

Twa of Zambia's Kafue Flats

Southern Province
Itezhi-Tezhi District

Linguistic Survey Report

With recommendations for Bible translation strategy



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Summary

This survey was conducted as part of a larger research to investigate the Bible translation needs in Zambia. The language group investigated in this research is the Twa of Zambia's Southern Province, in both Iteszhi-Tezhi and Monze districts. Fieldwork took place during four trips to the Twa areas during the months of December 2012, August 2013, May and June 2014, as well as other contacts with Twa speakers.

The main purpose of this survey was to research the differences between the Twa of the Kafue Flats and neighboring languages such as Ila and Tonga. Twa is currently listed as a dialect of Tonga in the Ethnologue but the Twa people as well as the Tonga and Ila peoples consider Twa to be a separate language. An additional purpose was to determine the language development needs among the Twa. Some additional information that was collected about the Twa culture is also included in the report.

Field research information was collected mainly through questionnaires, interviews, word lists and a dialect mapping exercise.

The lexical comparisons indicate that Twa of the Kafue Flats is more closely related to Ila than to Tonga although the Batwa people consider their language to be more closely related to Tonga. It is possible that Chitwa is grammatically closer to Tonga than it is to Ila however grammatical comparisons of the three languages was not a part of this research. Twa of the Kafue Flats remains a viable language but the population of the Twa is very small compared to the size of many other groups in Zambia. There is probably less than 5000 and maybe as few as several thousand Batwa. There is great social, economic and linguistic pressure being put upon the Twa people from other language groups seeking to exploit the riches of the Kafue River basin mostly fish and some wildlife.

1. INTRODUCTION AND BACKGROUND

1.1. Introduction

This survey was conducted to obtain information concerning the language of the Batwa people of the Kafue River Flats and to assess the need for vernacular language development. The survey addressed questions of language vitality, the possible church and community response to a potential language development project, dialectical issues, as well as comparison of the language to related neighboring languages.

A language development project would include the creation of an alphabet in the vernacular language, a basic orthography statement and production of literacy materials such as primers for first and second language readers. Mother-tongue authorship would also be encouraged. Printed and audio materials produced in the vernacular language could include health books, folk tales, agricultural or fisheries information or whatever may be helpful to the people as well as the translation of the Bible or Bible portions.

Data was gathered among the Batwa people by four researches (Richard Mukang'ombe, Rev. Daka Josephat, Salimo Hachibamba and Kenneth S. Sawka) for two days from the 11th to the 12th of December 2012, for six days from the 1st to the 6th August 2013, for six days from the 6th to the 12th of May, 2014 and for five days from the 11th to the 16th of June 2014. Other information on the people and their language was also obtained on other occasions as well.

We would like to extend our appreciation to the Chieftainess Mweezwa. Appreciation is also in order for Mr. Agrisson Nzuma, the Headman of Kabulungwe village, Mr. Kantolo of Nyimba, Headman Hatembo and Sydney Hatembo of Hatembo Village, and for the Bible Society of Zambia which supplied a letter of introduction for the work.

1.2. Terminology

Twa is the name often used in published sources to refer to the people group of Zambia examined in this study. However the speakers of the language would not normally use this simple form of the name. The Bantu prefixes *mu-* or *ba-* are added to refer to the people (*mutwa* – singular, *batwa* – plural) and the prefix *chi-* is added to refer to the language (*Chitwa*). These fuller Bantu forms are often used in this report.

1.3. Historical Background

Across much of central Africa the name *Twa* is often associated with small, marginalized groups that tend to take on the language and culture of the larger neighboring group.¹ People groups with the name *Batwa* are spread from Cameroon across the Central African Republic, Congo, DR Congo and into Uganda, Rwanda and Burundi. In Zambia the name *Mutwa* or *Batwa* is often used to refer to anyone regardless of ethnicity who lives along a river. The term *Banyika* meaning “people of the river” is often used among the indigenous Zambians of the area to

distinguish the Batwa from the *Balundwe*. *Lundwe* means the plateau and refers to the Tonga that inhabit these regions to the east and south of the Kafue Flats.

Many consider that the Batwa people of the Kafue Flats are related to the Batwa groups of other central African countries. Lehmann (1977) says archaeological excavations show that as early as 1,000 years ago, the Kafue Flats were inhabited by hunters.ⁱⁱ Haller (2007) cites Tobias (1966) who theorizes that the Batwa are the offspring of a “stone-age” group which has survived in the Kafue Flats because they were able to hide there. Other theories tell of outcasts groups settling in the swamps seeking refuge or an early iron-age group of Sudanese origin that were pushed into the swamps by the arrival of the Bantu groups.ⁱⁱⁱ Theories debate whether or not the Twa of Zambia came from the southern bushmen populations or from the central Africa regions of the Twa which remain there today. Barham (2006) says that the evidence points to cultural and biological linkages with central Africa instead of to southern Africa bushmen.



Figure 1: Twa populations of Africa indicated by shaded areas, according to Blench. The Kafue Flats Twa is indicated by an arrow.

When we asked the Batwa of the Kafue Flats if they were related to the Batwa people of the DR Congo they denied any connection. This may be for several reasons. For one, they may not be aware of other Batwa populations. It is also possible that language names of the two groups may be entirely coincidental. Haller (2007) said that the Twa “are by no means related to the groups of the same name in the Central African Rain Forest” but provides no basis for this claim. It

could be because the Batwa of the Kafue Flats do not want to have a connection to groups that other Bantu groups may consider to be inferior. Such a connection would only add to the massive pressure that is already put on the Batwa of the Kafue Flats by other larger groups such as the Bemba and Lozi.

The Batwa of the Kafue Flats are not strikingly shorter or different in physical appearance from other groups that inhabit the flats. Nonetheless, the role of the Batwa of the Kafue Flats as a hunter-gatherer is more or less still in operation today, albeit the role is not as predominant as it probably was in the past. Today the Batwa have fully integrated and adopted the same lifestyle as any other Bantu group. They own vehicles, farm and plow with oxen and plant maize as do their neighboring Ila and Tonga tribesmen. Any former dependency of a hunter-client vs. farmer-patron relationship with the Batwa of the Kafue Flats and other Bantu language groups that may have existed in the past it is not as strong as it once may have been.

Perhaps the only way to establish a link between the Twa of the Kafue Flats and the Twa of other central African groups would be through genetic testing if that were even possible. It is doubtful that any traces of linguistic links might still exist. There is nothing outstanding phonetically or in the vocabulary of Chitwa from the surrounding languages.

Most Bantu language groups of Zambia are assumed to be a part of the early Bantu migrations that have been postulated to have occurred from 500 to 1000 AD. These migrations originated out of western central Africa approximately in what is now the area of Cameroon. Migrations probably later came out of the Lunda and Luba Kingdoms of Mwatayamvu in the Congo into Zambia. Several Bantu groups in Zambia readily identify their origins from neighboring countries. The Lozi language group explain that they originated from what is today Angola, Bemba speakers trace their origins back to the DR Congo, and the Chewa speakers tell how their people originated in the DR Congo and migrated through Malawi for example. The Ngoni have a very recent history tracing their entrance into Zambia in the early 1800s.

