 1994). These activities encourage a social validation process of the research and data obtained, which could not be done through orthodox processes of surveys and fieldwork (Reason, 1994).

Using an AR approach, Reitmaier, Bidwell and Marsden (2011) conducted a technology evaluation workshop, in which community members were involved in the decisions about incorporating audio and visual media in mobile digital storytelling. Design requirements and ideas surfaced while the authors watched the users take photos, record audio and create stories together (Reitmaier et al., 2011).

2.4 Summary

Indigenous knowledge has been defined as local traditional knowledge that is unique to a particular culture. A common thread in the literature is the emphasis on IKS being distinctly based on Western knowledge systems. However, it is important to adjust existing systems and to incorporate new design ideas when developing for a new culture. The literature review has shown that a number of initiatives have attempted to implement software systems to preserve and capture indigenous knowledge.

Indigenous knowledge, categorized with standardized information science classification systems, is divided into subjects such as religion, philosophy, and science. However, considering that African indigenous knowledge follows a different conceptualisation we follow a bottom up approach in facilitating community members to categorise their indigenous knowledge. Various techniques will be utilised to gain more insights into how elders classify indigenous knowledge.

According to the literature, AR can be especially powerful for previously oppressed communities, as they have the opportunity to share and thus regain power and knowledge. With this in mind, three AR cycles were used during the current study. The collected data from each cycle was analysed and used for the planning of the next cycle.

CHAPTER 3

METHODOLOGY

3 Overview

Community based AR, which ran through three sequential cycles, was used to investigate a suitable indigenous knowledge architecture and retrieval mechanism (see Table 1 and Figure 6). To derive design ideas on how to organise and represent the indigenous knowledge, in a way which is meaningful and understandable by the community members, a variety of methods were used. These included community meetings, contextual interviews, prototype designs and evaluation sessions (Winschiers-Theophilus, Chivuno-Kuria, Kapuire, Bidwell & Blake, 2010). After each cycle, the data and activities were analysed, reflected on and utilized for the planning of the next cycle.

The different colours in Table 1 represent the activities of the AR cycles. Orange represents the planning phase, red is the action phase, green the evaluation and analysis phase and blue the reflection and summary phase.

Table 1

An overview of the action research cycles

Cycle 1 – Community Consensus and Recordings			
Timeline	Names	Description	Purpose
	Initiation Meeting	Gathered knowledgeable elders Discussion Informing elders	To get agreement to be able to do project with them/together
2008	Interview	Questions prepared in Windhoek, translated in Otjiherero and facilitated in a structured manner All recorded	Determining how indigenous knowledge is used and applied by the elders in the village Understanding the importance of

Timeline	Name	Description	Purpose
			indigenous knowledge within the village
	Sample recordings	Video recorded elder telling indigenous knowledge	How participants cope with recordings Technology like sound, picture Quality of the sample
2009	Community meeting	Project explanation Community members gathered	Introduce project to wider community Reconfirm original statements Discussion on specific themes
	Recording sample Demonstration	Display on laptop prior recordings Elders commenting while watching	To show them recordings to give them an idea for further recordings
	Community Recordings	Got flip cameras Youth sent out and came back with sample recordings	To see what they record How they handle the technology
	Analyse of data/ Specification	Prototype developed Observation of usability	To design an appropriate system Develop new specifications
	Evaluation of prototype 1	Gathered 5 elders Laptop representation Explanation of prototype One elder was operating Interaction with prototype	Encourage users to respond Evaluate the prototype
	Summary and Reflection	Contextual inquiries carried out Interactions captured on video, transcribed and translated	Prototype developed for suitability

Cycle 2 – Community based action research			
Timeline	Name	Description	Purpose
2009	Recording of Narration/Demonstration	Recording of slaughtering Two cameras (one pointing to narrator, one to listener) Community members present	Deeper analyses of narrative structure
	Thumbnail Sorting /iTunes	Video clips uploaded on laptop Choosing of video on laptop Community members involved in experiment Display of card on a board	Identify relations and sequences
	Map Construction	Elders gathered Youth photographed Community members make spatial map on paper	To see how they link a videos location on a map
	Specification for Prototype 2	Researcher design specifications Co-design with other researcher	Reflection on previous prototype
	Evaluation of Prototype 2	Community members tested usability of system Community members gathered	To design an appropriate system Develop new specifications
	Reflection	Maintain trust	For better participation

		Feedback, constructive criticisms and suggestions by elders Elders selected	To develop conceptual ideas
Cycle 3 – Action research and digital knowledge organisation design			
Timeline	Name	Description	Purpose
From 2010	Discussion	5 elders selected to co-design and to see what is best from previous experience Discussion recorded for thorough analysis Previous prototypes displayed	To trigger final understanding on what really fascinates the community.
	Specification of Prototype 3	Co-Design	Test new design ideas
	Evaluation	Discussion Scenarios displayed Youth and elders tested prototype	To see how perceive 3D video representation
	Video recorded interview on project reflection / Recording indigenous knowledge	Recorded indigenous knowledge with 6 elders Recorded Translated 2 elders selected to share experience on project	Triggering decisions on why and when elders share knowledge Elders sharing on how they foresee the project Sample recordings to trigger conceptual ideas
	Focus group	Supervisor with elders together under tree	Get specific answers for final design
	Reflection amongst researcher and community	Action research method used Gathered community members tested and were influenced by technology to provide design ideas Elders reflect on prototype 3	Elders reflection on prototype 3 design to get more insights for further design
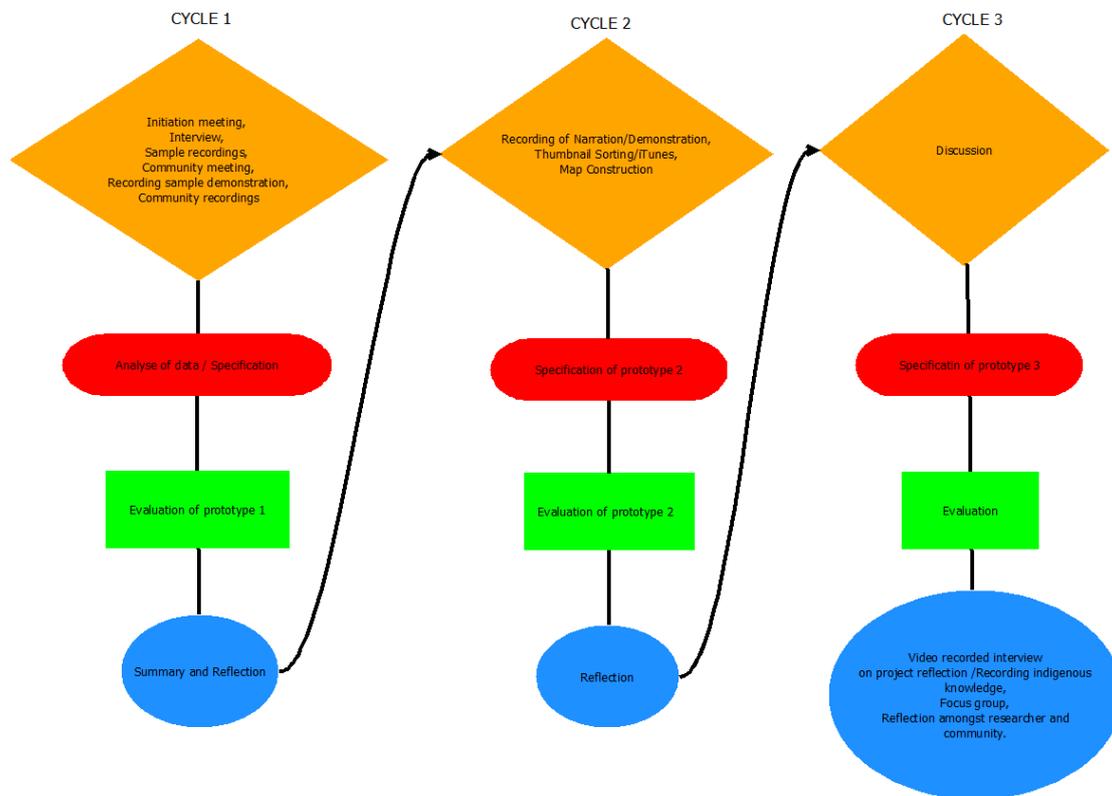
Figure 6. Graph representing the action research cycles as presented in table 1 which happened sequentially.

In this research, different technologies, knowledge architectures and interaction techniques were introduced, tested, and reflected upon with the community members. Afterwards the techniques and technologies were tested, to ensure they contained compatible retrieval ideas and concepts. Within this chapter, the involvement and discussions by the community members will be brought forward, as they were a fundamental part of the design.

3.1 Cycle 1

We engaged in an agreed upon project with the community members, in which we explored high level design ideas. The first cycle consisted of a familiarisation stage, between us and the community.

3.1.1 Initiation Meeting

The participation of the community members is a core element of the long-term research project; gaining and maintaining trust, and choosing whom to involve was extremely important. I selected two knowledgeable elders on the basis of long-term trust, validity of their knowledge, and family relationship. At the beginning, we invited the two elders to an initial discussion. Respecting the elders and gaining their commitment was a core objective of this cycle.

To introduce and discuss the project, the elders gathered at the researchers' homestead. First we discussed the research background; that indigenous knowledge is being forgotten and that the aim is to preserve the knowledge collected from the elders. This triggered enthusiasm in the elders, and ensured us that they were in agreement with the research project and the motivation behind it. Key elements of the project were introduced to the elders, for instance, that the data will be used to design a system that will transfer knowledge between community members. I facilitated the discussion in Otjiherero, while my co-researchers video recorded the discussion for post-situ translation and documentation.

Afterwards the elders and I retreated to the water place, to make the final decision. The water place, positioned centrally in the village, is a regular place for the elders to meet and have discussions. As the elders were aware that indigenous

knowledge is being forgotten, they were keen for the project to begin. The elders were willing to assist and share their indigenous knowledge with the youth and others.

Although in later stages of the research project both elders and youth participated, the initial focus was directed towards the elders. Making the community aware of the researchers' presence was an important task. We always greeted the elders, showed respect by taking what they said into consideration and followed local customs. This created trust and respect between the elders, the other researchers, and me.

3.1.2 Community Meetings

When arriving at the site, the elders were always briefed about the aims and expectations of the visit. The elders were free to be part of any discussions and could also notify us if they did not want to partake. Due to the large number of community members, it was difficult to involve all the members at every session.

A community meeting was held for the researchers and the elders to introduce the project to the wider community. During the community meeting, the researchers reconfirmed original statements, like the importance of preserving indigenous knowledge and the idea of developing a system which can store and organise this knowledge. Within this meeting the concept of multiple video recordings was introduced to the community. Initially the elders were unclear as to why multiple recordings were needed but eventually they understood that collecting numerous videos was similar to the various knowledge concepts held within them.

Approaching the youth to take part in the sessions was easier than approaching the elders. Agreeing upon a time and location to run a session was always dependent

on the elders. We found it was best to go where a lot of elders were gathered, rather than asking them all to come to another place.

3.1.3 Structured Interview

In an attempt to gain more insight into what prompts the sharing of indigenous knowledge we opted for a structured interview session, which I conducted. Prior to the interview session, the selected elders were briefed, so they could think about what they could say. The questions were prepared prior to the visit and translated into Otjiherero. The elders were asked to reflect on what prompts them to share their knowledge; we also included some specific scenario questions. The interview was video recorded, transcribed and translated at a later stage.

3.1.4 Sample Recordings

Different ways to capture knowledge were outlined to the community members, like using pictures, audio and video recordings. The community members opted for video recordings, as they can then identify the person and other important aspects. Since knowledge in the community is shared orally, we expected that the elders prefer a method in which they can transfer their knowledge through mediums in which they can talk and tell stories. We believe that video recordings are a good medium as it can encompasses body movement, oral communication and visual prompts.

Videos were recorded of elders sharing their knowledge, through talking and demonstration. The videos recorded showed the elders giving explanations to the practical uses of plants, how they detect sick cattle and the procedures they use to heal them.

3.1.5 Demonstrating Sample Recordings

The sample recordings obtained during the first visit were shown to the elders on a laptop; this allowed them to see the significance of their knowledge and trigger a new discussion (see Figure 7).In most cases the audio quality was good enough for the elders to hear what was being said. However, the audio quality was poor when elders walked around (during the recording). The comments and discussions were recorded, analysed and used to plan the next cycle.

Figure 7. Researcher demonstrating activities on the laptop.

3.1.6 Community Recordings and Viewing

We initially captured a variety of local practices and stories in the form of video recordings. The videos were taken over a year during four field trips by the researchers and the community members. During one such session, a young man and a woman from the community were equipped with camcorders and mobile phones (Nokia N97 and Nokia E71), to record what they found worthwhile documenting. The man decided to use the camcorder, while the woman made use of the Nokia N97. A

brief explanation was given on how to operate the devices. The two members spent the whole day recording, without any interruption from the researchers. At the end of the day, the devices were collected and the videos uploaded onto a laptop. This was repeated with two further members of the community; however the batteries ran low and the session had to end early. The recorded videos were played to the rest of the community members, at selected occasions and subsequent field trips. All videos were saved with a time stamp and high level descriptive name.

3.1.7 Prototype 1 Description

Having collected various videos, we had to analyse and synthesize them in order to see how they can be shared. For this purpose I designed the first prototype, which was developed by a number of German students from the University of South Westphalia, as part of a software engineering course. The design was informed by my own experience and technical knowledge. A video classification system based on meta-data and keywords was developed (see Figure 8). Following design specifications the executable application was provided to us for local testing.

The prototype catered for three user groups: an administrator, a narrator and a listener. The administrator creates, edits and deletes existing users, controls who can see uploaded videos, and can also upload, edit and delete videos. The narrator can upload a video by adding metadata that corresponds to the video, edit and delete them. The listener can view the videos uploaded by the narrator. Both the listener and narrator can browse for and watch a preferred video. They can also modify profile data and validate it. The prototype was developed for users to upload their knowledge by means of videos, and then to play and listen to the uploaded video.

Figure 8. Video upload mode on the first prototype.

3.1.8 Community Evaluation of Prototype 1

The community was introduced to the prototype and we performed a usability

testing session. After the prototype was explained the user could login. Once logged

on, the system was thoroughly explained again. During the usability testing, the elders had to enter keywords to upload videos or search for videos on a laptop. The prototype was in English but the users could type text in any language. While one community member was operating the prototype, the others gathered around and watched (see Figure 9).

Figure 9. An elder using the laptop to test the prototype. The researcher observes in order to reflect back on the usability of the prototype.

The users were asked to perform some computer based tasks with the prototype. The tasks were selected as they provided scenarios that encouraged users to interact with the system, while simultaneously allowing us to observe their actions. The aim was to observe the user trial-and-error, identify where users were hesitant and had difficulties adjusting. The tasks are shortly described below.

Task 1: The elder considered to be the narrator, logs onto the system, uploads a video from a camera, enters its respective metadata and saves the video. The user then plays the uploaded video. The elders performed the activity with the help of the researcher.

Task 2: The listener, being a community member who will retrieve the stories uploaded by the narrator, logs onto the system and enters keywords in the search criteria to find and play a video. The user views all the videos they found.

3.1.9 Summary and Reflection

The idea behind the first cycle was to induce the elders to explore design ideas for indigenous information retrieval and organising. A prototype was developed and evaluated, to test for suitability within the existing context.

Among the researchers we reflected upon the interactions, as well as the data gathered. We recognized the value of locally accustomed practices of community meetings to shape our design and evaluation processes. Furthermore, we acknowledge the challenges and advantages of a 'natural' setup versus a controlled lab usability testing. Following a 'natural' flow lead us to more qualitative valuable data. The community members felt at ease in their natural setup, even while being filmed. We could not control the number of spectators, as well as technical challenges of bright sun light and wind hampering our recordings. Some community members left in the middle of a session due to other commitments in the village. The women often started cooking while participating in a session. During individual activities others often intervened, which could not be controlled without violating local customs. Nonetheless, community members influence each other all the time, thus we promoted group work during sessions to obtain a community feedback rather than aggregated individual information.

3.2 Cycle 2

In this cycle, a series of video representation and organisation sessions were initiated, with the aim of identifying ways to organise the material similar to how

elders share their indigenous knowledge. The collected data was used to prompt design ideas. Cycle 2 focused on exploring specifics and details of indigenous knowledge extracts and their relations to each other. Varying activities were utilized to discover design patterns for the digital knowledge organisation. Furthermore, we wanted to improve on the first prototype by including the ideas gathered during the first cycle.

3.2.1   Recording of Narration/Demonstration

A central part of designing in the field is evaluating prototypes as they are being used and integrated within people's lives (Chamberlain, Crabtree, Rodden, Jones, & Rogers, 2012). A recording of a 'slaughtering narration' was taken. An elder performed a slaughtering narration, while others were listening to the explanation. Two cameras were deployed to capture the narration, one pointing to the narrator and another pointing to the listeners. Furthermore, a real life slaughtering was recorded, while the slaughterer explained the steps to the other members helping. The purpose of this was to compare the demonstration with the narration. Data from the field offer an avenue of additional research and continued connections to our users, not just those we invite to our labs (Bonsignore, Quinn, Druin, & Bederson, 2013). On-going relationships also allow us to build a much deeper understanding of the community and their particular design requirements (Taylor, Cheverst, Wright, & Olivier, 2013).

3.2.2   ITunes

The purpose of this session was to gather ideas on knowledge retrieval. The iTunes tool was used, as it seemed like a simplistic way to display a list of all the videos. ITunes is an application that displays videos in a list format (includes

thumbnails), whereby the users play videos by double clicking on an item selected by scrolling to the left or to the right.

The community members were asked to perform some tasks, so we could analyse the suitability. A thorough explanation was given on how to use iTunes. They browsed through iTunes and when they saw a video they were interested in they opened and listened to it. As part of the process, videos recorded from earlier stages where also uploaded onto iTunes. Videos on iTunes were organised in a chronological order (with the date they were uploaded).

3.2.3 Thumbnail Sorting

 Hudson (2013) maintains that card sorting is an effective investigative technique for dealing with large numbers of concept. Card sorting can illuminate cultural differences in the mental models behind information architectures (Petrie, Power, Cairns, P. & Seneler, 2011). Observing users engaged in card sorting can result in many insights for researchers and provide a fertile source of questions and conversations about the problem domain (Hudson, 2013). We ran a thumbnail sorting task to identify how community members organise indigenous knowledge and group related stories together (see Figure 10). Fifty images of different video frames, containing various practices recorded by the community and members of another site, were printed as thumbnails and laminated. The thumbnails represented different times, places, and stories. The thumbnails were chosen based on the frame within the video which was most representative of the content (based on my judgement). The thumbnails were displayed on a big white board. We recorded elders and youth as they examined the thumbnails, grouped them by content and sequenced images according to the order in which they should be viewed. It was difficult for them to remember the content of the video based on the thumbnail but as a collective group

they were able to recall the content. The session was performed by four community members; three elders and a youth and most videos were recorded by them or about them.

Figure 10. Thumbnail sorting task.

3.2.4 Map Construction

During this session an elder took us to four places within the village at which he picked herbs, while a youth photographed him and we registered a GPS co-ordinate. We recorded community members creating spatial maps by placing the foliage at their relative locations and then placing thumbnails according to where they thought those clips were filmed (Winschiers-Theophilus, Chivuno-Kuria, Kapuire, Bidwell & Blake, 2010). The map construction session was held to see how the community members arrange videos geographically on a map. We used this to explore the potential of designing a 3D model of the village as an interface to access videos along the represented locations via RFID tag technology (Winschiers-Theophilus, Chivuno-Kuria, Kapuire, Bidwell & Blake, 2010).

3.2.5 Prototype 2 Description

Feedback and usage observations from the first prototype showed that the elders struggled with the text as they were more acquainted with the visual attributes of their surroundings. Since an image-based system would be more appropriate than a text-based system, a second image-based prototype was developed. Audio input was not pursued because of the complexity of speech recognition which is beyond the scope of this project (Kapuire& Blake, 2011). This system was designed by myself and my co-researchers, and again implemented by students from the University of South Westphalia.

In the previous prototype complications occurred both with typing and remembering usernames and passwords. Therefore with the new prototype we opted for a more user friendly and a literal image-based approach. To login community members select the image of their face (see Figure 11). The use of metadata for video uploading and searching was also abolished. When uploading a video one could choose who the narrator was and who made the recording by selecting their image, similar to the login screen.

Figure 11. The login screen required members to select their image.

The second prototype tried to imitate real life interactions between the narrator and their listeners. In the community the narrator determines who listens to the story and when he wishes to tell the story (see Appendix A). If the narrator feels a specific person should listen to the story they would be called upon and the narrator waits until the person arrives. The listeners can also convey the stories to others if they have a broader knowledge on the stories.

