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**New Communities,  
emerging content:  
digital inclusion  
for minority**

**language groups**

State Library of Victoria, Vicnet

**New communities, emerging content:**

digital inclusion for minority language groups

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# 1. Executive summary

## 1.1 Background

In terms of both digital inclusion and social inclusion, many new and emerging communities from the Integrated Humanitarian Settlement Scheme are vulnerable to isolation partly because of language issues. This has become a concern to Vicnet whose work aims to strengthen communities through the use of information and communication technologies (ICT).

Difficulties that limit these groups using the internet effectively include lack of access to resources in their own languages, and technical problems relating to how computers and web browsers handle language scripts. Vicnet's research and development work to date suggest that solutions are needed to enable new and emerging communities to benefit from all that the internet offers other language groups in the wider community.

The internet has the capacity to empower communities to:

- take control of their own language needs for language learning, information, cultural maintenance and communication
- create language resources and tools not previously available through traditional print channels due to high cost and limited distribution
- support languages in both oral and written forms through the use of multimedia and Web 2.0
- communicate across diasporas to share information and heritage in ways not previously possible

## 1.2 About the project

To work towards making the internet more accessible to new and emerging communities, Vicnet successfully sought funding from the auDA (Australian Domain Name Administrator) Foundation to enable research into, and documentation of, the issues that need resolution.

The project started in May 2008 and has involved technical research, an extensive literature review and consultations with three communities in the Wyndham area: speakers of Dinka, Harari, and S'gaw Karen.

The specific aims of the project have been to identify the language maintenance and development needs of targeted new and emerging communities whose languages are poorly supported by the internet, and to identify relevant tools and web services that can deliver solutions to meet those needs.

The three community language groups consulted to inform

this report were chosen because they represent a variety of settlement experiences and face specific technical problems when using the internet. The consultations were confined to the Wyndham area because this region is experiencing rapid growth of new settlement by these communities. In addition, the Wyndham City Council and service providers are taking a proactive approach to meeting the settlement needs of the three communities. The intended readership for this report includes government at all levels, service providers and educators who currently provide support to new and emerging communities.

## 1.3 Language policy context: key issues

The findings from the literature review include the policy context for the research as well as important cultural, technical and ethical considerations for emerging communities.

### 1.3.1 Current policy and research

Many policy frameworks and research streams are relevant to the provision of online information in languages other than English. These include official language policies from international bodies such as UNESCO (United Nations Educational, Scientific and Cultural Organization) through to local government policies such as Wyndham City Council's Cultural Diversity Policy. These statements all acknowledge the rights of minority groups to sustain their own language and culture. Government policies relating to social inclusion and digital inclusion also relate to these rights.

In the homeland countries of many refugee communities, language rights may have been suppressed or unsupported. The language revitalisation movement has resulted, however, in the development of inexpensive software programs and tools to empower many groups, including Australia's own Aboriginal communities, to create their own resources and culturally appropriate information architecture.

The spread of diasporas has meant that the language and cultural knowledge of immigrant communities is now spread across the world, including in countries that may be able to more effectively support their maintenance through ICT. For new settlers in Australia the new environment also places new pressures on the mother tongue, for example the need for new vocabularies to

meet new bureaucratic and technological situations. Traditional languages need to become contemporary, relevant and prestigious if they are to survive (Liddicoat 2008) and the use of the internet to maintain them can be a powerful tool to help achieve this goal.

### 1.3.2 Challenges relating to community language use

The literature review highlighted a number of important issues relating to new settlers. For example, assumptions cannot be made about the language skills of a group from any country because members of new and emerging communities, especially those who are refugees, bring with them diverse experiences of language across and within communities.

Those from Sudan for example, may have experienced diverse levels of language education. Some may be well educated in several languages, others may be able to read and write in one language and speak another. In some cases, the mother tongue language may be used more frequently in oral rather than in written form. For example, the Harari no longer use the older written form of their language.

Although people may know the official language from their country of origin, repressive practices may mean they prefer not to use it.

Diversity exists within language groups, for example Karen includes S'gaw and Pwo dialects, and Dinka includes Agar, Bor, Rek and Padang. This diversity can have an impact on the use of translations and interpreters.

Lack of literacy in the mother tongue may make it difficult for new settlers to achieve literacy in English within the 510-hour Adult Migrant Education Program (AMEP) currently offered. Children and young adults may have had interrupted schooling and some women and seniors may have lower literacy skills.

### 1.3.3 Challenges relating to language and the internet

Research shows that effective internet use in many minority languages is dependent on many factors including orthography, Unicode compatibility, localisation, keyboard layout, access to hardware and software and training, and decisions about copyright and intellectual property rights.

For example, the Harari language can be written in three orthographies or scripts: Arabic, Ethiopic and Roman. Many scripts such as S'gaw Karen are only just starting to be Unicode-compatible. Language-based websites all need navigation tools that are localised or suited to the language of the user. People need to have access to keyboard layouts in their language, although many of these may be complicated to use, particularly for S'gaw Karen. People also need access to equipment and software that is economically viable, and to training that is culturally sensitive and inexpensive or free.

### 1.3.4 Cultural appropriateness of community projects

Several researchers have emphasised the importance of delivering training programs and developing web-based resources in ways that are culturally appropriate. Srinivasan (2006, 2008), and Auld (2002, 2008) note that a Western approach to information-seeking and web infrastructure layout may not be most helpful. Particular attention should be paid to the use of navigation icons and language and to the information-seeking behaviours of each cultural group. A 'banking' method of website development involving the passive reception of information drawn from external environments is rejected in favour of a model which allows communities to decide the content, the technologies and the mode of operating that most suits their own information needs and cultural environment. In this model, not only authorship but also 'classification, categorisation, description, and representation of these pieces and how they are shared' could be considered (Srinivasan 2006: 9). The development of projects may also need to accommodate different ways of interaction and information sharing between community members and with program facilitators. For example, a particular community may prefer to work through the medium of social occasions, with provision for child care, and transportation and meals included. New projects should investigate a community's preferred method of interaction and programs should be constructed accordingly.

## 1.4 What is important for communities?

Drawing on Vicnet's previous research, the literature review and the community consultations with members of the Dinka, Harari and S'gaw Karen communities in the Wyndham area, the following issues were identified.

- Simple training and access to the internet is insufficient to ensure digital inclusion for many new and emerging communities.
- Internet content in mother tongue languages is often limited and hard to access.
- New and emerging communities require the skills to develop content suited to their needs, which include access to settlement and community information, cultural maintenance, language learning and literacy, and communication across diasporas.

The main areas of concern are discussed here briefly.

### 1.4.1 Language documentation

To effectively create written or printed resources, users need a standardised orthography or script. Users also require guides to language usage such as dictionaries and grammars. Decisions may also need to be made about dialect variations. As previously mentioned, new vocabularies and terminology to suit new situations may also need to be created. The opportunity to develop more language resources was much valued by the communities consulted. These need to be of good quality, reflecting the necessary prestige attached to language learning and development.



### 1.4.2 Information and resources in community languages

Those consulted said they needed their language for access to settlement and community information, cultural maintenance, communication across diasporas and for language and literacy learning.

Although there are a number of existing translated information materials available on government and service provider websites, all three communities said their members either found this material difficult to access or were unaware of it. There was a general concern that people did not have easy access to important information, whether it was for settlement purposes or to inform about topical issues in the wider community.

#### Community examples

The Harari community valued the possibility of having a website where important information could be translated by community members into the mother tongue. The S'gaw Karen spoke of the need to have a website where they could include settlement information and awareness-raising tools for newer arrivals, help to develop literacy levels in both English and S'gaw Karen, provide Australian and local news and information, provide living skills education programs for life in Australia, and provide information about international Karen activities.

There are currently limited language resources available on the internet and communities wished to develop more resources to help themselves. The internet and multimedia offer many opportunities for new settlers to record and document the cultural heritage that they have brought with them and then to share that information across diasporas at little expense.

#### Community examples

Harari members spoke of the value of creating a digital library that could bring together resources in their own language that are now barely accessible. The S'gaw Karen rely heavily on the Thailand-based website Kwe Ka Lu which provides access to information and cultural material in the mother tongue. It also provides resources for the S'gaw Karen teachers at the Galvin Park Community School. This site is, however, under threat due to lack of funds, and is inadequate for local teachers who require resources that reflect the Australian lives of their students.

Language education in the mother tongue was an important aspect of the lives of the three communities consulted. All groups had established community schools with the help of the Victorian School of Languages and Community Languages Australia. It was apparent that access to teaching resources was a significant problem and that these communities do not have the quality resources that are available to other European-based language groups. The internet and multimedia tools however, particularly

those that are open source, could provide valuable opportunities for the creation and sharing of new materials, both online and in print form. The benefit of open source technologies is that they can be adapted to meet the specific requirements of small language communities, and they are not cost prohibitive. The communities all expressed interest in these types of possibilities, examples of which are given in Appendices 6.5 and 6.6.

### 1.4.3 Language and computers

Many minority language groups have limited or no support within computer operating systems or applications. As immigration patterns in Australia change, the number of unsupported languages used in Australia increase and will continue to do so. Furthermore, many of these minority language group members, especially refugees, arrive with little or no experience of modern information technologies. The communities consulted often experienced difficulties using their language on computers.

#### S'gaw Karen example

For the S'gaw Karen, fonts used have not been compatible with computer systems and so information on the internet is often displayed only as images. This makes the information hard to search. Although there are multiple fonts available, text will not always display correctly on all computers. When visiting websites holding information in the mother tongue, such as the Drum Publication Group website (<[www.drumpublications.org](http://www.drumpublications.org)>), community groups are often unable to access resources because their computers do not have the capacity to display the script correctly. Keyboards for the S'gaw Karen language are also complicated and slow to use. In addition, there may be language-specific problems. For example, when translations are created, English-based line-breaking methods often break up text incorrectly.

#### Dinka example

While keyboard layouts do exist for Dinka, people need to know how to access and how to use them. Venues to do so are also needed as few people have computers at home. If support can be provided, community members said that for those who speak but do not read or write Dinka, audio and visual computer resources would be very helpful.

#### Harari example

Harari community members have a diverse range of computer skills. Harari speakers have developed a number of websites both here in Australia and overseas. These, however, have been created in the language of the country where each group has settled. It was felt that being able to communicate online in the mother tongue would be significant in many ways, uniting people across diasporas, providing timely information to community members and offering a way to support cultural maintenance. Work is currently underway by Vicnet in cooperation with the community to make the Harari language



available online in three scripts, Arabic, Ethiopic and Latin-based. Additional development work will allow users to move easily between each one.

Research to support the maintenance of minority languages is taking place by individuals in Australia and overseas, but little funding is available to support the extent of work required to bring about change. While this development is underway, there are technical opportunities currently available through use of Web 2.0 technologies and open source software that can enable production of online audiovisual content. These are discussed in Section 4.2.1.3. Although it is simple to embed audio and video content or to provide podcasts, discoverability and navigation are complex issues. Technical solutions enabling discoverability and navigation within oral paradigms still need to be developed.

#### 1.4.4 Access

New and emerging communities are often the ones most in need of government services, but members' lack of computer and internet skills limits their ability to access important information as well as resources and facilities, such as online forms and bill payment facilities. While some members of the communities consulted may have access to computers at home, many do not have the language or computer skills to use them effectively.

##### Community examples

A major problem for those living in some areas such as Laverton was that the only internet service provider was cost prohibitive. In terms of free access to public computers, it was the perception in all three communities consulted that those available at public libraries were more suited to students. Community centres and schools where people were already using services tended to be the places preferred for public computer access.

#### 1.4.5 Training

Several of those consulted pointed out that new settlers may learn English and computer skills through the AMEP, but that this was often not enough to sustain them after they had finished the course. Simple training in basic computer skills and the internet does not sufficiently meet their needs. Guidance in the use of mother tongue keyboards and fonts is also essential to enable communities to use and develop resources.

Indeed, digital inclusion presupposes that there is useful content available for people to access but in the case of communities such as those consulted, very little exists in their mother tongues. Therefore, training for new and emerging communities needs to shift from consumption to creation. Computer training based around content creation methods would help to expand the resources available and encourage a more participative approach to internet use. Training in multimedia, including the use of techniques such as digital storytelling, could be helpful to relay important information to those with literacy problems in their own language and English, as well as a means to support cultural maintenance.

Finally, train-the-trainer programs delivered in community languages are also required to empower communities to gain the necessary skills to develop and access online content.

#### 1.4.6 Sustainability

While the development of appropriate content is the role of new and emerging communities themselves, ongoing support is needed from wider organisations to ensure their success. To provide and sustain digital inclusion, the new and emerging communities consulted commented that they needed support from host organisations to build and support community-based websites that use linguistically and culturally appropriate infrastructures and navigation tools. They also needed community-based venues that could provide ongoing internet and multimedia facilities and the training programs that would empower communities to teach themselves in their mother tongue to create the resources they require.

### 1.5 General recommendations

Digital inclusion for new and emerging communities presupposes the capacity to benefit from the internet in the same ways as the broader community. To do so, however, communities need to be empowered to:

1. **develop websites and content in their own language** to meet expressed information, cultural, learning and communication needs
2. **benefit from existing free or inexpensive resources** through training in the use of open source software and Web 2.0 technologies to meet those needs
3. access resources through the technological development of **appropriate fonts and keyboards, and localised web infrastructures** that enable navigation to take place using linguistic or culturally appropriate icons instead of English
4. develop resources using their own **culturally based information-seeking methods** rather than the methods preconceived by the wider community (see Srinivasan 2006 and Auld 2009)
5. use **both written and oral forms** of their language online, to accommodate diverse information-seeking approaches and content creation methods
6. access **contemporary, relevant and prestigious** solutions to raise the prestige of their language in the eyes of younger generations and the wider community (Liddicoat 2008)

Specific initiatives for support organisations to assist new and emerging communities are suggested throughout the report under each of the key topics:

- Language documentation (Section 4.1)
- Language use (Section 4.2)
- Language and computers (Section 4.3)
- Access and training (Section 4.4)
- Sustainability (Section 4.5)

A complete summary of the recommendations and these proposed initiatives is available in Section 5.

## 2. Introduction

### 2.1 Purpose

This report, funded by the auDA Foundation, investigates the language issues that affect the ability of many new and emerging communities to use the internet. The aims of the project are to:

- identify the language maintenance and development needs of targeted new and emerging communities whose languages are poorly supported by the internet
- identify relevant tools and web services that can deliver solutions to meet those needs

Drawing on previous work by Vicnet, an extensive literature review and community consultations, the report examines the context and the issues affecting the current situation.

The report offers six general recommendations as well as a range of initiatives (see Section 5) for ways in which government, educators and service providers can provide support for new and emerging communities to use the internet in their language.

### 2.2 Background

There is limited research on the use of the internet by new and emerging language communities in Australia. There is also little research on the linguistic issues that affect this use. Work undertaken by Vicnet shows, however, that there is interest in the potential of collaborative solutions to support the use of ICT by these small groups.

Many of the new and emerging language communities represented in the Commonwealth Department of Immigration and Citizenship (DIAC) Integrated Humanitarian Settlement Strategy programs have limited access to either print or electronic resources. There are few formal grammars or dictionaries for some of these languages, but there is community interest in accessing tools to develop and share such resources.

Without access to internet resources these communities remain vulnerable to both digital and social exclusion. Given that language is the primary method for communicating knowledge and traditions, the opportunity to use one's language on global information networks such as the internet is invaluable. Within this context, this particular project fits firmly within UNESCO's strategy 'to support the creation of linguistically and culturally diverse content in cyberspace'. (2003)

### 2.3 Target readership

The intended readership of this report is government, service providers and educators. The intention is to provide practical information that can assist in the development of initiatives to foster digital and social inclusion for new and emerging communities.

### 2.4 Methodology

#### 2.4.1 Previous research

This report draws together information from a number of sources, including from experience gained during Vicnet projects such as *Open Road* and *MyLanguage*, and the technical research undertaken in cooperation with ICT and language specialists around the world as well as with community members in Australia.

#### 2.4.2 Guiding principles

Based on previous Vicnet experience, it is apparent that the internet has the capacity to empower small communities to:

- share resources both locally and globally
- address both oral and written forms of language
- develop tools that are free or inexpensive
- build partnerships that support sustainability

#### 2.4.3 Literature review

The extensive literature review undertaken for this report examines the overarching issues as well as revealing potential solutions. This research is documented in Section 3: Context and in Section 4: Key issues and opportunities.

#### 2.4.4 Community consultations

To complement the literature review and to provide illustrations of key issues, consultations were conducted with three new and emerging communities. The groups involved were Dinka, Harari and S'gaw Karen speakers. They were chosen because they represent a diversity of experiences and because they have difficulties when using their language on the internet.

It was decided to limit the consultations to the region of Wyndham because this area has recently attracted a rapidly growing number of people from these new and emerging communities (see Table 6.1A). The local council

has taken a proactive role in working with new groups. Given the support and existing structures already in place, there is potential for active partnerships between service providers and communities to emerge in the future. A general meeting was held with community leaders from the three chosen language groups to outline the project and then separate meetings were organised with interested members of each community. People were asked to talk about what was important to them about their language, what language resources they were currently able to access, and what new resources they would find useful. They were also asked about current computer access and training and what was needed to improve use of the internet by community members. Language maintenance and development was recognised as the primary concern of teachers in the community language schools. Support was received from the Victorian School of Languages and Community Languages Australia and separate meetings took place with some of the Dinka teachers at Sunshine and the S'gaw Karen teachers at Galvin Park. Liaison was already taking place with the school run by the Australian Saay Harari Association and teacher concerns also arose in the Harari community meeting. The consultations also aimed to find common themes in the needs of small new and emerging communities in relation to language use, which may be useful when trying to develop new services.

#### 2.4.5 Limitations

The aim of the consultations was to acquire a snapshot of what communities felt about language maintenance and the use of ICT in the Wyndham area. A more detailed analysis including a study of the needs across Victoria or of particular groups, such as women or seniors, would need to be the object of further research.

## 3. Context

This section draws on the literature review and aims to give a framework for key issues relating to language maintenance for many new and emerging communities in Australia. Local and global policies as well as conditions in the homeland, the growth of global diasporas and the situation here in Australia, all influence the ability of new and emerging communities to maintain their languages.

### 3.1 Linguistic and cultural diversity policy

The mother tongue, that is, the language first learnt in the home, is generally assumed to be an intrinsic part of cultural identity. Policies relating to cultural diversity therefore usually include linguistic factors. These policy statements exist at all levels, from the global to the local, and have contributed to a growing movement around the world dedicated to language revitalisation.

In addition UNESCO has clarified the significance of the use of online technology in this area through the *Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace* (2003). International, national, state and local policies imply a sense of consistency across all levels of government and over time that belies the substantial struggles for language rights in Australia. National policies on languages since the 1980s have had shifting emphasis, with a more recent commitment to languages that support economic growth rather than to community language maintenance (Lo Bianco 2008).

Many local initiatives and sporadic bursts of highly progressive policy have featured in the mixed picture. There has been recognition of the importance of acknowledging minority language needs with the development of resources such as translation and interpreting services, community language schools and the ethnic media. Despite this, however, Clyne (2005) laments the failure of Australian society generally to move beyond a strongly monolingual outlook and to recognise community languages as valuable resources. In the current environment of government policies relating to social inclusion and human rights support for linguistic maintenance within new and emerging communities has a justifiable place.

For more specific information about policy at all levels see Appendix 6.1.

### 3.2 Language revitalisation

Language endangerment has received particular attention in recent years, demonstrated by the number of policy statements around the world that have emerged recognising the rights of minorities. This phenomenon is described by Grenoble and Whaley (2006: 2–3) as a response to ‘globalising forces [which] have triggered reacting forces as some people seek to assert, or better reassert, their unique cultural identity’. Their book *Saving Languages* provides a valuable guide to issues and existing revitalisation models in this field.

Some of the languages of Australia’s new and emerging communities are used principally as oral media; however, to give a language a stronger chance of being retained across generations, literacy is important. It is generally accepted that the documentation of a language will help to preserve and revitalise it.