This is in contrast to the Twa who instead see themselves, as do the Ila, as indigenous to Zambia. When asked about their history, the Batwa and Baila will say that they have always been where they are presently located and have not come from anywhere else. Of course each people group migrated from somewhere despite the fact that our research did not find any answers as to where the Batwa may have originated or when they arrived in Zambia. Many sources say that that earliest inhabitants of Zambia were the hunter-gather San people. The San are probably not related to the Twa, yet the Twa may also have arrived very early in Zambia. In many other central African countries the Twa are recognized as the first inhabitants of an area.

It is reported that the Ila, Tonga and Batwa cultures did not have chiefs before the time of colonization by the British in the 1890. However the British introduced chiefdom organizations into these groups that lacked it. The Batwa had Chief Shikafwe established in what is now Kabulungwe village and Chief Musulwe was located to the North of Nyambo village where chief Mweezwa established a palace.

Chief Shikafwe was de-gazetted by the British colonialist from his chiefdom because the colonial authorities believed that he was weak in carrying his duties as a leader in that area. He

allowed his subjects to stay on the land without paying the required taxes. He himself reportedly fled from the colonial authorities when they would visit the area.

However chief Musulwe cooperated with the colonial authorities but his chiefdom was considered to be too far to the north of Nyambo. In 1953 both the chiefdom of Musulwe and Chief Shikafwe were de-gazetted and these chiefdoms were put under the Ila chief Mweezwa. Chief Mweezwa was considered to be more centrally located and was able to rule over the Twa areas. The Tonga chief Mwanacingwala of Mazabuka was given rule over the eastern side of the Twa area. Some reports are that up to half of his subjects today are Batwa. The Batwa have headmen today but they seem to be less well instituted or influential than headmen of other groups in Zambia.

1.4. Geographical locations

In Zambia the Batwa people are found in possibly four locations. These are shown on the following map.



Figure 2: Circles indicating possible Batwa locations in Zambia

The Batwa considered in this survey inhabit the Kafue Flats in Zambia's Southern Province. The Kafue River in this area takes a meandering and indeterminate course. It is one of the largest wetlands in Southern Africa and is an economically important area for grazing pastures, wildlife conservation, fisheries, water resources, hydropower development and agriculture.^{iv} Several

The circle indicates the approximate area of the Kafue flats.



Figure 5: Google Earth map showing position of some of the villages that were visited during the survey. The red line highlights the Kafue river route.



Figure 6: Google Earth map showing Kabulungwe village on the north bank of the Kafue River.



Figure 7: Google Earth map showing the large, shallow Lake Manyeke^{viii} which is part of the Lochinvar National Park located south of the Kafue River.



Figure 8: Google Earth map showing Kafue River along northern edge of Lake Manyeke. The arrow indicates the Batwa village of Nyimba on the north bank of the Kafue River.



Figure 9: Google Earth map Nyimba on north bank of Kafue River.



Figure 10: Location of some of the Batwa villages in the eastern regions included in our survey.



Figure 11: Google Earth map showing typical Batwa settlement along the Kafue River upstream from Nyimba.

The Batwa areas are isolated and those roads that do exist are unusable in the wettest parts of the year. The annual cycle of flooding that occurs on the Kafue Flats in many ways isolates the Batwa people and facilitates a preservation of their language. There is relatively little traffic on the Kafue River in their area. Hand paddled pirogues are used for daily life and fishing as well as for travel although larger fiberglass boats often 7 meters or so in length with petrol outboard motors are very important for transporting fish and people to roads. Along with this the Batwa areas do not contain a large city which would have a great effect upon the language. In general it is more difficult to access the Batwa areas compared to some other areas of the country.

A list of Batwa villages categorized according to their general location is as follows. Banakacele was chosen as a natural central location. The greatest number of villages listed here are in the eastern region simply because our survey in the western region did not pursue a more complete list of names in that area.

West	Central	
1. Chiku	14. Banakacele	31. Kalando
2. Kabulungwe Lubanda /Mutezyibwa	15. Nyambo	32. Kasengwe
3. Shinshinde		33. Kaunga
4. Tomba	East	34. Liyelelo
	16. Chipenda or Chipemba ?????	35. Luvula
North	17. Chibulu	36. Mafubu
5. Bananza	18. Chilala	37. Mampanda
6. Bapamba	19. Chimpanya / Itongo	38. Mayeye
7. Chaalito	20. Chise	39. Moongamana
8. Chinvuma	21. Chuubi	40. Mpande
9. Makunku	22. Chuulwe	41. Mubangwe
10. Matuzyi	23. Hachele	42. Mulabe
11. Shamukwebo	24. Hagwaala	43. Munsongwe
	25. Hatembo	44. Mwanansi
South	26. Hiceemvo	45. Namandwa
12. Loongo	27. Hikaunu	46. Nankalangana
13. Muunga	28. Kabanda	47. Nanzimba
	29. Kabwe	48. Nzwanga
	30. Kafwefwe	49. SibantuSoweto
		50. Tomo

1.5. Population

Regarding the population of the Batwa Zambia's 2010 census reported that there was a total population in the Kabulungwe and Nyambo wards of 4,220 people. The census reported that the ratio of males to females is fairly equal (51.5% males and 48.5% females). The results for the 2000 and 2010 censuses are tabulated in the following table:

	Households		Total Population		% males		% Females	
	Kabulungwe	Nyambo	Kabulungwe	Nyambo	Kabulungwe	Nyambo	Kabulungwe	Nyambo
2000	304	394	1455	2363	53	49	47	51
2010	371	418	1702	2518	52	51	48	49

Table 1: 2000 and 2010 population figures for Kabulungwe and Nyambo wards

The 2010 census included the breakdown in age showing that 47% of the population is 14 years of age or under:

	0-14		15-35		36 and above	
	Kabulungwe	Nyambo	Kabulungwe	Nyambo	Kabulungwe	Nyambo
2010	806	1250	505	818	391	450
%	47	50	30	32	23	18

Table 2: 2010 age demographics for Kabulungwe and Nyambo wards

The census reports do not include detailed information on the ethnic composition of these population statistics.

Haller (2007) reports,

In the 1970s Everett counted 1,262 people who owned boats and were living in 16 permanent settlements (about 6,300 people). The British colonial government also speaks of about 6,000 people. Today, our informants speak of about 200 households in the Kafue Flats, making around 1,000 people (average household size of 5; Lehmann 1977, our research 2002).