In the second prototype, the narrator could drag videos to specific listeners if they wanted to share the story. When the narrator was logged in, thumbnails of the available videos were displayed and the ones to which the narrator did not have access to were locked. The uploaded video by the narrator was displayed in the basket of the narrator. The baskets where used for video sharing (see Figure 12). The listener can log on, and is able to see and play videos in their basket (see Figure 13).
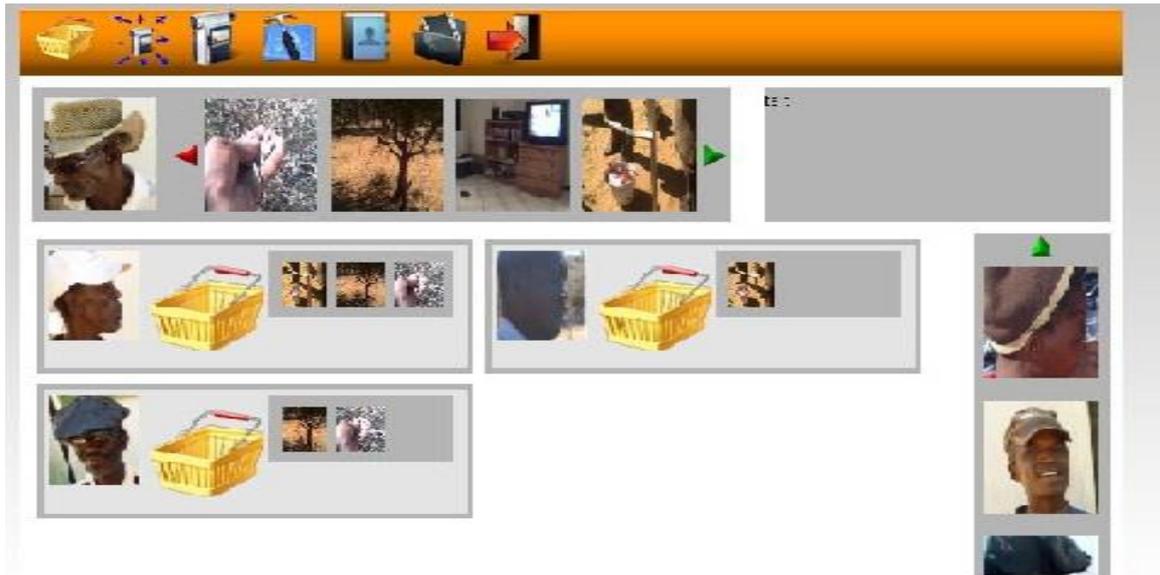
Figure 12. Video sharing mode.
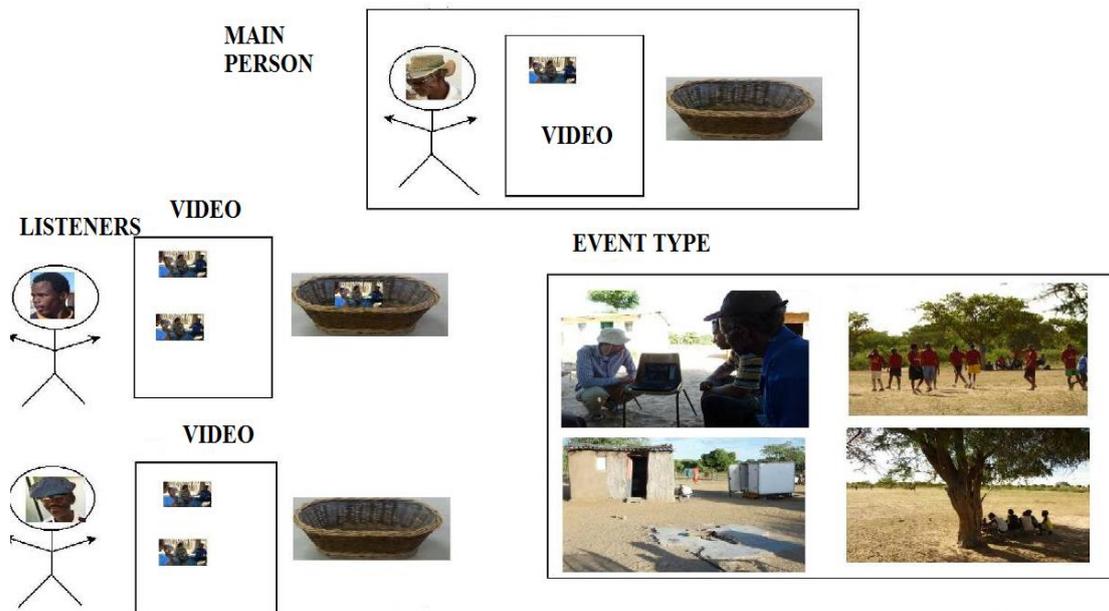
Figure 13. Information sharing mode using a basket.

3.2.6   Community Evaluation of Prototype 2

For this session, we wanted the users to interact with the system without interruptions from the researchers. According to Riche (2006) technology probes allow a rich and new interaction between a computer-based system and its

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protagonists while gathering data which raises users' interest and curiosity as well as stimulating their imagination and creativity. Technology probes combine the goal of collecting information about the use and the users of the technology in a real-world setting (Hutchinson et al., 2003). On the first day, the prototype was introduced and the users performed some tasks on the system. During the second day, the users operated the prototype without any disturbances; they were just observed and recorded (see Figure 14). The intervention with a technology probe combined with observation, followed by participant discussions, seemed appropriate for the context (Winschiers-Theophilus et al., 2011). The idea was for the community members to play around and experiment with every scenario that they might encounter. The third phase of the session consisted of a reflection stage. The aim of all these phases was to see how the members understood the prototype, and come up with more design patterns for improving the retrieval and organisation of videos.

Figure 14. Community members testing the second prorotype.

The users completed three computer-based tasks.

Task 1: Community members were given an opportunity to log onto the system, explore the prototype system for five minutes, upload a video, and then play the uploaded video. All activities were monitored using the Morae software, and their thoughts were noted by a tester.

Task 2: A narrator shares the video with a person of their choice. A listener logs on to see what is uploaded onto their basket.

Task 3: The user had to find different ways to share videos with others. The user links similar videos and locks videos not to be seen by others.

3.3 Cycle 3

The aim of the third cycle was to resolve and formulate all aspects from the previous cycles. A new prototype was designed, which incorporated ideas gathered during the last cycle.

3.3.1 Previous Prototypes

Five elders sat together with the researchers, to co-design and reflect upon past experiences and the way forward. The previous prototypes were displayed and discussed, to see if the elders remembered the testing session's held three months before. The discussion was recorded via a camcorder for further analysis.

3.3.2 Question-Answer Session

A question-answer session was held with the elders to collect ideas for the digital knowledge organisation (see Appendix B). Discussion points revolved around knowledge content, sharing and organizing, triggers for knowledge sharing and choosing of listeners.

3.3.3 Recording Indigenous Narrations

The elders had the opportunity to tell their stories, which was recorded via camcorder. The videos were used in later discussions to address why elders told those specific stories and to enquire to whom they tell those stories (see Appendix C).

3.3.4 Focus Groups

A structured interview process was conducted with the elders to produce new themes for the indigenous knowledge organisation. Through intensive analysis of interview scripts recurring ideas or themes emerge (Tesch, 1990). The idea was to trigger the sharing of ideas and thoughts and use these to develop themes for the indigenous knowledge organisation model.

3.3.5 Prototype 3 Description

Considering the significance of spatial layout in Herero traditions, we explored a spatial organisation of videos. Two master students from the University of Aalborg joined the project. Their aim was to create a 3D visualisation prototype in which users can store, organize and retrieve videos (Rodil et al., 2011). They modelled the village from specifications sketched by me and by using reference photos and videos depicting specific landmarks (Rodil et al., 2011). While prototype 2 focused on collecting design ideas on sharing of videos, prototype 3 focused on representing scenarios at various positions in the village.

Videos were embedded into the visualisation at the location where the elders shared their knowledge with others (see Figure 15 and Figure 16).

Figure 15. The visualisation including all the 3D objects constructed (Rodil et al.,

2011).

Figure 16. Scenarios act as triggers to launch a video as a 2D plane in the

visualisation. This scenario shows a video about branding cows (Rodil et al., 2011).

3.3.6 Prototype Evaluation

Video clips were placed at various locations in the representation to showcase the exact location where the narrations were recorded. Discussions with the elders were initiated about the knowledge sharing interface. The idea was to gain insight into elders' opinions about the 3D visualization and the embedded videos (Rodil et al., 2011). For the testing of the third prototype we separated the elders and the youth. All sessions were recorded, translated and transcribed for further analysis.

Both the youth and the elders performed computer-based tasks. They were given the opportunity to browse through the prototype and answer questions we prepared afterwards. The questions were used to induce suggestions and criticism (see Appendix D).

3.3.7 Project Reflection with Elders

Two elders were selected to give feedback on the project thus far, using a one-on-one setup. I initiated the interview and listened to how the elder feels about the project. The recordings were later translated into English (see Appendix E).

3.4 Summary

Community based AR strategies were carried out in three sequential cycles. During each cycle various methods were utilised to investigate a suitable indigenous knowledge architecture and retrieval mechanism.

During the first cycle, elders were asked to be part of discussions. Sample recordings of elders sharing their knowledge were made. At gatherings the community members were informed about the project ideas and its future. One elder commented that he was happy to be part of the sessions to collect ideas on how best to

preserve indigenous knowledge. One of the future prospects is for the community members to collect indigenous knowledge themselves. The cycle created awareness amongst the community members about the importance of preserving indigenous knowledge. Prototype 1 was developed based on conclusions and analysis made from discussions with the community members. Various elders participated in the usability testing of the prototype. Results were concluded to focus on the next iteration.

In cycle 2, various techniques were tested and reflected upon on how to best organise the collected videos on a laptop. This was done to get a deeper understanding of how elders organise their own indigenous knowledge. Prototype 2 was designed and tested by the community members. The elders were advised to criticise and make suggestions.

In cycle 3, five elders were selected to co-design and comment on their previous experience. Discussions were recorded for thorough analysis. As the time periods are quite long between the sessions and the prototype presentation, previous prototypes were displayed. Prototype 3 was designed and tested by both the youth and the elders. Various stories were recorded with the elders to trigger discussions on why and when they would share their knowledge. To get specific answers for a final design, the community members came together for a focus group. The whole discussion was recorded and analysed. The AR methods were used as triggers to collect design ideas.

CHAPTER 4

FINDINGS

4 Overview

This chapter presents the information gathered during the different sessions, ideas and criticisms given by the community members, other important observations, and evaluations of the prototypes developed. The information in this chapter is organised in sequential order, similar to the way it was gathered and described in the methodology chapter. Thereby the reader can clearly see which information was gathered through which method. In some instances previously gathered information was reconfirmed in a succeeding session, thereby giving the impression of repetitions while actually it demonstrates the importance of these issues.

4.1 Cycle 1

4.1.1 Structured Interview

The interview was held to get insights into what triggers elders to share their indigenous knowledge. We found that the elders determine how, when and with whom to share specific knowledge. The youth hardly inquire about the knowledge. Thus, after this finding we made a distinction between the narrator and the listener in our system (Kapuire & Blake, 2011). One of the main conclusions drawn from the interview was that knowledge is shared when a specific situation requires it. One particular scenario included the activities undertaken when a person gets sick. The elders stated that they sometimes take the person to a clinic, but as the clinics are located far away, they sometimes have to use their local knowledge about specific plants to heal illnesses. Through the structured interview we came to realize that the

elders share and implement their knowledge when required by their environment. However, this is not the only prompt used by elders to share their knowledge.

4.1.2   Demonstrating Sample Recordings

When viewing the sample recordings, the community members discussed ethics, participation and the dissemination of knowledge. The community members enjoyed listening to the content and often asked for it to be played again. The community members who had made the sample recordings gave remarks and were happy that others saw the video. They agreed that using a video with audio format is a good medium as they can see who is telling the story, and those who cannot see very well can listen. The elders decided who should listen to a specific story and when. The elders also decided whether a recording contained knowledge that can be shared. After viewing the recordings the elders started understanding the concept of indigenous knowledge being recorded.

4.1.3   Community Recordings and Viewing

The community members had collected videos of everyday activities in the village, which included activities such as milking cows and brewing tea on an open fire. We wanted to investigate what triggered them to record that specific story, to identify who they imagined will be listening, and to see if they would do it the same way if they were to record it again.

After a video demonstration, the researcher asked the community members what they thought of the video and whether they understood what the person was saying. One elder commented that it was clear and very educational. Another elder had no knowledge about the plant in the video and was very fascinated with this new knowledge.

Another video was recorded by a youth with a camcorder. He chose to record an elder, who was his uncle. The elder shared indigenous knowledge about plants used for healing. Some elders shared knowledge about cattle herding strategies and plants used for eating and healing. Some of the elders had difficulties using the camcorder, while most of the youth easily figured it out.

During one discussion, elders had to share what was on their mind when recording the knowledge. One elder said he was excited and did not have a plan. He just started going around and recorded. He was going around the village and recording questions he asked people he encountered; he got a lot of people involved in the recording.

Discussions revolved about the concept that some stories were meant for women and some for men. The elders also said that some stories were specifically for children but they do not want to restrict who receives the knowledge. According to them it is good if a person knows the story even if it does not affect them.

Matters about the stories being taken and sold were discussed. The elders were not concerned about this, as they still got to share their knowledge. Sharing their indigenous knowledge create awareness and curiosity. An elder said he is proud of what he is doing, so he does not mind if others copy or use the knowledge to their advantage.

4.1.4 Community Evaluation of Prototype 1

To see whether the prototype was intuitive community members tested the prototype. The community members were uncertain about the system. A lot of explanations were needed to ensure users understood how to login to the laptop and

the system. After this users still required explanations on how to use the system and how to use the search criteria. The users were struggling to use the prototype.

Language of prototype. The application was in English, which caused complications as many members are not fluent in English. Some of elders actively involved can barely read or write in English; most are more comfortable in Otjiherero. In the search criteria they typed in Otjiherero, yet they were still hesitant. The elders did not know how to browse the prototype. The difficulty with understanding the system was also evident in the time spent on uploading and searching for videos. On average, it took more than five minutes for the users to type in the search keyword for their choice of video.

Spelling/typing errors. Since the community members had very little experience with keyboards, typing errors occured. For example, a community member entered the keyword *"Otjimbuku"* (Bush in English) to view the stored video. However, a video with a man appeared instead of the bush video. This caused a lot of confusion, until it was realised that the keyword had been typed wrong. After this the elders started commenting that now they understand the concept of the prototype. An elder said if you type *"Ongombe"* (Cow), then a video of a cow is displayed. Although in this case the misspelling of a keyword lead to a better understanding of how the system works, it does highlight the importance of spelling and typing ability.

Narrator and listener roles. The different roles of the narrator and the listener were explained. The elders, considered to be the narrators, understood the activities to be completed by the listeners but not what needed to be done by the narrators. Furthermore, the system did not accurately portray how knowledge is shared within the community. The narrator could not choose when, where and in which order the stories should be told.

Metadata specification. The concept of using metadata for uploading and retrieving video clips was utilized in prototype 1. The community members stated that it was important to note who recorded the video, who is in it and where they are staying, as this gives a video credibility. They said that the person in the video should be acknowledged, as they are the owner of the story and where they reside is important so that the youth can go there in case they want to hear more stories. The elders further commented that the person recording and/or listening is important and should also be note, as it can be used to determine who should listen to the story in the future.

Adding the name of a plant in the video seemed problematic due to the phenomena of multiple context dependent terms given to the same object (Kapuire & Blake, 2011). For example, when a plant is small it has one name but when it grows bigger it gets a different name. Also, depending on whether it is used for healing or eating results in a different name (Bidwell et al., 2011) Moreover, the same plants can be found at different places and if a video is associated with a name of the plant or the place of origin, searching for it on the prototype would be difficult. The retrieval of a video depends on how it was categorised during the organisation of the videos. We found that multimedia annotation requires a lot of effort from the users.

The usage of metadata was not well suited to the users and their way of sharing knowledge. If an elder uploaded a video with the name he chose, it was difficult for the listener to search for that video. By luck the listener entered the right keyword and got the video. Yet if there was a typing or spelling error when uploading the video than the listener could not retrieve the video. When the elders have numerous videos to upload, naming them could become tiresome and require concentration, as they would have to remember all the names.

Other observations. In order to login to the system, the community members had to enter a username and password, but the elders could not always remember their passwords. With the prototype the elders were not able to construct any associations between the video clips. When entering a keyword, videos with similar names were displayed. There was no organisation or order for which video should be played first.

4.1.5 Summary

The community was keen on being involved, which they conveyed to us in their remarks, saying that they were happy with what they were hearing. The community members commented that stories can be told by anybody to anyone and they do not mind if others take the ideas and use them, as essentially they are still sharing their knowledge. Also, they do not mind if the content gets translated to reach a wider audience. The members noted that in the future, they would want to control the system themselves. A young community member stated that he will collect more stories using his mobile phone. One elder made the comment "the project has gotten the eye of the community".

During the testing of the first prototype there was a lot of hesitation from the community members. The community members struggled to relate the system and the knowledge to real life. When they wanted to replay a video they did not understand why they needed to enter the keywords again to search for the video. They struggled to grasp the idea of having metadata and entering keywords. Based on the observations made, the prototype did not complement the natural indigenous knowledge organisation. None of the concepts of how knowledge is shared was familiar to them. After testing the prototype we realized how difficult using the system would be for the community members and that a more user friendly version

needed to be created. We concluded that the usage of metadata is not the way forward for designing the indigenous knowledge organisation for this community.

4.2 Cycle 2

4.2.1 Recording of Narration/Demonstration

Storytelling can be performed in various ways. For example, an elder can start telling a story due to a trigger he sees in the environment. For a deeper analysis of the narrative structure, a slaughtering scenario was recorded. During the recording the elder explained the process in steps based on the work being done.

4.2.2 ITunes

The process of sequential search seemed intuitive to the community members and they could not suggest any other way of organising the videos. From a developer's perspective major problems of retrieval could be anticipated as the number of videos would increase immensely. It was difficult for the community members to retrieve an uploaded video as they needed to scroll from one side to another. In one case an elder viewed numerous videos; he then struggled to find videos he had already watched and keeping the order in which he wanted to watch them. Videos could not be organised or linked together as the elder would have liked.

4.2.3 Thumbnail Sorting

At first the members tried to familiarise themselves with the cards, by talking and trying to remember what video it was related to. They would co-guess if some of the cards were too unfamiliar and put these cards to the side of the board. Even after these discussions, difficulties in remembering the videos remained. This has strong

implications for what may happen if thumbnails are the only indications of the video clips, as they may not be the best indicators.

The members placed cards with similar stories together. After identifying the cards that go together, they started drawing lines between the cards to show which were linked. They continued drawing lines, removing lines, and switching cards. Once they finished they explained why they linked the cards the way they did. They said some of the cards were linked together as they were talking about similar plants, or plants that worked together.

They then numbered the cards which were linked by lines. The numbers indicated the order in which the stories should be listened to. They explained why they numbered them the way they did. For example, there were three goat cards. They put number one on the card showing goats in the kraal, the second one showed goats about to go out of the kraal, and the last one showed goats out of the kraal. They placed the cards in that order as they had a chronological time flow. Once they finish sorting, putting the lines and the numbers on the cards, they went thought it once more to explain each phase.

4.2.4 Map Construction

Previous observations confirmed that members of the community are not used to birds eye-view maps and thus the idea of a map seemed inappropriate (Winschiers-Theophilus et al., 2011). Community members walked through dense bush, straight to locations to collect data points, but were much less confident in creating a geospatially accurate aerial view, despite the proximity of these locations (Winschiers-Theophilus et al., 2011). Members spent more time discussing the people

on the thumbnails and the contents of the videos than they did placing them on the map (Bidwell et al., 2011).

4.2.5 Community Evaluation of Prototype 2

The functionality and usability of the prototype was tested with the community. We observed how they interacted with the system and how suitable the system was to their way of sharing knowledge.

Sharing knowledge. The sharing mode of using a basket was well understood by the community members. The idea behind the system was similar to how they would share their own knowledge. The metaphor of knowledge sharing with the baskets can be further explored in following prototypes (Kapuire & Blake, 2011).

Using images. The elders had fun using the prototype. Clicking a picture to log into the system was working much better than using passwords. Dragging the items to the listeners also seemed to be great fun for the elders. It was easy for the users to identify objects on the prototype, as it used only images. However, some of the buttons on the prototype were unfamiliar to them for example the button used for going forward into the next screen of the prototype.

