In Africa, when an old man dies, a library burns down
(Amadou Hampâté Bâ)

4.1 Introduction
This chapter covers the topic of Endangered Languages (ELs). Section 4.2 introduces what is meant by an EL. Section 4.3 highlights some of the diversity of human languages. Factors such as linguistic genocide and linguistic suicide, which lead to language disappearance, are discussed in section 4.4. Section 4.5 explains the cultural and scientific significance of language death. The issues of language maintenance and revitalisation are presented in section 4.6. Section 4.7 considers the web and its potential benefits for ELs. Section 4.8 discusses the impact of the above on the project and section 4.9 concludes with a summary of the chapter.

4.2 Endangered Languages – an Introduction
While much has been written about the languages of the world, there is still a lot to learn. How many languages are there? There is an unresolved debate about the difference between a language and a dialect. We do not know how many speakers there are of each language. A figure of around 6000 is generally accepted as the number of languages spoken in the world today (Hale, 1992). Nine countries account for more than half of the world’s spoken languages, with Papua New Guinea having the most with 850 different languages. The languages with the most native speakers are Mandarin Chinese (885 million), Spanish (332 million) and English (322 million). 208 countries have more than 1 million native language speakers (Grimes, 2000).

While these figures are open to dispute, it sounds impressive, especially when one lives in a part of the world where, relatively speaking, there is little diversity (Europe accounts for only 4% of all languages). A language needs at least 100,000 speakers to survive (Hale, 1992), although this number depends on where the language is spoken. For example, several languages in Papua New Guinea have around 1000 and have never had 100,000 speakers but they are viable due to the difficulty of travelling to the remote regions in which these languages are spoken. The median number of speakers of a language is probably around 5-6000. 95% of the world’s spoken languages have fewer than 1 million native users. It is estimated that 90% of the world’s languages will be either moribund or have disappeared by 2100 (Terralingua, 2000). For example, between a third and a half of Latin America’s 500 Amerindian languages are in danger (Unesco, 2000b).

All over the world, the prestige language in an area is being used more and more and the non-prestigious languages less and less. Prestige language usually refers to the dominant language e.g. Spanish in Latin American but can refer to a minority language spoken by a dominant class (e.g. English among lawyers in India). In some places the change is gradual and unnoticed, whereas in others it is more obvious. Often a community will only realise the importance of its language when it is almost too late. Something can be done if a language is documented or preserved in some form. However, if no verbal or written records of the language survive, it is lost forever when the last speaker dies.
Definitions
Terralingua (2000) divides languages into three groups:
• moribund (no longer learned by children),
• endangered (those which will soon cease to be learned by children),
• safe (neither moribund nor endangered).

UNESCO (Unesco, 1993) has the following category definitions of endangered languages:
• Extinct languages (other than the ancient ones),
• Possibly extinct languages (without reliable information of remaining speakers),
• Nearly extinct languages (with maximally tens of speakers, all elderly),
• Seriously endangered languages (with a more substantial number of speakers but practically without children among them),
• Endangered languages (with some child speakers but without an official or prestigious status),
• Not endangered languages.

In this document, EL (Endangered Language) refers to both moribund and endangered languages in the Terralingua classification and all except not endangered languages in the UNESCO classification (but mainly focusing on seriously endangered, nearly extinct and possibly extinct languages), unless explicitly stated.

4.3 The Diversity of Human Languages
Linguistic diversity refers to the range of variations exhibited by human languages. Phoneme inventories vary from 11 to 141 (Maddieson, 1984). Ubykh, a Northwest Caucasian language, has 80 consonants (Krauss, 1992). Languages have many different morphological and syntactic constructs. Some languages have constructs that do not exist in other languages. Often speakers of one language will be surprised that other languages do not have a similar way of expressing something and will wonder how others survive without a particular construct.