Our survey collected the names of the Batwa villages that we visited and asked village leaders for an estimate of the number of Batwa there are in each location. All of the following are considered Batwa villages except for Shamakwebo. It is included because it is representative of many villages along the edge of the Twa traditional land where the Batwa have dispersed. The following table is a summary:

Village	Twa Population
Banakacele	55
Chibulu	400
Chinshinde	120
Chise 1	30
Chise 2	15
Chubi	60
Chuulwe	300
Hachele	80
Hangwaala	2750
Hatembo	180
Kabulungwe	400
Kafwefwe	40
Kashanda	50
Luhula	65
Mafwubu	20
Mampanda	45
Matanda Area	80
Mwanaahwe	120
Shamakwebo	50
Shanabe	60
Shikanyimba	65
Shingobo	40
Total	5025

Table 3: Sampling of villages and Batwa populations.

From this sampling an estimate of the Kafue Flats Batwa population could be approximately 6000 speakers.

From a sampling of six villages that are considered to be Batwa villages they had the following composition:

Village	Twa population	Total population	percentage composition by language group				
			Twa	Ila	Bemba	Nyanja	Lozi
Kabulungwe	400	800	50	10	5	5	30
Kashanda	50	100	50	25	5	10	10
Mwanaahwe	120	200	60	15	5	5	25
Shanabe	60	100	60	20	10	10	0
Shikanyimba	65	100	65	15	5	5	10
Shingobo	40	100	40	20	10	5	25
Total	735	1400					
Average population	122.5	233					
Average percent	53%	--	54.2	17.5	6.7	6.7	16.7

Table 4: Population and composition of Batwa populations.

This shows that Batwa villages average about 230 people and only 54% of the people in the village are Chitwa speakers. This is low homogeneity in village composition.

1.6. Previous research

There has also been much research documented on the Kafue Flats ecosystems but not a great amount dedicated to the study of the Twa people in Zambia. Dr. Dorothea Lehman of the Africa Institute has written a book entitled *The Twa: People of the Kafue Flats* but his book could not be located but it was widely quoted by Haller (2007) in *The Contested Floodplain: Institutional Change of Common Pool Resource Management and Conflicts among the Ila, Tonga and Batwa, Kafue Flats (Southern Province), Zambia*. Dr. Lawrence Barham of the School of Archaeology, Classics & Egyptology of the University of Liverpool has studied the Twa of the Bangweulu wetlands.

Much has been written on the culture of the Twa of other African countries but it is doubtful that there are linguistic links with these Twa and the Twa of the Kafue Flats.

1.7. Language borders and classification

To the east, the Batwa are bordered by the Tonga language group. To the north they are bordered by the Mbala and Sala language groups. Mbala is a northern dialect of Ila sometimes referred to as the “North Bank Ila.” To the west and south they are bordered by Ila language group. Chief Chilyabu or Bene Waze (Baboo) of the Ila are appointed over the Batwa.

The following is a representation of the approximate geographic positions of the different languages in relation to Chitwa. Representing any language boundaries with a definite line are admittedly imperfect representations.

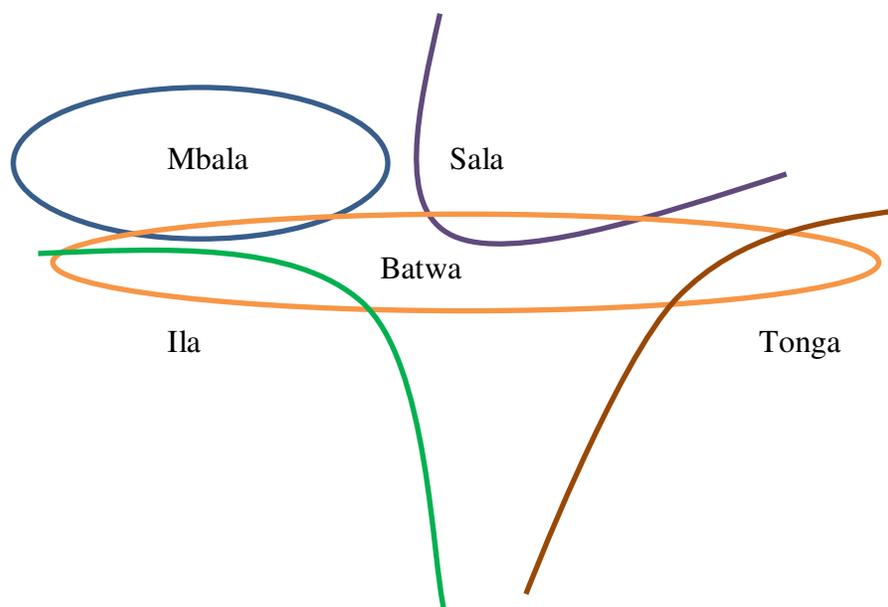


Figure 12: Depiction of approximate positions of bordering languages

Lewis in the *Ethnologue* (2013) includes four different Twa groups for Zambia. All four are listed as dialects of three major Zambian languages: Bemba, Lenje and Tonga. However these different Batwa groups may or may not be ethnically related and probably do not speak a dialect of the same language. The exception to this would be the two Twa groups in Zambia's Northern Province that Lewis lists as dialects of Bemba. These two variations of Twa would be the most closely related since they have a common connection with Bemba and Taabwa which themselves are closely related languages.

The Twa-Unga or the Twa of Bangweulu, Unga (14,000, 1969 census) is listed in the *Ethnologue* as a dialect of Bemba [bem]. Bemba is based in the Northern, Copperbelt and Luapula provinces but speakers of the language have spread throughout much of Zambia including the capital city of Lusaka. Bemba has over 3 million speakers and vies with Chichewa (Nyanja) as the most prominent language of Zambia. The Italian geneticist Luigi Luca Cavalli-Sforza (1986) who is famous for extensive genetic research into the origins of the human race also shows Twa near Lake Mweru on the Zambia-Congo border. Here the Twa are reported to live among the Taabwa [tap]. The *Ethnologue* entry for Bemba also mentions the Lomotwa or Lomotua, but it uncertain if this name ending has any connection with other Twa languages mentioned. Bemba is classified as a Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Bantoid, Southern, Narrow Bantu, Central, M, Bemba (M.42).

Twa (Lukanga) is listed in the *Ethnologue* as a dialect of Lenje [leh] which is spoken in Central Province. The Twa Lukanga are located in the Lukanga swamp area approximately 100

kilometers west of the town of Kabwe. Lenje is another of the major languages of Zambia and is listed as having 156,000 speakers (2006). Lenje is Classified as a Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Bantoid, Southern, Narrow Bantu, Central, M, Lenje-Tonga (M.61). The following diagram is a page from Maho (2009) that includes the Lukanga Twa (M611) and Kafue Twa (M633).