Prototype usability. Community members easily familiarized themselves with the prototype and continued to use it even without the researchers around. They easily remembered the steps they had to take, making them more comfortable with the system. They made jokes and laughed. The members gave each other the opportunity to test the system. However, there were still some complications with the prototype. Due to their level of technological skills, it was still difficult for them to select a video. The elders were not comfortable using the mouse to click on a specific icon and also struggled with the touchpad. Uploading of videos and sharing had to be

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explained in great detail before the elders could comprehend what should be done. Also, the aspect of locked videos was strange to the elders.

4.2.6 Reflection

The sessions showed that by maintaining the trust and respect of the community elders, as well as increasing their technological confidence, resulted in better participation. Due to the level of their technological understanding, the community members initially did not have specific ideas about how they could organise and retrieve videos (Kapuire & Blake, 2011). However, using specific activity sessions in which different types of organization and retrieval options were explored, helped the community member form better ideas on what they liked and what they did not. The selected community members criticised and made suggestions about the techniques used. With the second prototype, users were happy that they could just click on icons rather than entering metadata.The methods and criticisms thereof yielded more design ideas for the next prototype.

4.3 Cycle 3

4.3.1 Previous Prototypes

As the previous prototypes were displayed, we concluded that elders are more comfortable with images than text. Furthermore, the Herero tradition is characterised by location based arrangements of objects, such as houses and kraals, and activities, such as slaughtering and cooking, and that this should be incorporated into the design.

4.3.2 Question-Answer Session

The results were formally recorded in Otjiherero, but were translated into English for deeper analyses see Appendix B). With these transcripts, various

scenarios have been analysed and themes defined for the digital knowledge organisation.

4.3.3 Recording Indigenous Narrations

Various types of stories were recorded (see Appendix E). The stories from this session were classified into different categories, e.g. educational, entertainment, healing, etc. The focus of the stories varied depending on the elder sharing the story.

4.3.4 Focus Group

In most cases when a story is being told, the other elders also listen to the story. In most cases the elders agreed amongst each other about the classification of the stories. However, there was also disagreement. Some elders mentioned that stories about plants should all go together, while some said that they should be separate because the plants are not used for the same tasks. Some plants are used for healing, while some are for eating. The discussion revealed a lot of similarities in how elders organise their stories.

4.3.5 Community Evaluation of Prototype 3

The visual representation of the village was highly detailed, so that the users could identify objects like cows, trees and houses in the representation. However, the prototype could not organise videos to present to specific listeners.

Mapping reality. The community members identified their homesteads in 3D representation. By seeing the objects like trees and animals, they started telling stories about these objects. Even though the community members could not organise the presentation of the videos to a specific listener, they could organize them geographically. They felt that this was representative of how they share knowledge.

Discussions with youth. The first round of prototype testing was done by the youth (see Figure 17). The youth were tasked to explore the prototype, criticise and make suggestions. The youth were not informed that the representation was of their village. However, they quickly figured it out by pointing to objects in their surroundings and relating it to the prototype. When viewing a video at a specific site, some of the youth had problems identifying what was happening. For example, with the representation shown in Figure 16, the youth thought someone was stepping on a cow, while others thought it was a goat and still others thought a sheep was being slaughtered. With the cow branding representation the youth also remarked on the posture of the men branding the cows. They noted that they should be sitting and not standing, and that one looked like he was pointing and not branding.

Figure 17. Youth being presented with prototype 3.

Discussions with elders. The second round of the prototype testing was done with the elders. They were tasked to explore the prototype, criticise and make suggestions. The elders did not immediately recognize the representation as their

village. Even after the researcher explained the prototype and showed the similarities in the surroundings they remained hesitant. Some were confused as not all details were correct, such as the floor of one of the houses and the spacing between objects. When viewing the branding scenario there was confusion about what was happening and they spent a long time trying to identify the fire. Similar to the youth, they also questioned why one of the representations was pointing. This shows that gestures and body postures are very important to the community. When viewing a milking scenario, they were confused by the placement of a tree, which was not there in their real surroundings. The tree caused much debate and confusion about the scenario. Furthermore, the representations of people at the milking scenario were standing, making the elders believe that they were just talking and not milking.

4.3.6   Project Reflection with Elders

Elders were chosen to give feedback on the project thus far (see Appendix F). They were very happy about the project, as it allows them to learn about technology and share their experiences with others. The elders are keen to know about the outcomes of the study. At the start of the study, they did not have much interest, as they did not understand what the study can offer. As their participation continued, so did their willingness to be part of the design team. The elders want to have another session to record more stories. They believe that they have many stories which should be recorded.

During the usability testing of prototype 3, community members were fascinated about how their village was represented. One elder commented that it looks exactly like their surroundings. Listening to the stories at various locations in the representation reflected how the elders naturally share their stories at that specific place.

4.4 Summary of Findings

The AR cycles kept the community members involved in this unique study. The interactions were challenging due to the novelty of technologies. However, the elders continuously expressed their interest in learning. The community benefitted from this project, regaining a deeper appreciation of their own knowledge system and the awareness of its preservation through technology.

Each prototype was developed based on some key insights gained throughout sessions and usability testing of previous prototypes. The interview sessions triggered vast amounts of discussion amongst the community members and lead to better insights on how elders share and apply their indigenous knowledge. During the viewing of sample recordings an elder commented that he would like to record more indigenous knowledge. During a question-answer session, elders came up with concrete themes, informing the design of the digital knowledge organisation. At times, the elders would have different opinions, but discussed amongst each other until an agreement was reached. For the first prototype the main usability problem was that the elders struggled with English and metadata. This resulted in the modification and development of prototype 2.

In the next cycle, elders uploaded, searched and played videos in an iTunes session. Choosing a video by scrolling left or right was difficult for the elders. The thumbnail sorting task triggered elders to demonstrate how they link various videos together. Prototype 2 shied away from using texts and only used images. During the usability testing, it was revealed that the elders easily identified objects when seeing them. Prototype 2 used the concept of having a basket to share knowledge, which members easily comprehended.

In prototype 3 the community members could relate their stories to their environment in a 3D visual representation. The visual representation of their own village made it possible for them to relate specific stories based on what they could see, but they could not organize the videos. Based on observations, the elders liked the interface of prototype 3 better than the previous designs. They were fascinated how a prototype can map the real area. The only difficulty was that they could not organise videos themselves. Most of the scenarios displayed were based on a specific area.

Different concepts, ideas and criticisms have been explored during the evolutions of the prototypes. After the testing and analysis, a digital knowledge organisation was compiled with a high approximation of the real setup of indigenous knowledge organisation and sharing. The development of further prototypes was continued after dissertation submission, yet was considered beyond the requested work of the dissertation.

CHAPTER 5

INDIGENOUS KNOWLEDGE ORGANISATION

5 Overview

In this chapter a digital indigenous knowledge organisation is presented, which takes into account previous lessons learned. The design was influenced by the criticisms and discussions with the community members. Various cycles of community based AR, as well as a final explicit discussion with the elders led to the specifications of the digital indigenous knowledge organisation.

5.1 Review of Prototypes

Prototype 1 did not yield many design ideas. The usability testing showed that the elders have difficulties with writing and reading. During the usability testing concepts arose, like community members being more comfortable with images. In prototype 2, the usage of the baskets triggered concepts on decision making processes of the knowledge to be shared, the audience who will listen to the story, and the locking and opening of knowledge when the narrator decides to share. Prototype 2 moved away from text and made use of images. In prototype 3, the display of scenarios at various locations triggered elders to identify the locations at which knowledge was shared with certain listeners. With prototype 2 and 3 we were testing different concepts. Prototype 2 focused on the sharing of videos, while prototype 3 focused on the representation of the videos at various locations in the village. Having established the suitability of knowledge sharing in prototype 2, we launched into another area, namely exploring appropriate knowledge representation in prototype 3, with the intention to combine findings in prototype 4.

5.2 Data Informing Model

In order to produce themes for the model, a large number of diverse video clips were collected (see Appendix C). Further design themes were extracted from an interview with the community elders (see Appendix B). The elders determined who to share the knowledge with and the type of knowledge to share. We found that they often shared stories based on a triggering event. For example, an elder will tell a story based on an aeroplane when they hear an aeroplane passing by. An elder always remembers the same story when such an event occurs. A listener of the story will tell others by remembering the incident as told by the narrator. This has an interesting impact on collecting, managing and distributing the knowledge from stories.

5.3 Metadata for Video Organization

One key process in organizing was to handle the growing corpus of video clips. The metadata categories were extracted from discussions with the community members and by analysing the various stories told by the elders. The metadata has been used to classify the sample video clips (see Appendix E). The metadata will be used for internal organisation and retrieval purposes within prototype 4. Shown below is the metadata selected from results obtained, which will be used to organise the large numbers of videos (see Table 2 and Table 3).

Table 2

Metadata for narration of a story

Metadata with sub-category	Description
Index	Primary key
Author	Name of the story teller
Recorder	Name of the recorder
Place of recording	Place were recording happened
Time of recording	Time when recording took place
Title in English	Title written in English
Title in Otjiherero	Title written in Otjiherero

Description of indigenous knowledge in Otjiherero	Transcribed Story captured in Otjiherero
Description of indigenous knowledge in English	Transcribed Story translated in English

Owner: Ancestors
     Self
     Community
     Specific community member
	Selection of the owner of the story being shared

Origin: Self
     Specified
     Unknown
	Origin of where the narrator got the story from

Purpose: Educational
     Elders knowledge
     Entertainment
      Survival/Medical
      Family matter
	The reason for the story to be shared

Location: Kraal
     Bush
     Homestead
     Waterplace
     River
	The location where the story takes place

Domain: Plant
     Animal
     People
	The area in which the story falls

Knowledge access: Women
 (Specified listener) Men
        Youth
        Elder
        All
        Individual person
	Who will be allowed to listen to a specific story

Format: Video Voice	Recording of story format
Type: Narrative Performance	The type of story being shared

Restrictions: General story
     Secretive – Business
        Educative
	Special restrictions

Triggers: Audience
     Event/Activity
     Time
     Place
     Need
     Object
	The trigger to tell the story

Access: Locked Unlocked	Administrator deciding if a story should be open for sharing or not
Relation to other stories: Single Multiple	Various videos have associations with each other
Modification: Original Modified	Decision of story is original when sharing or have been modified

Thumbnail	Picture of the video to represent the story

Table 3

Narrator and listener metadata

Metadata with sub-category		Description
Narrator		Name of a narrator
Age		Current age of the narrator
Gender:	Male Female	Gender of the listener
Residing:	urban Rural	Current location where narrator dwells
Qualification		Schooling standard
Language:	English Otjiherero	Choice of Language the narrator/listerner is more confortable to use when interacting with the system
Trusted		

5.4 Indigenous Knowledge Digitalisation Storyboards

The digitalisation of indigenous knowledge is conceptualised as a recording, followed by uploading with metadata enrichment and a curation process by the elders to complete the re-contextualisation. According to Goldman and colleagues (2006), storyboards are particularly well-suited for applications such as video editing, in which many clips must be observed and mentally processed in parallel. Thus, we can construct storyboards out of different scenarios as demonstrated below.

Recording scenarios. Some stories are inherited from ancestors and as the current elders pass on, so does the knowledge they possess at that moment. The current scenario describes an elder sharing a story with others (see Figure 18). Some of the listeners might be thinking of something different while storytelling occurs, while others listen thoroughly.

The elder who told the story passes on after a couple of weeks (see Figure 19). The elders and the youth who listened to story will pass it on to others in the

community and future generations (see Figure 20). They might tell the story as it was told by the deceased elder, or they might add some new parts or shorten the story.

The scenarios show various ways of how storytelling occurs and can be recorded. In Figure 20, an elder is sharing a story with the person recording. In Figure 21, an elder is walking around with the recorder and as he sees a tree a related story is triggered for sharing. In Figure 22, an elder sits by the fire with a listener, and the story is recorded. The elder decides on a relevant story to share with the listener. In Figure 23, a slaughtering event triggers an elder to tell a story, while the activity is recorded. Figure 24 shows an elder sitting and recording himself with a mobile phone. There are instances when an elder is alone and suddenly thinks of a story to tell. The elder picks up his mobile phone and starts recording the story.

Figure 18. An elder telling a story.

Figure 19. An elder passing on weeks after story telling occurred.

Figure 20. Recording a story by an elder in an interview setup.

Figure 21. Recording a story shared by an elder while walking around.

Figure 22. Recording a story shared by an elder at the fire place with a listener.

Figure 23. Recording a story shared by an elder during a slaughtering performance.

Figure 24. Self recording by an elder.

Uploading scenario. Figure 25 shows the uploading and entering of the respective metadata of the videos, collected during the story telling scenarios. The person who recorded the video connects the camcorder or other medium to the computer. The duties of the recorder are to upload the video, enter the respective metadata of the video; while elders verify if what is being entered corresponds to the story. The elder decides on what should be entered as metadata.

Figure 25. Uploading of collected story and entering of metadata. Camcorder connected to the computer.

Indigenous knowledge curation by elder scenario. An elder sits by the computer and starts curating the uploaded video (see Figure 26).

Figure 26. Curation of the story by an elder.

   Example of a scenario sequence. An elder can choose to share a part of a story. The different entities displayed in Figure 27, show an elder sharing story 'b' which is based on story 'a'. The elder already knows that the listeners are familiar with story 'a' and so the elder tells story 'b'. The whole storytelling processes is recorded.

Figure 27. An elder sharing story 'b' which is based on story 'a'. Listeners remember story 'a'.

Uploading scenario. The recorder uploads the recorded story onto a computer, while an elder watches. During the uploading they both make sure that the new story is associated with related videos (see Figure 28). The camcorder is attached to the computer and the uploading process begins.
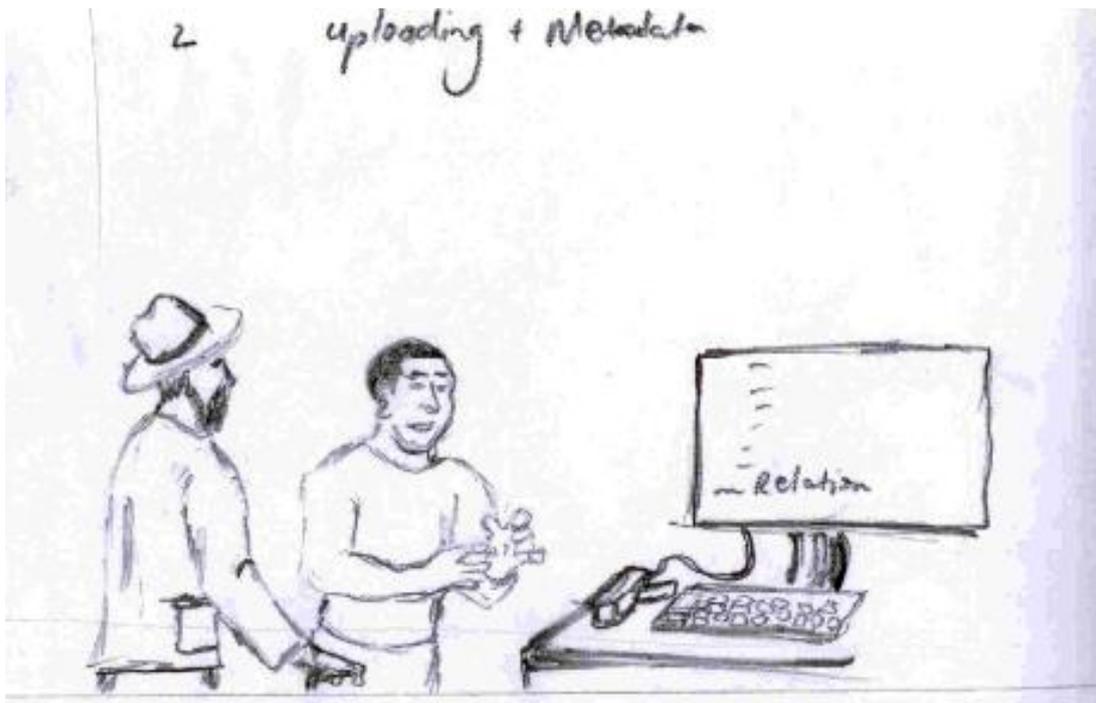
Figure 28. Recorder uploads and enters the metadata for the two linked videos.

5.5 Summary

A narrator conceptualises the relevance of a story with particular listeners in mind. The relations between the community members are very important. The figures presented show how important the interaction between the listener and the narrator is, as stories are shared amongst the two entities. The narrator organizes the videos and enters the metadata in a manner that the listener can easily retrieve the video.

5.6 Future Prototype

Based on the findings and explorations, we can conclude that the users are most comfortable with graphics and photos rather than text. The 3D visual representation of the village was well adapted, as it reflected what they actually see in the rural environment (Kapuire & Blake, 2011). Thus, further development will integrate the approaches used for prototype 2 and 3 (see Figure 29), with a person-

bound and location-based allocation of videos (Kapuire & Blake, 2011). The sharing
mode must be constructed in a way that represents the real lifestyle (Kapuire & Blake,
2011).
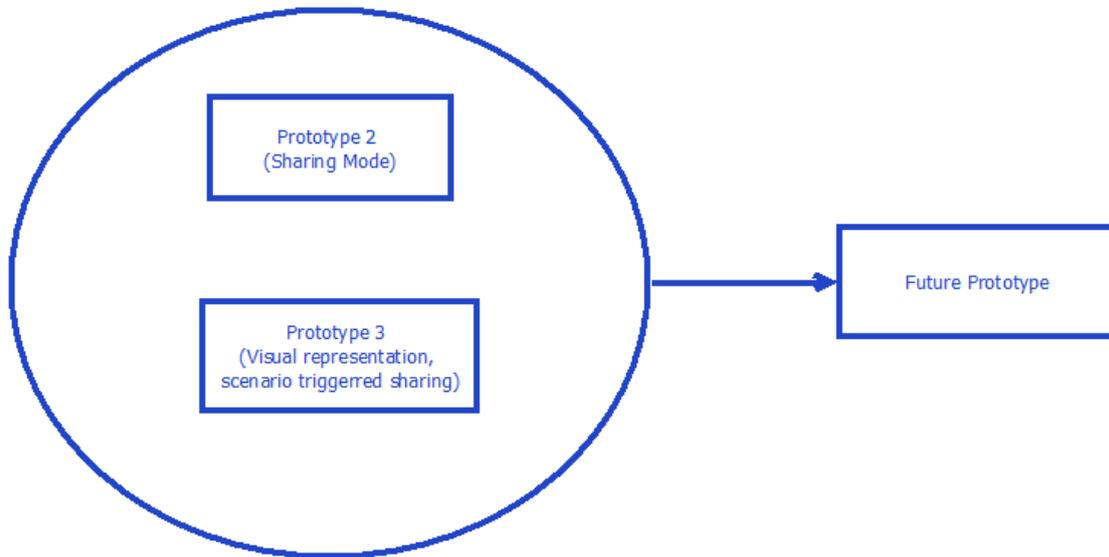
Figure 29. Future prototype consisting of a combination of prototype 2 and 3.

CHAPTER 6

CONCLUSION

6 Overview

In the search for an appropriate representation of a collection of videos to be shared between rural dwellers and urban youth, classical and new approaches were explored. The standard method of metadata only seems suitable to societies who have a long history of term and concept based knowledge organisation. However, little research has been done with rural African communities and therefore the need to explore new ideas with the community arose (Kapuire & Blake, 2011). Findings from work in HCI in the developing world can raise awareness to blind spots by contrasting common assumptions underlying HCI as practiced in the developed world (Sherwani et al., 2009).

Some existing software development methodologies, which were developed for use in urban settings, may not be appropriate when applied in the rural context. Therefore, the best way to approach the software development was by making sure that the design ideas for indigenous knowledge organization were collected from the community. The challenge was to design an appropriate digital indigenous knowledge organisation for African rural communities, by mapping existing communication practices, which are currently less pursued in ICT theory.

From this study, I conclude that person-bound and location-bound video organization is appropriate for the Herero community. However, the transition from centuries of face-to face knowledge transfer to a technologically mediated asynchronous knowledge transmission requires adaptation time, as well as new

abstraction and representation skills. While some community members are good at storytelling, they require ICT skills for organizing video clips. Although the AR based co-design approach is extremely time consuming, it reveals design requirements which could not have been discovered through other approaches.