... literacy provides access to both outside and local cultural materials. These can be topics related to health, such as water treatment, AIDS, avian flu, nutrition, etc. They can be government documents, such as the UN Declaration of Human Rights, which has been translated into local languages. Literacy also provides the possibility of preservation, retention, and communication of almost-forgotten folk tales and other local lore. Often elders of a group are concerned that the younger generation is not learning the old stories and oral histories and literacy offers a way to preserve them for future generations (Cahill and Karan 2008: 12).

Without literacy, communities may be subject to negative judgements from outsiders. This tends to discourage younger members of the speech community from maintaining the language.

According to Grenoble and Whaley (2006: 116):

...two of the most compelling reasons for including local literacy in language revitalisation are the prestige that it can inspire for a language and the potential empowerment that it brings to a community that has literate members.

Examples of language revitalisation programs include First Voices (<[www.firstvoices.com](http://www.firstvoices.com)>) in Canada and Miromaa (<[www.miromaa.com.au](http://www.miromaa.com.au)>) in Australia. These

demonstrate how a written language requires a number of tools to support it, including a standardised orthography or script, dictionaries and glossaries, grammars, reference and reading materials, primers and texts. More of these tools are needed for the languages spoken by the communities consulted as part of this project.

Ong (2002) emphasises the complementary nature of the both oral and written mediums of communication. He discusses the richness and separate contribution each makes to the cultural and social life of a community. To quote Grenoble and Whaley (2006: 119–120):

...many oral societies are reported to have highly developed modes of wordplay; many place high value on the verbal skills of expert storytellers; others make a connection between the spoken word and connection to spiritual realms.

Ong (2002: 133) also describes what he calls a second orality that has emerged with the development of electronic technology:

This new orality has striking resemblances to the old in its participatory mystique, its fostering of a communal sense, its concentration on the present moment. But it is essentially a more deliberate and self-conscious orality, based permanently on the use of writing and print, which are essential for the manufacture and operation of the equipment and for its use as well.

Within this context, the internet provides interesting opportunities for languages to be maintained in both their oral and written forms, and for using some oral communication practices in written and multimedia modes. Tools such as digital storytelling provide potential for those languages with strong storytelling traditions to be used to record information and cultural heritage. The use of Web 2.0 technology will also allow for a highly participative approach to language revitalisation by language communities. These media bridge the gap between high literacy and orality for both newly arrived settlers and indigenous communities.

### 3.3 Language issues and homeland countries

The formal status of the language of a new and emerging community back in the homeland has an impact on the ability of new settlers in Australia to access resources in their mother tongue. For groups such as the three described in this report, cultural and linguistic practices may have been, or are currently being, suppressed by hostile ruling majorities. Materials that do exist may be out of print or may include content that is irrelevant to new settlers' needs in Australia.

In homeland schools, minority languages may not be taught, because policies support the dominant national language. Musau (2003: 155) discusses the difficulties

relating to the imbalance between former colonial languages and indigenous languages in the African context:

This imbalance is evident in the educational systems and in media practice. This state of affairs is attributed to lack of clear-cut democratic language policies, lack of programmes of policy implementation, negative attitudes towards indigenous languages and the complex language situation that exist in many African countries. It is recommended that a guiding vision and a plan of action for implementing linguistic rights are necessary if linguistic justice is to prevail in Africa.

Non-government organisations such as church and community groups may be involved in providing support to minority language communities. With the growth of interest in language revitalisation programs, organisations such as SIL International (<[www.sil.org](http://www.sil.org)>) provide practical solutions, such as dictionary-making tools and shell books for communities to create their own resources. These tools and systems aim to empower communities to create their own resources in ways that are culturally appropriate and relevant. UNESCO has also provided assistance such as the First Language First project that develops community-based literacy programs for minority language groups in various Asian countries. In the context of creating language tools that are culturally sensitive, Trudell and Schroeder (2007: 165) caution against the dangers of imposing European methodologies within an African context:

Particular language families have linguistic distinctions that need to be taken into consideration; orthographic distinctiveness of the various languages must also be considered for the most effective choice of literacy learning methods. These complexities are often ignored in the formal school environment, where the influence of European languages and traditional Western reading methods is strong. For those Africans who cannot read or write, literacy instruction in their mother tongue is immensely advantageous to the learning process.

Different grammar structures are described by Troike (2009). He points out, for example, that nouns are prominent in European languages, and this leads to the emphasis on nouns in early teaching; however, many languages such as Navajo use derived verbal phrases instead, 'for example *food* would be *what-one-eats* or *one-eats-it*'.

Another issue facing individual linguists who are attempting to document and support language revival is dialect variation. Roettger and Roettger (1989) demonstrate the difficulty in the context of developing literacy materials across a range of Dinka dialects, including Rek, Bor, Agar and Padang.



### 3.4 Language and diasporas

The three communities consulted for this report, like most new and emerging communities, are part of wider diasporas across the globe. This phenomenon provides the opportunity and the demand for new mother tongue language tools in the lands of resettlement. Away from homelands that may be fractured or under-resourced, diaspora groups can often be supporters and promoters of language maintenance to ensure that communication with friends and family across the globe can continue, and to preserve the cultural heritage with which the groups identify. The diaspora experience in itself is also an example of new cultural identities emerging and their need to be acknowledged. Better economic circumstances and electronic technology in lands of resettlement mean that there are opportunities not often present in homelands to maintain and develop mother tongue languages.

### 3.5 New settlers in Australia

When settlers join new and emerging communities in Australia, they bring with them diverse experiences of language. This is described in recent reports commissioned by the Victorian Government including *The Number of African Speakers Emerging in Victoria* (Borland and Mphande 2006) and *Community Languages Online* (Vicnet 2007). For example:

- Settlers may know not only the official language of their homelands, but also that of the transitory country by which they came to Australia. The transition period could have included many years of settler displacement in refugee camps.
- Settlers bring their own mother tongue which is significant as a symbol of identity and cultural heritage, as well as a tool for family and social cohesion. Issues of identity in many cases are the reason for settlers fleeing their own country in the first place, where the dominant group in society is restricting or actively repressing their way of life.
- Settlers may have experienced different levels of education in languages according to circumstance. For example, some settlers may be well educated in several languages and others may be able to write in one language but only speak in their own mother tongue.
- Settlers may prefer not to use the official language from their country of origin even if they know it because of repressive practices in the homeland.
- Children and young adults may have had fractured schooling.
- Some women and seniors may be less literate.
- New waves of migrants may have different experiences than the older members of the community in Australia.
- New settler communities are also often the least engaged with electronic technology.

### 3.6 Language on the internet

For a language to be supported on the internet, it is necessary for development for each language to have:

- text layout, font and input solutions
- local support
- an internationalisation architecture that supports the language
- localised applications and tools needed to process the language

These attributes are not always available for new and emerging community languages, including those studied for this report. This section of the report gives a brief technical description and explanation of the issues involved. These issues are discussed further in Section 4.3 Language and computers.

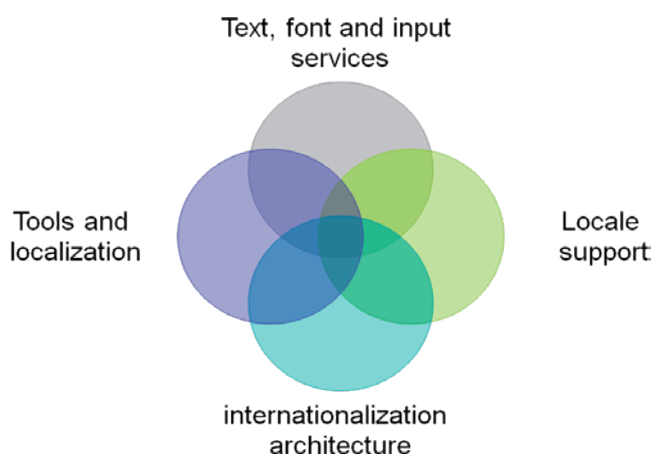


Figure 3.6A Language and ICT technology requirements (Cunningham, Osborne, Wunna 2008)

Each of these building blocks is important to the development of web services for minority languages. When developing web services or applications it is necessary to design the software or website to support a variety of languages. Following internationalisation best practice ensures that a website or application will be developed that can handle target languages correctly. Internationalisation architecture can be a critical element of website and web service creation. Common web services and web applications that do not take into account the architecture requirements of lesser used languages can create technical barriers for people wishing to use those languages on the internet.

#### Community example

Sometimes additional tools are needed. The Harari language can be written in three different scripts, but members of the Harari community may only be familiar with one of those scripts. For Harari, it is important that tools are available that allow text

written in one orthography to be converted to one of the other two orthographies so that members of the community can access Harari resources in their preferred script. For S'gaw Karen, tools to convert between character encodings (see Section 6.2 Glossary) may be necessary.

'Localisation' is the process of adapting a website or application for specific users. During the process, both language and cultural elements should be taken into consideration. Localisation will include translating the user interface of the website or application into the target language and/or culturally appropriate icons. Low levels of English literacy make using software and websites difficult; therefore, localisation will improve an audience's use of a website or application.

#### Community example

An example of localisation can be seen on the Kwe Ka Lu website (<[www.kwekalu.net](http://www.kwekalu.net)>) which uses S'gaw Karen. Navigation tools are shown using recognisable icons and text in S'gaw Karen.

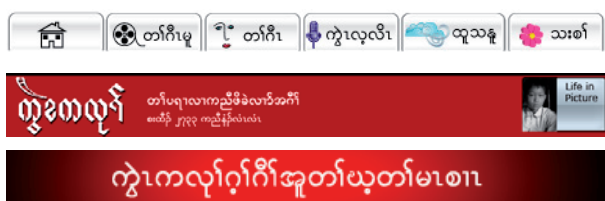


Figure 3.6B Kwe Ka Lu website localised for S'gaw Karen (<[www.kwekalu.net](http://www.kwekalu.net)>, 27 May 2009)

### 3.7 History of and issues for the Dinka, Harari and Karen languages

Following is a summary of the history of, and relevant issues for, the three language groups referred to in this report.

#### 3.7.1 Dinka

The Dinka alphabet was first standardised in 1928 at the Rejaf Language Conference. British education policy for South Sudan at the time was to provide the first two years of education in a local or regional language and then move to curriculum delivery in English. Dinka was one of those languages used for education. During the colonial period missionaries from different churches went to different regions of South Sudan with the result that Dinka tribes are divided by Christian denomination. The Catholic Church focused on the Rek and neighbouring Dinka tribes; the Anglican missionaries went to the Bor and Agar, while the Presbyterians went to the Padang. As a result, early initiatives in Dinka were driven by these missionaries. Their focus was to develop Dinka literacy and translate the Bible into the Dinka language. The denominational divide between the tribes meant that early linguistic and literacy

work was focused on specific dialects with limited work done on a cross dialect analysis of the Dinka language. The teaching of Dinka was disrupted by the civil wars as was education in general. In 1993 the orthography and alphabet were revised allowing vowel breathiness to be distinguished when writing.

SIL Sudan developed a single byte encoding (see Section 6.2 Glossary) for developing literacy materials, documenting the language and translating religious texts. These fonts and keyboard layouts are difficult to locate and obtain. Unicode provides much more accessible tools for the Dinka language.

#### 3.7.2 Harari

Prior to the 1880s, the literary language of Harar was Old Harari. It was written using the Arabic script. Harar was a trading centre in East Africa and a centre of Islamic literature. An oral form of the language was also emerging, known as Modern Harari. In the 1880s, Harar was conquered by the Abyssinians and Old Harari was suppressed. An Ethiopic script (Geez) was introduced for Modern Harari. Literacy in the use of Old Harari died away and manuscripts which have survived are now scattered around the world, residing in libraries and museums. The Harari community does not have easy access to many of these manuscripts.

The Ethiopic education system uses Amharic, but the 1990s saw a resurgence in the teaching of regional and local languages. This was accompanied by orthographic reviews and language documentation projects. The Ethiopian Standard ES 781:2002 (Ethiopic Character Set) was developed and included characters required for writing minority Ethiopian languages.

Reviews of the Harari orthography have been conducted within Australia and Ethiopia. In Ethiopia the Ethiopic script is used to write Harari, while Arabic and Latin are used outside of Ethiopia. In Australia, some of the Harari ethnic schools have adopted a Latin orthography to make it easier to teach children growing up here, but it has been important that this Latin orthography reflects orthographic developments in the homeland.

The revised Harari orthographies have no single byte encodings (see Section 6.2 Glossary) that support Harari and must use Unicode solutions.

#### 3.7.3 S'gaw Karen

S'gaw Karen is the largest of the Karen languages. It is written in a script used by various languages of Burma including Burmese, Mon and Shan. S'gaw Karen shares some of the same characters as Burmese but adds its own vowels and tones. Suppressed by the current government in Burma,



language maintenance has taken place in remote regions and in refugee camps along the Thai border.

The script is currently at a crossroads, moving from ad hoc solutions to the use of international standards, with Unicode still under development. S'gaw Karen has been using single byte encodings. There are many eight-bit fonts available for S'gaw Karen, but each font developer uses a different coded character set, making documents written with a particular font unreadable using a font from a different font developer. The single-byte fonts do not have customised keyboard layouts, making typing Karen complex.

In 2008 S'gaw Karen was added to Unicode (version 5.1). Unicode 5.1 supports S'gaw Karen, but does not have all the characters required to support the other Karen languages. The next version of Unicode will include support for the remaining Karen languages.

Within the last year Karen bloggers have started to use an ad hoc pseudo-Unicode font, which essentially uses the old single-byte glyph (see Section 6.2 Glossary) model and masquerades as a Unicode font. The pseudo-Unicode fonts would have similar interchangeability problems to the single-byte fonts, and text may be corrupted by Unicode-aware processes.

The above has covered some of the context relating to language maintenance and the support work being done by governments, non-government organisations, individuals and communities themselves. Within this framework, Section 4 examines key issues more closely in relation to the communities consulted.

## 4. Key issues and opportunities

A number of concerns arose during the community consultations that were also reflected in the literature review and technical research. These relate to language documentation, language use, language and computers, access, training and sustainability.

The following factors were most clear:

- Simple training and access to the internet is insufficient to ensure digital inclusion for new and emerging communities.
- Internet content in many mother tongue languages is limited.
- Available content is difficult to access.
- New and emerging communities need tools and skills to develop content which is suited to their needs.
- Culturally appropriate methods should be used in the planning, design and implementation of internet programs.

### 4.1 Language documentation

As already noted, to effectively create written or printed resources in a language, users of the language need to have a standardised orthography or script and to be supported by resources such as dictionaries and grammars. Decisions may also need to be made about how or whether to support dialectal variation. A language also must adapt to new environments, meaning that new words and terminology may need to be created to suit new situations. The opportunity to develop more language content was much valued by the communities consulted, but gaps in the areas mentioned above still need to be addressed in some cases. For example there is a need for more documented grammars in S'gaw Karen and Harari, and dialectal issues are of concern to some Dinka speakers. As emphasised by Liddicoat (2008) the existence of written text-based resources can greatly improve the prestige of a language both in the eyes of its community and of the outside world. For example, those consulted for this project mentioned that the existence of translations in a particular language can be interpreted as a government or service provider placing value on that language. This can increase the prestige of mother tongue literacy among its own community members.

Table 4.1A Language documentation

| LANGUAGE DOCUMENTATION ISSUES          | HARARI   | S'GAW KAREN  | DINKA   |
|--|--|--|---|
| Orthography and language documentation | <p>Orthographies for Harari are available using Latin, Arabic or Ethiopic characters</p> <p>Once a written language but now mainly oral</p> <p>No fully documented grammar</p> <p>Need an international approach</p> <p>Lack of institutionalised language experts</p> |  | <p>Existence of old and new orthographies. Some past disagreement about which to use</p> <p>Now used mainly by the community in a spoken form</p> |
| Dialectal variation                    |  | <p>Regional variation</p> <p>Mutually intelligible</p> | <p>Differences in pronunciation</p> <p>Some grammar differences</p> <p>Teachers propose inclusive approach to dialects</p>                        |
| Lexical gaps                           | Problem with translations, e.g. technology, government and service provider terminology  |  |   |

## RECOMMENDATIONS

### A. Language and documentation

To maintain the languages of new and emerging communities, it is recommended that funding and partnerships be developed to enable communities to:

- A.1 develop dictionaries, grammars and reading materials using existing free or inexpensive online programs such as those listed in Appendices 6.4, 6.5 and 6.6
- A.2 develop glossaries for terms not currently existing in settler languages. This includes information technology terms as well as those used by government and service providers
- A.3 use resources in electronic formats such as with mobile phone technology

## 4.2 Language use

The community consultations revealed four main areas in which people wished to maintain the use of their language. The areas were for:

- access to community and settlement information (see Section 4.2.1)
- cultural maintenance (see Section 4.2.2)
- communication across diasporas (see Section 4.2.3)
- language and literacy learning (see Section 4.2.4)

### 4.2.1 Settlement and community information

Community consultations highlighted a gap in support and information provision once new arrivals have completed their AMEP training. After this, people are reliant on their communities for information and news passed along by word of mouth. English competency may not yet be strong enough to understand local news on television or radio.

In 2007 Vicnet reported on how culturally and linguistically diverse (CALD) communities prefer to receive information in their own language, most frequently in the areas of health, housing, education, settlement, concessions and legal aid. To date, the common approach to making information on the internet available to CALD communities has been for government and service organisations to post translated information on their websites in the hope that the people who need it will find it. However, the potential user has to be accomplished in using the internet as well as knowledgeable about the service providers themselves in order to access the material. The 2007 Vicnet report highlights the difficulty people have accessing government information online, with most transactions requiring a mediator.

The report *Digital Inclusion: A discussion of the evidence base*, prepared for UK online centres, (Fresh Minds 2007) emphasised this issue stating that those people most in need of government services, including access to information, forms and payment options, are often the least able to access the internet.

### 4.2.1.1 Community-based information access

The Vicnet report into *Community Languages Online* (2007) considered the feasibility of a whole-of-government language website whereby all translated information from different departments would be pooled into a hub which would be easier for people to access. The report found that such a centralised website would not be viable until practices were in place to ensure that translated content is of suitable standard.

Consultations for this report revealed a more effective alternative. Community members felt that it would be helpful for new and emerging communities to have direct access to service-provider information in their own language through individual community-based portals.

#### Community examples

A concrete example was given by the S'gaw Karen who spoke of the need for a Victorian Karen website with the following features:

- settlement information and awareness-raising tools required in S'gaw Karen for newer settlers as AMEP English not sufficient for needs
- help to develop newer settlers' literacy in English and Karen
- Australian news/information
- local news
- educational programs about fire safety, finance, jobs, literacy etc.
- information about other international Karen activities

Members of the Harari community spoke of the need to have tools to deliver local news and information in their language to pass on the information more effectively. The 3CR Harari radio program is already exploring the use of podcasts on the web.

### 4.2.1.2 Empowering communities through participative design

Srinivasan (2006, 2008) has conducted a number of projects in which immigrant communities have been empowered to create their own community information sites, for example, ICT community information programs with the Walpiri in Australia, the Somali Community in Boston and the South Asian diaspora in Los Angeles. In each case the communities have come together and workshopped the range of information required. The projects have incorporated documenting and using the community's own methods of organising their knowledge to construct an information architecture and user interface. (See Section 4.4.4 for more information.)

Srinivasan (2006) warns about the dangers of presuming developmental goals for developing communities when

using ICT and refers to the work of Paolo Freire which proposes an engagement with communities to develop shared goals within projects. A 'banking' method involving the passive reception of information drawn from external environments is rejected in favour of the ontology model which allows communities to decide the content, the technologies and the mode of operating that most suit their own information needs and cultural environment. An alternative information delivery model which encourages service providers and government to submit their translations to community-based information portals that have been developed according to an infrastructure that suits the community could make access to, and use of, relevant information much more likely.