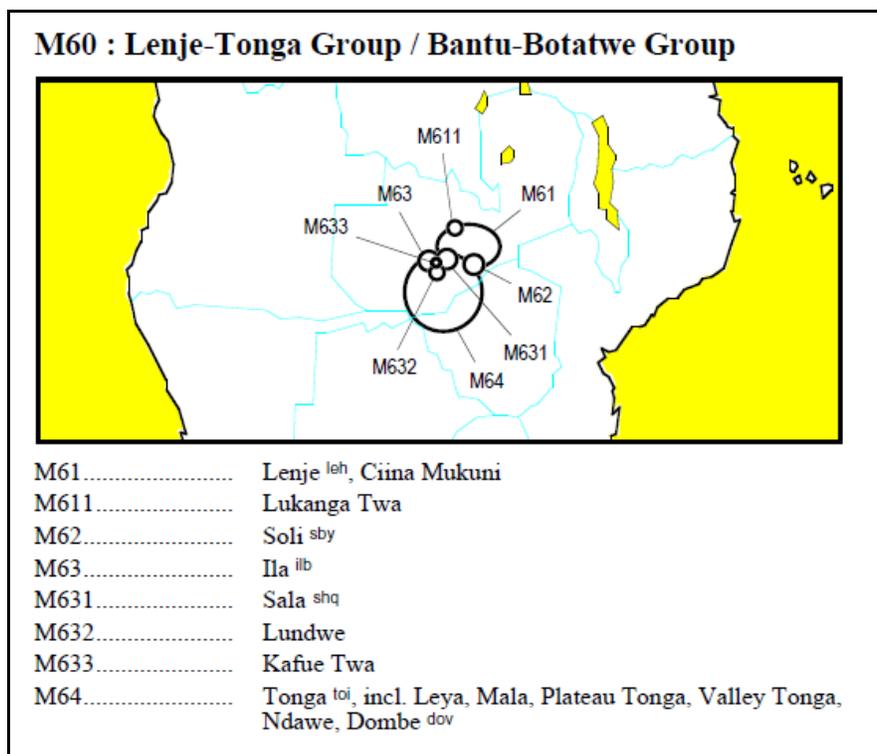


Figure 13: Geographical position of Twa and other languages according to Maho.

The Ethnologue lists the Twa of Kafwe^{ix} as one of the seven dialects of Tonga. Tonga is one of Zambia's seven major languages and is used mainly in the Southern and Western provinces. In Zambia there are nearly a million speakers (990,000 in 2006 survey) of Tonga. It has an additional large population of speakers in Zimbabwe as well. Tonga is classified as a Niger-Congo, Atlantic-Congo, Volta-Congo, Benue-Congo, Bantoid, Southern, Narrow Bantu, Central, M, Lenje-Tonga (M.64). Maho (2009) lists Kafue Twa as a dialect of Ila. More on Chitwa's relationship to Tonga and Ila will be discussed in section 3.4.2.

The Twa of the Kafue Flats have heard of the Twa of Lake Bangweulu and the Twa of the Lukanga Swamps but have no contact or other knowledge of them. Only the Twa of the Kafue Flats associated with Tonga [toi] are examined in detail in this report.

The Twa were not listed in the 2000 or 2012 Central Statistics Office reports for Zambia. They are included in one list of Zambia's 73 languages but are not found on the map that is proposed commonly within the country.

Maho's (2009) rework of Guthrie's classification list the Twa in three places. They are part of Bemba (bem) as M.42d Bangweulu Twa which is the Twa of the Northern Province (Guthrie 1970). The following diagram is a page including the mention of the Twa as part of Bemba.

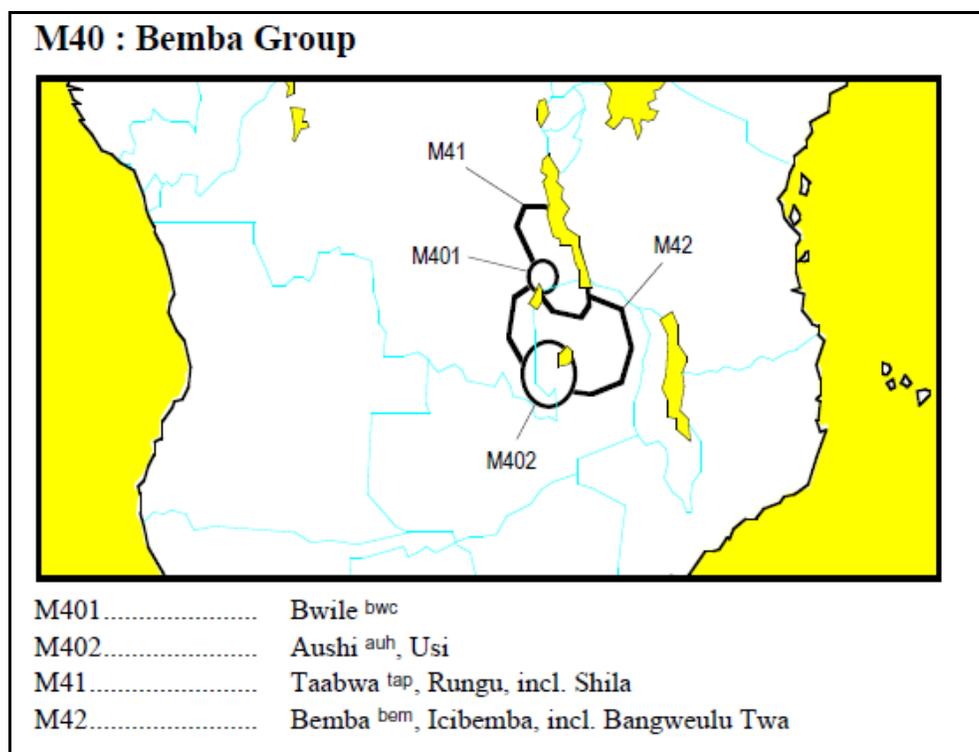


Figure 14: The Bangweulu Twa and bordering languages according to Maho.

1.8. Social Pressures

The Batwa may be one of the smallest and least regarded language groups in Zambia. There is a great amount of pressure put upon them by other language groups seeking to exploit the riches of the Kafue River Basin. Lehman (1977) reports that there is a

...seasonal influx of fishing communities from other parts of the country [which] started in the 1930s and increased from the 1950s, the 1970s and continue to this day. These immigrants were largely Bemba from the north of the country and the Copper belt area, Lozi from the Lozi region in western Zambia.

This influx also includes the Nyanja speaking peoples from the Zambia's Eastern Province as well as the capital city of Lusaka.

At the beginning of the 1970s there were 1,262 fishermen living in 16 permanent fishing camps and 48 in semi-permanent fishing camps (Lehmann 1977), but the population has expanded significantly since then. Haller (2007a) gives a rough breakdown of the population at Mbeza as not less than 4,000 fishermen confined to only four fishing camps in 2004.