For example, there are certain structures that exist within communities that have an intricate social structure that do not exist in most of the world’s major languages. These languages tend to have several separate pronouns for ‘you (singular)’, ‘you two’, ‘you few’ and ‘you all’ and often an inclusive/exclusive distinction for non-singular first person. Also, all languages are roughly equal in terms of complexity even if the areas of complexity vary. If an undocumented language with some unique feature dies, this knowledge will be lost forever.

Tenses
Some commonly held beliefs about language are challenged when a more diverse range of human languages is taken into consideration. For example, the idea that all languages have three grammaticalised tenses – past, present and future – is not borne out by several languages. Fijian has no tense specification in a sentence (it has optional past and future tense markers). Some languages (Singhalese and Turkana
from East Africa) only have past and non-past, and some have up to four past tenses (the language spoken on the western islands of the Torres Strait).

Evidentiality
Some languages have grammatical specifications that are not found in the world’s major languages. One such example is evidentiality. Evidentiality involves an obligatory specification of the type of evidence on which a statement is based. In a number of languages spoken in the Vaupés River basin on the Colombian/Brazilian border, there are five evidentiality choices (Barnes, 1984): visual (if I actually saw something), non-visual (if I didn’t see it), apparent (if there was evidence), reported (if someone told me) and assumed (it was a logical outcome). Grammaticalisation of eventuality tends to be found among non-industrialised people and this raises interesting linguistic and social questions (such as, “Why is eventuality so important in smaller group settings?”, and “What determines what the default eventuality setting is?”).

Subject Object Order
Other grammatical features revealed through knowledge of diverse languages are the different ways of marking subject and object functions and the different kinds of adjective class. The three variations are by order of the elements (as in English), by marking on the dependants (for example, Latin) and by marking on the verb (Kabardian and Nawat). The switching between one form and another can give us clues to language history.

Adjectives
Within adjective classes there is an open system (in which new members can be admitted) and a closed system (in which no new item can be added). For example, Igbo in West Africa has a closed system with just eight adjectives (large/small, black-dark/white-light, new/old, and good/bad). To handle all other adjectives, words that refer to physical properties tend to be placed in the verb class (‘the stone heavies’) while words referring to human properties tend to be nouns (‘she has cleverness’) (Dixon, 1997). Lack of knowledge of the world’s various languages would limit investigations of human cognitive conceptualisations as one would only take into consideration known linguistic possibilities and combinations.

Language versus Dialect
There are no clearly defined linguistic criteria for differentiating between a language and a dialect. Structural similarity or dissimilarity and mutual intelligibility are the usual criteria used (Sapir, 1931). However, what exactly constitutes mutual intelligibility? Is ‘semi-communication’ enough? Mutual intelligibility also depends on several factors such as age, level of formal schooling, language exposure, metalinguistic awareness, motivation and fatigue. A distinction can also be made between oral and written understanding. The issue of non-reciprocal intelligibility must also be considered.

In general, extralinguistic criteria are the determining factors. Speaker attitude and political power are important. For example, Swedish, Danish and Norwegian are called different languages even though they are structurally very close to each other. Terralingua (2000) states that the main criterion for whether
something is a dialect of another language or a separate language is the relative political power of the speakers of that language/dialect. Those with enough power can claim that what they speak is a language and what less powerful groups speak are dialects. Apart from the lack of knowledge about languages spoken in the more remote regions of the world, this is one of the reasons for why estimates for the number of languages in the world vary from 5000 to 10000.

4.4 Why a Language Disappears

Some people say that language loss is inevitable, being an inherent part of general evolutionary processes. Indeed, languages do change and evolve over time (Aitchison, 1992). However, languages do not necessarily fit into the Darwinian concept of “survival of the fittest”. Languages do not usually disappear because they are “not as good” as other languages. All (mature) languages of the world allow their speakers to express themselves fully. This section reviews the reasons behind the demise of a language and points out that a language dies mainly for non-linguistic reasons.