#### 4.2.1.3 Diverse modes of content provision: Web 2.0 and multimedia

A variety of technologies could potentially also be used to assist with community and settlement information delivery. Web 2.0 tools could empower users to create and share their own content once language enablement issues are resolved. Free tools such as Google Docs and Slide Share offer alternatives to expensive packages such as Microsoft Office. To complement text-based resources, the diversity of language use and skills within communities can be supported by using a variety of multimedia and interactive tools such as blogs, podcasts, YouTube and Flickr. The need for diverse information delivery approaches can be seen when considering some of the difficulties that exist for African migrants (described in the Community example, below) in relation to using Victorian Government information (Borland and Mphande 2007).

##### Community example

Key findings about characteristics of African speakers suggest that multilingualism is common among populations. The existence of a script in a language may not, however, equate with speakers being literate in that language. Many are used mainly as an oral communication. Most services reported the importance of verbal means of communication such as through radio or face-to-face conversation given high illiteracy rates especially among women. Some bilinguals are comfortable speaking one language, say, Dinka and can write in another, for example Arabic. 'Issues relating to education and literacy information are a sensitive area for people who already know they are disadvantaged.' The Sudanese represent a complex mix of educational levels, including those who have had professional training and many who have had minimal or disrupted formal opportunities. (Borland and Mphande 2007)

In tandem with the importance of developing written translations and texts, the use of multimedia online means that communities could be assisted to develop content in a variety of formats to suit different education levels and learning styles.

An audiovisual approach to information transfer has been explored by AMES in Victoria (Taylor 2008) using digital storytelling techniques to provide settlement information. In cooperation with settlement officers from twelve language groups, five key information needs were workshopped. Short programs using photography and audio for each language group, together with English subtitles, were created by the settlement officers who had little computer or multimedia experience. These programs are now available for use at anytime in all AMES centres and participants in AMES programs can also download programs to take home and share with other family and community members. Each program helps to impart important information in a manner that accommodates those who tend to use oral rather than written forms of their language.

The internet is one of many ways in which service providers are producing information using traditional and new information technologies. These resources, both text-based and multimedia could be pooled together and sourced from the one place on community portals. Individuals could then use information in a variety of formats suited to individual need or preference. It is again emphasised that for a language to thrive it should be supported in both written and oral forms. However, if multimedia is to be used effectively the infrastructure and navigation tools should be localised into the relevant language and/or using culturally appropriate icons.

#### RECOMMENDATIONS

##### B. Settlement and community information

To overcome the difficulty communities have in knowing about and accessing the translated information provided by government and service provider agencies, it is recommended that:

B.1 service providers consider community preferences for location of online material

B.2 models whereby information can be pooled on community-driven websites be further investigated

#### 4.2.2 Cultural maintenance

Using ICT, traditional material such as cultural heritage and customs in mother tongue language can be preserved for the community as a whole. At the same time, the transformational cultural experience of living in a new country and creating new lives can be recorded.

#### 4.2.2.1 The importance of preserving and promoting cultural heritage

Comments made by community members during the consultations highlighted that:

- Tools are needed to preserve cultural and linguistic heritage so to help in the understanding of origin and identity.
- Language is also needed to link the generations.
- Language and culture are tied together and without them children in Australia will forget about their heritage.
- Few cultural heritage resources are currently available in print or online.
- Electronic resources are potentially invaluable to preserve cultural and linguistic heritage across diasporas and between generations.

##### Community example

Each community consulted had experienced the suppression of their language and culture in the homeland. For the Harari, there have been systematic attacks on language and culture in the past and for the S'gaw Karen their own language and culture have been, and continue to be, suppressed in Burma. For Dinka speakers, many years of conflict have led to suppression.

#### 4.2.2.2 Preserving cultural heritage online

The transference from oral to written forms increases the opportunity for communities to record and preserve traditional material such as stories, songs, poems, customs and histories that might otherwise be lost. Online technology can also enable communities to preserve their heritage using a variety of tools drawing on written, oral and visual forms. Finnigan, quoted in Grenoble and Whaley (2006: 121), states that orality and writing are not 'separate and opposed modes but, both now and in the past, form one dynamic in which both written and oral forms interact'. Perry (2004: 17), in a study of literacy and Sudanese refugees in the United States, highlights the importance of storytelling:

...for many of these displaced Sudanese refugees storytelling is being transformed from a way of passing down cultural traditions within their own ethnic group to a way of educating the wider world about their experiences both through speeches and written text. One participant in the study said ...my story however was all I had with me, the only remnant of my past.

Drawing on this strong tradition, the use of digital storytelling methods could be a culturally sympathetic way to preserve heritage and experience in the mother tongue, as well to create resources for community information and language learning. This potential can be seen in examples on the website of the Australian Centre for the Moving Image (ACMI).

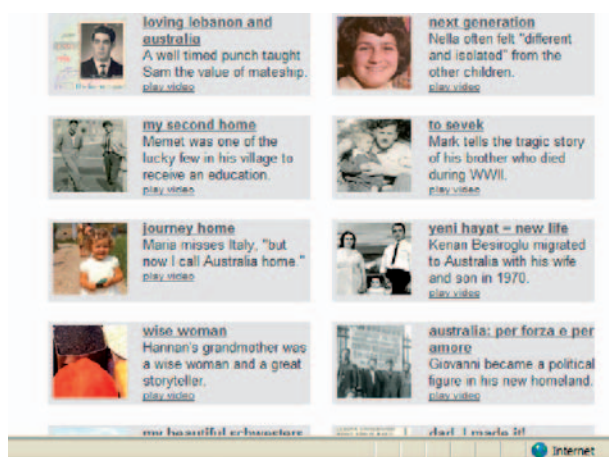


Figure 4.2A Community Stories About People (< [www.acmi.net.au/video\\_community\\_people.htm](http://www.acmi.net.au/video_community_people.htm)>, 27 May 2009) includes the immigration experiences of people from many diverse backgrounds.

Although ACMI uses sophisticated programs such as Apple Final Cut and Adobe Photoshop, inexpensive or free software programs such as Microsoft Photo Story and Windows Movie Maker can be used to create accessible resources, such as ACMI's Community Stories About People, in the mother tongue.

'Kete: Telling our stories together' is an example of open source software that enables communities to collaborate online to archive their heritage. The software makes it possible to add documents, audio, video, images and weblinks to an archive, and enables non-computer experts to have control over the creation of their materials. This initiative developed in New Zealand and several communities have now developed collaborative sites to record their memories and heritage in this way. The University of Waikato has developed a software tool called Greenstone which is designed to assist communities create digital library collections in minority languages. Greenstone's developers wished to move away from the idea of a top-down approach driven by technical experts and move towards an alternative approach that provided minority language groups 'with multilingual tools that they can use in whatever manner they choose' (Nichols 2005: 141). Greenstone currently supports over 40 languages including Thai, Urdu, Lao, and Tamil. Languages in progress include Amharic, Burmese and Sinhala.

(Greenstone) ...empowers non-computer experts to create, organize and distribute large collections of information ... it is distributed widely under a free open-source licence. It allows participatory design of information collections by indigenous people ...and participatory localisation of the user interface (Nichols 2005: 140).





Figure 4.2B Ulukau: The Hawaiian Electronic Library interface (< [www.ulukau.org](http://www.ulukau.org) >, 27 May 2009)

Ulukau: The Hawaiian electronic library demonstrates the ability of Greenstone to create interfaces in multiple languages which allows 'maintainers to alter the appearance of their collections and gives multi-lingual users the ability to use different browsing and search strategies that occur when using different languages' (Nichols 2005: 151).

#### Community example

Members of the Harari community spoke of the great value there would be in developing a digital library of Harari treasures and documents which are currently spread around the world and mostly inaccessible.

Following is one the few available online examples of valuable manuscripts in Old Harari:

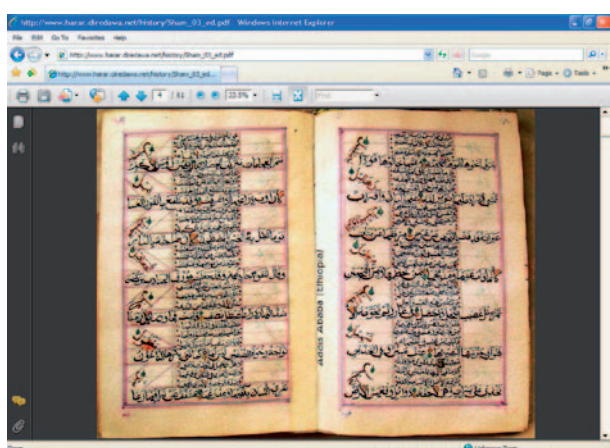


Figure 4.2C Example of an old Harari manuscript available on the Bareda website (< [www.harar.diredawa.net/](http://www.harar.diredawa.net/) >, 27 May 2009)

First Voices based in Canada provides the example of 60 minority language groups joining together on the internet to preserve and promote their languages and

cultures. The website includes phrase and word lists, games, songs, slide shows and information about each language and culture. Multimedia is included and both English and the mother tongue are used. In the Australian context, a website entitled Our Language is being created along these lines with Aboriginal communities through the Arwarbukarl Cultural Resource Association Inc..

#### Community examples

Some websites do exist to record the heritage of the communities in our consultations, using a variety of text and multimedia. Examples include Drum Publication Group for S'gaw Karen, the Pitt Rivers Museum for Dinka cultural objects and Malasay for Harari. These sites, however, are mainly in English and also require English to navigate. They also include features that cannot be easily accessed due to software and hardware issues.

The website Kwe Ka Lu, created in Thailand, was identified by community members as a valuable resource for the S'gaw Karen in Melbourne as it does use their language. A disadvantage, however, is that it does not have resources suited to the needs of people living in Australia. Also, funding problems mean that the site may not continue.

#### 4.2.2.3 Addressing new lives, new worlds

As Liddicoat (2008) has highlighted, for a language to be vibrant it must have prestige and relevance, and reflect contemporary life as well as the traditions of the past. This particularly applies to the younger generations of a new and emerging community who are focused on the life they are leading in Australia rather than what their families may have left behind. As mentioned above, however, community elders of the groups consulted were concerned that their children should still have pride in their heritage, to help the children have a sense of belonging and identity. Retained language helps to preserve the link across generations.

The literature suggests that while initially young people and second generations may wish to embrace the language and ways of the dominant culture into which they live, in later years they may wish to discover their cultural roots. Research by Denison and Johanson (2008) has shown that second and third generation Italians in Australia actively using internet-based resources to connect with their heritage and for social networking. The preservation of cultural heritage and language could do much to support continuity for new and emerging communities upon resettlement.

Internet tools can provide innovative possibilities for bringing the mother tongue language into a contemporary setting. Projects around the world that have addressed

issues relating to language revitalisation highlight this point. McHenry (2002: 111), when discussing use of the Navajo language, emphasises the need to make sure a language does not become obsolete by making it relevant to current situations.

Herein lies a crucial obstacle facing language revitalization efforts: If indigenous language use continues to be associated primarily with tradition while Native communities desire to keep pace with American society at large, it seems inevitable that English will flourish while other languages will falter. One way of ensuring Native language vitality is to find new contexts of usefulness, perhaps co-existing with English contexts.

McHenry notes that by Native American language groups using web technology to make native languages available on the internet, they are able to reach members of their communities across geographic boundaries as well as interested people in the broader community. Language groups taking control of their traditional language and culture through the medium of the internet revitalise language and culture so that they can be useful today and in the future.

#### 4.2.2.4 Copyright of materials and cultural protocols

During the community consultations, issues relating to copyright and appropriate cultural protocols were raised. While the internet can provide opportunities for communities to preserve and promote their cultural heritage, there was concern that it may make these resources vulnerable to misuse. The World Intellectual Property Organization (WIPO) has been created as an agency of the United Nations to provide guidelines for managing issues in relation to digitisation, dissemination and intellectual property. It also provides 'technical support and a gateway to examples of best practice, policies, surveys, resources and case studies' (WIPO 2008). The Creative Commons Attribution License has been developed to provide free tools to enable content makers to easily 'mark their creative work with the freedoms they want it to carry'.

An example of how issues relating to cultural protocols have been addressed by an Aboriginal community is demonstrated by the Arwarbukarl website (2008). From another angle, in 'Taking the Time: Museums and galleries, cultural protocols and communities', Collections Australia Network (CAN) has developed guidelines to assist heritage workers work with Indigenous and multicultural communities in culturally appropriate ways.

### RECOMMENDATIONS

#### C. Cultural maintenance

To preserve endangered heritage and to record the experiences of new settlers using their own language, it is recommended that support be given to online projects which enable communities to:

- C.1 articulate and plan their own heritage preservation interests (Srinivasan 2003)
- C.2 record cultural traditions and customs, as well as their experiences as new settlers. For example, providing training and multimedia kits for digital storytelling
- C.3 engage younger community members with IT skills to work with elders who hold the knowledge and experiences to be preserved
- C.4 develop copyright, licensing and cultural protocol guidelines with the development and use of any content (see WIPO)

### 4.2.3 Communication with diasporas and the homeland

For new settlers the process of migration and resettlement becomes part of their heritage. Cahill and Karan (2008) point out that diasporas across the globe draw on common experiences that may have nothing to do with their original homeland. The internet provides opportunities for these communities to communicate, but it can also be a way to share their experiences of settling in a new land, or to link community members to family and friends now spread across the globe. The ability to access Web 2.0 technologies such as blogs and wikis could be of great assistance to realise these opportunities.

#### 4.2.3.1 Language is the link

The ability to communicate in the mother tongue is of particular significance.

#### Community example

During consultations, a member of the Harari community pointed out that the Harari community is spread all over the world; there are some in France that can speak French and some in Germany that speak German. The Harari language is the only thing that connects community members one to the other.

#### 4.2.3.2 New opportunities

The internet provides an arena which is no longer geographically bound by a dominant culture. Alternative views can be expressed and as Karim (2002) points out, with the availability of new communication technologies, diasporas are able to obtain cultural materials with growing ease from other parts of the world and preserve them in ways that may not be so easy in the homeland.



#### Community example

Members of the Harari community consulted spoke of the hope of creating an electronic library whereby resources and knowledge now spread across the world could be documented and preserved.

The internet can also be used to document the stories of new settlers, to provide information and support for those still in the homeland or in refugee camps who wish to leave for new countries. Drum Publication Group (2008), for example, is using the internet to gather stories across the Karen diaspora for this purpose.

#### Community example

'The recent possibility of resettlement for many Karen and other ethnic minorities from Burma to third countries has resulted in many having a big choice to make. For many, it is difficult to even imagine what life would be like living in a new and vastly different country and culture. To help those facing the choice of resettlement to make a more informed decision, Drum is asking for those of you who have resettled or are living in third countries to share your experiences be them good or bad, funny or frightening with others through short stories or essays.' (Drum Publication Group 2009)

#### 4.2.3.3 Digital diasporas and youth

A number of projects are underway in Victoria that involve young people in new and emerging communities communicating across diasporas using web technologies. The Home Lands project hosted by the Cultural Development Network (2008):

... is an internet television program made with entry-level technical resources that connect young refugees to their home lands and separated communities... Home Lands is underpinned by the premise that refugee youth resettlement is more successful if identification, communication and engagement is maintained with home communities... Resettlement is more successful if young refugees are able to identify, communicate and engage with their home communities and dispersed refugee communities, through new communication technologies and media channels. For second-generation migrant youth, this international and national connection may be useful to encourage more enthusiasm for language maintenance and a space to negotiate hybrid cultural identities and localities.

The National Ethnic & Multicultural Broadcasters' Council (NEMBC) is coordinating a project to involve young people from new and emerging communities in creating web-based radio programs that will connect them across

the globe. Bongiorno (2008) reiterates the significance of using this kind of online technology to support language maintenance:

In terms of language maintenance, being connected to youth who share their language, culture and migration experience can challenge the association that their language is only spoken by older generations in their family and community networks. This opportunity for innovative communication can also offer second-generation youth in dispersed communities the opportunity to negotiate belonging, identity, culture and religion which transcend boundaries that may exist within their family experience or in the host community.

These projects affirm the notion by Liddicoat (2008) that by placing the mother tongue language into arenas that are prestigious, relevant and contemporary, the language will remain vibrant.

#### RECOMMENDATIONS

##### D. Communication with diasporas and the homeland

In recognition of the great potential the internet offers for new and emerging communities to connect across Australia, diasporas and the homeland, it is recommended that support be given to:

- D.1 ensure the development of language-compatible infrastructures to make access to electronic communication tools, such as email and blogs, more feasible in the mother tongue
- D.2 support and promote cooperative ventures across diasporas such as the Home Lands project and NEMBC internet radio youth project (Bongiorno 2008)

#### 4.2.4 Language and literacy learning

The fourth domain of language use involves its transference across the generations as an essential way to maintain identity and cultural heritage. It is well known that many CALD communities have created language schools over the years with the support of organisations such as Community Languages Australia and the Victorian School of Languages. Indeed the Dinka, Harari and Karen have already established schools in Melbourne. Consultations with some of the teachers of these schools in the Wyndham area have highlighted a number of issues.

##### 4.2.4.1 Lack of print resources

As previously emphasised in Section 4.1, to be able to learn a language and promote literacy in that language, people need a range of tools. The availability of these resources is a particular issue for the communities consulted for this report. The tools needed may include:

- dictionaries
- grammars

- word games
- readers
- glossaries
- exercises
- stories
- textbooks

These may not be easily available from the homeland where cultural and linguistic heritage has been suppressed.

#### Community examples

For teachers of S'gaw Karen, resources are drawn primarily from Kwe Ka Lu a newsletter and online resource based in Thailand. This resource may, however, end due to insufficient funds and, in any case, the resources available do not reflect life in Australia.

The Dinka teachers at Sunshine in Victoria use some materials developed in Sudan but these are written in the old Dinka form with no diacritics, there are no exercises to accompany them, they are intended for adults rather than teenagers or children, and the content is not relevant to the teaching.

Some languages have dialectal differences and decisions need to be made about how to handle them. For example, the Dinka language has several dialects. The Dinka teachers at Sunshine have decided to teach Dinka as one language as most of the children born here do not know any different. However, the teachers do consciously acknowledge the different origins of words and show the students the different ways to write the alphabet. Decisions are also complicated by the need to choose the most appropriate scripts or orthographies. As already mentioned, the Harari community could use Ethiopic, Latin-based and/or Arabic scripts. Some Harari teachers in Australia have chosen to use the Latin-based script to make it easier for their students.

New materials need to be developed that reflect the new society in which learners live. Students are exposed to a diverse range of learning materials at Australian schools. It is a challenge for community-language-school teachers to produce similarly attractive materials that will also engage students in mother-tongue learning. Teachers from all schools consulted spoke of the need for visual aids, and for materials that reflect life in Australia. This again confirms the notion that languages must have prestige and relevance and be contemporary if they are to survive.

#### 4.2.4.2 Lack of online resources

Debski (2008) provides examples of ways that new technologies can be used by families to enhance the language learning experience, including the use of email and digital cameras. A number of low-cost electronic options have also been developed through language revitalisation programs around the world. Given that small communities do not usually have expensive hardware or

complicated software, these programs could be useful because they:

- use low-powered computers with free open-source programs
- are designed to require minimal or simple task-based training
- empower communities to decide on the content and design of their own materials
- can produce professional-looking resources inexpensively that can be used online or downloaded for students
- enable both children and adults to participate together to design and create resources that are attractive and relevant to their needs
- give a contemporary context to language
- benefit people who learn in different ways. For people who have strong oral traditions, the use of multimedia can reinforce the learning process as the use of sound and images can reinforce meaning

#### 4.2.4.3 Resource creation programs

Existing language revitalisation programs around the world could be adopted by new and emerging communities to develop new language materials, including online dictionaries and readers.

Dan Harvey from Southern Oregon University has developed the ACORNS Linguistics Project to support American tribal language revitalisation. The software is easy to use and will work with any indigenous language. It is also freeware, and can be installed on as many computers as needed. The program includes resources to develop a variety of lesson types such as flash card lessons, moving pictures lessons and storybook lessons. Particularly important in this field is the work of SIL International, a non-profit organisation 'that studies documents and assists in developing the world's lesser known languages'. Many of the programs discussed in the following subsections are hosted by this organisation. SIL International provides an online catalogue listing its wide variety of free open source software.