6.1 Outcomes

The objective of the study was to determine how we can develop a digital tool that supports members of the community to complete the indigenous knowledge transfer in a similar manner as they would share information with others within the natural setup of their lifestyle. Three cycles of AR, containing numerous methods and prototypes, lead to a community-based co-design approach. The community members made essential contributions to the development.

The main area of concern in my research is as follows:

How can we develop a digital tool that supports members of the community to complete the indigenous knowledge transfer, in much the same manner in which they traditionaly share information with others within the natural setup of their lifestyle through action research interventions?

Digital knowledge organisation enables researchers to derive an understanding for what indigenous knowledge is, what it means for the survival of a community and how those who have been entrusted with such knowledge have a duty to preserve it from generation to generation. Through Digital knowledge, we have from the various sessions and experiments during the period of the study derived such said information and through these tools captured it. The themes used to finalise the digital knowledge organisation were collected from various sessions by the community members, which

resulted in it being naturally adabtable to how the community members are in their natural setup.

The minor research questions therefore are as follows:

In what ways can technology probes collect sufficient data and help in the construction of an appropriate design portal of indigenous knowledge organisation? How can design ideas be elicited from the implicitly held notions of information organisation of the elders through our interactions?

Part of the discovery was to relate how community members actually share stories and compare that to how they would share videos using technology. In most cases the elders have already decided who they will share their stories with. This created awareness, that the community has a person-bound approach to storytelling. Usability evaluations of different prototypes and other experiments collected ideas on how information flows between the community members.

Which methods best allow elders of the community to conceive strategies for the transfer of indigenous knowledge?

As we have explored many different methods, we found that community-based AR Design was most appropriate, through planning, action, evaluation and reflection of our work with the elders, we were able to observe user experiences and usability with the prototypes.

How should indigenous knowledge be represented? What would be the best methods of implementation and integration of indigenous knowledge in environments focused on the dissemination of digital knowledge organisation?   How is the use of technological equipment in the sharing of indigenous knowledge by elders investigated?

Technological mapping of indigenous knowledge structure and communication patterns through the development of prototypes revealed that a person-bound and location-based approach is most suitable. Usability testing of the various prototypes resulted to thorough observation on how well the community members are comfortable with the technology.

What are the available best practice methodologies available to researchers in representing and implementing programs that preserve indigenous knowledge for years to come?

It is important to identify a community that best reflects the situation in average indigenous communities in Namibia. Secondly, it is crucial for community members and community leaders to be at the helm of planning and strategizing best practices which can be glove-fitted to the situation on the ground within their own communities. In most instances, government has had difficulties in implementing generic solutions brought in from outside to indigenous communities that do not necessarily fit the scope of their understanding on a grassroots level. Recognizing this at the inception of our work with this pilot community has proved our success, because those for whom this work is to benefit have been involved in pioneering it from the beginning, for the people of this community, this work has been their own creation and something that they can be proud of.

6.2 Potential Contribution to Body of Knowledge

The dissertation evaluates the impact of various systems and their validity for the community. The interactions strategies and methods which informed an appropriate design of indigenous knowledge organisation can be appropriated to other

communities having similar fear of losing their culture preservation. Guidelines can be extracted which would be useful to those working in this area.

A working solution of the study resulted in a digital indigenous knowledge organisation, which preserves and provides access to oral knowledge in video format for a local Herero community. The digital indigenous knowledge organization can be used for further studies in other rural communities.

Researchers and practitioners in the field of ICT4D can benefit from the results, as they can apply the results in their research and development. The methods, technologies, structures and ideas can be used to solve the problem of creating indigenous knowledge organisation architecture for rural communities.

6.3 Community Perspective

The elders knew that they had an important role to play in sharing their knowledge, but did not realise how indigenous knowledge is fading until it was introduced to them. The project triggered the community members to acquire more knowledge, as they saw that there is more to learn, as they are surrounded by an environment full of stories.

To reach out to the community members was critical step in the success of the project. The methods built a trusting relationship between the researchers and the community members. The community members showed a lot of enthusiasm towards being part of the research project.

When the project started the community members were not comfortable with the technology and the interviews, but later adjusted. The interviews yielded satisfactory results, as it made the community members share their indigenous stories. During the interview they showed awareness that their indigenous knowledge is a

valuable asset to the youth of the village. The elders were concerned that the youth are not that interested in learning about life in the village. The youth were more interested in technology, like television, mobile phones, and so on. When the youth come to the village, adaptation becomes difficult as they are not used to village life. Positive comments that preservation of indigenous knowledge is important were mentioned by the elders. During the data collection they mentioned key stories which are important for the youth. The elders said that they will continue with more stories during my next visit.

6.4 Strengths and Limitations of the Study

The main strength of the study is the unique situation of having the longitudinal involvement of rural elders in the development of the system. The elders developed from knowledge holders to technology designers and curators. The community engagement led to a number of important design ideas and decisions (Kapuire & Blake, 2011), as well as methodological improvements.

One of ours visits was during the school holidays, when the village is filled with youth and other elders from the urban areas. This gave us more opportunities to involve them and investigate their views on organising video clips. This resulted in more data with which we could identify the differences between the urban and rural dwellers, which increased design concepts for the digital knowledge organisation.

However, the study also had some limitations. We would have liked to leave the technology behind for the community to use in between our visits. However, our university regulations did not permit technology to remain in the village and at that point of time we did not have any external funding.

Another limitation was that the sessions took place during a normal working day. For this reason not many women were involved as they conducted their household duties. The elders involved during discussions were mostly men.

At the beginning we chose a select few of elders, additionally community members involved were chosen due to their willingness to participate. It became difficult when new community members wanted to participate, as they needed to be introduced to the research. Older members were very patient when research goals and aims were re-explained, as they wanted others to be part of the research.

The scientific methods used to trigger design ideas from the community members were new to them. They had never been involved in testing prototypes, nor have they been part of discussions to derive ideas on organising videos. With each phase, they needed to be introduced thoroughly to the technology provided. The process to derive new themes and ideas was generally slow.

6.5 Future Work

Deeper analysis on the data collected could be performed to organise and retrieve indigenous knowledge. The importance of language in sharing knowledge requires further investigation. A more thorough look into the videos may yield more information, like the usage of gestures (currently being explored by a fellow researcher). The digital knowledge organisation should be analysed in more detail before it is appropriated to be utilized for the IMKS. The field of IKMS development still holds many mysteries to be explored; many more Master and PhD theses can be covered.

6.6 Recommendations

The proposed digital indigenous organisation presented can be used and adapted to a long term IKMS study. There should be a wider exposure for collecting, organizing and sharing indigenous knowledge. The research team will continuously provide the community members with more training in ICT, in order to develop their skills for further engagement in the study. If they become more skilled in ICT, the transformation of indigenous knowledge into a digital form will become smoother. This will create a strong research team, based on the community members and researchers outside the community. Even though we have gone a long way together we will still have many more years to explore and develop better systems together.

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Appendix A Collection of themes (Narrator & Listener roles)

Different ideas were collected during the study to verify the relationship and uniqueness of the three entities being the narrator, the listener and the story being told.

The narrator:

a. Narrator profile shown to see videos for organising and sharing with others and specific information about the narrator.

b. Narrator chooses a listener or listeners based on story to be shared. This is needed in order to have a collective of listeners together probably to listen to the same story or an individual to listen to a specific story.

c. Narrator collects stories with a camera and uploads onto a computer, than enters the necessary metadata fields required for video classification or categorisation.

d. Remove listener or video, if the narrator feels that a story must not be for a listener.

e. Narrator might forget to share with a listener, so another narrator can share it who knows the story.

f. Narrator decides to share full or a piece of the story.

g. Narrator can decide whether the story can be spread.

h. Narrator can decide what is best to be educative knowledge or knowledge for entertainment.

The listener:

a. The listener profile should be shown so that he or she can see the videos shared by the narrator.

b. Views video of choice to listen from the videos uploaded by the narrator.

Appendix B Collection of themes with focus group

Below are the questions and answers collected during the interview with the community members. The questions were aimed at collecting design ideas for the digital knowledge organisation.

Use of Technology

Question with translated transcript of elders' answers

a. Do you want to see the person in person in order to tell the story?

   I would like to see a person in order for me to believe the story being told. With this video recording I can see the person telling the story.

Information flow

Understanding the processes of organising video clips to handle growing corpus of clips was a key. Community processes appear to what is needed to support multiple perspectives on information retrieval.

Content

Questions with translated transcript of elders' answers

a. When you see or hear a story by another elder would you tell something similar? What are the differences?

   I will tell it the same if the story came from my ancestors. If it is an elder who is with me I will tell it the same, unless there is a piece which he forgot and I just add on.

b. A part like a plant used for eating and used for medicine, where do you put it?

   They are all about plants. But they are different as one is for eating and some for medicine. Sometimes a plant used for eating can also be used for healing.

c.   Who should I tell ghost stories to? Are they for everyone one? When is it best to tell them?

Ghost stories are normally told around the fire at night when everyone is there. We normally use it for entertainment unless a real ghost is around.

Content: Localised

Questions with translated transcript of elders' answers

a.   What season is it which makes you tell a story?

I can tell a winter story when it very cold. When it is rainy and sunny, than I will know it is summer, than I tell a story on that. When it is windy and the plants are starting to grow, than I will tell a story an autumn story.

b.   How do you classify between day and night stories?

Normally during the day I tell stories about daily activities. And at night I will tell a story I forgot to tell during the day or I will tell an entertainment story to the youth before they sleep.

c.   Do you want stories to be associated to the place it happened? Why?

I believe that a story should be associated to a place it happened because it shows the significant of the location. So when a youth sees that place, he can tell others a story based on that location.

d.   Is knowledge from another village similar to this village? Explain by usage of example. And also give example of things which are not similar in villages.

Knowledge from the nearby villages for example is most of the times similar. The only difference might be like for examples on plants. Some plants which are in my village might not be in other far villages.

Content: Rights

Questions with translated transcript of elders' answers

a. Would you want your story about medicine, to go and be used by others? For example medicine stories?

    I want my story about medicine to go be used by others as it will be helping others who are sick.

b. Don't you think you will lose power over your story if someone re- records it?

    I won't lose power because it will be shown and known to the world. So I will be known to for sharing the knowledge.

c. Would you want your story to be retold by someone else? If that happens, how would you react? Can they transfer the knowledge to others?

    I do not mind if my story is told by someone else. The idea of sharing a story is for it to spread. I will be happy as I will know that my story is being shared.

d. Do you still think you are the owner of the story?

    Some knowledge I got from my elders so I am not the owner. Other knowledge which I have experiment myself, I would be the owner of it.

e. How do you get the trust that your story won't be translated? Do you care?

    I do not mind that my story will be translated as I will know that I have shared knowledge with others.

f. If you die who owns the story?

    Knowledge will be left for those who are alive when I am no more there.

g. Is knowledge unlocked when person dies? What does it mean?

Knowledge is not locked because it has to be shared with others. If it is locked and not shared, and the person dies, we would lose that story. You can lock a story if you are aware that other elders know about it.

h. Is it right to put private knowledge? What do I do to protect it?

I will put private knowledge if I only want specific people to know about it. I will share it only with them.

Content & Change

Questions with translated transcript of elders' answers

a. How do you remember stories told to you by your elders?

I have a lot of knowledge; the stories told by my elders, I remember them mostly when I think about them or when I come at a place where it was told.

b. Do you change them as you tell them to the next generation or do you tell them like it was told to you? Are there any you would want redone?
You do not change the old knowledge told by the elders and just tell it as is to the next generation.

c. If you listen to a story, would you want it to change or have it continue, if it's a story being told by someone else and you are listening or a story you are telling?

Only the stories on entertainment can be changed not the knowledge about helping to heal unless an elder telling the story forget to mention something on about story.

d. How would you tell stories which are linked together?

Some stories have different chapters like wedding. Some knowledge's are apart but those are just together.

Trigger events

There are objects in the surrounding which trigger a scenario causing elders to start telling a story to a group of people or to a specific person. The idea was to uncover what made the narrator to tell that specific story at a specific moment to a particular person.

Trigger

Questions with translated transcript of elders' answers

a. Why did you tell the story?

Sometimes you think about an elder in order to start telling the story. When you remember is only when you think about that person.

b. Why do you tell to a particular person? What is the first thing that happened in your mind when wanting to tell a story?

Mostly stories are told when something has happened. For example, if you jump over the pot you will come across a honey badger, I will tell this to a friend who went to the woods and came across a honey badger.

c. Is it important which time of the day it is when you tell it? Season? Weather?

It normally does not play a role which time of the day a story is told. Some of the elders who cannot walk nicely would prefer to tell their stories at night when everyone is around the fire. So it would be during the day. Another might tell perhaps a similar story or another during the day while performing activities.

Trigger: Localized

a. Is it important where you are when you tell a story?

   It depends on the story. Most stories are best told where it is happening.

b. In your surrounding is there anything that makes you want to tell a story? Give examples.

   Yes there is, for example if I see a person working in the kraal, than I get all this stories in my head which I can tell.

Trigger: Ordering

a. Is there any order in which your stories should be told?

   Knowledge is not arranged in the brain because some are forgotten and remembered later. To remember is difficult. I remember from situation like that other time when I did this and that than I remember.

b. Do you tell the stories you were told by your ancestors first or the ones you have experienced yourself first?

   It all depends. I would always tell stories I was told by my ancestors.

c. Do you have stories which are connected? How do know with which one you should start with?

   Some of our stories are connected for example stories on weddings which contains different parts as the process is long. Normally I always start from beginning depending on the listener. If the listener is someone who wants to get married than I will start from the beginning.

Knowledge access/sharing

Our understanding is the way a narrator might record with particular listeners in mind. The audience are the listeners of the stories. This stage uncovers how and with whom the elders share their knowledge.

Audience

Questions with translated transcript of elders' answers

   a. Who should the audience be?

   Anyone who is interested can listen.

   b. Would you want a story for a lady be told to anyone? Why? Don't you think that the men might misuse it?

   Knowledge specifically to a lady is told to a lady, as it may be knowledge that will help a woman. If I (an elder) give the knowledge to the woman who might be my wife, she will pass it on. She will not keep this knowledge as she might say her husband helped her with a certain problem.

   c. Would you want to share your knowledge with other elders? Won't they take ownership of the story?

   I can share knowledge with others elders if they do not know about it. There is nothing you can do if a person you told claims the stories to be theirs as they now know about the story.

   d. Would you want the youth to share the knowledge amongst each other? Or would you prefer they tell each other to come to you for the story?

   Stories I was told by the elder and I will spread it. The youth can share the knowledge amongst themselves if they do not know. If I tell him or teach him he should also tell the others.

e. What happens if they are in Windhoek, and still want to listen to the story? Could they view the video in Windhoek?

If the story is digitalized then you have given the knowledge to those in Windhoek, so they can also listen to the story.

f. Would you tell another youth or elder to go tell the youth in town, how would you go around that?

I will give share my knowledge with the youth in town. In most cases they will get the knowledge when they come to the village during vacations or visiting. They will also know from those that I gave the knowledge to if I'm not around anymore.

g. What is important to you that you would like to share with the youth? Stories about what?

In most cases I would like to teach the youth about educational or survival stories in the village. With this knowledge they can easily survive and help others in need in the village. Stories like what they can eat or drink if they get lost in the field.

Audience: Classification

Questions with translated transcript of elders' answers

a. Who do you imagine who will listen to your story?

I mean if it is not gossip therefore I can imagine it would be anyone who is interested will listen.

b. Do you classify your audience? How?

In most cases all stories can be told to anyone. But then you will find stories relating to a woman, so it would best to tell a woman, and some for the youth. But it does not say that others can not listen to any of the stories told.

c. Is the content useful to the people in the village or the ones in town? How do you decide that this is for the ones in Windhoek and this for the ones in the village? Do you ever have these differences?

Most of our kids grew up in the village and went to the town for schooling. So most of the stories told are useful here in the village, as our elders always use to tell stories about happenings around them in the village. So the youth who lives in the town can listen to the story, if they can use the knowledge there, us as the elders we do not mind at all.

d. Do you tell a story to me the same way you tell someone else?

It will depend on what is being told. In most cases, I will tell it the same way as I told anyone. If it is development stories, I will tell it the same way. But sometimes if it is a story which should be sold, I might tell it differently based on the listener so that he keeps coming back to me.

e. Who should hear the story? Do you tell the whole story as is? Do you cut a piece of the story? Do you tell others things that explain the story, but in another way so that people don't access the real story, but explanation around the story? When do you decide to use each of the approach?

It depends on the type of stories to be told. Some stories are best when told in pieces like stories about the wedding. You tell them piece by piece for listeners to understand how weddings are handled. Depending on a story, I as an elder might also decide to only give a piece of knowledge to my nephew, but there is

a risk if an elder is deceased, now there is nowhere he (my nephew) can go get the knowledge, will rather give him all and not half of the story.

f. Do you want your stories to be hidden or open? What kind of stories are to be told? What kind of stories are not to be told? Give example.

To me an elder, I always believe that there are stories that are kept like secrets and those that you should give to people so that they can gain knowledge. If I found something which can make me rich, I would rather keep it as a secret and perhaps share it with people close to me.

g. You want people to listen to your stories, how about people who don't know you? How would you want to tell them?

Any person, if it is good and informative knowledge can hear about it. If our stories are digitised, than it can be made available for anyone to listen to.

Storage

The collected videos organised and stored are made available for sharing. Listeners might view videos more than once. Trying to understand what happens to the video once it is seen or used is a key feature. In real, the elders have a lot of stories and only share them when necessary. Important themes have been discussed at this stage to uncover what should happen to the knowledge once it is been used or seen.

Storage

Question with translated transcript of elders' answers

a. What happens to the video once you've seen or used?

I will not delete a story. If I had watched it I will not watch it over and over again. It should be for others who never listened to it now, or who would like to listen to it again,

Storage: Classification

Questions with translated transcript of elders' answers

a. How do you classify your stories, by people or weather, etc?

In most cases in order for us to share a story is when we think of something. For example, if I remember my grandma, I can easily tell a story she once told me. If I see the cloud change and probably wants to rain, it would think of a story related to the weather.

b. Do you label your stories in your head? If you do, how do you do that? With keywords or what?

There is no name structure to the knowledge in my head. It is only when I start thinking for example about a plant, than I remember the plant name and shares the story. The stories are placed randomly in your head. It depends on things that are happening there. Maybe an elder saw poles than he starts talking about poles.

Storage: Medium

Questions with translated transcript of elders' answers

a. How would you want stories to be kept and why? For example videos, thumbnails, voice, etc

If you do not know the person telling a story, even if it is someone from other villages, if you can see him talking you will listen and give attention. So the idea of using a video is a good way for story sharing.

Appendix C Collection of themes (iTunes session)

Below are the questions used during the iTunes session. The questions were to see how community members upload a video and then retrieve it and to see their reflection on the way videos are organised in ITunes.

a. Is the video to be searched for a particular person?

b. If the video, the way it is on ITunes, do you want them to be in a sequence or just presented randomly?

c. Can you find a video taken before, and what do you think about it?

d. Can you scroll at the ones recorded now, and what do you think about it?

e. Is the content valuable for all community after listening?

f. Is the information useful for people in the village and also the ones in Windhoek who are also part of the village?

g. When uploading, do you want the clips to be associated with the place or name of the video?

h. Is there any video clip to be redone?

Appendix D Collection of themes during prototype 3

The scenario based prototype used various questions to verify if the objects and locations in the 3D representation triggers storytelling. Below are the questions used during the usability testing of prototype 3:

a. What can you see?

b. What can u recognize?

c. What can you remember?

d. Can you see as if you have seen the area?

e. What can you see now, the scenarios?

f. What does it make for you to say, that they are burning the cattle?

g. When you look at the people, can you see if they are telling a story?

h. If someone new comes, will they be able to identify what is going on?

i. Do you have computers?

j. Do you no know the prototype usage?

k. What would you want to be changed?

l. Is this good bits and pieces?

Appendix E Stories told by the elders

Brief overview

Mixed stories were composed by the elders. The idea of having lots of videos collected more design ideas for the digital knowledge organisation. Having more videos, having different context, and told by various elders gave more options for organising indigenous knowledge.

Table 4.