Factors

There are many factors that contribute to the demise of a language. Most are extralinguistic in nature (historical, political, territorial, demographic, economic, sociocultural, sociolinguistic and those related to collective attitudes) (Dorian, 1982). In the past, colonialism was one of the main culprits. Colonialism brought with it a subtractive spread of languages. This occurs when an incoming language displaces and then replaces original languages. This happened extensively in the Americas, Australia and in parts of Africa and Europe.

Linguicism is defined as ideologies, structures and practices which are used to legitimate, effectuate, regulate and reproduce an unequal division of power and resources between groups which are defined on the basis of language (Skutnabb-Kangas, 1998). Linguistic genocide is prohibiting the use of the language of the group in daily interaction or in schools. Very often, linguicism and linguistic genocide were used to increase and maintain colonial power. Children who are not educated in their own language are unlikely to speak this language in turn to their own children. When there is discrimination against a culture and its language, children are not allowed to identify positively with their mother tongue and culture. They may feel ashamed of their language, culture and community.

Destruction of habitats and ecological bases of the speakers of local languages, and forced assimilation also play their part in the demise of a language. In Australia and the West Indies, there was forced splitting up and transplanting of speech communities. In the current era, formal education systems and the mass media (including television - ’cultural nerve gas’ as Krauss (1992) has called it) are direct main agents of linguistic (and cultural) genocide. One way to kill off a language is to teach another one.

Linguicide (language genocide) occurs when a language is “killed off” by a group (usually the dominant group in society) against the wishes of its speakers. Linguicide (whether intentional or not) is speeding up as local languages are excluded from the education system. In most parts of the world, the language and cultural rights of linguistic minorities are not being met (Terralingua, 2000).
The rise of nation states has been a major factor in selecting and consolidating national languages and sidelining others. Governments want national unity and often try to impose a national language policy. This usually has a detrimental effect on minority languages. Minorities and indigenous people are stigmatised as being traditional, backward, narrow and inferior. Parents encourage their children to speak the dominant language in the hope of improved social and economic status for their children (linguistic suicide). Linguistic suicide occurs when the speakers of a language decide to “kill off” a language, usually because it is deemed to be no longer “worthwhile”.

The current push for globalisation generates serious and growing linguistic inequality. There is a worldwide economy that needs a worldwide market of information (usually in one of the world’s major languages and most often in English). Minority languages are being squeezed out. Industrialisation has boosted the process of linguistic standardisation as language diversity was seen as an obstacle to trade (Unesco, 2000b).

4.5 The Problem of Language Endangerment – What it Means

Language death is generally caused by social, political and economic factors. Given that is the way of the world, some may take a “so be it” stance – “if a language is going to die, let it die” philosophy. However, when a language dies, we lose not just the language itself, but cultural and scientific information (Hale, 1992; Hale, 1995). Language endangerment is a problem with humanistic and scientific consequences. This section reviews these consequences.

Cultural loss

Un populu,

_diventa poviru e servu,_

when they are robbed of the tongue

_quannu ci arrobbanu a lingua_

left them by their ancestors:

_addudata di patri:_

they are lost forever.

"È persu pi sempri."

(Ignazio Buttitta, “Lingua e Dialetu”, Sicilian poet, born 1899)

Most cultures stress the importance of language in human life. Although western culture sometimes considers the existence of many languages to be a “problem” (Tower of Babel), other cultures consider this diversity a good thing. For example, the Acoma Pueblo Indians of New Mexico believe that the mother goddess Iatiku causes people to speak different languages so that it is harder for them to quarrel.

However, the loss is not just of the language itself of but it can also mean the impoverishment of the cultural, spiritual and intellectual life of a people. The loss of a language may be voluntary or involuntary, but in either case, it is usually seen as a loss of social identity. Even if a community manages to shift its entire cultural heritage and ways of communication into a different language, an abrupt loss of tradition ensues. Human diversity is reduced each time a language is lost.
Losing a language and its cultural context is like burning a unique reference book of the natural world (UNEP News Release, 2001). Increasing attention is being paid to Traditional Ecological Knowledge (TEK). TEK is defined as a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationships of living beings (including humans) with one another and with their environment (Terralingua, 2000). TEK is endangered when a community’s language is endangered. For example, Aboriginal communities in Australia have knowledge about medicinal plants, their names and uses that could disappear when the community no longer has the language with which to describe them (Unesco, 1995).