#### 4.2.4.4 Dictionary and word list creation tools

The following are examples of tools that already exist to help communities create resources.

WeSay (<[www.wesay.org/wiki/Main\\_Page/](http://www.wesay.org/wiki/Main_Page/)>)'enables people from under-resourced language communities to create dictionaries for themselves with minimal training on inexpensive, rugged low-powered hardware that can be used within their community ...WeSay can play an important role in enabling community members to be active contributors in the process of dictionary creation.' (Albright and Hatton 2008: 200)

- Lexique Pro (<[www.lexiquepro.com/](http://www.lexiquepro.com/)>) is a free tool that makes it possible to publish and print online dictionaries.

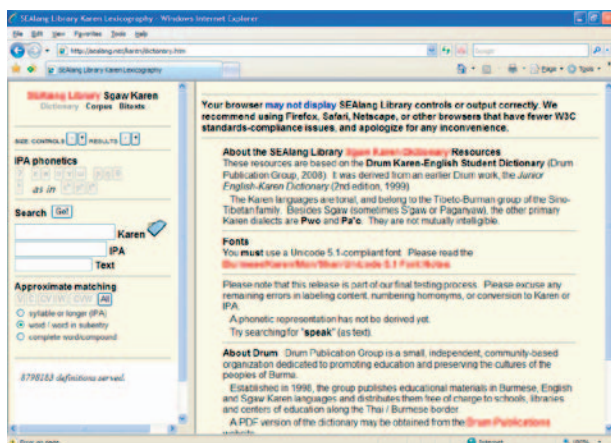


Figure 4.2D SEALang S'gaw Karen dictionary  
([sealang.net/karen/dictionary.htm](http://sealang.net/karen/dictionary.htm), 27 May 2009)

- Miromaa ([www.miromaa.com.au](http://www.miromaa.com.au)) is a tool created in the Newcastle region of New South Wales by members of the local Indigenous community to revive the Awabakal language. It uses a variety of tools such as Lexique Pro and The Linguist's Shoebox. The success of this program may be seen in its adoption by other indigenous communities as well as by some Native American groups. It is:

... a program aimed to give control back to Aboriginal communities by assisting them in their own language revival activity ... The program is designed around good archive practise and enables communities to gather language resources including, text, audio, images and video. It can also store digitised documents for example pdf and Word documents, Excel spread sheets. It has a secure environment which can only be accessed by username and password and cultural protocols are in place (Miromaa 2008).

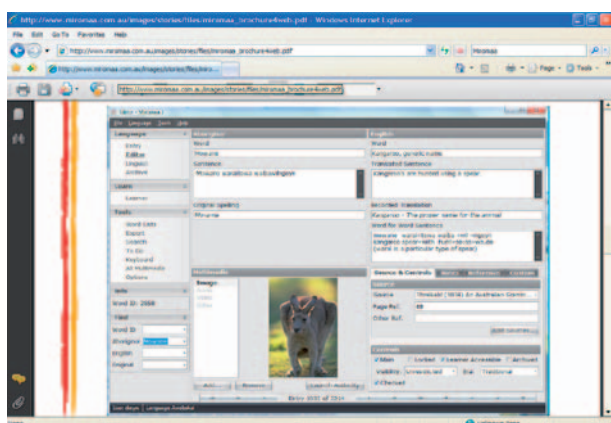


Figure 4.2E Miromaa interface reproduced in an online brochure  
([www.miromaa.com.au/images/stories/files/miromaa\\_brochure4web.pdf](http://www.miromaa.com.au/images/stories/files/miromaa_brochure4web.pdf), 27 May 2009)

#### 4.2.4.5 Reading material creation tools

Examples of reading material creation tools include shell books, designed by SIL International to help communities create simple readers:

A shell book is a book or other kind of reading material produced from a prepared shell. It is usually one of several books of the same title produced in different dialects or languages. Shell books are a good way of producing a lot of reading materials relatively easily and inexpensively (SIL International 1999).

The Pasifika Digital Legends program hosted by the New Zealand Education Department for Pacific Islander communities shows how shell books can be transformed into electronic resources.

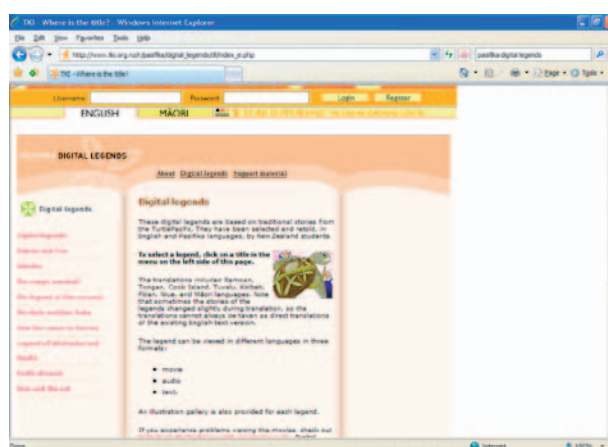


Figure 4.2F Pasifika Digital Legends interface ([www.tki.org.nz/r/pasifika/digital\\_legends/dl/index\\_e.php](http://www.tki.org.nz/r/pasifika/digital_legends/dl/index_e.php), 27 May 2009)

Auld (2002, 2007) has reported on a project with members of the Kunibidji community in Australia which involved the making of electronic books in their language. The talking books were created by the school children with community input and then made available on touch screens across locations around the community. Despite logistical problems that the children might have had in accessing the touch screen computers, such as the absence of electricity in the house, the physical location of the computer, the social relations around the computer and unforeseen technical problems, just to name a few' (2007), the children remained motivated to use the technology over the six-month trial period. Benefits included the:

- informal process which enabled younger and older community members to work together to create the content
- flexible use and design of the technology, which was adjusted to suit the community daily environment at home as well as at school
- opportunity for the community to find new forms of cultural expression in a contemporary format
- development of literacy practices in both Ndjébbana

(the first language of most members of the Kunibidji community) and English as the project participants discussed the complexities of the language with the researcher who then translated these into computer capability

- emancipation of the community by giving it control over the creation of relevant resources

This research is now being taken further through the Computers in Homes for Indigenous Australian Literacy Development (CHILD) research project (Auld 2008).

Creating electronic books involves many considerations such as those highlighted by the creators of The International Children's Digital Library (2008). This was initiated by the University of Maryland and the Internet Archive and aims to 'create a collection of 10,000 children's books in 100 languages, collaborating with children to develop new interfaces for searching, browsing, reading and sharing books'. Druin (2004) discusses some of the challenges to such a project and emphasises that:

[c]ulture pervades every aspect of the visual design and content of our interface. We have to be aware of cultural bias and be respectful of others.

Hutchinson et al (2005) also discuss the importance of designing searching and browsing tools that consider the skills and preferences of children and suggest guidelines for interface designers. For example:

[c]hildren are capable of doing Boolean searches, but have difficulty with the sequential presentation of hierarchical structures used in many category browsers. Based on previous research, we believed a simultaneous presentation of a flat category structure might better support children.

Castlemaine Library recently applied for a grant to develop reading materials in Dinka. Should the application be successful, it would be beneficial if the resulting programs could be made available online so that resources could be shared between disparate groups. This capacity is one of the great advantages of internet technology.

#### 4.2.4.6 Exercise and word game creation tools

Numerous online tools exist to support mainstream language teachers in this area. Ways need to be found to enable smaller language groups to access these tools. A variety of tools is available including free downloads such as Game Maker, Digilearn, Hot Potatoes and Languages Online. It would be helpful if these resources could be adapted to enable smaller language groups to use them.



Figure 4.2G Languages Online. An example of an online tool for exercise and word game creation (<[www.education.vic.gov.au/languagesonline/default.htm](http://www.education.vic.gov.au/languagesonline/default.htm)>, 27 May 2009)

The AMES Resourcing Learning and Innovation Unit has also written a number of papers on how to use digital storytelling and podcasts in language and literacy learning. Refer to Appendix 6.3 Bibliography, and Appendix 6.5 Language tools for links to these examples and others.

#### 4.2.4.7 Sharing resources

Given that lack of resources is a common problem, the ability to share materials using the internet across the country and around the globe would be of great benefit. For example the S'gaw Karen community currently draws on online resources available at Kwe Ka Lu. The Drum Publication Group website demonstrates many ways in which online technology can be explored to support language and cultural maintenance for the S'gaw Karen, both inexpensively and widely. For the Karen community in Victoria, however, the website has drawbacks. Much of the material is not easily accessible with the software and hardware available to community members. It is also built on an English navigation infrastructure, unlike Kwe Ka Lu which is better used by the community. Once again there is a lack of content relating to the Australian context and people's lives here.

#### 4.2.4.8 Adult literacy

##### Community example

During some of the consultations with Dinka speakers, there was some interest in the community providing adult literacy classes in the mother tongue.

Some Dinka programs have already occurred, such as that coordinated by Donohoue Clyne (2004: 2) who documented a project with female Bor Dinka speakers in Noble Park, Victoria.



These women have suffered extreme disadvantage including twenty years of civil war, a policy of Islamisation which deprived them of their cultural identity and years spent in refugee camps resulting in limited formal education. Traditional ways of life are very different from a modern urban environment in which they now live. Literacy amongst the population in Sudan is said to be 57.7% for men and 34.6% for women. As there are literacy problems in both Arabic and Dinka, it is difficult to develop functional literacy in English.

This project came from a request by the community itself and developed with the help of their local church and trainers from SIL International, whereby they recorded stories and translated texts into their own language. The success of the community program relied on support that included informal childcare and transportation, as well as a strong component of social activity involving food, music and dance.

Dinka, as for many other small language groups, does not have a large body of written material for people to use and from which they can learn. The transference of resources such as those created during this project into an online format could help to build a badly needed body of resources in Dinka languages.

As previously noted, the success of projects similar to that coordinated by Donohue Clyne may rely on them being culturally appropriate and involving aspects such as childcare, transportation and social activity.

#### 4.2.4.9 Teacher training and teaching methodology

The Victorian School of Languages offers support for its teachers to create learning materials and develop teaching methodology. The lack of existing resources and the need to engage students effectively make this support extremely important. With the current trend in migration patterns it is likely that this will continue to be an issue for community language programs set up by new and emerging communities.

The contemporary world requires people to develop multiple literacies including computer literacy. Support for teachers to develop these skills would be of great benefit.

## RECOMMENDATIONS

### E. Language and literacy learning

The internet can provide ways for new and emerging communities to develop language learning resources not previously available to them. These resources can then be used online or downloaded for use. It is recommended that teachers be supported to use the internet for the following purposes.

To **create resources** through:

- E.1 training in the use of low-cost tools available online (see Section 4.4 and Appendices 6.4, 6.5 and 6.6); for example the use of electronic book templates and shell books which enable teachers and students to create simple resources using culturally appropriate material and images (see SIL International at <[www.sil.org](http://www.sil.org)> and Appendices 6.4, 6.5 and 6.6)
- E.2 training in the use of multimedia resources that enrich the learning experience and provide alternative learning approaches, especially where limited literacy materials exist (see Appendices 6.4, 6.5 and 6.6)
- E.3 access to online collections of images to support learning, which are free or inexpensive and copyright-free. These images would reflect the Australian way of life as well as that of the homeland. Students could also be encouraged to create these images themselves using digital technology and storing them on programs such as Flickr (see Appendix 6.6).

To **share resources** with other groups in Australia and overseas by:

- E.4 making newly created online resources available using protocols such as Creative Commons
- E.5 uploading and storing any existing printed resources using protocols such as Creative Commons

To **develop methodologies** that:

- E.6 reflect the contemporary lives of students in Australia as well as provide reference to the homeland
- E.7 use the internet and multimedia to give greater prestige to the language in the eyes of the young

| LANGUAGE USE ISSUES                | HARARI   | S'GAW KAREN  | DINKA   |
|------------------------------------|--|--|---|
| <b>Community information</b>       | Need to be able to share news and information in Harari  | Settlement information and awareness-raising tools required in S'gaw Karen for newer settlers as AMEP English not sufficient for needs<br>Need for Victorian Karen website for: <ul style="list-style-type: none"> <li>○ Australian news/information</li> <li>○ local news</li> <li>○ educational programs about fire safety, finance jobs, literacy etc.</li> <li>○ other international Karen activities</li> </ul> | Need for passing on information more effectively  |
| <b>Cultural maintenance</b>        | Tools required to preserve cultural and linguistic heritage across diasporas and between generations, for example, an electronic library<br>Systematic attacks on language and culture in the past<br>Few resources currently available<br>Language needed to link the generations                               | Own language and culture suppressed in Burma<br>Not many Karen websites  | Tools needed to preserve cultural and linguistic heritage to help understanding of origin and identity<br>Language and culture are tied together. Without them children in Australia will forget  |
|                                    | Connections with diasporas are important. They exist, but need to be able to communicate in Harari because this is the common language. Need a common integrated platform<br>Need to connect young people across the diaspora  | Existing connections with groups on Thai/Burma border are important<br>Information and resources shared in Karen but limited by technology<br>Need to be able to contact and email in own language   |   |
| <b>Language and literacy needs</b> | Need for: <ul style="list-style-type: none"> <li>○ more standardised language learning resources for children</li> <li>○ dictionaries</li> <li>○ both written and audiovisual resources</li> <li>○ children's books</li> <li>○ adults to be taught a standard orthography</li> <li>○ teacher training</li> </ul> | Newer settlers may have literacy issues in Karen and in English<br>Need for: <ul style="list-style-type: none"> <li>○ more language learning resources for children</li> <li>○ modern methodologies</li> <li>○ resources relevant to Australian context</li> <li>○ visual material</li> <li>○ portable electronic dictionary to learn more about Karen plus assist with learning English</li> </ul>                  | As refugees via different places, people have arrived with diverse language experiences, sometimes with major gaps in education<br>Need for: <ul style="list-style-type: none"> <li>○ child- and youth-focused resources at different levels</li> <li>○ material in new orthography</li> <li>○ accompanying exercises and e-books</li> <li>○ a standard teaching methodology</li> <li>○ resources relevant to the Australian context</li> <li>○ visual and audio material especially for those with literacy needs</li> <li>○ copyright and intellectual property issues to be resolved</li> <li>○ adult literacy resources for classes planned in 2009 and beyond</li> <li>○ teacher training</li> </ul> |

Table 4.2A Summary of language use issues

In summary, the use of the four language domains described in Section 4.2 may be oral, visual or written. For the communities consulted, the spoken word was currently the main method of communication with limited printed resources available on which to draw. Great value was placed by all three communities on developing more text-based resources, as well as the use of other media that could be pooled on the web.

This section has outlined key issues relating to the four domains of language use chosen by the consulted communities. Their actual ability to operate in these domains online is directly affected by the issues explored below in Sections 4.3, 4.4 and 4.5. These relate to language accessibility on computers, computer access, training and support.

## 4.3 Language and computers

This section outlines the technical problems encountered by many small language groups coming to Australia with limited or no support for using computer operating systems or applications. The explanations below inform the issues raised by the communities consulted.

The minimum requirements to support a language on a computer are:

- the capacity of the computer to display text correctly (see Section 4.3.1)
- the ability of the user to type in the language (see Section 4.3.2)

To develop websites, it is also necessary to consider:

- locales which enable a server to correctly support the language (see Section 4.3.3)
- gaps which may exist in relation to ICT terminology (see Section 4.3.4)
- localisation which adapts the user interface to suit a language and culture (see Section 4.3.5)
- language-specific issues such as line-breaking methods (see Section 4.3.6)

All three languages groups consulted have experienced difficulties in these areas. Examples are given below.

### 4.3.1 Displaying text: Unicode and fonts

Ultimately a computer treats a character (letter) as a number. A coded character set is a repertoire or collection of characters required by a language or group of languages. Each character is assigned a code point (number). A character encoding maps each code point to a sequence of one or more bytes. Many character encodings are single-byte (8-bit) encodings and support a maximum of 256 code points. These encodings support a single language or a small group of languages.

Unicode is a coded character set that is intended to represent text in any language. Over time new versions of the Unicode standard are published, adding new characters and scripts. Unicode text can use more than one encoding. Operating systems and many core applications use Unicode. The core fonts used in an operating system are Unicode fonts.

When developing support for new and emerging languages it is important to build support using Unicode solutions. This will ensure compatibility with new applications or operating systems and ensure the successful exchange of data.

Harari, S'gaw Karen and Dinka are not supported by Internet Assigned Numbers Authority (IANA) registered non-Unicode character encodings. This means that they would not be recognised by current applications except when Unicode is used. Therefore, Unicode support is critical for the future use of these languages on the internet.

To display text in a particular language, it is necessary to have fonts that can display all the characters needed for that language. Some languages use complex writing systems or scripts. These scripts may have characters whose shapes or positions change depending on the context. Some characters in complex scripts are positioned relative to other characters. For complex scripts, the operating system needs font rendering and text layout services combined with appropriate fonts.

For many languages the TrueType fonts are sufficient. The TrueType font format is the common font format used on the Macintosh Operating System (Mac OS) and Windows. A number of extensions to the TrueType format have been developed to handle complex scripts and sophisticated typography:

- OpenType (Microsoft and Adobe)
- Apple Advanced Typography (AAT)
- Graphite (SIL International)

On the Windows platform, complex script rendering is handled by a system library called Uniscribe, the Unicode script processor. Microsoft periodically updates Uniscribe adding support for new characters or new scripts. Uniscribe updates are delivered through service packs or through operating system upgrades.

New character and script support is not made available to older versions of Windows. Therefore, a particular language will require a specific version of Windows as a minimum requirement. This places a burden on users who speak a minority language. There are a number of programs and initiatives that provide low-cost recycled computers to migrant and refugee communities. Often these computers will not be configured to support the languages used by these communities.

Linux has a number of alternative desktop environments that handle the user interface. One of the commonly used desktop environments used is Gnome. The Gnome desktop environment uses a software library called Pango to handle complex script rendering support. Pango uses OpenType fonts, although Graphite support is also available.

The Mac OS environment is more complex. Apple has its own rendering technology, ATSUI, which uses AAT fonts. Apple has also been working on adding OpenType font support to the Mac OS.

Software developers for the Mac OS are divided. Some use the default Mac OS rendering, while others like Adobe and Microsoft have developed their own OpenType rendering libraries. This means there is no consistent language support across applications on the Mac OS, and language support needs to be evaluated application by application.



| LANGUAGE          | MINIMUM VERSION OF WINDOWS REQUIRED | FONT AVAILABILITY                          |
|-------------------|-------------------------------------|--|
| Dinka             | WindowsXP – Service Pack 2          | Requires installation of third-party fonts |
| Harari – Latin    | Windows 2000                        | Can use some system fonts                  |
| Harari – Ethiopic | WindowsXP – Service Pack 2          | Requires installation of third-party fonts |
| Harari – Arabic   | Windows Vista                       | Requires installation of third-party fonts |
| S'gaw Karen       | WindowsXP – Service Pack 2          | Requires installation of third-party fonts |

Table 4.3A Microsoft Windows language support

## 4.3.2 Typing text: keyboard layouts

Current keyboard layouts for the three languages discussed in this report are considered in the following paragraphs.

### 4.3.2.1 Dinka

Dinka keyboard layouts are available for Microsoft Windows XP, with Service Pack 2 or 3 installed, and Vista. The solutions include:

- the Microsoft keyboard layout which is available free of charge
- Tavultesoft Keyman Desktop keyboard layouts. Keyman is a commercial product with layouts that respond to the Dinka orthography. It has some in-built constraints, allowing sequence checking to force correct spelling, and layouts are quicker to type with than the Microsoft layout

Linux keyboard layouts are also available for X keyboard extension, or XKB, a common keyboard system on Linux and Unix operating. Keyman Desktop source files can also be used with Keyboard Manager for Linux (KMFL) which is a Smart Common Input Method (SCIM) plugin. An XML-based Mac OS X keyboard layout is available free of charge.