Haller and Merten (2008) report,

Currently, there are at least 11 major permanent fishing camps in the floodplain, each of which supports 500 or more fishers. In addition, there are large temporary fishing camps which are important during the dry season, and these are occupied by more than 900 households. These fishers crowd into the few traditional Batwa villages when the area floods causing a tremendous overcrowding. When the flood waters recede they return back to the plains.^x

Haller and Chabwela (2009) report,

In pre-colonial times the Batwa were the initial controllers of the Kafue Flats, especially in ritual matters regarding fisheries and wildlife, while the Ila and Balundwe established themselves later and developed local institutions in the management of pastures, fisheries and wildlife in their territories and in collaboration with the Batwa (Haller 2007a). Today the Batwa are marginalized from other ethnic groups, particularly the Bemba and the Lozi fishermen who consider them inferior. This is not the case with the Ila who were once known as the richest cattle-owning group in Central Africa, with an average of 13 head of cattle per male household head (Smith and Dale 1968; Fielder 1973), although fishing and hunting played an equally significant role in their culture (Haller 2007a). This is illustrated by the pre-colonial political system, which was based on *primo inter pares*, called *mwami*, who played a leading role as ‘big men’ in defined resource territories. They competed with other ‘big men’ in order to attract followers to protect themselves against enemies, like warriors from the Lozi Kingdom, and against wild animals. These territories were vigorously defended. Leaders claimed spiritual ownership on the basis of animistic and ancestral religious systems and in this way justified the right to have a leading role in the management of the common-pool resources. Nevertheless, such leaders or ‘big men’ were not the single owner of a territory, but were the coordinators and “managers” of the common-pool resources found thereabouts. Members of the community had a sense of shared ownership of fisheries, pasture and wildlife in the area (Cutshall 1980; Haller and Chabwela 2009).^{xi} Hunting was largely regulated through the collective hunting institution called *chila*. During a *chila*, a large group of hundreds of hunters encircled herds of lechwe antelopes. The hunters were using dogs and spears to kill 2 to 3000 animals. The *chila* was organized and controlled by such ‘big men’, who then redistributed meat and skins locally. Hunting before and after a *chila* was announced in a territory was forbidden and sanctioned. Outside groups were invited to a *chila* on the basis of reciprocity (ibid).

1.9. Livelihood

The Batwa people who live along the Kafue River are fishermen. Those who do not live in close proximity to the river to permit it to be their sole livelihood are agriculturalist. The staple crop is maize. Also grown are sorghum, beans, cassava, sweet potatoes and other crops. They also keep cattle, goats or pigs. Chickens are also kept for meat and eggs.

Dogs are kept by the Batwa people for hunting wild game. These are often larger sized sleek dogs than are found in other African villages. A traditional pirogue called a *mununje* is specially designed for hunting. Two separate sections of the pirogue are carved from tree trunks and joined in the middle with nails, metal and sealants. It is narrow and fast in the water. Four to five rowers and one spearman venture out on the canoe. The spearman takes the lead position and may have four to five extra spears in case his primary spear is broken. The hunters pursue lechwe when the flats have flooded. The lechwe gather on small higher portions of ground and will flee into the water when the canoe approaches. The Batwa report that a hundred lechwe can be killed in a single hunt using the *mununje*. These canoes are still in use today but the number of lechwe that are taken by the increased population of residents in in the Kafue flats has greatly diminished the animals numbers.

1.10. Religion

Many Batwa consider themselves to be Christians. The major Christian denominations present in the area include the United Church of Zambia, New Apostolic, Seventh Day Adventist and Roman Catholic churches. Other groups such as Pentecost, Israel, Zion and Bethel have congregations as well. One village leader said that 56 percent the people were Christian and 43 percent were following traditional religions. Another said the ratio was closer to 75 percent were Christian and 25 % practicing traditional religions. Most members of the New Apostolic church are not Batwa but are from the Lozi language group which has come into the area from western Zambia.

Traditionally, the Batwa people believed in a god of heaven known as *Leza wa Kujulu*. This god receives the worship from Batwa people at a shrine which is called *malende*. At the shrine site a grass hut is built and it is considered a holy place where only a special family leader and special persons can go to worship or intercede for the people in the area.

A Batwa spiritual leader is not chosen by people but is chosen by spirit possession. The spirit possesses the person and guides them to the shrine. If chosen they may walk long distances like an insane person until he or she reaches the shrine. Even if someone is working in capital city of Lusaka, the spirit could possess them and they would walk the 90 or more kilometers through the bush for many days or weeks until they reached the Batwa areas. Once they reach the *malende* the spirit would teach the person how to perform rituals and perform the duties of praying for the people. The Batwa believe that such rituals and acts of spirit possession are very much needed in time of trouble, like drought, and outbreaks of disease. No one can go to the shrine without the enablement of the spirit and come back alive.

1.11. Customs

The Batwa people have been exploited both in the past and up to the present time. Because of this the Batwa are protective of information regarding their culture and society. They believe that when others have knowledge of their society it has contributed to them being attacked and subjugated. For this reason it is difficult for any outsider to gain an accurate picture of the Batwa history. They are not likely to trust an outsider because of fear of being suppressed by them.

Batwa men carry a walking stick called an *inkoli* or spear *isumo* with them. This is different from the Ila men who more traditionally carry an ax wherever they go. Some other customs include the Batwa practice the payment of dowry. It is the same practice as the neighboring Tonga and Ila peoples. When a man finds a woman that he wants to marry, often the father of the young man will go to the girl's family to discuss the possibility of a marriage. The young girl is asked whether or not she consents to marry into the family. If she agrees then a dowry price is discussed. Usually there is a discussion of the price and a decision is made as to where the marriage should take place, either at the girl's village or the young man's village. Today for example the groom/s family could pay ten cows for a common dowry price.

The Batwa, like the Tonga and the Ila, are organized along a patriarchal system, that is, descendants trace their ancestry through the clan of their father's side. Children are reckoned as 'belonging to the father' or 'the father is the owner of the children'. The children have the right to inherit the father's possessions or as well as his position. Whereas, if the mother dies in a patrilineal society, her possessions would belong to the mother's relatives, but not belong to her offspring.

The Batwa people have strong family ties which cannot be broken. The concept of being an orphan for example does not exist among the Batwa because every child belongs to all parents' relatives. As long as there are some relatives alive the child has a family in which they can be a member.

When a Batwa person dies, part of the mourning ceremony is for others to run with spears to try to find what killed the person. Those who have spears will have the consent to kill some or all of the animals that belonged to the deceased. This ritual killing fulfills the need to feed the mourners but it is also believed that the animals which are killed will be inherited by the dead person as these animals will go with him into the next life. The Batwa people bury their dead close to their homes. They believe that the body should be buried close by as they have nothing to fear of the dead person. The time of mourning does not end when the person is buried. Usually there is a designated funeral home. It may be the home of the deceased person or the home that the person actually died. Mourners may come to this home many days afterwards to lament the death of this person.

Children are usually named in the first week after the child is born. As with other language groups in Zambia, Batwa rituals are often associated with rites of passage such as birth and death. It is believed for example that if a man has sexual relations outside of marriage with another woman while his wife is pregnant, his wife may have severe labor pains to the point that the wife could die. The severe pain can also be counteracted by other traditional medicines as well. This belief among the Batwa is called *masoto*. Such beliefs helped to stabilize marriages.