**Scientific Loss**

On the scientific side, the loss of linguistic diversity will limit the possibilities to

- reconstruct linguistic prehistory (important for unravelling human prehistory),
- formulate and test theories of possible human language constructs and to analyse what this reveals about human cognition,
- study how young children acquire the range of diverse language structures that exist.

If we all spoke the same language, our brains could lose some of their capacity for linguistic inventiveness.

### 4.6 Language Maintenance and Revitalisation

#### 4.6.1 Language Maintenance

Language maintenance refers to the sustaining of a language, to preserving it as a means of communication. Language revitalisation refers to reviving it from (almost) extinction, to possibly “re-create” it as a means of communication. This may not mean the creation of a community who use the language all the time – it may mean the creation of a grammar, a dictionary and texts for the language (as in the Rama project (Craig, 1992)). We have seen the impact of language loss not just on the community itself but on the world at large. This section discusses ideas for the maintenance and revival of endangered languages.

The fate of all languages is the result of social and political environment, above all of power relations. The survival of a language depends on people speaking it and on the importance attached to it by its speakers. An EL will progress if its speakers increase their prestige, wealth and legitimate power within the dominant community. The language needs to have a writing system and a strong presence in the educational system. It helps also if it can make use of electronic technology.

Unfortunately, most of these postulates are not within the immediate reach of many EL communities. The extralinguistic issues will not be addressed here. However, the issue of a written language and the use of electronic technology will be discussed.
Lemus (1999) identifies three necessary conditions for the preservation of a language:

1. **legal recognition.**
   The state must recognise the language as having equal status under the constitution. Skutnabb-Kangas (2000) states that linguistic human rights are a necessary (but not sufficient) prerequisite for the maintenance of linguistic diversity. The case of the Rama language in Nicaragua (Craig, 1992) shows the positive effect of supportive government linguistic policies.

2. **existence of a corpus**
   A language (in the modern era) will find it very difficult to survive if it does not have a corpus. It needs a written body of work, both literary and scientific, from which to maintain itself.

3. **role for the language**
   There must exist a role for the language in the community. This could be in religious or traditional story telling sessions. If a community has no need to use the language, it cannot be revived. Languages cannot be kept alive artificially by government decree or by folkloristic interests, but only as a result of the choice of their speakers (Unesco, 1995).

Although education can potentially be detrimental to a language by omitting it completely, it can also be beneficial. If an EL is integrated into the curriculum, a whole “rescue apparatus” is created. If children can learn the language as part of the education process, or indeed, be taught in the language, it can create a positive image of the language in the community and revive it was a means of communication.

**4.6.2 Writing – an Issue for Many ELs**

One of the issues in language maintenance is that of documentation. In order for a language to be documented, it must have a written form. Only then can grammars, dictionaries and teaching materials be developed. In today’s modern world in which the younger generation lack the patience to learn their oral heritage, it may be only way to preserve the traditional oral literature in EL communities. However, there may be several problems to overcome. There may be several dialects on which to base the language and there may be several different alphabets or writing systems in existence. In terms of actually writing the language on a computer, the available computer fonts may restrict the orthography of the language.

Even if these problems are overcome, there are other issues to consider. The development of literacy may change the role of oral transmission of the community’s knowledge and beliefs. It may create divisions within the community between the literate and the illiterate. Modern technology (tape recorders, video recorders, television, radio and computers) can offer an alternative to the need for a written language. The disadvantage is that the cost may be prohibitive and the community may not have the expertise to use and maintain the equipment.