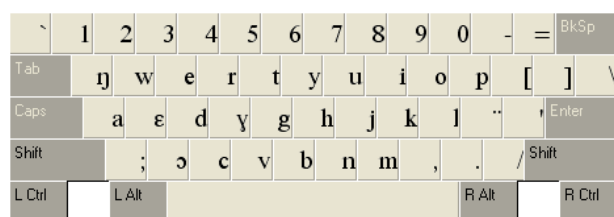


Figure 4.3A A Dinka keyboard (<[www.openroad.net.au/languages/african/dinka/typing.html](http://www.openroad.net.au/languages/african/dinka/typing.html)>, Open Road 2009)

### 4.3.2.2 Harari

Harari keyboard layouts for the revised Latin, Ethiopic and Arabic orthographies or scripts are available for Keyman Desktop, SCIM and KMFL, Win32 and Mac OS X. The Keyman and SCIM-KMFL layouts use a unified layout for all three orthographies, allowing the user to type exactly the same way in each of the three orthographies. Conversion tools and mapping files are available, allowing text written in either the Latin or the Ethiopic scripts to be

converted one to the other. Mapping files are currently being developed for Latin to Arabic conversion. This will allow documents to be written in one orthography and made available in all three orthographies, either in print or on the internet.

### 4.3.2.3 S'gaw Karen

Currently no S'gaw Karen Unicode keyboard layouts are available. A more generic Myanmar Unicode input system is available for Keyman Desktop, but a S'gaw Karen-specific keyboard layout would be more appropriate for typing.

Typing with the older ad-hoc fonts is complicated with different keys needed to type the variety of glyphs needed for each character.

## 4.3.3 Locale support

A locale is a collection of information and rules specific to a geographic area and language. Locales are used to set a computer user's:

- time, date and number formats
- appropriate calendar systems
- collation (sorting rules)
- lexical data including language, country, currency, translations

Currently Dinka, Harari and S'gaw Karen do not have defined locales. This means that applications and servers cannot correctly handle automatically generated information, including numbers, time and dates. It also means that text cannot be sorted using language specific collation (sorting) rules.

Locale support is critical for language-sensitive operations such as collation, for example, automatically sorting dictionary and glossary entries or sorting results of database queries. It is a prerequisite for software localisation initiatives.

## 4.3.4 Gaps in terminology

A key issue for each of the three communities consulted is a lack of appropriate translations for some technical and information technology vocabulary. Defined and consistent terminology is required for developing training materials in a language, translating a website user interface, and localising software (see Section 4.3.5). Tools exist to allow

terminology to be gathered and published, but processes and resources are needed to guide communities and translators in identifying and developing an information technology terminology lexicon for their own languages.

### 4.3.5 Localisation

Localisation is the process of adapting software to a particular language and culture. This includes translating the user interface and system messages as well as adapting the design for the language and culture in question. Localisation allows users to work with an application or operating system using the language or icons with which they are most comfortable. For communities with lower literacy levels in English, using a localised interface for a website or an application allows the user to utilise the site or application more efficiently. The African Network for Localisation (AnLoc) has created a terminology list that helps to support a range of localisation projects.

### 4.3.6 Line breaking

Line breaking in the digital context is a particular problem for speakers of S'gaw Karen. S'gaw Karen uses spaces to separate phrases and sentences, rather than to separate

words. This creates problems for text layout, since there are no markers inside the text to indicate a word boundary that would be suitable for automatic line breaking. This, in turn, creates problems in the use of word processors, page layout software and web browsers. Ideally, line breaking should occur at a word boundary. For this to occur, a dictionary-based algorithm is required. Breaking on word boundaries would require comprehensive word lists which are currently unavailable. Presently, break points must be manually created. Moving a word processing document from one computer to another may change the print area of the document sufficiently that the manual line breaking is disrupted. Manual line breaks on web browsers are suboptimal where different users use different display resolutions. In the absence of such technologies, an algorithm based on syllable boundaries as defined in Unicode Technical Note 11 should be used. Breaking a line of text at a syllable boundary is better than potentially breaking it inside a syllable, but not as desirable as breaking it at a word boundary. To adequately support S'gaw Karen on the internet, it is necessary to have line-breaking solutions available, either via JavaScript solutions within a web page, or as extensions or add-ons to web browsers.

| LANGUAGE AND ICT ISSUES      | HARARI   | S'GAW KAREN   | DINKA  |
|------------------------------|--|---|--|
| <b>Orthography</b>           | Yes<br>Latin, Ethiopic and Arabic scripts awaiting Harar endorsement   | Yes   | Yes<br>Modern version established in 1988  |
| <b>Unicode-based fonts</b>   | Yes  | Yes<br>Custom legacy fonts mainly used e.g. KNU   | Yes  |
| <b>Documentation</b>         | Yes  | No  | No   |
| <b>Keyboards</b>             | Yes  | Almost<br>Pan-Myanmar layout exists but typing Karen is complicated.<br>Draft S'gaw Karen layout under development  | Yes  |
| <b>Terminology glossary</b>  | No   | No  | No   |
| <b>Localisation</b>          | No   | No  | No   |
| <b>System requirements</b>   | Latin-based and Ethiopic on any version of Windows<br>Ethiopic on Windows XP Service Pack 2 or above<br>Arabic on Windows Vista or above | Windows XP Service Pack 2 or above  | Windows XP Service Pack 2 or above   |
| <b>Computer capabilities</b> | Computer limitations handling the language and multimedia  | Computer limitations handling the language and multimedia<br>Can only use PDFs. Overseas websites not easily usable | Computer limitations handling the language and multimedia<br>Spell check is needed |

Table 4.3B Language and computers

### 4.3.7 Addressing orality

Current web technologies and specifications underlying those technologies are based on a paradigm intimately entwined with literacy. Although multimedia can be used to provide information and resources suited to people with limited mother tongue literacy, multimedia itself is not enough.

It is simple to add audio or video content to websites and straightforward to develop podcasts. But for people with limited literacy in English and their mother tongue language, access to these resources without mediation can be difficult.

Services that develop multimedia content for users with literacy problems should consider who the mediators for that information will be, and how users will communicate with those mediators. The process of mediation places technical and, in some cases, financial, burdens on community-based mediators.

Discoverability of and navigation to multimedia resources in the absence of mediation can be challenging for people with limited literacy. Current technologies do not provide solutions for new and emerging communities.

It is necessary to re-evaluate existing technologies to develop content solutions within an oral paradigm.

#### RECOMMENDATIONS

##### F. Language and computers

To enable access to, and creation of, online content in mother tongue languages, it is recommended that support be given to ensure:

- F.1 websites and web services support appropriate locales and collation (see Section 4.3.3)
- F.2 each community has access to keyboards and fonts that will be Unicode-compatible (see Sections 4.3.1 and 4.3.2)
- F.3 content and information architectures are suitable for users with limited literacy

### 4.4 Access and training

Internet use is dependent on potential users having the skills to negotiate it, the software and hardware to access it and the content to access. For new and emerging communities all these factors pose problems. The findings of the *Community languages online* report produced by Vicnet in 2007 highlight some of these problems.

A significant issue ... was that some groups within CALD communities experience significant barriers to internet training and access because of limited language skills, the prohibitive cost of home internet access, and difficulty accessing public internet services. These groups are most likely to be seniors, women, people on humanitarian visas and people on low incomes (2007: 5).

Computer access and training were of particular concern to the communities consulted. This section summarises the issues raised.

#### 4.4.1 Access

Access to computers and the internet for the communities consulted is limited in a variety of ways.

- Some community members have computers at home but do not have the language or computer skills to use them effectively.
- Some community members live in areas where internet providers are too expensive and there is no choice, for example, in the Laverton area.
- Refugees are often the ones most in need of government services, but their lack of computer and internet skills limits their ability to access online important information and tools such as forms and bill payment services.
- There are translation problems with many words used on websites that do not exist in the mother tongue. This is especially true of those websites relating to government services and technology.
- Only students tend to access free computers and the internet available at public libraries.

#### 4.4.2 Training

Issues and opportunities relating to training include the following.

- New settlers learn English and computer skills through AMES but often not enough to sustain them afterwards.
- Communities may have different learning styles which may need to be factored into training programs, for example 'focusing on a domain or domains of language use rather than language instruction per se may prove more appropriate' (Grenoble and Whaley 2006: 59).
- While training in basic computer skills and internet use is important, training in the use of mother tongue keyboards and fonts is essential.
- Training methods also need to be culturally appropriate so that examples used are drawn from community experience.
- Special training is needed for language teachers to enable them to access and create inexpensive, high-quality teaching resources that can be printed or used online.
- Community training in multimedia including the use of techniques such as digital storytelling could be helpful to relay important information to those with literacy problems in their own language and in English, as well as a means to support cultural maintenance.
- There is the potential to develop projects using young people who have the ICT skills to work with elders in the community to develop web resources.

### Community example

Members of the Dinka and S'gaw Karen communities mentioned that people felt more comfortable learning and using computers at community centres or schools. There was a perception that public libraries were mainly for students.

In the context of a pilot project with Navajo speakers, Villa (2002) describes an example of the cultural sensitivities required when training. He points out that certain cultural boundaries make it difficult for outsiders to access authentic language use. This problem was solved by training a Navajo speaker for 12 weeks, who then collected language data, preserved it and trained community members to create multimedia tools for teaching language.

### 4.4.3 Protocols for access

Developers of community-based websites should also consider that there will be diverse views and groups amongst a community of language speakers. Any infrastructure developed will need to address this. Some content will be relevant to a particular group and other content will be relevant across groups. Different opinions and approaches need to be accommodated and agreed protocols developed for who can post, and what can be posted, on community-based websites.

### 4.4.4 Digital inclusion

Issues of access go deeper than physical requirements. The notion of digital inclusion recognises that new and emerging communities need to be empowered to create their own content in a structure that suits their own information seeking methods. For example, participants in the Village Voice project (Srinivasan 2006) that took place with the Somali community in Boston decided themselves on creating a video-based website for their community information needs.

The topics listed were the issues identified by the Boston Somali community in 2003 and they were arranged in a manner proposed by that community. Referring once again to Srinivasan (2008), it must be emphasised that access should involve the creation of online information systems and infrastructures that are based on community-specific priorities such as above. Each community will have different priorities at any one time as is the case with the three communities consulted for this report. Gurstein (2003) emphasises the importance of ensuring 'effective use' of access to information as well as 'access' itself to information, where application design is done with the full participation of the end users and the local community.

The challenge with ICTs is not simply to provide passive access to the technology but rather to provide means by which individuals in their communities can find ways of making effective use of these technologies for productive wealth creating and transactional as well as other processes.

In summary, for effective use of online resources it is important to consider cultural and literacy issues relating to content development, media selection and information architecture (including usability, discoverability and navigation).

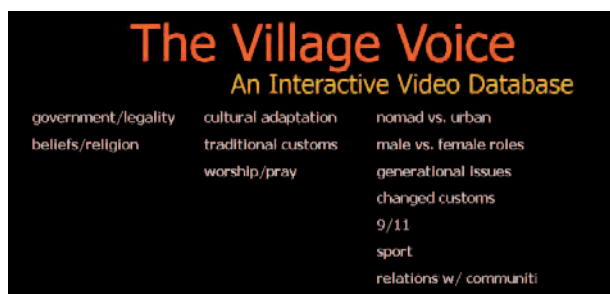


Figure 4.4A Village Voice search page. This page shows one major branch of the community-created ontology (<[www.archimuse.com/publishing/ichim03/096C.pdf](http://www.archimuse.com/publishing/ichim03/096C.pdf)>, 28 September 2009)

| ISSUES                 | HARARI   | S'GAW KAREN  | DINKA  |
|------------------------|--|--|--|
| <b>Computer access</b> | High cost of internet access in some areas<br>Need funds to develop resources  | People may have access to home computers but not the internet<br>High cost of internet access in some areas e.g. Laverton<br>Only students tend to access public computers and internet<br>Only some type in Karen   | Very few have home computers<br>High cost of internet access in some areas<br>Only students tend to access public computers and internet<br>Dinka tends to be handwritten only<br>Need a place where people can learn and practise<br>Need funds to develop resources  |
| <b>Training</b>        | Need for training in: <ul style="list-style-type: none"> <li>○ basic computer skills especially for older generations</li> <li>○ internet, focusing on sites and tools relevant to community</li> <li>○ using their language on computers (fonts, typing, etc.)</li> <li>○ content creation in own language (including web development, using CMS and multimedia, digital story telling)</li> </ul> Training for parents and teachers required | Many arrive with no experience of modern technology<br>No opportunity to continue learning computer skills after leave AMES program<br>Need for training in: <ul style="list-style-type: none"> <li>○ basic computer skills</li> <li>○ internet, focusing on sites and tools relevant to community</li> <li>○ using their language on computers (fonts, typing, etc.)</li> <li>○ Content creation in own language (including Web 2.0)</li> </ul> | Many arrive with no experience of modern technology<br>Need for training in: <ul style="list-style-type: none"> <li>○ basic computer skills</li> <li>○ internet, focusing on sites and tools relevant to community</li> <li>○ using their language on computers (fonts, typing, etc.)</li> <li>○ Content creation in own language (including Web 2.0)</li> </ul> Need to train those who already have some skills so they can get projects started |

Table 4.4A Access and training

## RECOMMENDATIONS

### G. Training: from consumption to creation

In addition to basic computer training, effective use of the internet by new and emerging communities requires a great number of resources to ensure that content relevant to users' lives is available online. Tools currently exist that could enable new and emerging communities to create that content themselves.

It is recommended that the internet be made more useful to communities by developing **training programs** that:

- G.1 include language keyboard use and content development methods
- G.2 teach individuals to train their own community members to use computers, the internet, multimedia and Web 2.0 technologies
- G.3 support teams of community volunteers to develop websites and content
- G.4 include the development of training support manuals in mother tongue languages
- G.5 adapt to cultural differences in ways of communicating and sharing information (Srinivasan)

## RECOMMENDATIONS

### H. Access

For new and emerging communities to make greater use of the internet it is recommended that support be given to enable:

- H.1 service providers such as public libraries and community centres to continue to provide access to facilities and tools not only for training but also for content development
- H.2 social inclusion programs that encourage new and emerging community members to feel comfortable using community facilities such as libraries and neighbourhood houses
- H.3 more affordable internet service provider options to be available in locations such as Laverton

## 4.5 Sustainability

While the development of appropriate content is the role of new and emerging communities themselves, ongoing support is needed from wider organisations to ensure their success.

Community language websites desired by those consulted require a formalised, sustainable support structure. Any content infrastructure created should also be responsive to the nature of individual languages and to particular community needs.

To develop community capacity to create content, free or low-cost applications need to be available. Ongoing support is also required for training and content

development where communities have limited web development skills.

As previously mentioned, the research shows that communities would find it easier to access existing internet resources in their language if the resources were brought together on community-based sites. This is particularly so for accessing community and settlement information. The current situation, which expects people to find their way to individual government and service provider sites, does not work for the groups consulted. A more effective way to deliver information long-term may be to invest in this reversed approach.

|                       | HARARI   | S'GAW KAREN   | DINKA  |
|-----------------------|--|---|--|
| <b>Sustainability</b> | Operating system (OS) and application support needed for language (including locales and localisation) | OS and application support needed for language (including locales and localisation)<br>Need help with development of community website<br>Need funds to develop resources | OS and application support needed for language (including locales and localisation)<br>Free or low-cost software programs needed |

Table 4.5A Sustainability requirements

### RECOMMENDATIONS

#### I. Sustainability

To support a sustainable outcome in terms of more effective digital inclusion for new and emerging communities it is recommended that:

- I.1 a **host organisation** take the initiative to support community-based website infrastructures and support ongoing use
- I.2 **partnerships** involving government, service providers and community groups be further developed to ensure venues for training, content development and continued access to online resources remain be available



## 5. Summary of Recommendations

Digital inclusion for new and emerging communities presupposes the capacity to benefit from the internet in the same ways as the broader community. To do so, however, communities need to be empowered to:

1. **develop websites and content in their own language** to meet expressed information, cultural, learning and communication needs
2. **benefit from existing free or inexpensive resources** through training in the use of open source software and Web 2.0 technologies to meet those needs
3. access resources through the technological development of **appropriate fonts and keyboards**, and **localised web infrastructures** that enable navigation to take place using linguistic or culturally appropriate icons instead of English
4. develop resources using their own **culturally based information-seeking methods** rather than the methods preconceived by the wider community (see Srinivasan 2006 and Auld 2009)
5. use **both written and oral forms** of their language online, to accommodate diverse information-seeking approaches and content creation methods
6. access **contemporary, relevant and prestigious** solutions to raise the prestige of their language in the eyes of younger generations and the wider community (Liddicoat 2008)

### 5.1 Specific initiatives for support organisations

The needs expressed by new and emerging communities cover many areas relevant to a variety of service providers and community support groups. Below are suggestions for initiatives by these bodies to improve digital inclusion for new and emerging communities.

#### A. Language and documentation

To maintain the languages of new and emerging communities, it is recommended that funding and partnerships be developed to enable communities to:

- A.1 develop dictionaries, grammars and reading materials using existing free or inexpensive online programs such as those listed in Appendices 6.4, 6.5 and 6.6
- A.2 develop glossaries for terms not currently existing in settler languages. This includes information technology terms as well as those used by government and service providers
- A.3 use resources in electronic formats such as with mobile phone technology

#### B. Settlement and community information

To overcome the difficulty communities have in knowing about and accessing the translated information provided by government and service provider agencies, it is recommended that:

- B.1 service providers consider community preferences for location of online material
- B.2 models whereby information can be pooled on community-driven websites be further investigated

#### C. Cultural maintenance

To preserve endangered heritage and to record the experiences of new settlers using their own language, it is recommended that support be given to online projects which enable communities to:

- C.1 articulate and plan their own heritage preservation interests (Srinivasan 2003)
- C.2 record cultural traditions and customs, as well as their experiences as new settlers. For example, providing training and multimedia kits for digital storytelling
- C.3 engage younger community members with IT skills to work with elders who hold the knowledge and experiences to be preserved
- C.4 develop copyright, licensing and cultural protocol guidelines with the development and use of any content (see WIPO)

#### D. Communication with diasporas and the homeland

In recognition of the great potential the internet offers for new and emerging communities to connect across Australia, diasporas and the homeland, it is recommended that support be given to:

- D.1 ensure the development of language-compatible infrastructures to make access to electronic communication tools, such as email and blogs, more feasible in the mother tongue
- D.2 support and promote cooperative ventures across diasporas such as the Home Lands project and NEMBC internet radio youth project (Bongiorno 2008)



## E. Language and literacy learning

The internet can provide ways for new and emerging communities to develop language learning resources not previously available to them. These resources can then be used online or downloaded for use. It is recommended that teachers be supported to use the internet for the following purposes.

To **create resources** through:

- E.1 training in the use of low-cost tools available online (see Section 4.4 and Appendices 6.4, 6.5 and 6.6); for example the use of electronic book templates and shell books which enable teachers and students to create simple resources using culturally appropriate material and images (see SIL International and Appendices 6.4, 6.5 and 6.6)
- E.2 training in the use of multimedia resources that enrich the learning experience and provide alternative learning approaches, especially where limited literacy materials exist (see Appendices 6.4, 6.5 and 6.6)
- E.3 access to online collections of images to support learning, which are free or inexpensive and copyright-free. These images would reflect the Australian way of life as well as that of the homeland. Students could also be encouraged to create these images themselves using digital technology and storing them on programs such as Flickr (see Appendix 6.6).

To **share resources** with other groups in Australia and Overseas by:

- E.4 making newly created online resources available using protocols such as Creative Commons
- E.5 uploading and storing any existing printed resources using protocols such as Creative Commons

To **develop methodologies** that:

- E.6 reflect the contemporary lives of students in Australia as well as provide reference to the homeland
- E.7 use the internet and multimedia to give greater prestige to the language in the eyes of the young

## F. Language and computers

To enable access to, and creation of, online content in mother tongue languages, it is recommended that support be given to ensure:

- F.1 websites and web services support appropriate locales and collation (see Section 4.3.3)
- F.2 each community has access to keyboards and fonts that will be Unicode-compatible (see Sections 4.3.1 and 4.3.2)
- F.3 content and information architectures are suitable for users with limited literacy

## G. Training: from consumption to creation

In addition to basic computer training, effective use of the internet by new and emerging communities requires a great number of resources to ensure that content relevant to users' lives is available online. Tools currently exist that could enable new and emerging communities to create that content themselves.