Several stories told by the eders

Author: **Alex**	Provisional thumbnail used to index video:
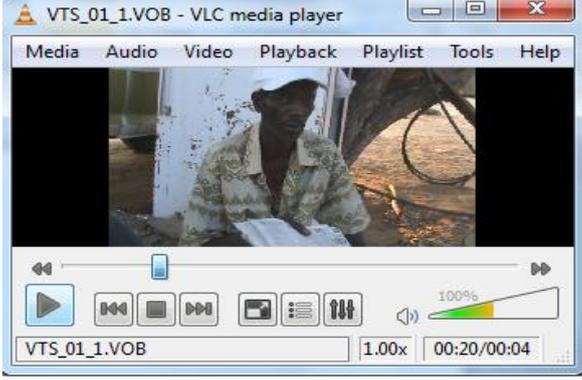
Index: **1**
Recorder: **Tuazapi**
Place of recording: **Okatumba**
Time of recording: **09H00**

Owner: Ancestors
    Self
   Community
   Specific community member

Origin: **Self**
   Specified
   Unknown

Purpose: Educational
     Elders knowledge
     Entertainment
     Survival/Medical
     Family matter

Location: Kraal   **Bush**

Homestead Waterplace River	
Domain: Plant **Animal** People	
Knowledge access: Women (Specified listener) Men Youth Elder **All** Individual person	
Format: **Video** Voice	
Type: **Narrative** Performance	
Restrictions: **General story** Secretive – Business Educative	
Triggers: Audience Event/Activity Time Place Need **Object**	
Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Eyuva romuvia**	
Title in English: **Day of the brown mamba**	

Otjiherero version	English version
Eyuva romuvia	The day of the brown mamba
Eyuvarimwe mbo otje ungura okamba, indji	One day I was working on the fence, this one
Okumuna omuvia, handje twauhara aatu ungura	Then I saw the brown mamba, we have been working
okamba	on the fence the whole day
Mm m	Mm m
Orika okamba, okamba oondji nu	Show the fence, here is the fence
Urika okamba nawa uriri	Show the fence clearly

Okamba ndji	This fence
Tjitwa kutukambo ookumuna omuvia popezumba	When we knocked off we saw a brown mamba here nearby
Okutja ami ekurama momuvapu menyine	Then I stood at the berry tree taking a pee
Tuari no Jopa mba Jopa erinana nai	We were with Job them, Job moved a little further
Ami ngunda amenyine nai otjimezuu omuvia maurimangurura momuti nai	While I was urinating I heard the mamba moving in the tree
Ami metja ondera yomeuru	I thought it was an aeroplane
Tjimetja mbuae ondera, tjimekotoka pehi Jopa otjimatja,	And I said: the aeroplane, just when I was about to bring my head down then Job said:
Onyoka oondjo omuvia oombo	"there is the snake'', the brown mamba
Aye ekanyapipa	Then I hit the road
Hinakutjiwa kutja nambano yasuvira po kutjitavi,	I do not know if it had spit on me ,
ekamuna mbasuru okuwoko	I just saw my arm starting to swell
Enu opela ekara uriri	Just took a few pills and it got well

Index: **2**	
Recorder: **Tuazapi**	
Place of recording: **Okatumba**	
Time of recording: **09H20**	
Owner: Ancestors	
Self	
Community	
Specific community member	
Origin: **Self**	
Specified	
Unknown	
Purpose: Educational	
Elders knowledge	
Entertainment	
Survival/Medical	
Family matter	
Location: Kraal	
Bush	
Homestead	
Waterplace	

River

Domain: Plant
        Animal
        People

Knowledge access: Women
 (Specified listener) Men
                Youth
                Elder
                All
                Individual person

Format: **Video**   Voice
Type: **Narrative**   Performance

Restrictions: **General story**
         Secretive – Business
            Educative

Triggers: Audience
       Event/Activity
       Time
       Place
       Need
       Object

Access: Locked   **Unlocked**
Relation to other stories: **Single**   Multiple
Modification: **Original**   Modified
Title in Otjiherero: **Otjihambarere tjo kuti**
Title in English: **Story of the field**

Otjiherero version	English version
Eyuvarimwe noho tjimei	One day I was going
Okuno tjima tjafa okambihi uriri	There was something that looked like a cat
Nambano tjimbetjivazere ndakufa otjiti	Now, when I found it I took a stick
Okutja konganda kakuno nyama	There was no meat at home
Onyama kaiko	No meat
Otjima tjafa okambihi matjivanga kutupuka	The cat like creature wanted to run
Metjaere ngwi metjitupukire ngui	I chased it one side and stopped the other side
Opari mbetjizepere mbo	That is where I killed it

Opumeyetere konganda	Then I brought it home
Me mokuti mevanga kunwa omeva	I was in the field I wanted to drink water
Omeva kaepo nu	There was no water
Kutja peno muti umwe pekara omeva	There was this tree where the water was
Mbavazere pongome ongombe ndjo mainu omeva	I found a cow drinking the water
Mai kufa otjiketana matjiti ongombe komatako nai	I took the panga and started pushing the cow at the buttocks
Maivete ami momayo ombindu maiya nai	Then it kicked me in my teeth and I started bleeding
Mbaire konganda maikapurwa warumatwa kuye	When I got home I was asked what bit you
Aye ndau kokakambe uriri	No I felt from the horse
Maikoro vizeze konganda nambano maveyoro	I was lying at home and they were laughing

Index: **3**
Recorder: **Tuazapi**
Place of recording: **Okatumba**
Time of recording: **09H40**

Owner: Ancestors
    Self
    Community
    Specific community member

Origin: **Self**
    Specified
    Unknown

Purpose: Educational
    Elders knowledge
    Entertainment
    Survival/Medical
    Family matter

Location: Kraal
    Bush
    Homestead
    Waterplace
    River

Domain: Plant
    Animal
    People

Knowledge access: Women (Specified listener) Men

Youth Elder **All** Individual person	
Format: **Video** Voice	
Type: **Narrative** Performance	

Restrictions: **General story**
        Secretive – Business
           Educative	

Triggers: Audience
      Event/Activity
      Time
      Place
      Need
      Object	

Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Mbapandjarera koKarupoko**	
Title in English: **Got lost in a corner**	

Otjiherero version	English version
Mbapandjarera koKarupoko	I got lost at a corner
Handje matuyeva yeva oupoka momakutimo, ovandje	We were hunting for wild animals in the bush, like the jackal
Mbari puna okakuruha, okakuruha akei nozombwa tjiva	I was with a bushman; the bushman went with some of the dogs
Ozombwa kutja zamuna okapi ombambi, atupizuka noho naingwi omukuruha	The dogs chased a rabbit or duiker, and then we separate with the bushman
Nambano handje twapandjara atuhe ami okutja esewa punozombwa mbari	And now we were both lost, I was then left with two dogs
Ozonditi uriri ozombona ndena ozonene handje zai	Small dogs, puppies, the big ones were gone

Nambano mbatemwa kutja konganda kupi,	Now I was wondering which side is home, I wondered
etemwa nu indo eyuva marii rikahite	and the sun was about to go down
Etara nai etja aa, oplanta yarwe	The I looked and said no, the other plan
Numbiso kuyenda konganda	And I had to go home
Okumuna kutja sohoo, nambano metjiti nai	Then I thought that, oh this is what I will do now
Otjimbatoora ovipuite uriri	Then I took a few tree stumps
Okuveta ndo zombwa, evete azetupuka	Then I start throwing the dogs
azetupuka azekakurama nao	when they ran they will not go and stand in the field
ozotjimazetupuka kanazekakurama mokuti nu	
okutja maze tupuka munda mbui wonganda	they will run to the side of the homestead
otjimbaenda mehingi naimbio vipuite nao	I did that the whole way with the stumps
Nganda tjiva azezuu ozongwa nozongombe	Then some started to hear the other and the sound of
konganda tjimazevandara	cows at home
okumuna kutja okay , konganda okongo	Then I realized that okay that side is the home
Okuya naindo zombwa ngandu konganda	Then I came home with dogs

River
Domain: Plant **Animal** People
Knowledge access: Women (Specified listener) Men Youth Elder **All** Individual person
Format: **Video** Voice
Type: **Narrative** Performance
Restrictions: **General story** Secretive – Business Educative
Triggers: Audience Event/Activity Time Place **Need** Object
Access: Locked **Unlocked**
Relation to other stories: **Single** Multiple
Modification: **Original** Modified
Title in Otjiherero: **Omutjise o malaria**
Title in English: **Disease called malaria**

Otjiherero version	English version
Otjimba kamburwa omutjise mbumamutja omalaria	I was caught by a disease called malaria
Omalaria ndjo ye ndjikondjisa orure thinene	I struggled with malaria for a very long time
Omutena kwandje ahara okundjitwara kOmaozonyanda	My sister tried to take me the clinic for treatment at Omazonyanda
Kai veruko tjina	I could not get well
Okutja otjeenderwa ondera inda zovita otjomundu ngumbari mo armi	I was haunted by an aeroplane like those of the military because I was in the army
	The plane comes from that side

Ondera otjairauka okuza ngwii,	Whaaaah
Whaaaah	When it passes me then I fall down
Tjimaikapita okutja ami mberikandoma	That is how we struggled
Oputwakomdja mbo	Then they brought me this side of Otjinene, here
Nganda avendji utukisa okuyeta kovinene ngwi	I almost got help here in Otjinene
Ambara kotjinene okuje kumuna mombatero	While I was here at the treatment in Otjinene
Ngunda mbirimba pomapangero motjinene	Blacky put me on scale then on the chair where I had
Blacky endjitwa potji skala mbo tjamba okundji	to wait for the nurses
haamisa pombanga mbo mbiyende kozo nesa	When he got back he found me without clothes on my
Tjimakotoka handje mberihukura kotjari	upper body
	I was lying on the floor
Mbarangavara mosamende	He was looking for me asking where is the man I
Eye mendjipaha kutja omurumendu ngumbaeta	brought here?
mba	Some people were saying he is not here, is just that
Ovandu tjiva mavetja kepomba matumunu	child lying over there
okanatje kukarara mbee	That was me lying there and he lift me up then I got
Handje owami ngumbarangavara mbo,	pills
okuyekundjiyera okukamuna oupela	
Epangwa pangwa nao okukuta veruka	Then I got treated and got better

Elders knowledge **Entertainment** Survival/Medical Family matter	
Location: Kraal **Bush** Homestead Waterplace River	
Domain: Plant **Animal** People	
Knowledge access: Women (Specified listener) Men Youth Elder **All** Individual person	
Format: **Video** Voice	
Type: **Narrative** Performance	
Restrictions: **General story** Secretive – Business Educative	
Triggers: Audience Event/Activity Time Place Need **Object**	
Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Kahavandje ongwasuverere okukateka**	
Title in English: **Jackal fetching water**	

Otjiherero version	English version
Okutja ngwi kahavandje ongwasuverere okukateka Ndanda katjungu atjiza kutja	The jackal liked going to get water Then the wolf became aware And I have killed my mom

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Ingwi mama mbazepa	Every time he is going to get water he takes a piece of meat
Aruhe tjimakateka okutja uso kutwarera okapusapusa	
Katjungu eyuva rimwe okutja aa kahavandje ndinondi ngumekateka owami	Wolf one day said no, jackal today I am the one who is going to get the water
Kahavandje konakukateka ndino ndi	Jackal you are not going to get the water today
Okutoora ndjondambo yakahavandje ari kuvekateka	Then he took the jackal's footsteps /track to the water place

Index: **6**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **10H40**

Owner: Ancestors
    Self
   Community
   Specific community member

Origin: **Self**
   Specified
   Unknown

Purpose: Educational
    Elders knowledge
    Entertainment
    Survival/Medical
    Family matter

Location: Kraal
    Bush
    Homestead
    Waterplace
    River

Domain: Plant
    Animal
    People

Knowledge access: Women
 (Specified listener) Men
        Youth
        Elder
        All
        Individual person

Format: **Video**
    Voice

Type: **Narrative**
   Performance

Restrictions: **General story**	
Secretive – Business	
Educative	
Triggers: Audience	
Event/Activity	
Time	
Place	
Need	
Object	
Access: Locked	
Unlocked	
Relation to other stories: **Single**	
Multiple	
Modification: **Original**	
Modified	
Title in Otjiherero: **Ozohunguriva ze hingira**	
Title in English: **Chickens who talk**	

Otjiherero version	English version
Ovina tjiva nao mbi mbatara mbaendekera	There are a few things that I looked and observed
Ovinamuinjo nao noho tjiwakara mene viao	The animals, if you have stayed close to them a lot you
tjinene mokeri pura kutja vihingira uriri	would think they do talk
Tara ami nao mbatarera ohunguriva	Look, I had observed the chicken
Zevandara uriri utukumbo azerara amazevandara	They make their sound all through the night
na	At the crack of dawn when they get down and come
Tjima peya petje tjizeya nambano tjizaheruka	Then you will see the cocks and big chickens
Otjimozemunu nda otjikondombora naindo zo	When they come there by the fire place
ndendu nda	
Tjizeya pezuko mbo pomuriro mbo	Then they sweep the sand open and the cock says
Otjizepyanga ehi nai handje indjo ndwezu	Hohoo, they were eating last night
mmaitja	I mean something, if you listen very well
Hohoo naanvarara amaveri	If you look good the chickens do really talk
Mehee ovinatjiva tjiuapuratene nawa	Even the dishonesty when they are picking on the
Ohunguriva tjiwa katara zehungira nawa nawa	unfinished fat (ongondivi)

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Novineya tjinaitokora ongondivi	And there is one with one eye
Nupena umwe nguno rumongo mba	Then the one says I will be on that side of the eye that
Okutja imwe itjavi ami mekarere munda mbwini	can see
ombo weho ndi ndimuna	Then you should go to the blind side
Okutja ove twende korumongo	When I am disturbing on this side then he will not see
Tjime plaa ngwi okutja ehondo kenakunkumuna	you and then you can pick
okutja ove tokora	
Ozondunge zohunguriva noho zetjita nao	Those are the intelligence of the chickens

Index: **7**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **11H00**

Owner: Ancestors
     Self
    Community
    Specific community member

Origin: **Self**
    Specified
    Unknown

Purpose: Educational
    Elders knowledge
    Entertainment
    Survival/Medical
    Family matter

Location: Kraal
    Bush
    Homestead
    Waterplace
    River

Domain: **Plant**
    Animal
    People

Knowledge access: Women
 (Specified listener) Men
    Youth
    Elder
    All
    Individual person

Format: **Video**
    Voice

Type: **Narrative**
   Performance

Restrictions: **General story**	
Secretive – Business	
Educative	
Triggers: Audience	
Event/Activity	
Time	
Place	
Need	
Object	
Access: Locked	
Unlocked	
Relation to other stories: **Single**	
Multiple	
Modification: **Original**	
Modified	
Title in Otjiherero: **Omumbonde otjina otjinene**	
Title in English: **Importance of a camel thorn tree**	

Otjiherero version	English version
Omumbonde otjina otjinene	Camel thorn tree is a important thing
Omumbonde tjinga uri nai watjaerwa iyovandu mba ovatjevere vo miti	Camel thorn tree as it is protected by the conservancy people
Otjiuari novihende	It had poles
Owo ouni tjinga uri nao, muwo nao otjimuno tukarakaka	As it there, it has its seeds
	If you collect this seeds in bags
Otukarakaka tui tjiwa nikorere momakutu	You look for crash machine those that crashes things
Okuzambo okupaha pona pupeno mbako nda ndekweya ovina	
Kuzambo okutua muno kafura, kutja ikaruhere ngo kaserandu	Then you add some feeds, the yellow maize meal
Ofura ndja yenene kutja tjamwa tjinamuinya kutja ikozongombo ingombe	Enough feeds for any type of live stock being it goat or cattle
Tjimatjihara okuwotama oku uto kutupupa	When it is about to become powerless it will run

okamutjira meuru	and raise its tail
Omumbonde otjina otjinene, thinga uri nao noha ohumburura tjinene mene yonganda yoye	Camel thorn tree, it is a big thing, also as it is do not keep far away from your homestead
Omumbonde mbo hina kurjiwa kutja ukambura sana no rutjeno rombura	Camel thorn tree, I do not know if it works with the lightning
Orutjeno ndo tjimaruhara okuya kove owo ukambura, aukaveta momumbonde	When the lightning is about to struck you it attract it, then it hits the camel thorn tree
Okutja omuti omunene nao noho	So it is an important tree indeed
Uno mbatero konganda ohumburura tjinene	It is also helpful therefore you should not keep it far from the homestead
Omukweno tjitaiyera, ohumburura , owo unana	It is just like the tyre, do not keep it far, it attracts lightning

Author: **Bertha**	Provisional thumbnail used to index video:

Index: **7**
Recorder: **Tuazapi**
Place of recording: **Okatumba**
Time of recording: **11h20**
Owner: Ancestors
Self
Community
Specific community member
Origin: **Self**
Specified
Unknown

Purpose: Educational Elders knowledge Entertainment Survival/Medical Family matter	
Location: Kraal Bush **Homestead** Waterplace River	
Domain: Plant Animal **People**	
Knowledge access: Women (Specified listener) Men Youth Elder **All** Individual person	
Format: **Video** Voice	
Type: **Narrative** Performance	
Restrictions: **General story** Secretive – Business Educative	
Triggers: Audience Event/Activity Time **Place** Need Object	
Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Omajuva nge hiti oskole**	
Title in English: **Days attending school**	

Otjiherero version	English version
Ihi tjimehungire ohunga no mayuvu wandje tjee hiti oskole	This one is about my days when I was attending school
Okutja otje hiti mo Oulokasi po skole yova Herero	I attended school in old location at a Herero school From there I went to a school taught by a white teacher

Tjimbazambo okuyenda koskole ndjihongwa iyo zomitiri zo vaapa	By then I could not speak any other language except Otjiherero
Handje hiroro hitakuma mbihungira Otjiherero uriri	
Oskole ndji kana yari novaherero nu tukara mo hostela	This school had no Herero's and we were staying in the hostel
Okutja tjimemunu ozomitiri tjimazeya mazevanga okundjipura tjina po kutja ouami une otjomuatje ngu ve hei	Then when the teachers were coming to me to ask my name or who I am as an unknown learner
Ami otjee tupuka ekatara	I ran away and hide
Okutja momuano mbui wokuhena kutakuma eraka tjimbakara erihongo kovakwetu	In that of not being able to talk another language, I stayed and learned from my fellow learners
Ovanatje mbaripo kana parino vanatje ovaherero atjindji ninikiza kutja mbiyenene okurihonga otji afrikansa tja tuhungire moruveze ndo	The learners that were there, none of them were Hereros
	That forced me to be able to learn Afrikaans that was spoken during that time
Okutja kombundo mweze vivari uriri tjandje mbahita momirari viovakwetu	Then after two months I was already in the pace of the others
Opuwo mbihungira otjiAfrikansa tjimuna ovakwetu	
Okutja atjindjipe oupupu noho okuyenena okurihonga nawa noho	And I could speak Afrikaans like the other learners
	It also helped me to learn easily
Mbiyenene okuka pasa, epasa omutenga noho tjimbamana o std 6 yandje	So I can be able to pass, I even passed number one in class when I finished my std 6

Index: **8**	
Recorder: **Tuazapi**	
Place of recording: **Okatumba**	
Time of recording: **11h40**	

Owner: Ancestors
    Self
    Community
    Specific community member

Origin: **Self**
    Specified
    Unknown

Purpose: Educational
    Elders knowledge
    Entertainment
    Survival/Medical
    Family matter

Location: Kraal
    Bush
    Homestead
    Waterplace
    River

Domain: **Plant**
    Animal
    People

Knowledge access: Women
 (Specified listener) Men
    Youth
    Elder
    All
    Individual person

Format: **Video**   Voice
Type: **Narrative**   Performance

Restrictions: **General story**
    Secretive – Business
        Educative

Triggers: Audience
    Event/Activity
    Time
    Place
    Need
    Object

Access: Locked   **Unlocked**
Relation to other stories: **Single**   Multiple
Modification: **Original**   Modified
Title in Otjiherero: **Ounongo ngumbakambura ohunga no mapangero**
Title in English: **Knowledge gained about medical treatment**

Otjiherero version	English version
Ihi tjimehungire ohunga nounongo mbumba pewa iyo mukwetu	This I am telling is about the knowledge I obtained from a friend
Tara ete mozoresevate mui karumunu ozonganga nawa	Look here in the villages we do not get doctors a lot
Katumunu okupanwa nawa pupeteki pi	We do not get good medical treatment
Otjimbakorora ekorora	I coughed and coughed
Eyuvarimwe omukwetu ngu nounongo okundji raera kutja mukwetu	The one day my colleague who had more knowledge said to me, colleague
Ko itjitoora omaze nga nguyareka nayo ovikuki	Take the oil that you bake fat cakes with
Orutuwo rumwe orurye nu utwamo onadjo ndorozu ndjituwa monyama ndjikuza western souse	One eating spoon and put that black ingredient that is put in the meat called western souse
Utwe mumwe tjazumba unwe utare kutja motjitivi	Mix it and then drink and see what will happen
Tjiri tjimbaza nokunwa ona ndji nai okukorora keandje kwa yaruka ombunda	Truly after drinking these things my coughing has reduced
Ihi ohunga no zohe	This one is about 'Ozohe' (some wild barriers)
Otjimbari nongundwa ndje omupotu	I had an uncle who was blind
Ngwa vere otjari tjatjiseti	And had a sick chest that could close
Okutja mama ngo munenene	She went and collected 'Ozohe' barriers
Otja kanikora ozohe	
Handje nao noho uaraerwa iyomundu ngwari nounongo	She was also told by someone who had the knowledge
Okutja omevanga ahanga tjimuna tjimohanga otee nao	Then this water she made it like when you making tea
	You cook water then you add Ozohe, then you wait a