A hybrid approach is probably the best. Computers provide a flexibility not possible with printed materials in that it may be possible to show the same document in several different dialects and writing systems (perhaps via the use of XML technology). Communities can use tape-recorders to record speech
that can later be integrated with the other technologies. Intelligent use of technology can often make up for abundant resources.

4.6.3 Hope for the Future
The disappearance of a language can be slowed down or halted by an enlightened language policy (for example, the Rama language (Craig, 1992)). Indigenous communities place great emotional value on the continued possession of their own languages (Unesco, 1992; Roque, 1996). Often the most powerful element in the process is the enthusiasm of the EL community (Hale, 1992). In some countries, increasing efforts are being made to introduce initial education in the mother tongue of the learners. Technical dictionaries which heretofore did not exist are being developed to ensure wider use not only for literature but also for science and technology (Unesco, 1997).

Initiative B@bel is part of UNESCO’s contribution to the promotion and use of multilingualism and universal access to cyberspace (Unesco, 2000a). This project has several aims:
- “promote a wide availability of human cultural and scientific heritage in cyberspace …in order to facilitate access to it by economically, culturally and linguistically disadvantaged groups who do not have the means to this direct access”,
- “facilitate access without language constraints”,
- “contribute to the survival of minority languages”.

UNESCO considers that linguistic diversity should be preserved and promoted and, as some languages are more vulnerable than others, safeguarding of these languages is an obligation, especially in the new electronic environment. A trilingual language policy is a possible solution in some countries. The idea is that two home languages will be learnt and one international language, perhaps the dominant international language in the region (e.g. English, French, Spanish).

The Barcelona Declaration (Unesco, 1996) is a universal declaration of linguistic rights produced by the World Conference on Linguistic Rights. It lists many positive elements in the area of linguistic rights including the right to the use of one’s own language both in private and in public (Article 3 –1) and the right of a language group for their language to be taught (Article 2). It also states that education must help to maintain and develop the language spoken by the language community of the territory where it is provided (Article 23 – 2). It affirms (Article 26) that all language communities are entitled to an education which will enable their members to acquire a full command of their own language. It declares that international funds should be made available to linguistic communities that are demonstrably lacking in resources. While the existence of the Declaration alone will not save any language, it puts the task of maintaining ELs on a more internationally recognised footing.

4.6.4 Guidelines for Strengthening ELs
The following guidelines are taken from the (draft) Guidelines for Strengthening Indigenous Languages in Alaska (ANKN, 2001). Some of these guidelines apply to all EL communities, while others pertain to those communities that have a more developed organisation structure or that exist in a country with a more developed education system. This does not make them irrelevant for communities not in this situation, but rather they can serve as guidelines for the future. The players in this process are the elders,
the parents, aspiring language learners, native communities and organisations, educators, schools, linguists and education agencies.

Elders
Elders are accorded a central role as the primary source of language expertise and cultural knowledge. They can strengthen an EL by taking an active role in local Elders Councils and by using the EL as much as possible in everyday activities. They can serve as role models for young people and help parents in providing opportunities to expose their children to the language. They can encourage traditional naming practices and help and encourage language learners.

Parents
Parents can try to ensure that their children are exposed to the language via the elders and communicating with their children in the language (e.g. via stories). Using traditional naming practices helps to enhance a child’s cultural attachment. If parents have a positive attitude toward the language, they can pass this on to their children.

Aspiring Language Learners
They should take an active role in learning their EL and assume responsibility for the use of the language. They can take the initiative and create opportunities to listen to and speak the language. They should seek out fluent speakers and set aside special times to practice their language skills. They should appreciate the complexity of language use and persevere with the learning process and not get disheartened.

Native Communities and Organisations
They should provide encouragement to all community members to use and learn the language and reinforce its importance in community life. They could start meetings with an invocation or speech in the language and promote the participation of community members in discussions related to the local language. Realistic goals should be set in consultation with the community. Traditional story-telling gatherings should be promoted as well as dissemination via radio, television and printed materials.