It is recommended that the internet be made more useful to communities by developing **training programs** that:

- G.1 include language keyboard use and content development methods
- G.2 teach individuals to train their own community members to use computers, the internet, multimedia and Web 2.0 technologies
- G.3 support teams of community volunteers to develop websites and content
- G.4 include the development of training support manuals in mother tongue languages
- G.5 adapt to cultural differences in ways of communicating and sharing information (Srinivasan)

## H. Access

For new and emerging communities to make greater use of the internet it is recommended that support be given to enable:

- H.1 service providers such as public libraries and community centres to continue to provide access to facilities and tools not only for training but also for content development
- H.2 social inclusion programs that encourage new and emerging community members to feel comfortable using community facilities such as libraries and neighbourhood houses
- H.3 more affordable internet service provider options to be available in locations such as Laverton

## I. Sustainability

To support a sustainable outcome in terms of more effective digital inclusion for new and emerging communities it is recommended that:

- I.1 a **host organisation** take the initiative to support community-based website infrastructures and support ongoing use
- I.2 **partnerships** involving government, service providers and community groups be further developed to ensure venues for training, content development and continued access to online resources remain be available

## 6. Appendices

### 6.1 Linguistic and cultural diversity policy

#### 6.1.1 International policy

The *Universal Declaration of Human Rights* (1948) was ratified in 1948; however, it was not until 1992 that the issue of language rights became a major topic of debate. A meeting of world experts in language endangerment prompted UNESCO to issue a red book of alarm about language extinction. UNESCO, as the key United Nations agency concerned with cultural issues, has been at the forefront of continuing debate with a variety of relevant recommendations, charters and declarations. These include the *Convention on the Protection and Promotion of the Diversity of Cultural Expression* (2005) and the *Declaration on the Rights of Persons Belonging to National or Ethnic, Religious or Linguistic Minorities*.

Language is also recognised as part of intangible heritage and the *Convention for the Safeguarding of the Intangible Cultural Heritage* (2003) states that:

[i]ntangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity.

Under the Convention at a national level, participating states are committed to safeguarding intangible cultural heritage in partnership with communities and relevant non-government organisations. Measures are to include preservation, education, awareness raising and capacity building through the active participation of communities, groups and individuals in the creation, maintenance and transmission of intangible heritage.

In addition UNESCO's *Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace* (2003) states that:

[p]ublic and private sectors, should work at all levels from the local to the global, to provide the necessary resources and measures to alleviate language barriers, to ensure that all cultures can express themselves and have access to cyberspace in all languages. Particularly this should involve the development of multilingual content and systems, the facilitation of access to networks and services and the development of public domain content.

#### 6.1.2 National policy

Australia has a mixed record in relation to the ratification of United Nations charters and declarations. Australia is, however, currently considering becoming a signatory to the *Declaration on the Rights of Persons belonging to National or Ethnic, Religious or Linguistic Minorities* and has now signed the *Universal Declaration on Cultural Diversity*.

Historically, there has not been a consistent language policy position at Commonwealth and state levels in Australia, but on broad issues of principle there is a high degree of consistency. This is captured in the 2003 Commonwealth Government document *Multicultural Australia: United in Diversity*:

Australia today is a culturally linguistic and diverse society and will remain so ... Cultural and linguistic diversity was a feature of life for the first Australians, well before European settlement. It remains a feature of modern Australian life, and it continues to give us distinct social, cultural and business advantages. If we are to continue to reap the rewards of our diversity ... it is important that policies and programs respond to the associated ongoing benefits and challenges.

The current Australian Government has not articulated an official policy relating to multiculturalism although it has remained committed to the concept through the Diverse Australia Program which supports:

the fair treatment of all Australians, encouraging people to recognise that our interactions should be accepting of, and responsive to, each other's backgrounds, circumstances, needs and preferences;

opportunities for people to participate equitably in Australian society and to understand the rights and responsibilities that we share as part of that society (DIAC 2009)

*The Australia 2020 Summit* (2008: 22) in February 2008 addressed the notion of social inclusion, with participants asked to focus on such issues as 'What can be done to help new Australians to settle and participate in the community?' The final report (2008: 182) notes the need to:

encourage language and cultural respect programs and local interfaith fora, especially to help new migrant groups and emerging faith groups to share their values and feel less isolated, as well as to preserve their identities.

The recently created Australian Social Inclusion Board has established *Social inclusion principles for Australia* (2008: 1–4). The document emphasises the importance of ensuring that everyone has the skills to fully participate in society and that the strengths existing in culturally and linguistically diverse communities are drawn upon. It is stressed that if different levels of government work in new and flexible ways in partnerships with key stakeholders, better outcomes can be achieved. New ways to support language rights and digital inclusion fall clearly into this arena.

### 6.1.3 State policy

Commonwealth initiatives are mirrored at the Victorian state level, for example, in its preamble the *Multicultural Victoria Act 2004* (Vic) maintains that:

- (1) The Parliament of Victoria recognises and values the cultural, religious, racial and linguistic diversity of the people of Victoria.
- (2) The Parliament of Victoria wishes to promote this State as a united community with shared laws, values, aspirations and responsibilities within which people from a diversity of backgrounds have –
  - (a) the freedom and opportunity to preserve and express their cultural heritage; and
  - (b) the freedom and opportunity to participate and contribute to the broader life of society; and
  - (c) equal rights and responsibilities under the laws of Victoria.

The Act establishes the Victorian Multicultural Commission, one of the objectives of which is to 'encourage all of Victoria's culturally and linguistically diverse communities to retain and express their social identity and cultural inheritance' (section 7(c)).

The Victorian *Charter of Human Rights and Responsibilities Act 2006* is a formal recognition of all people's rights to be protected from injustice and to ensure that they are fully able to participate in society. In particular, section 19(1) of the Act provides that:

All persons with a particular cultural, religious, racial or linguistic background must not be denied the right, in community with other persons of that background, to enjoy his or her culture, to declare and practise his or her religion and to use his or her language.

The new Multicultural policy for Victoria *All of Us* includes the key statement that 'The Victorian Government is committed to maintaining and supporting our highly diverse cultural, linguistic and religious heritage' (2009: 9).

### 6.1.4 Local policy

Commitment to cultural diversity at the local level is demonstrated by Wyndham City Council in Victoria in its *Cultural Diversity Policy and Action Plan* (2008: 13).

A major change in the Wyndham community's profile has been the increase in new and emerging communities, mostly refugee and humanitarian settlers. They are described as follows:

[they] are by nature diverse in terms of culture, religion, level of education, language(s) spoken, level of skills or qualification, and social or political background. New and emerging communities are consistently identified by governments and community groups alike as requiring highly targeted, highly specialised services and resources. Such groups, often lacking earlier generations of settlers or an Australian-born second generation, generally lack organised advocacy or social networks, have difficulty accessing government services, and may require substantial assistance and time to settle effectively in Australia.

According to the DIAC settlement database, the number of refugees directly arriving in Wyndham has substantially increased (1 July 2005 to 30 June 2007). Refugee arrivals in Wyndham are mainly the Karens from the refugee camps in Burma and Thailand, Sudanese (Bari and Dinka), and Ethiopians (mostly Harari and Tigrinyan) (Wyndham City Council 2008: 13).

The changing trend in refugee settlement in Wyndham when comparing the 2001 and 2006 figures is shown in the table below (Wyndham City Council 2008:13–14):

| SETTLEMENT VARIABLE   | 2001   | 2006   |
|---|--|--|
| Top 5 countries of origin of refugee and humanitarian settlers to Wyndham | 1. Former Yugoslavia<br>2. Afghanistan<br>3. Croatia<br>4. Bosnia-Herzegovina<br>5. Ethiopia | 1. Burma<br>2. Thailand<br>3. Sudan<br>4. Ethiopia<br>5. Egypt |

Table 6.1A Refugee settlement in Wyndham

## 6.2 Glossary

|                       |  |
|-----------------------|--|
| ACMI                  | Australian Centre for the Moving Image   |
| AMEP                  | Adult Migrant English Program  |
| AMES                  | Adult Migrant English Service  |
| auDA Foundation       | charitable trust established by auDA to promote and encourage education and research activities that will enhance the utility of the internet for the benefit of the Australian community  |
| byte                  | basic unit of measurement of information storage in a computer   |
| CALD                  | culturally and linguistically diverse  |
| character encoding    | a method, or algorithm, for presenting characters in digital form by mapping sequences of code numbers, or mapping characters into sequences. A single byte or multiple bytes may be used, depending on the algorithm  |
| Creative Commons (CC) | a non-profit organisation that provides free licences for content creators to use when making their work available to the public. These licences enable permission for others to use the work under certain conditions   |
| DIAC                  | Department of Immigration and Citizenship  |
| DIMIA                 | Department of Immigration and Multicultural and Indigenous Affairs   |
| glyph                 | a shape in a font that is used to depict a character such as a letter, number or piece of punctuation  |
| Graphite              | a programmable Unicode-compliant smart-font technology and rendering system developed by SIL International   |
| ICT                   | information communication technology   |
| internationalisation  | the design and development of a web service, website or document content that enables easy localisation for target audiences that vary in culture, region or language  |
| ISP                   | internet service provider  |
| IT                    | information technology   |
| KMFL                  | Keyboard Manager for Linux   |
| legacy code           | a source code that relates to a no-longer supported or manufactured operating system or other computer technology  |
| locales               | a set of parameters that define a computer user's language and country, and any special preferences that the user wishes to see on their computer user interface   |
| localisation          | the adaptation of an application or document to meet language, cultural and other requirements (including content and design) to reflect the usage, preferences and expectations of the target audience  |
| mother tongue         | one's native language; the language learned by children and passed from one generation to the next (Wordnet 2009)  |
| ontology              | a formal representation of a set of concepts within a domain, and the relationships between those concepts   |
| open source software  | computer software for which the source code and other rights are provided under a software license that meets the open source definition. This allows others to use, alter and improve the software and to redistribute it in other forms. It is usually created in a public, collaborative manner |
| orthography           | a method of representing the sounds of a language by written or printed symbols (MLA 2009)   |
| Pango                 | an open source computing library for shaping high quality internationalised texts  |
| podcast               | a method of distributing multimedia files over the internet  |
| SCIM                  | Smart Common Input Method. An input method (IM) platform that contains support for more than thirty languages  |
| SIL International     | a worldwide Christian non-profit organisation dedicated to the study and development of lesser-known languages   |
| single byte encoding  | a character encoding where each character is represented by a single byte  |

|               |   |
|---------------|---|
| smart fonts   | fonts with accompanying data that contains instructions describing how the glyphs are to be selected and laid out when displayed    |
| TrueType font | a font standard developed to offer a high degree of control over how fonts are displayed (developed by Apple)                       |
| Unicode       | a coded character set designed to allow text in diverse languages to be written, exchanged, processed and displayed on the internet |
| VEOHRC        | Victorian Equal Opportunity and Human Rights Commission   |
| Web 2.0       | new internet technologies that focus on user-created content and collaborative sharing  |
| WIPO          | World Intellectual Property Organization  |

## 6.3 Bibliography

ACMI (2008), *Immigration Stories: Digital storytelling*, retrieved 20 November 2008, <[www.acmi.net.au/video\\_community\\_people.htm](http://www.acmi.net.au/video_community_people.htm)>

Albright, E & Hatton, J (2008), 'WeSay: A tool for engaging native speakers in dictionary building', *Documenting and Revitalizing Austronesian Languages*, retrieved 27 June 2008, <[hdl.handle.net/10125/1368](http://hdl.handle.net/10125/1368)>

Alexander, N (2005), 'Multilingualism, Cultural Diversity and Cyberspace: An African perspective', *Thematic Meeting for the World Summit on the Information Society*, UNESCO, Bamako, 6–7 May 2005

AMES Research and Learning Innovation Unit (2006), *Strategies and Designs for New Technologies: e-learning for youth: Final report*, retrieved 13 January 2009, <[www.virtualilic.com/dst/Strategies\\_and\\_designs4new\\_technologies-e-learning4youth.pdf](http://www.virtualilic.com/dst/Strategies_and_designs4new_technologies-e-learning4youth.pdf)>

Asia-Pacific Information Development Program (2008), *International Open Source Network (IOSN)*, retrieved 13 June 2008, <[www.apdip.net/projects/2003/iosn](http://www.apdip.net/projects/2003/iosn)>

Asia-Pacific Programme of Education for All (2005), *First Language First: Community-based literacy programmes for minority language contexts in Asia*, UNESCO, Bangkok

Auld, G (2008), *Computers in Homes for Indigenous Australian Literacy Development (CHILD) – Research Project*, retrieved 23 February 2009, <[www.education.monash.edu/research/projects/talking-books/](http://www.education.monash.edu/research/projects/talking-books/)>

Auld, G (2002), 'The Role of the Computer in Learning Ndjbbana', *Language Learning and Technology*, vol. 6, no. 2, pp. 41–58, retrieved 13 May 2008, <[lt.msu.edu/vol6num2/auld/](http://lt.msu.edu/vol6num2/auld/)>

Auld, G (2007), 'Talking Books for Children's Home Use in a Minority Indigenous Australian Language Context', *Australasian Journal of Educational Technology*, 2007, vol. 23, no. 1, pp. 48–67, retrieved 23 February, 2009, <[www.ascilite.org.au/ajet/ajet23/auld.html](http://www.ascilite.org.au/ajet/ajet23/auld.html)>

Australia 2020 (2008), *Australia 2020 Summit Final Report*, retrieved 24 March 2009, <[www.australia2020.gov.au/docs/final\\_report/2020\\_summit\\_report\\_6\\_communities.doc](http://www.australia2020.gov.au/docs/final_report/2020_summit_report_6_communities.doc)>

Australia 2020 (2008), *Australia 2020 Summit: Strengthening communities, supporting families and social inclusion*, retrieved 24 March 2009, <[www.australia2020.gov.au/topics/docs/communities.pdf](http://www.australia2020.gov.au/topics/docs/communities.pdf)>

Australian Flexible Learning Framework (2005), *Beyond Text: Using your voice online*, retrieved 9 July 2008, <[btresource.flexiblelearning.net.au/beyond\\_text\\_resources/bt/index.htm](http://flexiblelearning.net.au/beyond_text_resources/bt/index.htm)>

Australian Social Inclusion Board (2008), *Social Inclusion Principles for Australia*, retrieved 15 April 2009, <[www.socialinclusion.gov.au/Principles/Pages/default.aspx](http://www.socialinclusion.gov.au/Principles/Pages/default.aspx)>

Bongiorno, R (2008), 'Networking the Diaspora', paper presented to the Cultural Development Network Forum, Melbourne, 30 October 2008

Borland, H & Mphande, C (2008), *Communicating with Victoria's Emerging African Language Communities*, retrieved 15 April 2009, <[www.openroad.net.au/conferences/2008/papers/borland.paper.pdf](http://www.openroad.net.au/conferences/2008/papers/borland.paper.pdf)>

Borland, H & Mphande, C (2006), *The Numbers of Speakers of African Languages Emerging in Victoria: Report to the Victorian Office of Multicultural Affairs*, retrieved 15 April 2009, <[www.multicultural.vic.gov.au/web24/rwpgslib.nsf/GraphicFiles/AfricanLanguages/\\$file/AfricanLanguages.pdf](http://www.multicultural.vic.gov.au/web24/rwpgslib.nsf/GraphicFiles/AfricanLanguages/$file/AfricanLanguages.pdf)>

Brandl, K (2005), 'Are You Ready to Moodle?', *Language, Learning and Technology* May 2008, vol. 9, no. 2, retrieved 13 June 2008, <[lt.msu.edu/vol9num2/pdf/review1.pdf](http://lt.msu.edu/vol9num2/pdf/review1.pdf)>

Cahill, M & Karan, E (2008), 'Factors in Designing Effective Orthographies for Unwritten Languages', *SIL Electronic Working Papers 2008-001: 1*, retrieved 20 February 2009, <[www.sil.org/silewp/2008/silewp2008-001.pdf](http://www.sil.org/silewp/2008/silewp2008-001.pdf)>

Clark, A (2008), 'Some Tentative Thoughts on Diaspora and the Emergence of Voice and Video over the Internet', *AEN Journal* vol. 2,



no. 1, retrieved 27 June 2008, <[www.aen.org.nz/journal/2/1/clark.html](http://www.aen.org.nz/journal/2/1/clark.html)>

Clyne, M (2005), *Australia's Language Potential*, UNSW Press, Sydney

Clyne, M (1998), 'Managing Language Diversity and Second Language Programmes in Australia', *Managing Language Diversity, Multilingual Matters*, Bristol, pp. 4–29

Collections Australia Network (CAN) (2005), *Taking the Time: Museums and galleries, cultural protocols and communities*, retrieved 24 February 2009, <[www.collectionsaustralia.net/sector\\_info\\_item/17](http://www.collectionsaustralia.net/sector_info_item/17)>

Communities and Local Government (2008), *Delivering Digital Inclusion: An action plan for consultation*, retrieved 9 April 2009, <[www.communities.gov.uk/publications/communities/deliveringdigitalinclusion](http://www.communities.gov.uk/publications/communities/deliveringdigitalinclusion)>

Corbel, C (2000), *The Virtual Independent Learning Centre: Online for the rest of us*, retrieved 20 November 2008, <[dev.virtualilc.com/Uploads/UserContent/editablepages/Articles\\_about\\_VILC/onlinefortherestofus.pdf](http://dev.virtualilc.com/Uploads/UserContent/editablepages/Articles_about_VILC/onlinefortherestofus.pdf)>

Creative Commons website, <<http://creativecommons.org/>>

Crossman, W (2004), *VIVO (Voice-in/Voice-out): The Coming Age of Talking Computers*, Regent Press Oakland, CA

Crystal, D (2001), *Language and the Internet*, Cambridge University Press, Cambridge

Cunningham, A (2008), *Harari Language Enablement*, retrieved 9 April 2009, <[www.openroad.net.au/harari](http://www.openroad.net.au/harari)>

Debski, R (2008), 'From Broadcasting to Participation Media: Minority language transmission and teaching', *Open Road 2008 conference: Multilingualism and the information society*, Melbourne, Australia, 15–16 May 2008, retrieved 15 December 2008, <[www.openroad.net.au/conferences/2008/debski.html](http://www.openroad.net.au/conferences/2008/debski.html)>

Denison, T & Johanson, G (2008), 'Maintaining Social Networks: The use of ICTs by Chinese and Italian migrants in Melbourne', *Open Road 2008 conference: Multilingualism and the information society*, Melbourne, Australia, 15–16 May 2008, retrieved 15 December 2008, <[www.openroad.net.au/conferences/2008/papers/dj.pdf](http://www.openroad.net.au/conferences/2008/papers/dj.pdf)>

Department of Immigration and Citizenship (DIAC) (2009), *Diverse Australia Program: Everyone belongs*, retrieved 17 February 2009, <[www.harmony.gov.au/aboutus.htm](http://www.harmony.gov.au/aboutus.htm)>

Department of Immigration and Multicultural and Indigenous Affairs (DIMIA) (2003), *Multicultural Australia: United in diversity*, retrieved 17 June 2008, <[www.immi.gov.au/media/publications/settle/\\_pdf/united\\_diversity.pdf](http://www.immi.gov.au/media/publications/settle/_pdf/united_diversity.pdf)>

Diki-Kidiri, M (2008), *Securing a Place for a Language in Cyberspace*, retrieved 27 January 2009, <[unesdoc.unesco.org/images/0014/001497/149786E.pdf](http://unesdoc.unesco.org/images/0014/001497/149786E.pdf)>