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Oziki omeya tjazumba okutwamo ozohe azenana Tjiyazu nokunana okuyandja kongundwe tu ngo mupotu anu azemuvatere otjari	while After waiting she gave it to our blind uncle which then helped his chest problem

Index: **9**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **12h00**

Owner: **Ancestors**
        Self
         Community
        Specific community member

Origin: **Self**
        Specified
        Unknown

Purpose: Educational
            Elders knowledge
            Entertainment
            Survival/Medical
            Family matter

Location: Kraal
            Bush
            Homestead
            Waterplace
            River

Domain: **Plant**
        Animal
        People

Knowledge access: Women
 (Specified listener) Men
                    Youth
                    Elder
                    All
                    Individual person

Format: **Video**
        Voice

Type: **Narrative**
        Performance

Restrictions: **General story**
            Secretive – Business
                    Educative

Triggers: Audience
        Event/Activity
        Time
        Place
        Need
        Object

Access: Locked	
Unlocked	
Relation to other stories: **Single**	
Multiple	
Modification: **Original**	
Modified	
Title in Otjiherero: **Omuti omuseyasetu**	
Title in English: **Omuseyasetu tree**	
Otjiherero version	English version
Imbwi omuseyasetu	This omuseyasetu (a tree type)
Mbweura motjirongo tjetu mbuyama ozongombe	That is full in our village, which also helps the cattle
Kutja azeha otama	So that they can be strong
Okutja otja tuvere otjindjumba	We were getting flu at home
Tukorora noho	We were coughing also
Okutja mama ngo munene otja kapora omuhuva	Then our grandma used to get omuhuva (a tissue like substance under the tree bark)
Okuzika momeva etupwenisa ngomeva omaruru nga	Then she let us drink this sour water
Katuvanga okunwa noho aturu uriri	We did not like drinking this water, it was a fight
Posio kutja atunini kizirwa ko atunu ngo meva nga	But we were just forced and we had to drink this water
Otjindjuma atjiveruka	Then we get well, no flu

Index: **10**	
Recorder: **Tuazapi**	
Place of recording: **Okatumba**	
Time of recording: **12h20**	
Owner: Ancestors	
Self	
Community	
Specific community member	
Origin: **Self**	
Specified	
Unknown	
Purpose: Educational	
Elders knowledge	
Entertainment	

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Survival/Medical Family matter	

Location: Kraal
          Bush
          Homestead
          Waterplace
          River	

Domain: Plant
        Animal
        People	

Knowledge access: Women
 (Specified listener) Men
                 Youth
                 Elder
                 All
                 Individual person	

Format: **Video** Voice	
Type: **Narrative** Performance	

Restrictions: **General story**
          Secretive – Business
               Educative	

Triggers: Audience
       Event/Activity
       Time
       Place
       Need
       Object	

Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Ohunga nourumbu**	
Title in English: **Draught**	
Otjiherero version	English version
Ombura imwe ngunda aturi ovanatje kwari nourumbu	One year when we were kids, there was draught
Handje katuna ovikuria , nukatuna ozongombe ponganda	We had no food and we had no cattle
Okutja otjaatukanikora ozohe	We were just collecting Ozohe (wild barriers)

Ozohe nda tjitweya mapeta okutja otjaa zetondwa	This ozohe in the afternoon when we come home, they
aze hahaurwa tjazumaba	were crushed and then
Amutuua omaere	Add omaere (sour milk)
Azetondwa azerire evanda	Then they were crashed and became dried berry cake
Porumwe azetondwa amutuwa omeva	Sometimes they were crashed and then added with
Okutja azerara mezenana, muhuka amutjirwa	water
mamunu ngo meva nga	They were left to overnight then in the morning we
Handje mavi tjata nawa okutja nao ondjara katiti	drink the water
handje twaramba	They tasted good, that way we got rid of little hunger at
	home
Ongwava	It was guava

Index: **11**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **12h40**

Owner: Ancestors
     Self
    Community
    Specific community member

Origin: **Self**
    Specified
    Unknown

Purpose: **Educational**
    Elders knowledge
    Entertainment
    Survival/Medical
    Family matter

Location: Kraal
    Bush
    Homestead
    Waterplace
    River

Domain: **Plant**
    Animal
    People

Knowledge access: Women
 (Specified listener) Men
           Youth
           Elder

All	
Individual person	
Format: **Video**	
Voice	
Type: **Narrative**	
Performance	
Restrictions: **General story**	
Secretive – Business	
Educative	
Triggers: Audience	
Event/Activity	
Time	
Place	
Need	
Object	
Access: Locked	
Unlocked	
Relation to other stories: **Single**	
Multiple	
Modification: **Original**	
Modified	
Title in Otjiherero: **Omuvapu aapehangwa otee**	
Title in English: **Tea from raisins bush**	
Otjiherero version	English version
Omuvapu aapehangwa otee	Raisins bush tea was made from it
Oviyao mbi mbya kukuta mbya wira pehi	The dry leaves that fell on the ground
Ovaherero ombya vekusumisa avetwamo okawitji okatiti	The Hereros used to boil them in water and add a little sugar
Otee	That is the tea
Okuzambo otjiun mandjembere	It also has raisins
Omandjembere nga otja yenikorwa inga aekehisiwa	This raisins were collected, and some dried up Wrangles'
Ookoukova	After drying them they were crushed, were never
Kuzambo tjiyazu nokukaha kaetondwa ngunda eri	crushed while they were wet
omataazu nao tjinene	Mostly dried up
aekahisiwa	After being dried up they were crushed and crushed and

Tjiyazu nokukaha okutondwa okutondwa okutondwa okutondwa	crushed and crushed
Ovandu mbo vanene avekara nomaze nga wozongombe	The elders normally used to have this cow fat
Omundu akaota otutuwo tuvari momazenga atwa mevanda	Then the person scoop two spoons from the fat and put in the raisins cake
	The raisin cake is widened up
Evanda aritonwa aripapivara	The raisins cake and then the children eat, each get a piece
Evanda ovanatje averi , auhe apewa okasteki	
Tjazumbo okukanua omeva handje watu indjo ndi yo maze nga	Then they drink water because of the thirst caused by the fat

Index: **12**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **13h00**

Owner: Ancestors
     Self
    Community
    Specific community member

Origin: **Self**
    Specified
    Unknown

Purpose: Educational
    Elders knowledge
    Entertainment
    Survival/Medical
    Family matter

Location: Kraal
    Bush
    Homestead
    Waterplace
    River

Domain: Plant
    Animal
    People

Knowledge access: Women
(Specified listener) Men
    Youth
    Elder
    All
    Individual person

Format: **Video**	
Voice	
Type: **Narrative**	
Performance	
Restrictions: **General story**	
Secretive – Business	
Educative	
Triggers: Audience	
Event/Activity	
Time	
Place	
Need	
Object	
Access: Locked	
Unlocked	
Relation to other stories: **Single**	
Multiple	
Modification: **Original**	
Modified	
Title in Otjiherero: **Ehungi ohunga no omurumendu**	
Title in English: **Story about a man**	

Otjiherero version	English version
Tjimoserekarere kokutjavi	As you will be telling a story
Uso kupuratena nawa tjimokaserekarera	You should listen good so that when you have to tell the next
komundu warwe tjandje mokaserekarera	person, you can tell the truth
ouatjiri	One time when we were small in Ehungiro
Otjikando tjimwe ngunda aturi ovatiti	We were collecting barriers
mEhungiro	There was this big boy 'omukweyuva' (sub Herero tribe)
Otjaa tukanikora omandjembere	He was Kaenderwe and he was a rapist
Tjandje peno muatje omuzandu	While we were collecting
omukweyuva	We heard a sound saying 'Hoo o"
Eye uari Kaenderwe ngwa tjere ovandu	When we heard this sound
Okutja ngunda matunikora nai	We jumped and ran
Aatjituazuu ombosiro ndjimaitja "hooo'	The barriers bags got torn and we lost the barriers
Okutja tjinga twazuu ndjo mbosiro ndji	

Okupurkuta atutupuka	We got scratched in the chins by the trees
Ozondjatu zomandjembere azetauka omandjembere aepandjara	Then we got home, children what is wrong, why are you running?
Atu paraurwa miti momiho	As our mothers were asking
Okuya ponganda, muatje muahapavi	No, we were scared of Kaenderwe
mbumwarnde amamu utuka	No, Kaenderwe is in the jail now he raped a girl
Tjimatu purwa iyo mama	
Kako twatira Kaenderwe	Then, we did not listen very well to that
Muatje kako Kaenderwe uri kondorongo uatjera omusuko	That is why I am saying one should listen very well
Okutja nao katupuratenene nawa ombosiro ndjo	
Opmetjere kutja omundu uso kupuratena nawa	

Author: **Job**	Provisional thumbnail used to index video:

Index: **13**	
Recorder: **Tuazapi**	
Place of recording: **Okatumba**	
Time of recording: **13H20**	
Owner: Ancestors	
Self	
Community	
Specific community member	

Origin: **Self**
Specified
Unknown
Purpose: Educational
Elders knowledge
Entertainment
Survival/Medical
Family matter
Location: Kraal
Bush
Homestead
Waterplace
River
Domain: **Plant**
Animal
People
Knowledge access: Women
(Specified listener) Men
Youth
Elder
All
Individual person
Format: **Video**
Voice
Type: **Narrative**
Performance
Restrictions: **General story**
Secretive – Business
Educative
Triggers: Audience
Event/Activity
Time
Place
Need
Object
Access: Locked
Unlocked
Relation to other stories: **Single**
Multiple
Modification: **Original**
Modified
Title in Otjiherero: **Omiti mekueze**
Title in English: **Trees in seasons**

Otjiherero version	English version
Matu utire po miti?	Are we starting with trees?
Katjo?	Right?

Omiti oruveze ro kupepera	Trees in winter time
Okupepera kuzepa okuti	The winter kills the trees
Menarokutja ombepera izepa oviyao	Because the cold kills the leaves
Avikukta, tjivia kukuta	They get dry
Okupepera tjimakuyanda mbo oruveze roupyu tjimaru ya	When winter time is ending summer is starting
Otjiwe kutja omiti maviutu okunyomoka osunda	The only way to know that the trees are about to get green is the bud
Otjivitwako osunda,	They start putting on buds
Kuza osunda oini	It is called buds
Osunda ndjo aiya aiya tjiyautu okuwira pehi	The buds comes when it starts falling off
Omuti okuwako viyao	The tree get leaves
Okutja otjimotjiwa kutja osunda minda viorive viazako nambano kwautu oviyao	Then you will know that the buds at this area is off now the leaves are on
Okuti makunyomoka, okutimaku I kokurooro	Now the field is becoming green, approaching summer
Kakuna ku undja omura kako	It is not waiting for the rain
Makwi koku rooro orondu yatwako osunda osunda yazuko nambano makunyomoka	Going to summer now because it had buds, the buds are off now it is getting the leaves

Index: **14**	
Recorder: **Tuazapi**	
Place of recording: **Okatumba**	
Time of recording: **13h40**	

Owner: Ancestors
    Self
    Community
    Specific community member	

Origin: **Self**
    Specified
    Unknown	

Purpose: Educational
    Elders knowledge
    Entertainment	

Survival/Medical
Family matter

Location:	Kraal
	Bush
	Homestead
	Waterplace
	River

Domain:	Plant
	Animal
	People

Knowledge access:	Women
(Specified listener)	Men
	Youth
	Elder
	All
	Individual person

Format:	**Video**
	Voice

Type:	**Narrative**
	Performance

Restrictions:	**General story**
	Secretive – Business
	Educative

Triggers:	Audience
	Event/Activity
	Time
	Place
	Need
	Object

Access:	Locked
	Unlocked

Relation to other stories:	**Single**
	Multiple

Modification:	**Original**
	Modified

Title in Otjiherero: **Otjizire tjo okuni no oruveze romutenya**

Title in English: **The shadow in summer and autumn**

Otjiherero version	English version
Oimwe yomutenya tjeri oruveze ndwi romutenya	1 o'clock in the afternoon when it is summer time
Okuni kumakuheewa eyuva tjimarikuvete mba otjizire matjikara pinaove mba	Autumn as it is said when the sun is hitting you while the shadow will be here besides you

Okutja tjima tjizu moimwe okuyenda kohinga yo mbari	Then it is pass one to go to half pass two
Okutja otjimatji yenda atji, atjiyaruka nai	It will move towards this side
Okutja handje motjiua kutja marikahita	Then you will know that it is going down
Riyende kongurova	Going to evening time

Index: **15**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **14H00**

Owner: Ancestors
     Self
    Community
    Specific community member

Origin: **Self**
    Specified
    Unknown

Purpose: Educational
    Elders knowledge
    Entertainment
    Survival/Medical
    Family matter

Location: Kraal
    Bush
    Homestead
    Waterplace
    River

Domain: **Plant**
    Animal
    People

Knowledge access: Women
 (Specified listener) Men
          Youth
          Elder
          All
          Individual person

Format: **Video**
    Voice

Type: **Narrative**
    Performance

Restrictions: **General story**
      Secretive – Business
        Educative

Triggers: Audience
    Event/Activity

Time **Place** Need Object	
Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Ounahepero wo omukaru**	
Title in English: **Importance of omukaru tree**	

Otjiherero version	English version
Otjipena omukaru	There is 'Omukaru' ziziphus mucronata
Omukaru omuti obeste nanadarire ovandu mba ovatjevere vokuti etutjaera atuke omukaru	'Omukaru' is the best tree even people of the conservancy have prohibited us from cutting it
Omukaru ouni kova Herero uno tjipurauro	'Omukaru' for Herero's has a 'Otjipurauro' (a stick used to hit calf away when milking)
Otjipurauro otjaa tjitono ozonda nu atjisewa kotjunda	Otjipurauro was used to hit calves and it was left at the kraal
Tjazumba uno zongaru, ozongaru zeriua	It has fruits which are eaten
Nozonduru nande heri ozonduru zeriua zenikorwa, ape ngarurwa kosiva noho	The sour ones and non not sour ones are collected and eaten and also crashed for coffee
Tjinga uri nao uno viyao, tjinga wavere pehuri, overepehuri uriri	It also has leaves when you have a stomach ache
Nikora oviyao uriri ouhara motereke utatune utatune okutja pehuri poe mbo orungondo rwai	Collect the leaves no need to cook, you just chew and chew then your stomach ache will go away

Index: **16**	
Recorder: **Tuazapi**	
Place of recording: **Okatumba**	
Time of recording: **14H20**	

Owner: Ancestors
     Self
     Community	

Specific community member
Origin: **Self**
Specified
Unknown
Purpose: Educational
Elders knowledge
Entertainment
Survival/Medical
Family matter
Location: **Kraal**
Bush
Homestead
Waterplace
River
Domain: Plant
Animal
People
Knowledge access: Women
(Specified listener) Men
Youth
Elder
All
Individual person
Format: **Video**
Voice
Type: **Narrative**
Performance
Restrictions: **General story**
Secretive – Business
Educative
Triggers: Audience
Event/Activity
Time
Place
Need
Object
Access: Locked
Unlocked
Relation to other stories: **Single**
Multiple
Modification: **Original**
Modified
Title in Otjiherero: **Onduezu tji maikaronda mo ohauto**
Title in English: **The bull going to get into car**

Otjiherero version	English version
Tjimaikaronda aihatupuka nuahataviza ngwi	When the bull is getting on it cannot run and it cannot

,aiha taviza ngwi	look sideways
Tupu mohauto ya kahee	There it is in Kahee's car
Atutja vanduu vavitoto kamuna operesende naete	Then we said guys from Ovitoto you do not have a present for us
Tuaree ondwezu yenu, okamamba yetu yari ete mbutwaturike noho kamuna opresende naete	Take your bull it ate from our grass and you do not have a present for us who helped you load
Etja ngavende	Then I said go away
Avei	Then they went

Index: **17**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **14H40**

Owner: Ancestors
    Self
    Community
    Specific community member

Origin: **Self**
    Specified
    Unknown

Purpose: Educational
    Elders knowledge
    Entertainment
    Survival/Medical
    Family matter

Location: Kraal
    Bush
    Homestead
    Waterplace
    River

Domain: Plant
    Animal
    People

Knowledge access: Women
(Specified listener) Men
    Youth
    Elder
    All
    Individual person

Format: **Video**
    Voice

Type: **Narrative**
    Performance

Restrictions: **General story**	
Secretive – Business	
Educative	
Triggers: Audience	
Event/Activity	
Time	
Place	
Need	
Object	
Access: Locked	
Unlocked	
Relation to other stories: **Single**	
Multiple	
Modification: **Original**	
Modified	
Title in Otjiherero: **Ovarumendu vasuvera ojama mara kavesere okuria ogombe jovijoze**	
Title in English: **Man loves meat but should not eat crazy cow**	

Otjiherero version	English version
Tjimatu zuu tjina nai ete ovarumendu mbutukara moresevate mbutwa suvera onyama	As we here, look now, we are men who stay in the village and who love meat
Nambano onganga maitutjaere okuria ongombe jourundumba	And now the doctor is saying we should not eat of crazy cows
Orundupa tjinga uari ombindu ndi otjinga itupuka nganda overe omutjise worundumba	If you eat this meat the blood runs in you till you also become crazy
Nu nao moresevate otjina tjituatarera nada ombwa yozongombo	But then we have observed that in the village and the dog that looks after the goats
Tjiyarumata ongombo ongombo ndjo ikara uriri tjamba aikavera ovioze	If it bites the goat, that goat stays and later become crazy or insane
Okutja nambano otjiwautu okumuna kutja indjo ngombe tjiyavere orundumba	That is when we started to see that if a cow is insane it is not something you should eat at all

Index: **18**	
Recorder: **Tuazapi**	
Place of recording: **Okatumba**	

Time of recording: **15H00**	

Owner: Ancestors
     Self
    Community
    Specific community member	

Origin: **Self**
    Specified
    Unknown	

Purpose: Educational
     Elders knowledge
     Entertainment
     Survival/Medical
     Family matter	

Location: Kraal
     Bush
     Homestead
     Waterplace
     River	

Domain: Plant
     Animal
     People	

Knowledge access: Women
 (Specified listener) Men
        Youth
        Elder
        All
        Individual person	

Format: **Video** Voice	
Type: **Narrative** Performance	

Restrictions: **General story**
      Secretive – Business
          Educative	

Triggers: Audience
     Event/Activity
     Time
     Place
     Need
     Object	

Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Okutura kongotue yo ganda po rukupo**	
Title in English: **Settling behind homestead**	

for wedding	

Otjiherero version	English version
Tjinga twazu mbo okukotoka kongotwe yonganda atuyakutura	From there we come back behind the homestead to settle temporarily
Tjinga twazu nokutura	After settling
Okatana okarema okasaona akehingwa aketjirua makezu konganda	The red female calve is brought from the homestead in the morning
Akekata kongotwe onganda	Then it is slaughtered behind the homestead
Imba ete twazepa oketumba	Here we have slaughtered ours
Evango arizu ngo	The hip part comes from there
Akuya ovanatje omarenga tjimuna ove nai	Then there comes gentle children like you
Nozotjuta vahikike noukaendu kemwe po uvari	Dressed in suits with one or two ladies
Amuyarura evango	You take back the hip bone part
Otjimakuzu kukwazu evango kuyaruka evano	That is why it is said where a hip came from should also be taken a hip in exchange
Ongombe ndjo ndema yakata ngo	
Akuzu evango ngo ariya ngwi, akuyaruka evango ndi rongombe ndjitwazepa mba ariyaruka ngwi	A hip of the female cow come from this side to that side, the hip from the cow that we slaughtered will also be taken to that side
Okutja kanango yautwa rukuru nu	Then that one was started already

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Author: Gerard

Provisional thumbnail used to index video:

Index: **19**	
Recorder: **Tuazapi**	
Place of recording: **Okatumba**	
Time of recording: **15H20**	