Educators
They should make effective use of local expertise and utilise locally relevant curriculum materials. Culturally appropriate approaches to first and second language teaching should be developed in accordance with the language history and aspirations of the local community. Also, the scheduling of Elder participation should be flexible and not tied to the clock. Language teaching does not always come naturally, so they should provide assistance in the instructional methodologies for language teachers when they are having difficulty with their teaching practices.

Schools
Schools should make sure that the language policies and practices are consistent with the language aspirations of the parents and the community. An easily accessible repository of language resource materials should be established.
Linguists
Linguists should identify and utilise the expertise in the community to enhance the quality of linguistic data gathering and contribute their expertise on language teaching, learning, policies and planning. They should provide encouragement for learners (and those who may want to become linguists) and help prepare linguistic material of benefit to the community.

Education Agencies
Education agencies should provide opportunities for community members to participate in regional and national conferences. Administrative, funding and curriculum development support should also be provided.

General Recommendations
A forum should exist so that elders and educators can meet together at least once a year. The teachers can use this opportunity to improve their language skills. Guidelines should be developed for assessing fluency and/or levels of proficiency in the language.

Positive Examples
In many countries throughout the world, people are becoming more aware of the importance of their heritage language and are keen to maintain and revive it. The classic example is Hebrew. It was a language that only “survived” in the language of religious ceremonies. It was “revived” in Israel and is now a healthy, living language. The Shuar people of the Ecuadorian Amazon have established bilingual schooling by radio. By making bilingualism acceptable, Shuar children no longer are ashamed to speak Shuara. In Arizona, Navajo is again being taught to the children. The Hualapai Bilingual/Bicultural Education Program in Arizona is one of the most successful (Watahomigie and Yamamoto, 1992). One of the successes of the Mayan language projects in Guatemala is that they are community driven. Linguists have learnt a lot from working with the Maya and some of the preconceived Western ideas have been challenged (England, 1992). It is easier to point out problems than successes, but successes do exist and the factors in their success can be used to plan other language maintenance and revitalisation projects.

4.6.5 What Linguists are Doing for Endangered languages
Linguists have a professional responsibility to work with ELs (Dorian, 1982; Hale, 1992). Linguists have adopted two approaches to the problem of language endangerment:

• The first approach is to work with EL communities and offer technical and other assistance (language teaching, maintenance and even revival). Though a relatively new focus among linguists, it has shown promise.
• The second approach is to document contemporary languages as fully as possible. This is more related to linguists’ primary work and includes oral and written records of the language and the translation of the material into a more widely spoken language, usually in the form of a reference dictionary and grammar. For many ELs, if this work is not done soon, it can never be done (Dixon, 1997).
4.7 Endangered Languages and the Web

This section reviews the interaction between ELs and the web. It outlines the potential benefits of the web and the future possibilities for ELs. Not all EL communities have access to the web. While some EL communities, particularly in North America may be closer to realising these benefits, it is hoped that other EL communities can also benefit in the future.

4.7.1 Background

There are an increasing number of sites relating to Endangered Languages on the web (Buszard-Welcher, 2001). There are several reasons for this: the overall growth of the web, the growing public awareness of endangered languages, the availability of web page authoring tools and increased Internet connections. Buszard-Welcher (2001) reports that an increase in tribally funded programs and improved connectivity at home, school and work has led to a growth in the number of web sites developed by Native American communities in North America. She found that 52% of the sites were created by an individual, with only 38% the work of a group (with only a few of these being official tribal sites). This means that tribes have less control over content and access to the sites.

Reasons for the creation of web sites include providing information, contributing to the goals of language maintenance and revitalisation, education and advocacy for the heritage language and culture. Content of the web sites varies. Common themes are community information, writing, vocabulary, phrases and texts. Some sites will have reference materials, pedagogical materials and audio. Many of the languages will have their own writing system and the sites may offer fonts for free download or have a description of the development of the writing system. Several EL sites have online dictionaries and grammar notes. Although the hypertext format of the web is suited to writing and using grammars, online reference grammars are rather rare. The EL web sites that have teaching materials usually include short language lessons and a guide to pronunciation. Some sites have audio files that are especially useful in the case of ELs where access to a native speaker may be limited or not available.