The Batwa family is also strengthened by the existence of clans. There are many different clans and they take the names of animals, birds and other things such as trees or rivers. A few examples of Batwa clans are as follows. *Bana* here means 'belonging to'.

Bana nthale – crocodile clan
 Bachindu – lion clan
 Ba unga – lechwe clan

Bana chivuvwe – hippo clan
 Bana simwido – barbell fish clan

Marriage to someone within the same clan is not normally permitted. However this taboo can be overruled for good reason and if someone is willing to pay a special price to the girl's family.

To select a chief the Batwa followed a special ceremony. The candidate for the office of chief was taken to Nyambo village to a particular pool of water named *Chibenda* to spend the night there. If a hippo exited the pool of water that night it meant that the candidate was accepted and could become the chief. He was then anointed with maize flour. If a hippo did not exit the water then it meant that the spirits did not allow this person to rule the people.

As mentioned earlier in section 1.3 the colonial government de-gazetted the Batwa chiefs prior to Zambia's independence.

2. PURPOSE AND APPROACH

2.1. Purpose of the Survey

The purpose of this survey was to obtain information concerning the Batwa people and their language in order to assess the need for a language development program in Chitwa. Such a language development program could include a translation of the Scriptures in Chitwa as well as other language development activities including literacy programs, mother-tongue authorship and translation of any materials that the Batwa people would find useful to their development.

The following questions outline the purpose of the survey:

1. Vitality and Viability
 - 1.1 Is it a vital language now?
 - 1.2 Does a shift to Ila or Tonga or another language appear likely in the future?
2. Church and community response and cooperation with language development project
 - 2.1 Would the Batwa use vernacular literature if it were available?
 - 2.2 Is the community likely to respond well to and support a language project?
3. Dialectology
 - 3.1 What dialects of Chitwa are identified by the community?
 - 3.2 Are the various speech varieties mutually intelligible? Can speakers of all the dialects use the same literature and educational materials?

2.2. Survey Approach

The surveyors worked in cooperation with government and traditional leadership in order to obtain permission to do language survey in each region. In order to familiarize them with our work, we arranged meetings with traditional leaders and few church leaders of the area. In each case the survey questions were translated orally at the time of the interview for the participants from English into Chitwa. Responses were normally given back in Chitwa, Ila, Tonga or English and recorded in English.

2.3. Selection of Survey Locations

With guidance from the Batwa leadership, the survey team selected villages for administering several tests (i.e. individual questionnaires, group questionnaires and word lists). Villages were selected based upon social conditions such as centrality to language community and homogeneity. The first village visited in December of 2012 was Shamulumba village. Seasonal

rains prevented further research at that time until the survey was resumed in August of 2013 with additional trips taken in May and June of 2014.

We did not administer the survey in what is referred to as a random selection of locations. We are fully aware that this may not present the pure picture of the all community but this was adequate for the purpose of this survey.

2.4. Selection of Participants

Participants interviewed were divided into two categories based upon their geographical location. Fifteen individual questionnaires were done in the western Batwa regions that border the Ila language and nine individual questionnaires were done in the eastern regions that border the Tonga areas. Obviously one would expect, for example that when asked what second language do you know that those in the western regions were more likely to know Ila than Tonga. This east-west division has probably developed due to the routes of accessibility to each area. The people of the villages in the western region along the river, such as Kabulungwe, travel and export their fish through roads that head north to the M9 highway to Lusaka. The people of the villages along the eastern region (Nyimba, Matanda, Banacibwembwe) including Banakacele travel and export their fish through the D365 road linked to the T1 highway to reach Lusaka or other major towns. During our research we found fish merchants from as far away as the Democratic Republic of the Congo who had installed themselves into the Batwa villages in order to procure bundles of fish.

Participants were also divided into two categories based upon their age and two categories based upon educational level. Age categories were 'young' (those who are fifteen to thirty-five years old) and 'old' (those who are thirty-six to fifty-five years old). Educational level categories included "educated" (having completed Standard Seven school level and above) or "uneducated" (Standard Six school level and below). No conclusions were made regarding these two categories. The vast majority of people in villages are fisherman, so categorizing by occupation was not a significant factor.¹²

For the Group, Village Leader and Individual questionnaires all of the participants were Batwa except for one participant had a Mutwa mother and Ila mother. He identified himself as both Ila and Mutwa. This informant was a valuable help to our survey but because he was no longer living in the Chitwa areas and because his responses reflected the influence of non-Chitwa areas his results were not included in percentage calculations. The average age of the participants in the Individual Questionnaires was 48 years old. Only three of the participants were under thirty-five years old.

2.5. Individual Questionnaire

Twenty-four individual Questionnaires were administered in ten different locations. They were designed to collect information on the issues of language vitality and viability, language attitudes, and desire for mother tongue translation. Mother-tongue usages in the home and neighborhood domains were investigated as the primary indicator of vitality.

2.6. Group Questionnaire

Seven group interviews were conducted, each in a different location. These interviews included questions about dialect differences, language vitality and viability, attitudes toward the mother tongue, and attitudes towards the development of vernacular literature. Part of the Group Questionnaire included dialect mapping as described by Hasselbring (2010). Dialect mapping helped to clarify the relationships between varieties of Chitwa and the bordering languages and obtain an insider's perspective on intelligibility between the speech varieties.

The Group Questionnaires were given at Shamulumba, Chubi, Kabulungwe, Banakacele, Matanda, and Hibanitu Village of Nyimba. The maps on pages 9 and 11 indicate the location of these villages.

2.7. Village Leader Questionnaires

Eight Village Leader Questionnaires were conducted with three Batwa headmen, one acting headman, one headwoman, one senior headman and one prime minister. These Questionnaires gather information on the demographics of the villages including the villages' composition of different ethnic groups as well as development, religious, educational and language development issues. Village leader questionnaires were administered in Kashanda Village, Hatembo, Chipemba, Matanda, ????? have daka find the names.

2.8. Word Lists

Three word lists were collected for phonological, lexical and dialectical comparisons. Each word lists contained 200 words. Verifying the word list with other Chitwa speakers was also done. Comparing these lists from different dialects within a language helped to know their relatedness. This is especially important in determining whether more than one translation project is needed in a language group or if the speakers of each dialect may use a common translation. The same word list was used for phonological and lexical comparisons to the related languages Tonga and Ila.

According to the Ethnologue (2013),

The percentage of lexical similarity between two linguistic varieties is determined by comparing a set of standardized wordlists and counting those forms that show similarity in both form and meaning. Percentages higher than 85% usually indicate a speech variant that is likely a dialect of the language with which it is being compared. Unlike intelligibility, lexical similarity is bidirectional or reciprocal.

3. RESULTS AND DATA ANALYSIS

One of the purposes of this survey was to investigate whether Chitwa continues to be a vital language in its environment, and therefore, if a Chitwa language development and Bible

translation project would be valuable. It is possible that production of literacy materials and the translation of only portions such as the Gospel of Luke would be done initially to help determine the benefits of materials in the vernacular language. Responses to the questionnaires elicited from the Batwa people provide evidence.