Owner: Ancestors 　　　　　Self 　　　**Community** 　　　Specific community member
Origin: Self 　　　**Specified** 　　　Unknown
Purpose:　Educational 　　　　**Elders knowledge** 　　　　Entertainment 　　　　Survival/Medical 　　　　Family matter
Location:　Kraal 　　　　Bush 　　　　**Homestead** 　　　　Waterplace 　　　　River
Domain: Plant 　　　　Animal 　　　　**People**
Knowledge access:　Women 　(Specified listener)　Men 　　　　　　　Youth 　　　　　　　Elder 　　　　　　　**All** 　　　　　　　Individual person
Format: **Video** 　　　　Voice
Type: **Narrative** 　　　Performance
Restrictions: **General story** 　　　　Secretive – Business

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Educative
Triggers: Audience
Event/Activity
Time
Place
Need
Object
Access: Locked
Unlocked
Relation to other stories: **Single**
Multiple
Modification: **Original**
Modified
Title in Otjiherero: **Ozoiri katjinene okuzetjiua, tara kejuva**
Title in English: **The sun tells the time**

Otjiherero version	English version
Eyuva, indo ozoiri katjinene okuzetjiua	During the day, we actually do not know the hours
Tuhaka moviuru vietu oveni	We just guess in our head
Eyuva tutarerea ko tjizire tjetu	They just look using the sun
Tjimuna nai twazu mokupepera	Like now we are coming out of winter
Twahiti koruveze romutenya, nai kaurooro oruveze romutenya	We are now in summer time, sunny time not the raining season
Okutja otjizire neyuva viatjindji kuviari	Therefore the shadow and the sun has changed
Kuviatjindire moruveze rokupepera	Where they moved, in winter time
Otjizire atjii morupati rwe yuva	The shadow was moving in via the side of the sun
Katjo!	Right!
Nai otjizire nambano matu kongorerasana	Now the shadow and I are following each other
Tjimei ongarate kongurova matjikara ketambo randje	When I am going straight to the north it will be behind me
Tjimei komuhuka matjikara komurungu wandje	When I am going to the east it will be in front of me
Okutja nao tuahana otuveze nai, oruveze ndo	So now we have separated the times, in this summer

romutenya ndwi	time
Tjo kupepera tjiyepa	That of winter goes shades away
Tjimoi ingwi eyuva kuripita matjikara komanene	When you going this side where the sun raises it will be on your right
Tjimoi keyuva kurihita matjikara komamuho	When you going that side where the sun goes down it will be on your left
Nu mene, tjikaondja mene yoe	And next to you, it goes next to you
Nambano hi nai tjimei kumarihiti majikara ketembo randje	Now this one when I am going where it goes down it will be behind me
Tjimeingwi kuripita matjikara komurungu wandje	When I am going where it comes out it will be in front of me
Eyuva tjimarindjivete matjikara ketambo randje	When the sun is facing me it will be behind me
Tjitara ngwi kurihita matjikara momurungu wandje okutja mbo pumehanene kutja vi tjimevanga okupandjara	When I am facing where it goes down it will be in front of me
Kutja aa otjizire tjimbazu konganda okutja mbari amei korive nunoho otjizire kanaa tjokara komuru	That is where I can differentiate that when I am about to get lost. That now when I left home
	I was going where and even the shadow should not be n front of me
Tjimbiso kuyaruka konganda otjizire tjiso kukara kongotwe yandje	When 'm going home the shadow should be behind me
Eyuva tjiraka rekareka tjiso kukara kongotwe yandje okutja otjimeso kuyenda konganda	When it is late afternoon hours the shadow should be behind me, that is when I am going home

Index: **20**
Recorder: **Tuazapi**
Place of recording: **Okatumba**
Time of recording: **15H40**
Owner: **Ancestors**   Self

Community Specific community member	
Origin: **Self** 　　　Specified 　　　Unknown	
Purpose:　Educational 　　　　Elders knowledge 　　　　**Entertainment** 　　　　Survival/Medical 　　　　Family matter	
Location:　Kraal 　　　　Bush 　　　　**Homestead** 　　　　Waterplace 　　　　River	
Domain: Plant 　　　Animal 　　　**People**	
Knowledge access:　Women 　(Specified listener)　Men 　　　　　　Youth 　　　　　　Elder 　　　　　　**All** 　　　　　　Individual person	
Format: **Video** 　　　Voice	
Type: **Narrative** 　　Performance	
Restrictions: **General story** 　　　　Secretive – Business 　　　　　　　Educative	
Triggers: Audience 　　　**Event/Activity** 　　　Time 　　　Place 　　　Need 　　　Object	
Access: Locked 　　**Unlocked**	
Relation to other stories: Single 　　　　　　**Multiple**	
Modification: **Original** 　　　Modified	
Title in Otjiherero: **Okati ko rukupo**	
Title in English: **Wedding stick**	

Otjiherero version	English version

Iya	Yes,
Apiti mbo peno kati tjimuna nga	Then he come out there, where there is a stick like this one
Kena ingo muion nganda	
Asaneke momake uomuatje ngo mukazona oveuakurama mbo ngo muzandu	Held by the owner of the homestead
	He fit it against the hands of the girl while you (the man) are standing there
Ayarura mondjiuo	He takes it back in the house
Ekesa mbo	Then it is left there
Otoora omukaende wee koyenu	You take your wife home
Mapeta omawa oraura moyenu tjiwazu nokuyeta	In the good afternoon you bring her in your home and you just let her sit over there
omukaendu ponganda okuhaamisa mbee	
Nokuhena otjikuria mari poyenu mba	Without eating any food from your home
Mari ovikuria mbi mbiaende navio uriri	She will only eat the food she came with
Atjukutjura omeva wouyenda ae ngapewa atjukutjura	She will shake water in her mouth, the arrival water
Okurara mondjiwo yenu ndjo	Then she sleep in your house
Tjikwari rukuru ondjova aikara mene yondjiwo	In the older days the groom's feast was done next to the house
Nambano nda zetonua mba zaanda	Those that were built there are no more
Nambano omundu uhita mo	Now the person just goes in there
Okutja eyuva rondjova	Then the day of the grooms feast
Nambano ndjarira ombesuha uriri	Which now has become an ordinary day
Eeyuva ereze pokati kenu naingo mukaendu nguwakaeta ngwi	It is a very holy and prohibited day between you and your wife
Omukaendu ngo eyuvando uzako no	This woman that day, she comes with
Hineeta mona maikapuratenua ovandu avehe	I cannot mention that it is going to be listened by all

Namba no eyuva rorukupo rwenu ruri mondjiwo yenu ndji	people
	Now that is the day of your wedding, it will be in this house of yours
Eyuva rurukupo rwenu rwa hiti mondjiwo ndji	It is the day of your wedding, now it is in this house
Mohuka omunene	Early in the morning

Index: **21**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **16H00**

Owner: **Ancestors**
     Self
     Community
     Specific community member

Origin: **Self**
     Specified
     Unknown

Purpose: Educational
     Elders knowledge
     Entertainment
     Survival/Medical
     Family matter

Location: Kraal
     Bush
     Homestead
     Waterplace
     River

Domain: Plant
     Animal
     People

Knowledge access: Women
 (Specified listener) Men
     Youth
     Elder
     All
     Individual person

Format: **Video**
     Voice

Type: **Narrative**
     Performance

Restrictions: **General story**
     Secretive – Business
     Educative

Triggers: Audience
     Event/Activity

Time Place Need Object	
Access: Locked **Unlocked**	
Relation to other stories: Single **Multiple**	
Modification: **Original** Modified	
Title in Otjiherero: **Omarangerero omasenina wo rukupo**	
Title in English: **Blessings of a wedding**	

Otjiherero version	English version
Mo ngwava ndji	In this leather jacket
Muhuka omunene motjiti nai	This is what you do in the morning
Omuatje okupita mbo	That girl will go out there
Eya pomutwe wenu mbeni tji uhena okuruwo	She goes there at your ash place if you do not have a holy fire
Omuatje ngwi otjimaravaerwa	This girl will be introduced
Mbaisa konganda yomakoti yo horongo	Got here from the homestead of omakoti of the kudu
Mbakupu monganda yorive mbaisa konganda yorive	I married from that homestead, got here from that homestead
Ovina mbyahari koyao nambano mari monganda ndji	Things that she was not eating at her home now she can eat here
Tjehari ozongombe ozohungu kohorongo koyao ponamba mari	If she was not eating hornless cattle from their kudu homestead now she will eat here
Mehumomaze wozongombe zetu	I will rub her with our cattle's fat
Ookutoora maze	Then you take the fat
Mehumomaze wetu wozongombe zorive norive	I will rub her with our fat from this and that cattle

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Omuatje wayamburuka ngwi mbaisa moruzo mbatwa moruzo rorive	This girl is desecrated I took her from that superstitions brought her to this superstitions
Mwazuu, ii kako twazuu	Did you hear? Yes we hear
Omwatje warire owetu	She has became ours
Owa Munionganda	She is now the owner
Tjiwazu no kumana ovina mbio	After finishing that
Akotoka, tjakotoka	She comes back, after coming back
Azumbo rukwao aikotjunda	She goes from there to the kraal
Okukakanda ongombe ndji ndjiwakahungirire konangwini	You go milk that cow that discriminated at the other side
Makakanda kandjembere makakanda kambwa norungava makakanda katjikwatjike norungava'	Will go milk 'Kandjembere' will go milk 'Kambwa norungava' and so on
Nambano okutoora pweno muramwe pomutena wonganda	Then you take with a cousin or a sister of the house
Okutwara kotjunda akakanda ngombe ndji akotoka	You take to the kraal to milk the cow and come back
Wahiti nai nambano wahiti monganda nai	She is in now, now she is in the homestead
Okusuva	Then she rest
Okutja ove nai konganda ndji ku uakakupire uakapeua omauva	By then you had been given dates from the homesteads you married
Uapeua omauva kutja ijengapi ove ngumotja kako nai oritjaine mekotoka	You are given a day, a specific day that you will reckon that now you will come thursday
Oritjaine ndi okukotoka ookujarura okati	This thursday you coming back you return the stick
Katjo	Right
Ookujaruro kati	You return the stick

Tjiuaruro kati ookukarara okarara otjirua amorara	After returning the stick you go sleep
Oja ngurova orara	You come in then you go sleep
Muhukomunene omwatje ngo mukazona mamwi novandu vopojao kotjiunda	In the morning you go with the lady and her family members to the kraal
Akatono ndana ondema okati	She go beat a female calf with a stick
Kakutono kuzepa	Not to beat the cow to death
Okuzaneka ongombe nai otoora otwako okati kombando ngombe	Just to point out the calf like this, you just put the stick on the calf
Ongombe ndji airire oje	Than this becomes her calf
Oongombe jokati ndae komurumendu oje ondjimatwara	That's the cow of the stick even for the man it goes to the man
Ongombe jokati ijenda kojo murumendu	The cow of the stick goes to the man

Index: **22**

Recorder: **Tuazapi**

Place of recording: **Okatumba**

Time of recording: **16H20**

Owner: Ancestors
     Self
     Community
     Specific community member

Origin: **Self**
     Specified
     Unknown

Purpose: Educational
     Elders knowledge
     Entertainment
     Survival/Medical
     Family matter

Location: Kraal
     Bush
     Homestead
     Waterplace
     River

Domain: **Plant**
     Animal
     People

Knowledge access: Women
(Specified listener) Men

Youth Elder **All** Individual person	
Format: **Video** Voice	
Type: **Narrative** Performance	

Restrictions: **General story**
                Secretive – Business
                        Educative	

Triggers: Audience
        Event/Activity
        Time
        Place
        Need
        Object	

Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Ounahepero wo muti Omupanda**	
Title in English: **Importance of Omupanda tree**	

Otjiherero version	English version
Ombo omupanda mbui	Is this tree 'Omupanda'
Omuti omunahepero usuva mo	It is a very important tree, you rest in it
Owo nao ukwata uno mbandona, ombandona otjina tjitjiriwa zongombe	It even gives birth it has 'ombandona', ombandona is something eatable by cattle
Tjinga uri nao omupange	As it is it heals
Uno tjina tjimwe tjiri mbo tjitji kondwa	It has a particular thing there which is cut
Tjimuna nao omundu tjazu nokupanduka upanga	Like after a person has given birth, it heals
Omundu tjaeta okanatje upanga	When a person gave birth it heals
Otjiraura	
Otjiraura ho tjirimbo tjipanga tjiterekua tjihirwa	'Otjiraura', as it is there it heals; it is cooked and

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momundu tjazu no kupanduka	drank by woman after giving birth
Omuti omuna hepero, nanda mbuhaso kuka	It is an important tree that you should even cut
Omune kutja omuti mbui ujama ovina	You should see that this tree is helpful
Uno mbandona , ombandona otjina otjisupi	It has 'ombandona', ombandona is a short thing
Okutja ovinamuinyo otjiviria	Then the animals eat it

Index: **23**
Recorder: **Tuazapi**
Place of recording: **Okatumba**
Time of recording: **16H40**

Owner: Ancestors
     Self
    Community
    Specific community member

Origin: **Self**
    Specified
    Unknown

Purpose: Educational
      Elders knowledge
      Entertainment
      Survival/Medical
      Family matter

Location: Kraal
      Bush
      Homestead
      Waterplace
      River

Domain: **Plant**
     Animal
     People

Knowledge access: Women
 (Specified listener) Men
               Youth
               Elder
               All
               Individual person

Format: **Video**   Voice
Type: **Narrative**   Performance

Restrictions: **General story**
      Secretive – Business
         Educative

Triggers: Audience   Event/Activity

Time Place Need **Object**	
Access: Locked **Unlocked**	
Relation to other stories: **Single** Multiple	
Modification: **Original** Modified	
Title in Otjiherero: **Okakambe konganda tjiwapandjara makekuyeta**	
Title in English: **When lost the horse can bring you back home**	

Otjiherero version	English version
Ombura imwe otjimbari puna okanatje kandje	One year I was with my son Xuka from the
oXuka konganda jovaKuruha	bushman tribes
Atukavire okakambe ketu okatanga	We were riding our horse with a white dot on the
	head
Ami ekavire ombapa yo nganda yaKapuire mba	I was on a white horse of the Kapuire homestead
Ombapa ndjaikara mba	The white one that was here
Natji twai komunda wo kerindi rozondana	We went to the side of the calves water pool
Atuii kotjitoto hi tjotjmburu	Then we went to the hole of the wildebeest
Matuii koukango	On our way to oukango
Ponambo atupandjara mbo na Xuka	We got lost there and Xuka
Nambano otjimbina ngwi Xuka, Xuka okavi	Now I was on Xuka's case, Xuka foolish bushman
kokakuruha motja wapandjara	you are telling me you are lost
Ovakuruha vepandjara?	How can a bushman get lost?
Okumero kohere mokutimo okuzambo ozondunge	I was shouting on him and then I regained my focus
ookukotoka kutjavii okakambe nga konganda ya	and realized that this horse of Kapuire eats or
kapuire nga keria kokakango	grassed this side

Nete kutuai ngwi okakambe nga keso kutuyarura konganda	And where we went this horse should take us back home
Mutira iye	
Ooku tuapehi ozotjikira aketanauka	I dropped the guiding ropes then it turned
Okakambe nga otjike tuyeta uriri tup ngandu porwi	This horse just brought us straight to the water point
Okutja nao mapehe kutja vi okakambe konganda tjiwapandjara makekuyeta	This means that if you are lost the horse can bring you back home
Okutja okakambe twapehi ozotjikira uriri	Then the horse, just put down the guiding ropes
Tjiwatwapehi ozotjikira makekutanaura make kukotora konganda	When you put the guide rope the horse will turn and take you home
Mehee komundu nguhena kutjiua katiti ngumatjiwa kutja ongo kakambe nga	I mean to someone who does not know, who knows a little that this horse
Mutu tjimbatwapehi ozotjikira makendji twara konganda	Maybe if I drop the guiding ropes it will take me home

Appendix F Elders speak heart out

Overview

The elders were chosen to give an overview of what they think about the study. The elders have been residing in the village since childhood and are knowledgeable as well as respected community members. The elders were interviewed individually so that they do not influence each other on how they foresee the benefits and what their opinions are about of the study. I asked a few questions to prompt a reply from an elder. The table 5 and table 6 below shows the feedback from two elders selected.

Table 5.

Community elder 1 speaks heart out.

Community elder: Gerard	
Hiute?	**Should I start?**
Iya,	Yes,
Mbikara motjirongo Erindiroukambe ihi	I live here in Erindiroukambe
Mbatura, mbahandura	I stay here, I am settled
Mbeya rukuru nao mo 1987, otjimbatura	I came here in 1987, that is when I came to live
mErindiroukambe ndi	here in Erindiroukambe
Omumbikara, omumbi nyangatara mba	I stay here, move around here
Erongo ndi erindiroukambe maku nao omo virimbi	This village is Erindiroukambe, said to be
vio mukaendu uangombe	"virimbi vio mukaendu uangombe"

Mondjiuo jomukaendu wakongwe	The house of Kongwe's wife
Oputunyangatara mba oputwaturamba	Here is where we move around, we stay here
Katujaja kuarwe kako	We never went any place else
Katuire kuarwe, ozoskole katuire	We never went elsewhere, did not go to schools
Tuakara mwi uriri, atutjaererwa pozongombe	We just stayed here; we were kept here for cattle
Imba ponamba, kako kona	Just here, no you cannot go to school
Nganda tupandjara zoskole	Till we loose on studies
Nambano turi moka projeka uriri, okatiti kutwa kaondja omayuva	Now we are in a small project, that we coming days with
Kai karire ozombura	It is now running for years
Posia kutja otjina otjiwa, mena rokutja otjipukiro tjomakuru hungi	It is a good thing, because it is storage of history
Omakuru hunginga tjiyakaondja, tjimo kutara motjipukiro	When these history progresses, you would look at it from the storage
Muno vandu mbeno muinyo nambe hino muinyo	There are people that are alive and those who are no more
Otjiumuna kutja, tji! Nangwari otjina otjipukiro otjiua	Then you see that, Oh! This is actual useful storage
Okutja ounatje wovanatje nao otjikatja indjo utare mba	So, the grand children (younger generation), you will say to them come look here
Tate omunene ngwakuata mama eenngiu	Here is your grandfather, your mother's father
Handje manjinganjinga omunamuinjo, eengunda aaya nao	By then he is moving alive, while he has passed on
Handje okutja kounatje moka urika kutja iho eengwi omunene	So you will be able to show the kids their grandfather
Okasanene, omwano mbumanjinganjinga mbo ongurije	That is how he looked, the way he is moving that is him
Mutu omuatje ponambo makara nongamburiro ombwa	Maybe the child will believe easily
Pendje no kumuraera otjina, kutja kuari katjikwatjike	Rather than telling the children that there was that person
Nangwari handje eye kepo, tjima munu momeho we nai	While the person is not there, it is better when he can be seen

Mutu matjaterwa tjinene	He will be very happy
O projeka ndji tuakaondja najo omayuva	We come a long way with this project
Nu, katiti	But,
Omundu konootja ivatera po kaovatere	One cannot tell whether it helps or not
Posia okukupaturura	But it will open you up
Ounongo ouna outiti nao maikupe	It will give you the little knowledge you need
Tjinene uriri	A lot, indeed
Okuhupa mo nokuhina kuhupa mo	But to benefit or not benefit from it
Omundu kohakahana	One cannot rush in to it
Mutu mbo mapeya okana okatiti okatoora	You will properly pick up something
Kemwe akekapita , kemwe okatoora	Some will pass and some you will pick
Oprojeka nu ndja kurama nundja kaonja ozombura	It is a big project that is there for years now
Nu ngundee maikaondja	Still going on
Tjaa ikakurame	Will be successful one day
Ipizuke ihare otutavi	It can grow and have branches
Ivatera otjiuana?	**Is it helping the community?**
O, otjiuana kaivatere tjinene	It does not really help
Nu katiti ivatera	But it helps a little
Ivatera nao mouna una	It helps here and there
Iye kuyandja okandunge	It gives knowledge
Kokutja ete tu kaondje komurungu	So we can move forward
Ingo okandunge iye kuyandja	It does bring little knowledge
Kutja imba andaku mwa rorere mba	That maybe you should try here and there
Tjinene okuvatera ondunge	Mostly the benefit would the knowledge
Nu ondji iyandja kotjiwana	That is what it normally gives to the community
Werihonga ye moproject	**What have you learned from the project?**
Mo projeka ndji, otjina tjimberihonga	In this project, I have learned
Verihonga okutara mujo, mongaendero yajo	We have learned to look into it, its progress
Mbahongwa oku urikirwa otjini natjini	I am taught and shown this and that
Mberihonga kutja, tuapo nai	I have learned to place things
Tjanga nai, tjanga tjina tjorive nai	Write like this, write certain things like that
Tuapo rive nai, mehee omahongero ngundee	Putting things, that is basically what we have
ngutunao nai	learned so far

Ounongo mbumunawo mbwi, kovanatje mapeya averihongo kotjina?	**This knowledge that you have obtained, will the children learn something from it?**
Ovanatje maverihongo ko tjinene, tjimuna kovanatje mbo vozoskole nao ovina oviwa tjinene	The children will learn a lot, especially those at schools it will be very beneficial
Maverihongo nomasa, mavetoorere po ounongo warue	They will learn a lot, they will gain a lot of knowledge
Mm,	Mm,
Tara ozoskole tjiva nao kamuna omatutjeno	Look some schools do not have electricity
Nambano tjina ndjo projekta ndji inovina mbiungura kotutjeno	Like these project has a thing that works on electricity
Eye mumamunu kutja ovina vio rive kutja otjivikara	Where he would see how some things works and look like
Okutja nadae tjayaruka koskole nao, kovakwao makaserekarera	So even if he goes back to school, he will go tell the others
Po makatoora mo ounongo noho, kutja ami tjimbe tjimuna porive atjitjitwa nai	Or will also gain knowledge and tell others what he saw
Po tjapurwa epuriro moskole, matjiwa kutja itjo otjimbe tjimuna porive	Or if he is asked in schools he will be able to recall what he saw in the project
Mm	Mm
Ovandu motjiuana nai muvanga okuvaterua kutja mukaondje komurungu po muvanga okukara omuano mbu mukara?	**Do the people in the community need help to develop or to want to remain the way they are?**
Motjiwana tuvanga okuvaterwa	In the community we need help
Tuna ovihepua ovingi mbituvanga okuvaterua tjinene	We have a lot of needs that we need help for
Ovingi mbituvanga okuvaterua	A lot indeed that we need help for
Tjimuna ye?	**Like what?**
Tjina otui no zondjombo	Like water place and boreholes
Kutjazekuarme kozombaze, zeye kouye wakandino	So they can be stable and modernized to today's world
Ndungae matusuva kozondisela munda umwe tupombe novena vyeyuva	So we can be relieved from the diesel and pump with solar energy
Ombatero ndjituvanga ndjo, tu ivanga nomasa	That's the kind of help we need, a lot indeed

Oprojeka okutiza mbo ounongo tjimuna tjiwahee

Mapeya aivatere kutja ovanadu verivatere monamui?