Donohoue Clyne, I (2004), 'Literacy as a Community Good for Dinka Women Refugees', *The Australian & New Zealand Comparative and International Society Conference*, Australian Catholic University, Melbourne, December 2004, retrieved 23 February 2009, <[www.melbourne.anglican.com.au/main.php?pg=download&id=1232](http://www.melbourne.anglican.com.au/main.php?pg=download&id=1232)>

Druin, A et al (2005), 'Evaluating a Cross-cultural Online Children's Book Community: Lessons learned for sociability, usability and cultural exchange', *ICDL communities technical report*, retrieved 5 June 2008, <[hcil.cs.umd.edu/trs/2005-15/2005-15.pdf](http://hcil.cs.umd.edu/trs/2005-15/2005-15.pdf)>

Drum Publication Group website <[www.drumpublications.org/](http://www.drumpublications.org/)>

Duncan, J & Baer, JL (2008), 'Engaging the Language Learner in a Multicultural World', *Open Road 2008 conference: Multilingualism and the Information Society*, Melbourne, Australia 15–16 May 2008, retrieved 15 December 2008, <[www.openroad.net.au/conferences/2008/papers/duncanbaer.paper.pdf](http://www.openroad.net.au/conferences/2008/papers/duncanbaer.paper.pdf)>

Edwards, V et al. (2002), 'Fabula: A bilingual multimedia authoring environment for children exploring minority languages', *Language, Learning and Technology*, vol. 6, no. 2, pp. 59–69, retrieved 9 May 2008, <[llt.msu.edu/vol6num2/edwards/](http://llt.msu.edu/vol6num2/edwards/)>

First Peoples Cultural Foundation (2007), *First Voices*, retrieved 23 May 2008, <[www.firstvoices.com/](http://www.firstvoices.com/)>

Fresh Minds (2007), *Digital Inclusion: A discussion of the evidence base prepared for UK online centres*, Fresh Minds, London

Global Consulting UK Ltd (2003), *Scoping the Availability of Software in Ethnic Minority Languages within the United Kingdom*, Department of Education and Skills

Grenoble, L & Whaley, L (2005), *Saving Languages*, Cambridge University Press, Cambridge

Gurstein, M (2006), *Communities: The hidden dimension of ICTs*, retrieved 15 December 2008, <[www3.fis.utoronto.ca/jprp/cracin/people/profiles/gurstein.htm](http://www3.fis.utoronto.ca/jprp/cracin/people/profiles/gurstein.htm)>

Gurstein, M (2003), 'Effective Use: A community informatics strategy beyond the digital divide', *First Monday*, vol. 8, no. 12, retrieved 3 March 2009, <[firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1107/1027](http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1107/1027)>

Halm, EM (2001), 'Review of ICT and Language Learning: a European perspective', *Language, Learning and Technology*, vol. 6, no. 2, pp. 23–26

- Harvey, D (2009) *Acorns Linguistic Project: Presentation*, retrieved 13 August 2009, <cs.sou.edu/~harveyd/acorns/>
- Hosken, M & Lyons, M (2008), *Crossing the Digital Divide: Computer resources to aid minorities*, retrieved 17 February 2009, <www.silinternational.com/asia/ldc/parallel\_papers/hoskeni\_and\_lyons.pdf>
- Human Rights and Equal Opportunity Commission (2009), *African Australians: A report on human rights and social inclusion issues: discussion paper*, retrieved 16 March 2009, <www.hreoc.gov.au/africanaus/AFA\_2009.pdf>
- Hutchinson, H, Bederson, B & Druin, A (2005), 'The Evolution of the International Children's Digital Library Searching and Browsing Interface' *Proceedings of the 2006 Conference on Interaction Design and Children*, pp. 105–112, retrieved 20 April 2009, <www.cs.umd.edu/localphp/hcil/tech-reports-search.php?number=2005-33>
- IFLA (2005), 'Promoting the Global Information Commons', *World Summit on the Information Society*, Geneva, December 2003, retrieved 13 March 2009, <www.ifla.org/III/wsis/wsis-24Feb05.html>
- International Children's Digital Library (2008), *A Library for the World's Children*, retrieved 5 June 2008, <www.childrenslibrary.org/>
- Karim, KH (2002), 'Diasporas and their Communication Networks: Exploring the broader context of transnational narrowcasting (draft)', *The Nautilus Institute Virtual Diasporas and Global Problem Solving Workshop*, Berkeley and San Francisco April 2002, retrieved 27 June 2008, <www.nautilus.org/gps/virtual-diasporas/paper/karim.html>
- Ko, WK (2008), 'Unicode: Comparative study on using adhoc fonts and standardized encoding for Myanmar scripts', *International Burma Studies Conference*, October 3–5 2008, Northern Illinois University, DeKalb, Illinois, retrieved 9 February 2009, <wunnakoko.googlepages.com/BSC\_2008.pdf>
- Kosonen, K (2008), 'Literacy in Local Languages in Thailand: Language maintenance in a globalised world', *International Journal of Bilingual Education and Bilingualism*, vol. 11, no. 2, pp. 170–188
- Kwintessential (2009), *Localizing a Website: Language, translation and culture*, retrieved 21 April 2009, <www.kwintessential.co.uk/translation/articles/localization.html>
- Lamb, A (2007), *Welcome to your Library: Connecting public libraries and refugee communities: evaluation report November 2007*, retrieved 10 April 2009, <www.welcometoyourlibrary.org.uk/>
- Langnet (2009), *Multilingual Advanced Learning Online*, retrieved 13 January 2009, <www.langnet.org/index.php>
- Language, Learning and Technology: A refereed journal for second and foreign language educators* (LLT) website, <llt.msu.edu/default.html>
- Lexique Pro website, <www.lexiquepro.com/>
- Liddicoat, T (2008), 'The Internet as a Multilingual Space: Linguistic diversity and the democratisation of communication', *Open Road 2008 Conference: Multilingualism and the Information Society*, Melbourne, Australia, 15–16 May 2008, retrieved 15 December 2008, <www.openroad.net.au/conferences/2008/liddicoat.html>
- Lo Bianco, J (2008), 'Language Policy and Education in Australia', *Bilingual Education and Sociolinguistic Issues*, vol. 5, pp. 35–51
- Localization Industry Standards Association (LISA) website, <www.lisa.org/interact/Homepage.8.0.html>
- Malone, S (2004), *Manual for Developing Literacy and Adult Education Programmes in Minority Language Communities*, UNESCO Bangkok, retrieved 7 October 2008, <unesdoc.unesco.org/images/0013/001351/135164e.pdf>
- McHenry, T (2002), 'Words as Big as the Screen: Native American languages and the internet', *Language, Learning & Technology*, vol. 6, no. 2, May 2002, pp. 102–115, retrieved 5 June 2008, <llt.msu.edu/vol6num2/pdf/mchenry.pdf>
- McKenny, D (2008), 'Modern Ways for Ancient Words', *Open Road 2008 Conference: Multilingualism and the Information Society*, Melbourne, Australia, 15–16 May 2008, retrieved 15 December 2008, <www.openroad.net.au/conferences/2008/mckenny.html>
- Multicultural Victoria Act 2004* (Vic), <www.legislation.vic.gov.au/Domino/Web\_Notes/LDMS/PubLawToday.nsf/a12f6f60fbd56800ca256de500201e54/299C99BE8F6F1B4DCA2572030005A72F/\$FILE/04-100a003.doc>
- Musau, PM (2003), 'Linguistic Human Rights in Africa: Challenges and prospects for Indigenous languages in Kenya', *Language, Culture and Curriculum*, vol. 16, no. 2, p. 155
- Negroponte, N (1995), *An OBS Cyberspace Extension of Being Digital*, retrieved 5 June 2008, <archives.obs-us.com/obs/english/books/nn/bdintro.htm>
- Negroponte, N (2008), 'One Laptop per Child', *The Science Show*, 22 March 2008, retrieved 5 June 2008, <www.abc.net.au/rn/scienceshow/stories/2008/2192536.htm>
- New Zealand Ministry of Education (2005), *Pasifika Digital Legends*, retrieved 5 January 2009, <www.tki.org.nz/r/pasifika/digital\_legends/dl/>
- Newman, P (2007), 'Copyright Essentials for Linguists', *Language Documentation and Conservation*, vol. 1, no. 1, June 2007

- Nichols, D et al. (2005), 'Digital Libraries and Minority Languages', *New Review of Hypermedia & Multimedia*, 2005, vol. 11, no. 2, pp. 139–155, retrieved 23 April 2009, <hdl.handle.net/10289/1822>
- One Laptop per Child website, <www.laptop.org/vision/index.shtml>
- Ong, WJ (2002), *Orality and Literacy: The technologising of the word*, Routledge, London and New York
- Open Source Initiative website, <www.opensource.org/docs/definition.php>
- Organisation for Security and Cooperation in Europe (OSCE) (1998), *The Oslo Recommendations Regarding the Linguistic Rights of National Minorities and Explanatory Note*, retrieved 24 March 2009, <www.osce.org/documents/hcnm/1998/02/2699\_en.pdf>
- Osborn, D (2007), *A Survey of Localisation in African Languages, and its Prospects: A background document*, retrieved 28 May 2008, <www.panafri10n.org/wikidoc/pmwiki.php/PanAfrLoc/Document>
- Pitt Rivers Museum website, <southern Sudan.prm.ox.ac.uk/culturalgroup/Dinka/>
- Rassool, N (2004), 'Sustaining Linguistic Diversity within the Global Cultural Economy: Issues of language rights and linguistic possibilities', *Comparative Education*, vol. 40, no. 2, pp. 199–214
- Roettger, L & Roettger, L (1989), 'A Dinka Dialect Survey', *Occasional Papers in the Study of Sudanese Languages*, no. 6, Summer Institute of Linguistics and Regional Languages, Sudan, pp. 1–65
- Sayer, C & Stumm, D (2008), *Queensland Stories: Community, collections and digital technology at the State Library of Queensland*, retrieved 14 January 2009, <www.valaconf.org.au/vala2008/papers2008/128\_Stumm\_Final.pdf>
- SIL International (2008), *Dictionary Development Process (DDP)*, retrieved 31 May 2008, <www.sil.org/computing/ddp/>
- SIL International, *SIL Software Catalog* website, <www.sil.org/computing/catalog/index.asp>
- SIL International website, <www.sil.org/>
- SIL International (1999), *What is a Shell Book?*, retrieved 5 June 2008, <www.sil.org/lingualinks/literacy/ReferenceMaterials/GlossaryOfLiteracyTerms/WhatsAShellBook.htm>
- Smolicz, J et al. (2001), 'Family Collectivism and Minority Languages as Core Values of Culture Among Ethnic Groups in Australia', *Journal of Multilingual and Multicultural Development*, vol. 22, no. 2 2001, pp. 152–172
- Souphavanh, A & Karoonboonyanan, T (2005), *Free Open Source Software: Localization*, Elsevier, UNDP, New Delhi
- Srinivasan, R (2004), *Digital Culture and Heritage*, retrieved 14 May 2008 <www.archimuse.com/publishing/ichim04/4763\_Srinivasan.pdf>
- Srinivasan, R (2003), 'Village Voice: An Information-based Architecture for Community-centered Exhibits', *Museums and the Web 2003: Proceedings*, retrieved 11 September 2009, <www.archimuse.com/mw2003/papers/srinivasan/srinivasan.html>
- Srinivasan, R (2003), 'Village Voice: A methodology, interface, and evaluation of the collection of cultural heritage material', *Cultural institutions and digital technology ICHIM Paris 03*, retrieved 13 January 2009, <www.archimuse.com/publishing/ichim03/096C.pdf>
- Srinivasan, R (2006), 'Where Information, Society and Community Voice Intersect', *The Information Society*, vol. 22, no. 5 2006, retrieved 14 January 2009, <polaris.gseis.ucla.edu/srinivasan/Research/Proofs/SrinivasanTISFinalSubmissionApril06.pdf>
- Srinivasan, R & Shilton, K (2006), 'The South Asian Web: An emerging community information system in the South Asian diaspora', *ACM proceedings of the participatory design conference (2006)*, ACM Press (August 2006), retrieved 14 January 2009 <polaris.gseis.ucla.edu/srinivasan/Research/Proofs/SrinivasanShiltonPDC.pdf>
- Taylor, T, Sadik, A & Haunung, C (2008), 'AMES Digital Stories: Connecting to communities in L1', *Open Road 2008 Conference: Multilingualism and the Information Society*, Melbourne, Australia, 15–16 May 2008
- Terralingua website, <www.terralingua.org/basics/intro.html>
- Trifonas, P (2005), *Communities of Difference, Culture, Language, Technology*, Palgrave Macmillan, New York
- Troike, R (2009), 'On Teaching Processes', retrieved 3 January 2009 <ILAT@listserv.arizona.edu>
- Trudell, B & Schroeder, L (2007), 'Reading methodologies for African languages: Avoiding linguistic and pedagogical imperialism', *Language, Culture and Curriculum*, vol. 20, no. 3, pp. 165–180
- UNESCO (2003), *Convention for the Safeguarding of the Intangible Cultural Heritage*, retrieved 9 May 2008, <www.unesco.org/culture/ich/index.php?pg=00006>
- UNESCO (2005) *Convention on the Protection and Promotion of the Diversity of Cultural Expression*, retrieved 19 October 2009 <http://portal.unesco.org/culture/en/ev.php-URL\_ID=11281&URL\_DO=DO\_TOPIC&URL\_SECTION=201.html >

UNESCO (1992), *Declaration on the Rights of Persons Belonging to National or Ethnic, Religious or Linguistic Minorities*, Article 4(3), retrieved 26 June 2008, <[www.unesco.org/most/lnlaw7.htm](http://www.unesco.org/most/lnlaw7.htm)>

UNESCO (2009), *Multilingualism in Cyberspace*, retrieved 24 March 2009, <[portal.unesco.org/ci/en/ev.php-URL\\_ID=16539&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html?URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/ci/en/ev.php-URL_ID=16539&URL_DO=DO_TOPIC&URL_SECTION=201.html?URL_DO=DO_TOPIC&URL_SECTION=201.html)>

UNESCO (2003), 'Recommendation Concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace', *Convention on the Protection and Promotion of the Diversity of Cultural Expressions*, retrieved 9 May 2008, <[portal.unesco.org/en/ev.php-URL\\_ID=17717&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=17717&URL_DO=DO_TOPIC&URL_SECTION=201.html)>

UNESCO (1989), *Recommendation on the Safeguarding of Traditional Culture and Folklore*, retrieved 9 May 2008, <[portal.unesco.org/en/ev.php-URL\\_ID=13141&URL\\_DO=DO\\_PRINTPAGE&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=13141&URL_DO=DO_PRINTPAGE&URL_SECTION=201.html)>.

UNESCO (1996), *Universal Declaration of Linguistic Rights*, retrieved 26 June 2008, <[www.egt.ie/udhr/udlr-en.html](http://www.egt.ie/udhr/udlr-en.html)>

University of Houston (2008), *The Educational Uses of Digital Storytelling*, retrieved 13 January 2009, <[digitalstorytelling.coe.uh.edu/](http://digitalstorytelling.coe.uh.edu/)>

University of Minnesota (2008), *CARLA: Teaching Resources for Less Commonly Taught Languages*, retrieved 28 May 2008, <[www.carla.umn.edu/lct/materials/grant.html](http://www.carla.umn.edu/lct/materials/grant.html)>

Vicnet (2006), *Opening Up the World: Strategies to enable senior Victorians from culturally and linguistically diverse backgrounds to use the internet*, State Library of Victoria, Melbourne

Vicnet (2007), 'What is Happening in Communities?' *Community languages online*, State Library of Victoria, Melbourne, pp. 27–37

Victorian Aboriginal Corporation for Languages (2008), *Tools for Recording Language*, retrieved 23 May 2008, <[www.vaclang.org.au/news-details.aspx?ID=50&m\\_IDDefinitionContent=33&m\\_IDDefinitionContent\\_files=34](http://www.vaclang.org.au/news-details.aspx?ID=50&m_IDDefinitionContent=33&m_IDDefinitionContent_files=34)>

Victorian Department of Education and Early Childhood Development (2008), *Digilearn: Digital learning resources*, retrieved 6 January 2009 <[www.education.vic.gov.au/studentlearning/teachingresources/elearning/digilearn.htm](http://www.education.vic.gov.au/studentlearning/teachingresources/elearning/digilearn.htm)>

Victorian Department of Planning and Community Development (2004), *Connecting Communities: The second wave*, retrieved 12 December 2008, <[www.mmv.vic.gov.au/Assets/543/1/ConnectingCommunitiesSecondWave.pdf](http://www.mmv.vic.gov.au/Assets/543/1/ConnectingCommunitiesSecondWave.pdf)>

Victorian Equal Opportunity & Human Rights Commission (VEOHRC) (2007), *The Victorian Charter of Human Rights and Responsibilities*, retrieved 17 February 2009, <[www.humanrightscommission.vic.gov.au/human rights/the victorian charter of human rights and responsibilities/](http://www.humanrightscommission.vic.gov.au/human%20rights/the%20victorian%20charter%20of%20human%20rights%20and%20responsibilities/)>

Victorian Multicultural Commission (2009), *All of Us: Victoria's multicultural policy*, retrieved 9 April 2009, <[www.multicultural.vic.gov.au/Web24/rwpgslib.nsf/GraphicFiles/All+of+Us+policy+summary/\\$file/MulticulturalPolicySummary.pdf](http://www.multicultural.vic.gov.au/Web24/rwpgslib.nsf/GraphicFiles/All+of+Us+policy+summary/$file/MulticulturalPolicySummary.pdf)>

Vikas, O (2005), 'Multilingualism for Cultural Diversity and Universal Access to Cyberspace: An Asian perspective', *Thematic meeting for the world summit on the information society*, UNESCO, Bamako, 6–7 May 2005, pp. 1–49

Villa, DJ (2002), 'Integrating Technology into Minority Language Preservation and Teaching Efforts: An inside job', *Language, Learning and Technology*, vol. 2, no. 2, pp. 92–101, retrieved 15 April 2009, <[lt.msu.edu/vol6num2/pdf/villa.pdf](http://lt.msu.edu/vol6num2/pdf/villa.pdf)>

WeSay (2008), *What is WeSay?*, retrieved 31 May 2008, <[www.wesay.org/wiki/Main\\_Page](http://www.wesay.org/wiki/Main_Page)>

Wikipedia (2009), *Creative Commons*, retrieved 20 February 2009, <[en.wikipedia.org/wiki/Creative\\_Commons](http://en.wikipedia.org/wiki/Creative_Commons)>

Wikipedia (2009), *Legacy Code*, retrieved 20 February 2009, <[en.wikipedia.org/wiki/Legacy\\_codex](http://en.wikipedia.org/wiki/Legacy_codex)>

Wikipedia (2009), *Ontology*, retrieved 20 February 2009, <[en.wikipedia.org/wiki/Ontology\\_\(computer\\_science\)](http://en.wikipedia.org/wiki/Ontology_(computer_science))>

Wikipedia (2009), *Open Source Software*, retrieved 20 February 2009, <[en.wikipedia.org/wiki/Open\\_source\\_software](http://en.wikipedia.org/wiki/Open_source_software)>

Wilding, R (2006), 'Virtual Intimacies? Families communicating across transnational contexts', *Global Networks*, 2006, vol. 6, no. 2, pp. 125–142

Word2Word (2008), *Free Online Language courses*, retrieved 13 June 2008, <[www.word2word.com/coursead.html](http://www.word2word.com/coursead.html)>

World Intellectual Property Organization (WIPO) (2008), *Community Cultural Documentation*, retrieved 24 February 2009, <[www.wipo.int/tk/en/folklore/culturalheritage/community-cult.html](http://www.wipo.int/tk/en/folklore/culturalheritage/community-cult.html)>

World Intellectual Property Organization (WIPO) (2008), *Creative Heritage Project: Strategic management of IP rights and interests*, retrieved 13 January 2009, <[www.wipo.int/tk/en/folklore/culturalheritage/index.html](http://www.wipo.int/tk/en/folklore/culturalheritage/index.html)>