4.7.2 Benefits of the Web for Endangered Languages

The web can offer several potential benefits to ELs. It can help maintain some of the languages that face extinction by making language material available. It can provide access to difficult-to-find information, including general language information, dictionaries and recordings of texts. Even for those without Internet access, the information can be made available by printing the site contents and producing tapes of the audio parts. It may convert casual language learners into devoted advocates for a language. Also, speakers of related languages can compare constructions with the related languages and further enhance the study of their own language.

One of the issues for ELs is that the younger people may have a negative image of the language and may consider it a bit outdated. However, having a web site can increase the language’s prestige among young people. It can help remove some of the “it isn’t fit for the modern world”, “it’s only for the old people” ways of thinking. Moreover, if young people are involved in the development of a site, it can increase the sense of community pride.
With multimedia technologies, users can hear, see and use the language, reducing the need for reliance on literacy for language transmission on the web. Multimedia technologies can be used also in the teaching of the language. Although some technical knowledge is required for the incorporation of sound into a web site, it is not insurmountably difficult. The use of video and live video broadcasting over the Internet will become more commonplace in the future. This will be beneficial for speakers that live in geographically disparate places or have difficulty travelling (either due to health problems or to the fact that transportation is not readily available).

Sites can provide Bulletin Board Systems and chatrooms to allow interaction between users. These are easy to use and inexpensive. The web can be a virtual language community where members of the language community meet and communicate in the native language. Even if speakers do not have the day-to-day opportunity to use the language in a real-life setting, an online community could reinforce language use.

4.7.3 Issues
There are several issues to consider when looking at web – EL interaction. Getting information from the web should not be totally dependent on the web. Audio tapes can be made and written texts produced for those who do not have web access. Restrictions should be placed on sensitive data that the language community may not wish to be publicly accessible. Also, communities want to share in any tangible benefits that arise from their language material. Sometimes the language community believes that a linguist who works with them returns to his or her home country and earns a lot of money based on the research carried out in the community. While this is not usually the case, there is a growing feeling that linguists who work with EL communities should give something back to the community.

The issues of web access and the dominance of text on the web must also be considered. Web access refers to both physical access to the web (whether the community has access to a PC connected to the Internet) and age-gap access (very few older adults have access to computers or the Internet). The latter is especially important considering that elders are frequently the only fluent speakers of the language. However, it is not impossible to overcome this problem with time and training.

The dominance of text on the web is of considerable importance for ELs. It is very difficult to create language web sites that do not depend on writing. It is a problem for languages that use a non-Roman script and even more acute for languages that do not have a writing system.

Many EL web sites have discussions of their writing system. Sometimes, the writing system is modified to make it more web-friendly, and sometimes a special font is used. Users can be put off a site if they are required to download a special font in order to be able to see and use it.

There are also issues with web publishing. While it is great that heretofore difficult to access materials are available on the web, some communities have concerns about control over access to this information. For example, sometimes information should be kept within a family, or only used at a certain time of the
year. However, intelligent use of security procedures can help allay some of these fears. Communities have to weigh up the issues of access against the risk that the information will otherwise be lost forever.

Another problem thrown up by web publishing is that there is no way of knowing the accuracy of information on a particular site. This is a problem common to most web sites. Often site developers are language learners themselves and their grammar is likely to contain errors. While the obvious thing to do is to have the information checked by a native speaker, developers could warn users about the possibilities of errors in the language content.

4.7.4 Endangered Language Teaching on the Web
Modern theories of SLA stress the importance of language learning in context. Some EL language sites present vocabulary and phrases in isolation which runs counter to these theories. Native language text with translations is also popular. While this may be a good way of understanding grammar, used alone, however, it is unlikely to produce fluent speakers. Some sites place more emphases on literacy (writing) as opposed to oral fluency (perhaps due to the dominance of text for communication on the web). In general, EL sites have the same methodological problems as many Native as a Second Language classrooms, in which language teaching methods experienced by the teachers themselves is used as a model. Not everyone is a born teacher and EL teachers can benefit from training courses. It would be beneficial to incorporate research findings from the SLA field when deciding on the structure of language materials on the web.