The Individual Questionnaire collected 58 questions or pieces of information from each informant. Not every person answered every one of the 58 questions. In several instances, such as in a 'yes' or 'no' question, the follow-up question was only answered by a sub-set of the respondents if the follow up question applied. So in these instances percentages showing may be from a few as five respondents. The endnotes are added into this report to help signify such instances or in other instances are of benefit to simply verify the results. The responses from these ten open-ended questions were analyzed separately. Responses from the remaining 48 questions were tabulated into a spreadsheet for comparison and totaled in various ways.

From the 48 questions that were tabulated 28 questions were selected for special consideration and divided into three categories: Language Viability, Language Shift and Language Vitality.

Language Viability is used here to refer to how a language is thriving and focuses upon the language which is being studied. Language Shift instead focuses not upon the language in question but upon what other language or languages the population is changing to use.

Language Vitality relates to how necessary the language is to the daily lives of the people.¹³ For example, if the Batwa people do not use their language for some particular aspect of life, such as praying, then we can say that Chitwa has lost some of its vitality. Ten factors that should be considered as an indication of low language vitality (Bergman, 2001) include the following:

1. Generational shift. Children no longer speak the language.
2. Lack of homogeneity. When a stronger surrounding language group, or groups, intermingles and lives among the group such that there is mixture of languages being used especially by the children.
3. Small proportion of speakers within the ethnic group. The language is likely to have some people who use it and others who do not.
4. Small population for the region.
5. High proficiency in a second language.
6. Positive attitude toward a second language.
7. No use in religious domain.
8. Use of vernacular not strategic for reaching the people at the deepest level.
9. Education in a language of wider communication is widespread.

An assessment of how Chitwa ranks according to these nine factors is included later in section 3.3. Some summary notes for each of these three categories are as follows. Of the results included here contain some of the clearest indicators. All of the responses can be seen in Appendix A.

3.1. Language Viability

Some summary statements regarding language viability are:

- 63% of adults speak Chitwa to their children at home.
- 50% of the children respond to adults using Chitwa at home.
- 59% said that children use Chitwa when playing together with other children.
- 96% said that Chitwa alone is used when the Batwa gather together.
- 61% of the respondents said that Chitwa is used for religious functions such as praying.
- 74% of adults believed that children are leaving Chitwa to use other languages.

Details on the above summary statements are as follows:

When asked what language adults use with children at home 63% of adults responded that Chitwa is used.¹⁴ Two other respondents said that both Ila and Chitwa or Chitwa and Tonga are used which would be a total of 79% of the respondents saying that Chitwa was used at home. Twenty-one percent of the respondents said that they spoke either Tonga or Ila with their children at home instead of Chitwa. The following chart indicates these findings.

What language do adults use to children at home?			
Chitwa only	Chitwa & either Ila or Tonga	Ila	Tonga
63%	16%	13%	8%
79%		21%	

When asked what language the children respond to at home only 50% of the children respond to their parents in Chitwa only. Twenty-six percent of the children will respond in either Chitwa or Ila or both Chitwa and Tonga. This is a total of 76 % of the children speaking Chitwa at home. Only 5 percent said the children respond only in another language such as Ila. The following chart indicates these findings.

What language do children respond in at home?					
Chitwa only	Chitwa & Ila	Chitwa and Tonga	Ila only	Tonga only	Tonga & Ila
50%	13%	13%	21%	0%	4%
76%			25%		

When asked what language children use when playing with other children, 38% responded that the children use Chitwa alone. Another 21% responded that the children use both Chitwa and another language such as Ila or Nyanja. Forty-two percent said that the children use either Ila or Tonga only when playing and did not mention the use of Chitwa in this instance.

What language do children use when playing?				
Chitwa only	Chitwa & Ila	Chitwa & Nyanja	Ila only	Tonga only
38%	17%	4%	21%	21%
59%			42%	

When asked what language adults use with friends of the same age, 88% used only Chitwa and the remaining 12% responded that they also use Ila or Tonga as well as Chitwa.

What language do adults use to speak with friends?		
Chitwa	Chitwa & Ila	Chitwa & Tonga
88%	8%	4%

When asked what language is used when the Batwa people gather in the evening and talk, 96% responded that only Chitwa is used. Another 4% responded that Chitwa and Ila both are used for such meetings.¹⁵

What language is used when the Batwa people gather?	
Chitwa	Chitwa & Ila
96%	4%

When asked what language is used for religious functions such as praying for a sick person 48% said Chitwa is used while another 13% said that both Chitwa and Tonga are used. Thirty-nine percent said that Ila, Tonga, or Lozi are used. Some reasons given as to why other languages are used are because more people understand one of these other languages or because the Bible is printed in these languages.

What language is used for religious purposes?						
Chitwa only	Chitwa & Tonga	Chitwa & Ila	Tonga only	Ila only	Ila & Tonga	Lozi only
48%	13%	0%	22%	9%	4%	4%
61%			39%			

When asked if young people are leaving the Chitwa language to speak only other languages 74% responded “yes”.¹⁶

Are young people leaving Chitwa for other languages only?	
Yes	No
74%	26%

Chitwa is the language most often used by adults in a variety of settings with Ila being the second most commonly used language.¹⁷ When we asked the respondents, “What language do you use most often 50% of those interviewed said they used Chitwa alone. In the western regions of our survey that border the Ila areas we found that this number dropped to 46% and 20% of the respondents in these area said they used Chitwa with Ila and 33% said they used Ila alone. As is expected in the eastern borders of the Batwa areas Tonga is more predominant, but Chitwa was slightly stronger. In the eastern regions 55% of those interviewed said they used Chitwa alone. Forty-four percent of the respondents in these area said they used Tonga alone. The following table illustrates these results:

	What language do you speak most often?	
	Western Batwa Areas	Eastern Batwa Areas
Chitwa alone	46%	55%
Chitwa & Ila	20%	0%
Ila alone	33%	0%
Tonga alone	0%	44%

When asked if there are Batwa people who do not know how to speak Chitwa well 83% of the respondents said that they are familiar with such people. In the western regions most often the respondents said that these Batwa people lived among the Mbala and Ila speaking peoples or outside of Chitwa areas while in the eastern regions the respondents more often said they were within the Batwa areas where they lived. The majority all the respondents (88%) maintained that a person who is Mutwa does not lose their Batwa identity if they cannot speak the language. They maintain their Batwa identity despite not knowing the language.¹⁸

3.2. Language Shift

Some summary statements regarding language shift are:

- 50% of adults married to someone of another language group.
- The Ila language is the most commonly used second language in the areas that were surveyed.
- Ila and Tonga are the predominate languages next to Chitwa. 96% of the adults will know one of these two languages.