Wyndham City Council (2009), *Community Atlas*, retrieved 6 January 2009, <[www.id.com.au/atlas/default.aspx?id=124&pg=2005&AspxAutoDetectCookieSupport=1](http://www.id.com.au/atlas/default.aspx?id=124&pg=2005&AspxAutoDetectCookieSupport=1)>

Wyndham City Council (2008), *Cultural Diversity Policy (and Action Plan): Access, service, support, respect, 2008–2010*, retrieved 7 January 2009, <[www.wyndham.vic.gov.au/freestyler/gui/files/Cultural%20Diversity%20Policy%202008-2010.pdf](http://www.wyndham.vic.gov.au/freestyler/gui/files/Cultural%20Diversity%20Policy%202008-2010.pdf)>

## 6.4 Organisations and programs

The African Network for Localisation (AnLoc) website, <[www.africanlocalisation.net](http://www.africanlocalisation.net)>

AMES (2008), *Creating the Connections: A digital stories resource kit for adult literacy teachers*, retrieved 9 July 2008, <[www.ames.net.au/index.php?action=productcatalogue&prodcat\\_id=3858&prod\\_id=10124&pageID=6787&sectionID=6786](http://www.ames.net.au/index.php?action=productcatalogue&prodcat_id=3858&prod_id=10124&pageID=6787&sectionID=6786)>

AMES website, <[www.ames.net.au/](http://www.ames.net.au/)>

auDA Foundation website, <[www.auda.org.au/foundation/foundation/](http://www.auda.org.au/foundation/foundation/)>

Australian Centre for the Moving Image (ACMI) (2008), Digital Storytelling, retrieved 13 January 2009, <[www.acmi.net.au/digital\\_stories.htm](http://www.acmi.net.au/digital_stories.htm)>

Center for Advanced Research on Language Acquisition (CARLA) website, <[www.carla.umn.edu](http://www.carla.umn.edu)>

Center for Digital Storytelling website, <[www.storycenter.org/index1.html](http://www.storycenter.org/index1.html)>

Community Languages Australia website, <[www.communitylanguagesaustralia.org.au/](http://www.communitylanguagesaustralia.org.au/)>

Creative Commons website, <[creativecommons.org/](http://creativecommons.org/)>

Cultural Development Network (2008), Home Lands Project, retrieved 13 January 2009, <[www.culturaldevelopment.net.au/homelands/index.htm](http://www.culturaldevelopment.net.au/homelands/index.htm)>

Department of Immigration and Citizenship website, <[www.immi.gov.au/](http://www.immi.gov.au/)>

Donortec website, <[www.donortec.com.au/about-donortec](http://www.donortec.com.au/about-donortec)> (Donortec assists non-profit organisations by providing technology donations from IT companies)

Drum Publications website, <[www.drumpublications.org/](http://www.drumpublications.org/)>

EngageMedia website, <[www.engagemedia.org/about-us](http://www.engagemedia.org/about-us)>

First Peoples' Cultural Foundation, First Voices website, <[www.firstvoices.com/](http://www.firstvoices.com/)>

Greenstone Digital Library Software website, <[www.greenstone.org](http://www.greenstone.org)>

International Children's Digital Library website, <[en.childrenslibrary.org/](http://en.childrenslibrary.org/)>

Iramoo Youth Refuge (2008), Live Smart: Know your stuff, retrieved 12 January 2009 <[www.livesmart.net.au/](http://www.livesmart.net.au/)>

Jay, R (2005), *Digital storytelling with Photostory 3*, retrieved 9 September 2009, <[girlstalk06.wikispaces.com/file/view/Digital\\_Storytelling\\_with\\_Photo\\_Story\\_3.pdf](http://girlstalk06.wikispaces.com/file/view/Digital_Storytelling_with_Photo_Story_3.pdf)>

Languages and Multicultural Education Resource Centre (LMERC) website, <[www.education.vic.gov.au/studentlearning/programs/lmerc/default.htm](http://www.education.vic.gov.au/studentlearning/programs/lmerc/default.htm)>

Lexique Pro website, <[www.lexiquepro.com/](http://www.lexiquepro.com/)>

Localization Industry Standards Association (LISA) website, <[www.lisa.org/interact/Homepage.8.0.html](http://www.lisa.org/interact/Homepage.8.0.html)>

Miromaa Aboriginal Language and Technology Centre website, <[www.miromaa.com.au/](http://www.miromaa.com.au/)>

MyLanguage website, <[www.mylanguage.gov.au](http://www.mylanguage.gov.au)>

The National Ethnic and Multicultural Broadcasters' Council (NEMBC) website, <[www.nembc.org.au/](http://www.nembc.org.au/)>

New Zealand Ministry of Education (2005), Pasifika Digital Legends, retrieved 5 January 2009, <[www.tki.org.nz/r/pasifika/digital\\_legends/dl/](http://www.tki.org.nz/r/pasifika/digital_legends/dl/)>

One Laptop per Child website, <[laptop.org/en/](http://laptop.org/en/)>

Open Road website, <[www.openroad.vic.gov.au/](http://www.openroad.vic.gov.au/)>

Open Source Initiative website, <[opensource.org/](http://opensource.org/)>

Pitt Rivers Museum website, <[southernsudan.prm.ox.ac.uk/culturalgroup/Dinka/](http://southernsudan.prm.ox.ac.uk/culturalgroup/Dinka/)>

Research Unit for Multilingualism & Cross-Cultural Communication (RUMACCC) website, <[www.rumaccc.unimelb.edu.au/](http://www.rumaccc.unimelb.edu.au/)>

SEALang Projects website, <[sealang.net/](http://sealang.net/)>

SIL International website, <[www.sil.org](http://www.sil.org)>

Vicnet website, <[www.slv.vic.gov.au/about/organisation/divisions/vicnet.html](http://www.slv.vic.gov.au/about/organisation/divisions/vicnet.html)>



Victoria (Department of Education and Early Childhood Development) (2007), Languages Online website, <[www.education.vic.gov.au/languagesonline/](http://www.education.vic.gov.au/languagesonline/)>

Victorian Multicultural Commission website, <[www.multicultural.vic.gov.au/](http://www.multicultural.vic.gov.au/)>

Victorian School of Languages website, <[www.vsl.vic.edu.au/](http://www.vsl.vic.edu.au/)>

Virtual Independent Learning Centre (VILC 2007) website, <[www.virtualilc.com/SampleCheckoutItems.aspx](http://www.virtualilc.com/SampleCheckoutItems.aspx)>

## 6.5 Language tools

Acorns Language Revitalisation Project website, <[cs.sou.edu/~harveyd/acorns/](http://cs.sou.edu/~harveyd/acorns/)>

Audacity website, <[audacity.sourceforge.net](http://audacity.sourceforge.net)>

Digilearn: Digital Learning Resources website, <[www.education.vic.gov.au/studentlearning/teachingresources/elearning/digilearn.htm](http://www.education.vic.gov.au/studentlearning/teachingresources/elearning/digilearn.htm)>

Greenstone Digital Library Software website, <[www.greenstone.org](http://www.greenstone.org)>

International Open Source Network website, <[www.iosn.net/](http://www.iosn.net/)>

Kete Horowhenua website, <[horowhenua.kete.net.nz/](http://horowhenua.kete.net.nz/)>

Kete: Telling our stories together website, <[liblime.com/products/kete](http://liblime.com/products/kete)>

The Learning Federation website, <[www.thelearningfederation.edu.au/](http://www.thelearningfederation.edu.au/)>

Photo Story website, <[www.microsoft.com/windowsxp/using/digitalphotography/photostory/default.msp](http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/default.msp)>

Research Unit for Multilingualism and Cross-Cultural Communication (RUMACCC) (2009), *Community Language Programs in Schools: Utilising community resources in language programs*, retrieved 21 April 2009 <[www.rumaccc.unimelb.edu.au/schools/activities/index.html](http://www.rumaccc.unimelb.edu.au/schools/activities/index.html)>

SIL International (2008), *SIL Software Catalog*, retrieved 14 January 2009, <[www.sil.org/computing/catalog/index.asp](http://www.sil.org/computing/catalog/index.asp)>

UNESCO (2005), 'Multilingual tools and products', *Observatory Portal*, retrieved 24 March 2009, <[www.unesco-ci.org/cgi-bin/portals/information-society/page.cgi?d=1&g=Cultural\\_Diversity\\_and\\_Multilingualism/multilingual\\_tools\\_and\\_products/index.html](http://www.unesco-ci.org/cgi-bin/portals/information-society/page.cgi?d=1&g=Cultural_Diversity_and_Multilingualism/multilingual_tools_and_products/index.html)>

Windows Movie Maker website, <[www.microsoft.com/windowsxp/using/moviemaker/default.msp](http://www.microsoft.com/windowsxp/using/moviemaker/default.msp)>

## 6.6 Image sources

Davey, A (2009), *The Streets of Harar, Ethiopia*, retrieved 24 March 2009, <[www.flickr.com/photos/adavey/sets/72157603389964990/](http://www.flickr.com/photos/adavey/sets/72157603389964990/)>

Flickr (2009), Creative Commons, retrieved 18 February 2009, <[www.flickr.com/creativecommons/](http://www.flickr.com/creativecommons/)>

Flickr website, <[www.flickr.com/](http://www.flickr.com/)>

Hatasa, K (2003), Royalty-Free Clip Art Collection for Foreign/Second Language Instruction, retrieved 14 January 2009, <[tell.fl.purdue.edu/JapanProj/FLClipart/default.html](http://tell.fl.purdue.edu/JapanProj/FLClipart/default.html)>

ImageGenerator website, <[www.imagegenerator.org/](http://www.imagegenerator.org/)>

iStockphoto website, <[www.istockphoto.cpm/index.php](http://www.istockphoto.cpm/index.php)>

Less Commonly Taught Languages Project, The Virtual Picture Album, retrieved 14 January 2009, <[www.carla.umn.edu/LCTL/VPA/](http://www.carla.umn.edu/LCTL/VPA/)>

SIL International (2008), Pictures for Language Learning, retrieved 14 January 2009, <[www.sil.org/lglearning/artwork/index.htm](http://www.sil.org/lglearning/artwork/index.htm)>

## 6.7 Funding sources

Department of Immigration and Citizenship (DIAC), Diverse Australia Program: Funding website, <[www.harmony.gov.au/funding/](http://www.harmony.gov.au/funding/)>

Ian Potter Foundation, Community Wellbeing Grants website <[foundation.ianpotter.org.au/community\\_wellbeing.html](http://foundation.ianpotter.org.au/community_wellbeing.html)>

Multimedia Victoria, Collaborative Internet Innovation Fund (CIIF) website, <[www.mmv.vic.gov.au/CollaborativeInternetInnovationFund](http://www.mmv.vic.gov.au/CollaborativeInternetInnovationFund)>

Multimedia Victoria, Public Internet Access Program (PIAP) website, <[www.internet-access.vic.gov.au/content.asp?Document\\_ID=6036](http://www.internet-access.vic.gov.au/content.asp?Document_ID=6036)>

Myer Foundation website, <[www.myerfoundation.org.au/\\_104.asp](http://www.myerfoundation.org.au/_104.asp)>

National Library of Australia, Community Heritage Grants website, <[www.nla.gov.au/chg/](http://www.nla.gov.au/chg/)>

One Laptop per Child website <laptop.org/en/>

Philanthropy Australia, The Australian Directory of Philanthropy website, <www.philanthropy.org.au/publications/directory.html>

Victorian Multicultural Commission, Grant categories, retrieved 20 February 2009, <www.multicultural.vic.gov.au/Web24/vmc.nsf/allDocs/RWPD959A4E67DF6EAFDCA2572F0001D3E13?OpenDocument>

Wyndham City Council, Community Grants Scheme website, <www.wyndham.vic.gov.au/community/grants/grants>

## 6.8 Community links

### 6.8.1 Dinka

AfricanOz.com.au: African Australian Online Resource website, <[www.africanoz.com.au/af\\_study/af\\_community.html](http://www.africanoz.com.au/af_study/af_community.html)>

AfricanOz (2004), Directory of Community Organisations, retrieved 14 January 2009, <[www.africanoz.com.au/af\\_directory/comm.html-act](http://www.africanoz.com.au/af_directory/comm.html-act)>

Aker Duany, J (2001), 'Special Needs of Sudanese Girls: Believers together with glad and sincere heart', *National Conference on Refugee Foster Care*, Baltimore, MD, 31 May–2 June, retrieved 12 December 2008, <[www.southsudanfriends.org/specialneeds.html](http://www.southsudanfriends.org/specialneeds.html)>

Blench, R (2005), *Dinka–English Dictionary*, retrieved 6 January 2009, <[www.rogerblench.info/Language data/Nilo-Saharan/Nilotic/Comparative Dinka lexicon converted.pdf](http://www.rogerblench.info/Language%20data/Nilo-Saharan/Nilotic/Comparative%20Dinka%20lexicon%20converted.pdf)>

Blench, R (2006), *English to Dinka Glossary*, retrieved 6 January 2009 <[rogerblench.info/Language data/Nilo-Saharan/Nilotic/English-Dinka glossary 7 May.pdf](http://www.rogerblench.info/Language%20data/Nilo-Saharan/Nilotic/English-Dinka%20glossary%207%20May.pdf)>

Department of Immigration and Multicultural Affairs (2006), *Sudan Community Profile*, retrieved 12 May 2008, <[www.immi.gov.au/living-in-australia/delivering-assistance/government-programs/settlement-planning/\\_pdf/community-profile-sudan.pdf](http://www.immi.gov.au/living-in-australia/delivering-assistance/government-programs/settlement-planning/_pdf/community-profile-sudan.pdf)>

Dinka Blog (Lok e Jeeng) website, <[dinka.blogs.mylanguage.gov.au/](http://dinka.blogs.mylanguage.gov.au/)>

Dinka ICT Facebook Group website, <[www.facebook.com/group.php?gid=32173968660](http://www.facebook.com/group.php?gid=32173968660)> (log on to Facebook to access)

Dinka Language Facebook Group website, <[www.facebook.com/group.php?gid=45481133912](http://www.facebook.com/group.php?gid=45481133912)> (log on to Facebook to access)

Dinka Language Institute Australia (2006), *Agamlöng Online*, retrieved 6 January 2009, <[home.vicnet.net.au/~agamlong/dlia/index.en.html](http://home.vicnet.net.au/~agamlong/dlia/index.en.html)>

Documentary Educational Resources (2009), *Dinka Diaries*, retrieved 24 March 2009, <[www.der.org/films/dinka-diaries.html](http://www.der.org/films/dinka-diaries.html)>

Duerksen, J (1997), 'Dinka dialects', *Occasional Papers in the Study of Sudanese Languages*, no. 7, pp. 1–18

Foundation House (2006), *Coming Together: Two cultures, one life: Community development with Sudanese refugees: A case study*, Foundation House, Brunswick, Victoria, retrieved 24 November 2008, <[www.foundationhouse.org.au/resources/publications\\_and\\_resources.htm](http://www.foundationhouse.org.au/resources/publications_and_resources.htm)>

My Language (2008), Dinka, retrieved 12 December 2008, <[www.mylanguage.gov.au/din](http://www.mylanguage.gov.au/din)>

Perry, KH (2004), 'Sharing Stories, Linking Lives: Literacy practices among Sudanese refugees', *Cultural Practices of Literacy Study: Working paper 8*

Sudanese Online Research Association (SORA) (2008), *People and Languages*, retrieved 9 May 2008, <[sora.akm.net.au/languages.php](http://sora.akm.net.au/languages.php)>

### 6.8.2 Harari

Amashna: Building Learning Communities in Cyber Space website, <[amashna.com/](http://amashna.com/)>

*Ameshna*, retrieved 12 January 2009, <[youtube.com/watch?v=KXnE3drCaQM](http://youtube.com/watch?v=KXnE3drCaQM)>

Bareda website, <[www.harar.diredawa.net/](http://www.harar.diredawa.net/)>

Cunningham, A (2009), *Harari Language Enablement*, retrieved 9 April 2009, <[www.openroad.net.au/harari](http://www.openroad.net.au/harari)>

Davey, A (2009), *The Streets of Harar, Ethiopia*, retrieved 24 March 2009, <[www.flickr.com/photos/adavey/sets/72157603389964990/](http://www.flickr.com/photos/adavey/sets/72157603389964990/)>

Department of Immigration and Multicultural Affairs (2006), *Ethiopian Community Profile*, retrieved 12 May 2008, <[www.immi.gov.au/living-in-australia/delivering-assistance/government-programs/settlement-planning/\\_pdf/community-profile-ethiopia.pdf](http://www.immi.gov.au/living-in-australia/delivering-assistance/government-programs/settlement-planning/_pdf/community-profile-ethiopia.pdf)>

Ethiopia Reads website, <[www.ethiopiareads.org/](http://www.ethiopiareads.org/)>

Harar Connection website, <[hararconnection.com/HC/](http://hararconnection.com/HC/)>

Harar Interest Advocacy Group International website, <[www.hararianforum.com/](http://www.hararianforum.com/)>

Harari Canadian Community in Edmonton website, <[www.hararicanadian.com/](http://www.hararicanadian.com/)>

Harari Congress in Diaspora website, <[hararicongress.org/hcd/](http://hararicongress.org/hcd/)>

Harari music and song on YouTube, retrieved 12 January 2009, <[youtube.com/results?search\\_query=harari+song&search\\_type=&aq=1&oq=harari](http://youtube.com/results?search_query=harari+song&search_type=&aq=1&oq=harari)>

Harari National Regional State website, <[www.hararistate.com/](http://www.hararistate.com/)>

Harari Women forum, <harariwomen.forumotion.com/forum.htm>

Hararian Community Association of Australia website, <www.hcaaaustralia.com/>

Hararian Show (2009), Hararian Show 3CR, retrieved 7 January 2009, <www.3cr.org.au/hararian>

Hararlive website, <hararlive.com/harari/>

Malasay website, <www.malasay.com/press/?page\_id=2>

Municipality of Harar City website, <www.hararmunic.gov.et/>

United Washington Hararis website, <www.unitedwashingtonhararis.com/>

### 6.8.3 S'gaw Karen

Australian Karen Youth Project website, <www.akyp.org.au/>

Centre for Applied Linguistics (2007), *Refugees from Burma*, retrieved 17 June 2008, <www.cal.org/resources/pubs/burmese.html>

Department of Immigration and Multicultural Affairs (2006), *Burmese Community Profile*, retrieved 12 May 2008, <www.immi.gov.au/living-in-australia/delivering-assistance/government-programs/settlement-planning/\_pdf/community-profile-burma.pdf>

Drum Publication Group website, <www.drumpublications.org/>

*A Guide to Scholarly Resources on Karens*, retrieved 5 June 2008, <www.karen.org/books/books.htm>

*A Guide to Using Myanmar Unicode: Web Development*, retrieved 12 December 2008, <www.thanlwinsoft.org/ThanLwinSoft/MyanmarUnicode/WebDevelopers/>

Karen Teacher Working Group website, <www.ktwg.org/>

Kwe Ka Lu website, <www.kwekalu.net/index.html>

Metropolitan Fire and Emergency Services Board (MFB) (2008), *Working with Communities from Burma: The Karen & Chin: Resource Guide*, MFB, East Melbourne, <www.mfb.vic.gov.au/Media/docs/Working-with-Burmese-Communities-35bf0e42-585c-4410-8d79-3f18cb973f2f.pdf>

MoeMaKa Radio & Multimedia website, <moemaka.com/>

*Myanmar Website with Unicode 5.1*, retrieved 12 January 2009, <www.mmgeeks.org/forum/viewtopic.php?f=84&t=1117>

Plohsar (2007), *Karen Alphabet*, retrieved 12 January 2009, <www.youtube.com/watch?v=jYRSfmjiHG4&feature=PlayList&p=A3D7EAB163EF1613&index=1>

Plohsar (2009), YouTube website, <www.youtube.com/user/plohsar>

SEAlang Projects (2008), *SEAlang Library: S'gaw Karen dictionary resources*, retrieved 15 September 2008, <sealang.net/karen/dictionary.htm>