4.7.5 A Warning from Australia
In Australia, much work has been done with the Aboriginal peoples and their languages. They have often been at the forefront of language maintenance and the use of technology (McConvell, 2000). The concept of two-way research has emerged in which both the aboriginal communities and the researchers gain from the linguistic investigations. Recently, especially with severely endangered languages, issues of intellectual property rights have arisen. In many aboriginal communities, it is taboo to look at images or hear recordings of dead people. There are also secrecy/sacredness issues, which can affect open distribution via the web. Some indigenous communities feel a sense of exploitation with regard to the use of TEK (Traditional Ecological Knowledge) by white researchers for profit. Also they do not like the way the language is being taught by local schools and feel that is it better to withdraw ‘open access’ rather than see unauthorised versions of the language proliferating. McConvell warns that such restrictions are tending to spread in Australia, and there is a need to ensure that indigenous intellectual property rights are recognised and clarified. Any move towards a more open profile via the web should be subject to the two-way research philosophy.

4.8 What this Means for the Project
Human languages are very diverse. Our template design methodology must be sufficiently flexible to be able to accommodate a wide variety of languages (a not insignificant task). It is probably impossible to cater for all languages, but we will attempt to cater for languages with certain characteristics. Languages that do not have certain features can simply ignore the irrelevant parts of the template.
Language loss is a loss not just for the community or the country but for the world at large. Help must be made available to indigenous communities to help them preserve their language. The design of the template should be such that it is accessible to community members, especially potential teachers. Issues of usability and robustness arise here. Often the younger members of a community have a negative image of the language and its speakers. Involving them in the program development, for example, in the drawing of typical community scenes, could help to overcome some of these negative ideas.

The issue of a writing system is a complex one. If no writing system already exists, one will have to be developed. This is a non-trivial task. If a system exists, but does not use a standard ASCII character set, it can (hopefully) be accommodated by the use of Unicode (Unicode, 2001). Unicode contains a large number of characters covering most of the currently used scripts in the world (W3, Unicode-XML). If several writing systems exist, the version preferred by the user can be chosen online. (The same applies to different dialects). The issue of a lack of corpus material is a real one for many ELs. Sometimes, material exists but no one is aware of its existence. A site for an EL could be a trigger for the collection of existing data and the creation of new material.

Unfortunately, the use of Computer Mediated Communication (CMC) is beyond the scope of this project. It is perceived that many EL communities currently do not have access to resources required for CMC. Furthermore, the priority is to create CALL language learning material. However, ideas could be provided within the program to promote greater language use in the (wider) community.

Several EL web sites have pedagogical problems, often due to the transfer of classroom experiences of the teachers (when they were students) to the web. One of the aims of the project is to incorporate research findings from SLA and CALL into the template, so that ELs can benefit from this knowledge to improve the outcome of the EL learning process.

4.9 Summary
This chapter provided an introduction to the world of Endangered Languages. It highlighted the diversity of human languages and the fact that the majority of the world’s languages are endangered. Language loss has wider implications than the direct ones of its speaker community. This chapter looked at why languages disappear (generally for extralinguistic reasons) and issues surrounding language maintenance and revitalisation. While the task is a daunting one, there are some guidelines that can help in this process and these are outlined in this chapter.

The interaction between ELs and the web was also discussed. While it might be claimed that the web may not be the best way of using limited funds for language preservation, teaching and revitalisation, this scepticism should be tempered by the fact that we are only beginning to realise the web’s potential in this regard. New technologies, increased access and more knowledge about CALL and WELL (Web Enabled Language Learning) will increase the potential and importance of the web for ELs.