Ii, tjija kaondja maituvatere kutja tukaondje komurungu

Menarokutja ngunda otjina tjitji kaondja tjitji hara omasa tjinene

Nutjiya hara omasa mapeya aituvatere

Mm

Pemwe apeya aituvatere

Warora okuyenda kovihuro po ukara mui uriri?

Kotjihuro okutwareua naa omundu tjiuavere

Hiyaya kovihuro uriri

Mm

Serekarera katiti okakuruhungi ngo

Kotjihuro orondu omundu tjuwavere uiriri, wai ponasareta

Wapangwa, wakotoka mokatutura

Okarambo otanauka, okotoka koresevate

Mm

Po wai pEpako mbo, uakaranda uatanauka mbo mozokumbi wakototaka

Mehee otjihuro ete katuya hita mo kapaukaze

Mm

Nambano mona mui tjimuavere murivatera naiye?

Imbo monamui tjiwavere mui, omombara veruka

Otjirongo tjetu hi ete turi kondjepo

Okutja tjiuavere ponamba uriri ohauto kuktuara

Like you said the project is to store the knowledge

Will it maybe help the people to help themselves here?

Yes, as it progresses it would become helpful for development

Because it is still in the process and it's not strong yet

But once it gets stronger it could help us

Mm

It would partly help us

Have you ever gone to the cities or are you just staying here?

We only go to the cities ones you are ill or sick

I do not just go to cities

Mm

Tell a little bit about that story

You only go to the cities when you are sick, you to the hospital

Then you get treated and go back to katutura

You stay there for a while then you return back to the village

Mm

Or you go to Gobabis to buy (shopping) and then you are back in the mini busses

But we never not been in the city at large or in depth

Mm

But do you help treat yourself when you get sick here?

Here, when you get sick

Our village is very deep and far

The only thing is a car to take you to Otjinene,

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kOtjinene	when you get sick
Mm	Mm
Ombatero uriri,jarue kaipo, oklenika irikokure kOtjinene	That's the only help here; the clinic is very far at Otjinene
Kapeno vina mbimurivatera navio muno mui?	**Don't you have things that you help yourselves with around here?**
Porumwe wavere konomasa uokuyenda?	**When you sick and weak that you can't go?**
Ngahino ouningandu naa okasa omuti uomokuti na onu	Maybe by luck you can go dig some wild plants, perhaps it will help
Indi uriri nai kako	Otherwise nothing here
Mm	Mm
Imbio miti mbio vivatera vi?	**How do those wild plants help?**
Omiti tjimuna mbio vihangatene vivatera toho	Plants like the kamangoes helps a lot
Oziki pomeva nao, onu	You boil in water and drink
Ngahino okairi kemwe ongara mosuvisiua	The you can be relieved for a little while
Mm	Mm
Namabano	And now,
Tjiuno vanatje mbekara movihuro, ene mukara moresevate	Now you have children who stay in cities and you stay in the village
Tjiveya muno muvehonga, muveronga vi?	**What and how do you teach them when they come here?**
Ovanatje ovazeu	Children are tough
Mm	Mm
Nu torora okutja buae tara ete tjituri	We try to tell them to look at how we are
Ene tjimua isa oskole makukasana kwete mbutuhena oskole	If you quit school you will become like us who are uneducated
Mm	Mm
Ngaree mamukondjo kutja mumane omahongero wenu	Try to put in effort so you can complete your education
Mm	Mm
Otjina atjihe otjipaturure otjitenga omahongero	For everything the first key is education
Tjiyeheripo ovekona tjipaturure,	Without it you will not have the key
Ete nai katuna tjipaturure , tjapandjara	We do not have our key, we lost our key

Mm	Mm
Nambano ene kana muhorere kwete, ene muso kukaondja komurungu wetu	You cannot take our bad example, you have to improve and be better than us
Mara kave kapandjara ounongo wo kukara moresevate?	**But, do they not lose the knowledge of staying in the village?**
Ovo tjiiveya moresevate? Okukapandjara ounongo mbo woskole?	**When they come to the village? To lose the school knowledge?**
Aa, okupandjara ounongo uoresevate?	**No, to lose the village knowledge?**
Ounongo mbo woresevate okukapandjara ovo tjivai kozoskole?	**To lose village knowledge when they go to the schools?**
Kako	No
Kanaaupandjara tjinene, tjimo veraere	No, they will not lose a lot of knowledge, when you keep telling them
Nanda tjimua haama pokazuko ngurova	Even when you sit at night by the fire
Mautokerwa mauserekarere , korive akeakra nai ,aketjitua nao	Like tell stories and informing them, that this how that is done
Oinao kotjunda otjunda tjeyenderu munda mbuini	Do go like that to the kraal, go from that side
Okokozora omuvia, mehee ovina vio resevate	Do not pull the leather rope, that's more or less the village stuff
Nukavipandjara tjinene, vipandjara komuatjr omuni ngua ungurwa nao uriri	They really lose the knowledge, it is lost children who are just like that
Mm	Mm
Tjiveya mui okuza kOtjomuise mu ukngura vi kumwe?	**When they come here from Windhoek, how do you work together?**
Uvetjitavi, uveronga vi?	**What do you do, how do you teach them?**
Ai, tuungura kumwe uriri tjinene	Oh, we work together very well,
Mehee kapeno zeu uriri, tuungura nawa	There is really no problem we cooperate well
Muatje katjite tjini, ove nai nguhakara muno oove	Child do this and that, you normally do not stay here
Kotjii porive kapahe ongombe porive	Go somewhere there, go look for the cattle
Kaete ovihende mbena na tuna imbo	Go get the pole there and fix there
Iya , mehee oviungura vio resevate oombio	Yes, that is basically the works of the village
Otjovanga kutja ovatje mbo veende kovihuro,	**Would you prefer the children to go to the**

verihonge ovina vio vihuro po vio resevate?	**cities and learned cities life or village life?**
Mm	Mm
Omunde etjetja omundu uso kurianga pokati atjiwa avihe	I would say they should move in between and know all
Mm	Mm
Tara oresevate oini inozeu otjiwa ouzeu woresevate	Look the village has problems, so you should know the village problems
Otjiua otjihuro orondu tjiuakara moresevate otjihuro koonoketjitjua	Then you know the city because if you just stay in the village you will never know the city
Mehee uso kurira omupaturuke uriri, movina avihe	I mean you should be an open person, in everything
Usokurira omupaturuke uriri	You should just be open
Mm	Mm
Use okurira omupaturuke po?	**Should you be open?**
Vevatera ye nao?	**What will that help?**
Oupaturuke ngatutje vi okutja tjimuna okutjiua tjamua tjina atjihe	Being open is like knowing everything
Oya koresevate ookutjiua omuinjo woresevate no vitjitua vio resevate	You come to the village and know the village life and the ways of the village
Oikotjihuro, okatjiua omuinjo wotjihuro	You go to the city and learn the city life
Oktja nao okurianga pokati otjeri nawa nao	Therefore moving between places will be best
Mm	Mm
Nadaa kutja twende pombanga yo rive, twende po posa yorive	Like sending him to certain bank or post office
Twende konasareta onasareta konaku itjiua mopaha omundu mekurware	Go to the hospital, you do not even know where the hospital is then you have to look for someone to take you
Puwaso kuyenda omuni nu	Instead of going there yourself
Okutja mbo perinao	So that is like that
Imba omundu tjekara kotjihuro tjeyamba	When someone comes here from the city
Erindi rorive kerii ongombe iriperindi rorive , twende perindi rorive akapandjara	A certain waterhole, the cow is at that waterhole and you have to go there and then you get lost
Okutja nao waso kurira omupaturuke okutjiwo a	So one should be open to know everything

otjina atjihe

Tjeya moresevate akavire

Akaondjo pomakahi

Tjai motjihuro mo ahiti momivero mumuhita ovakwao

Otjovanga kutja ovandu veete otjihurp moresevate?

Otjihuro moresevate?

tjimuna maotjinene

oresevate onyingi

Oresevate tjina Otjinene nao mumotwamo otjihuro, otjinapeke ho

Tjiuatwa muimbi?

Otjovanga?

Kako

Ongwae?

Okutja ovinamuinjo kana vihupu

Mm

Kavina pumavihupire

Ovio viso kukara nomahupiro wavio uriri

Tjiuatuapo tjihuro mba okutja otjihuri tjaeta ouzeu

Ouzeu wae?

Ouzeu wondjara ko inamuinjo

Nombameno jo vinamuinjo kavina pumaviriangere

Omokati kovandu

Iya

Ouzembo nu

Tjivanoho tara , ovinamuinjo tjiva mopandjarisa noho

Maviringa munovandu uriri

Mavirianga mondoropa ihi tjainguini

Maitanauka kutja nambano ngavihupe keke roje

Be able to ride horses when he is in the village	
Or take a walk	
When he goes to the city then get in doors with the others	

Would you prefer people to bring a city in the village?

City in the village?

like in Otjinene

The village is huge

Villages like otjinene you can make it a city that is something different

When you put it here?

Would you prefer that?

No

Why not?

The life stock will not survive

Mm

There will be place for the livestock

They need their survival place

If you put a city here it will bring problems

What problems?

The problem of hunger to the livestock

Oppression for livestock, there will not have a place for grassing

It is between people

Yes

That is the problem

Look, we will lose our livestock

Will move around among people

Will be moving around in town, this one here and there

It will turn out that they have to live by your hand

vikare motjiuongo uriri	and be kept in cages
Mm	Mm
Mapeya pena ounongo mburimui mbo tjovanga kutja ovandu avehe vetjiwe?	**Is there knowledge's here in the village that you would like all people to know?**
Ounongo mburi moresevate ouzeu	The knowledge in the village is not easy
Omuuri komundu komundu	It is from person to person
Posia ovanga kutja uworonga pamwe ovandu tjivatua pamwe	But in needs people to put together the ideas
Ovandu tjivatua oviuru pamwe ngahino otjimaveeta imbo ounongo pamwe	When people put heads together then maybe they could bring the knowledge together
Kutja tjitjiri ngatutjite nai,	Like when it is like this, we should to this
Mm	Mm
Iya	Yes
Momunuvi koruveze tjimarukaondja komurungu?	**What do you think as time is going by?**
Otjovanga kutjavi,	Would like,
Tara uri mo projekta	Look you are in the project
Otjovanga kutjavi ikaondje vi? **Okukaenda komurungu?**	**How would you like it to go on?** **To go on further?**
Okukaondja okuyenda komurungu ngatutje	Going further forward, let's say
Ondungiro yo tjiuana	Let's say it's it community development
Tjimuna nai tuamunu okamariva kuketeki porive	Like now we have received some cash
Ngatu ungurise ondjira yetu ndji	Let's use it to repair our roads
Iya	Yes
No, matuvanga orutjno	No, we need electricity
Mo yetu mui	In our place here
Mehee mbo handje ovina mbio nu	I mean those are the things
Aa nga tu isapo opomba ndji tutuapo ovipanela	No, let's remove this pump and put solar panels
Opuwo tusuve tuzeko kozodisela nda, tjipeno kamariva	So we can rest from the diesels, if there is money
Okutja nao ho otjina tjazapo nao	Then that is now something done
Nu oyo iso kukeya mbo pomekurisiro	And that should come there at development
Mm	Mm

Okay	Okay
Ounongo mbui mbutiziua mbui ohunga novanatje vetu	This knowledge which is kept about our children
Tjiri tjiti ounongo ouwa	It is really good knowledge
Projeka ounongo ouwa, ounongo mbui utiziua mbui	This project's knowledge, the knowledge is stored
Kuzambo aupaturuka oumunu komeho woye	Then it is opened so you can see with your own eyes
Tara ounongo mbuha tiziua okutja tjiwai wai	Look the knowledge that is not stored when its lost, is lost
Opombo uriri	That is the difference
Iya	Iya
Tjina omakuruhungi ngumatuhee	Like the history we are talking about
Tuari puna ovakuru vetu mbaya ovo mbari poprojka ndji	We were with our elders who are now gone in this project
Posia kutja ndinondi ounongo wao tunawo	But today we still have their knowledge
Rondu nao muna ounongo wao mbuvetupa , mburi mo projeka	Because there is knowledge that we got from them in the project
Okutja nao otjina otjiua tjinene , nadae tjimokaraisra imbo vanatje	Therefore it is a good thing even when are going to show to your children
Buae ounongo wetu mbutwa patera mba oombiu	Our knowledge that we stored is here
Tjituari nookatjikwatjike	When we were with who and who.
Nukatjikwatjike meyuvando eye eetupaturura kutja	Someone opened us and showed us
Po imba naimab tjiungurwa nai, petjitwa nai	That here and there this is how it was done
Mo projeka ndji okutja katiti ponambo otjiitupa ounongo katiti okupaturua	In this project, therefore here it opens us up to get knowledge
Turihone mo tujiwe mbi mbitwapateramo	So we learn from it and know what we have stored here
Muhuka andi tupaturure	The day after tomorrow so we can open
Tutje so nambano nga tu yate ombandi ndji, tu puratene ouna mbutwatua monamui	So we can say now press that button so that we can listen to the things that we put in there
Iya	Yes
Nao okutja tjiua utu okumuna mbo oukuru	Now that you start seeing the old ones

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Handje wautu okutja hoo nokurama mbiueze	Then you say, oh, let me add on
Okana ngo kemwe nga mbahara okukesa pesa	I almost omitted this one thing here because I am
ondu mbiri motjipukiro tjitja yenene	in a good storage
Momunu	You see?
Okay	Okay
Mm	Mm
Amimetja ndangi kovina avihe mbi	I would like to say thanks to all this
Metja oprojka ndji ngaikaende komurungu itupe	And also say this project should go on and give
okaunongo	us knowledge
Okawa tjinene nu ngaikare nomasa	Good one and should have the strength
Ituriangere nomasa, ituhonege	So it can visit us a lot and teach us
Kutja aihaanda kapaukaze	That it should not end at all
Okutja otjina otjiwa nu nga tutjitwaerere nao	It is a good thing and we should take it that way
Nokutjihorera nao, ngatu takamise	We should copy it and take good care of it
Kngatutakamisire mongomi	We should take care of it in the fist
Ngantukare nomasa tu ipe orujamento no	We should have the strength and the courage
Tu ipe omsa kutja ovandumbo vetupe omasa	To give it the power so that those people also
	give power
Itukurise, tukure	So we can grow and make us grow

Table 6.

Community elder 2 speaks heart out.

Community elder: Job

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Mbekurira mErindiroukambe	I grew up in Erindiroukambe
Hinaouzeu mbutapi, mbumbinao	I do not have a problem, really
Hitjevi?	What should I say?
Ami owami Jopa	I am Job Ujaha
Mbekurira mErindiroukambe	I grew up in Erindiroukambe
Hina ounongo pupeta pi	I do not have a lot of school knowledge
Oskole hihitire	I did not go to schools
Mbahita o A ekotoka mErindiroukambe	I went till grade 1 then I came back to
Ooku uta okukara pojetu oku ungura ozongombe zetu	Then came to stay here at home, start looking after our cattle
Hina kumbaire ngamba nga ndinondi	I did not go anyplace else ever, till to date
Tjimbihina ounongo mbutapi	That is why I do not have a lot of school knowledge
Mbina ounongo uo ku ungura otjina, nadaa ondjiuo okurunga	I have knowledge of doing things, like building a house
Metungu, mbumbapewa imukuru uriri	I can build, that is a gift from God
Mbumberipura nawo	What I thought about
Tjarwe okunana ondarata, menana	The other is the wire works that I can do

Kwami omuni kohihambarere mbio viandje mbimeutu	To myself, my own stories that I will start
Omuatje uandje ngumet tjiti	My child who I bring up
Okuhongwa iyami omuni	Will be taught by myself
Ounongo mbu mbinawo	The knowledge that I have
Ahongwa iyami	Will be taught by me
Mbuheri owe omuni mbuakuatua nawo	Which is not his own, which I was born with
Owami omuni ngumemuhongo	I will teach him myself
Ovihambarere ovina oviua kovanatje	Stories are good for children
Mbahara, ovina mbi mbaharere mbimbihiya hara	I wanted things which i do not have
Mehee kutja okukaondja nao uriri	I mean that is how it will go on
Oprojeta maitiza ounongo mbui tjinene	The project will keep this knowledge
Orondu maikuhongo	Because it will teach me
Ounongo maitiza	It will keep the knowledge
Omumorihongere noho	You will learn from it as well
Kutja ukaondje otjomundu	So you can go on as a human being
Mm	Mm
Tjimuna ete mbutukara nawo munomui	Like for us what we have here
Omuatje wandje uso kurihonga ounongo wandje	My child should learn from my knowledge
Kahepero okurihonga ounongo uotjihuro atanan imbo uo tjihuro pu imbo wandje	Town knowledge in not needed to over shadow mine
Uso kuwondja mu imbo ouandje ameerihongo imbo owaTjomuise,	Should come through mine before learning those of Windhoek
Nu imbo uovihuro auri kehi yaimbo owandje	While those of the city is kept less than mine
Ongwae tjimovanda kutja matjte nao?	Why do you want him to do that?

Mena rokutja uso kuwa kehi yandje	Because he should fall under me
Keneekerihonga moutjotji mbo waTjomuise	Should not learn the life of using knife for crime
wokutwera sana oruvio am iambi hatwerwa orivio	while I was never stepped with a knife
Mm	Mm
Omuatje uandje ami tjimevanga okuhonga	My child when I want to teach him
Ngakase omongorwa marye	He should go dig wild carrots and eat
Ngakase otjinakui marye	Should go dig wild vegetables
Tjihina okuzuva kwami mavanga okukaria o	If he does not want to listen to me and chose to
shipsa ngwini	go eat chips there
Okutja ngunda kena veta yandje	Then it means he still does not respect my law
Tjamndje omuze womehi mbumbaso kumuhonga	Mine is the grass root that I should teach him
Otjikuria tjomokuti	Is the wild food
Ombanui, omandjembere, ozohe,	The wild nuts, wild berries, red berries
Mehee otjinakui, onduvi	Wild potatoes and other wild vegetables
Ootjina tjaso kukaondja muami	That why he should go through me
Tjimee kerihonga ngo ku kauto kuria o shipsa	Before he will start learning to eat chips from you
kwene	
Handje mbio vandje mbi wetjtjindi mbi	Then he had carried this of mine
Opuwo	That's all