From the Individual and Group Questionnaires it was found that 50% of the Batwa were married to another person of the same language group.¹⁹ Another 23% were married to an Ila or Tonga speaker and the other 28% were married to people from other language groups such as Bemba (14%), Mbala (9%) or Lozi (4%). Four out of the five group interviews concluded that it was good to marry outside of your language group. Only one of the five groups decided that it was bad to do so. Intermarriage was cited in informal interviews as a reason for why the Batwa people are decreasing in numbers.

What is the language of your spouse?			
Chitwa	Ila	Tonga	Bemba
45%	9%	14%	14%

The Batwa people are threatened because of the societal pressures put upon them from outside groups as explained previously. But in comparing their linguistic situation with other groups in Zambia, such as the Soli [sby] of Zambia's Lusaka Province, the Chitwa language has one factor working for its stability and that is the isolation of the area it is found it as explained in section 1.4. Whereas the Soli people have a much higher exposure to Nyanja year around the Batwa regions are cut off from much of Zambia during the seasonal high waters. When the Soli were surveyed 92% of them believed that their language community was shifting to Nyanja.²⁰ The

Batwa people believed that the young people were speaking the language correctly but when asked about the children they said that the children were not speaking the language correctly.²¹ Despite this, 75% of the Batwa people believed that their children would still be speaking Chitwa while the others believed they would shift to Ila.

From the Individual and Group Questionnaires it was found that the most commonly known second language in the western portion of the survey was Ila and Tonga is the most commonly known language in the eastern Batwa regions. The results are shown in the following table:

	What other languages do you know?					
	Ila	Tonga	Nyanja	Lozi	English	Bemba
Western region	86%	44%	14%	7%	14%	14%
Eastern region	29%	77%	67%	11%	11%	22%
Combined regions	67%	46%	38%	21%	21%	17%

Because an unequal number of questionnaires were conducted in the western and eastern regions and because respondents could list more than one language the totals for the combined regions is not the simple average of the two regions.

Besides the factors already mentioned that contribute to the language pressure that the Batwa people are feeling, another clear factor is the lack of anything printed in Chitwa as well as the government promotion of Tonga as a recognized language for schools of the Southern Province. Although respondents in one group interview questioned whether or not school curriculum materials could be produced in Chitwa, a greater need in general felt by the Batwa is for education in any language. Many Batwa children have no schools at all. They find it easier to make a living fishing than to spend time at school and may never advance beyond a few years of education.

3.3. Language Vitality

- 100% of the respondents said that Chitwa was sufficient to express all their thoughts.²²
- 88% said that an argument such as that in court could be totally resolved by using Chitwa.²³
- 83% said when speaking about religion that they use Chitwa²⁴ but only 48% said they would pray for a sick person in Chitwa.²⁵
- 75% said they use Chitwa to discuss politics with other Batwa.²⁶

Regarding the use of Chitwa to resolve an argument in court, for example, 58% of the respondents said if they had to use another language it would be Ila.²⁷

After studying the above results, the following chart is an attempt to express the overall impressions of the surveyors for where Chitwa may be on the nine indicators of language vitality listed earlier in section 3.

Factor	Vitality	Lack of Vitality
1. Generational shift	X	
2. Lack of homogeneity		X
3. Small proportion of speakers within the ethnic group	X	
4. Small population for the region ²⁸		X
5. High proficiency in a second language.		X
6. Positive attitude toward a second language.		X
7. Use in religious domain.	X	
8. Use of vernacular not strategic for reaching the people at the deepest level.	X	
9. Education in a language of wider communication is widespread.		X
Summary Count	4	5

Table 5: Nine indicators of Language Vitality for Chitwa.

From this summary count we can see that Chitwa has more factors indicating its lack of vitality than factors favorable to the languages vitality. This indicates that Chitwa is likely to continue to decline as a viable language in the future.

3.4. Word Lists Results

3.4.1. Comparison within varieties

When asked, the Batwa people said that there are no dialectical variations in their language nor do they have names of varieties to distinguish any such dialects of their language. Nevertheless, they are aware that every Batwa village is influenced by neighboring languages. When asked if they can tell where a Mutwa is from by the way that person speaks, two of the five groups or 40% said that it was possible. All five groups maintained that there was only one form of Chitwa. The groups interviewed in the west regions said that the purest forms of the language were at Kabulungwe village while in the eastern regions the groups said that Matanda and Nyimba had the purest Chitwa.

A word list of 197 words were collected in four Chitwa villages; Shamakwebo, Kabulungwe, Banakacele and Nyimba. The percent similarity from a collection of the 197 words taken in each of the three locations is as follows.

Variety	Shamakwebo	Kabulungwe	Banakacele	Nyimba
Shamakwebo	100	89	85	73

Kabulungwe	89	100	93	73
Banakacele	85	93	100	77
Nyimba	73	73	77	100

Table 6: Percent of lexical similarity among Chitwa varieties

The average lexical similarity of the four Chitwa varieties studied was 82%. The Shamakwebo dialect shares 89% similarity in words with Kabulungwe dialect and 85% similarity with the Banakacele dialect. The Kabulungwe dialect shares 93% similarity with the Banakacele dialect which is the highest percentage of similarity among the four dialects studied. The lowest percentage of lexical similarity was between the Nyimba and the Shamakwebo and Kabulungwe dialects at 73%. The results from the word list are tabulated as follows.

Locations	Percent similarity	Percent difference	Distance in km
Shamakwebo to Kabulungwe	89%	11%	20
Shamakwebo to Banakacele	85%	15%	39
Shamakwebo to Nyimba	73%	27%	72
Kabulungwe to Banakacele	93%	7%	33
Kabulungwe to Nyimba	73%	27%	52
Banakacele to Nyimba	77%	23%	19
Average	82%	18%	39

Table 7: Comparison of percent of lexical similarity among Chitwa varieties

The percent difference between the four Chitwa varieties is 18%. This can be considered to be high. A contributing factor is the distance between the dialects. The distance between the dialects is an average of 39 kilometers the difficulties of traveling in the Kafue Flats needs to be considered. There are no roads and travel on the river is often limited to hand powered canoes. The reason for the relative differences in dialects can be argued in several ways. One can state that the Batwa population is relatively small and more likely to be influenced by surrounding languages such as Ila on the western border and Tonga on the eastern border. Or one can say that the Batwa are more insulated from contact with outsiders due to the lack of any roads in the area. Despite the lack of roads there is great pressure among the Batwa from other groups coming to their area seeking to exploit the fisheries of the Kafue Flats as discussed in Section 1.8.

As a comparison with another group in Zambia the Soli language has a lower level of lexical difference between its dialects (around 14%) in and around the city of Chongwe where it is most influenced by Nyanja compared to other dialects of Soli spoken rural areas that have an even lower lexical difference. A major highway joining Zambia's capital, Lusaka, with Malawi cuts directly through much of the Soli area.

The distances between where these four varieties are spoken with their lexical similarity percentage can also be represented as follows.²⁹ Travel times can be cut by 50 to 75 percent if a boat is equipped with a motor.

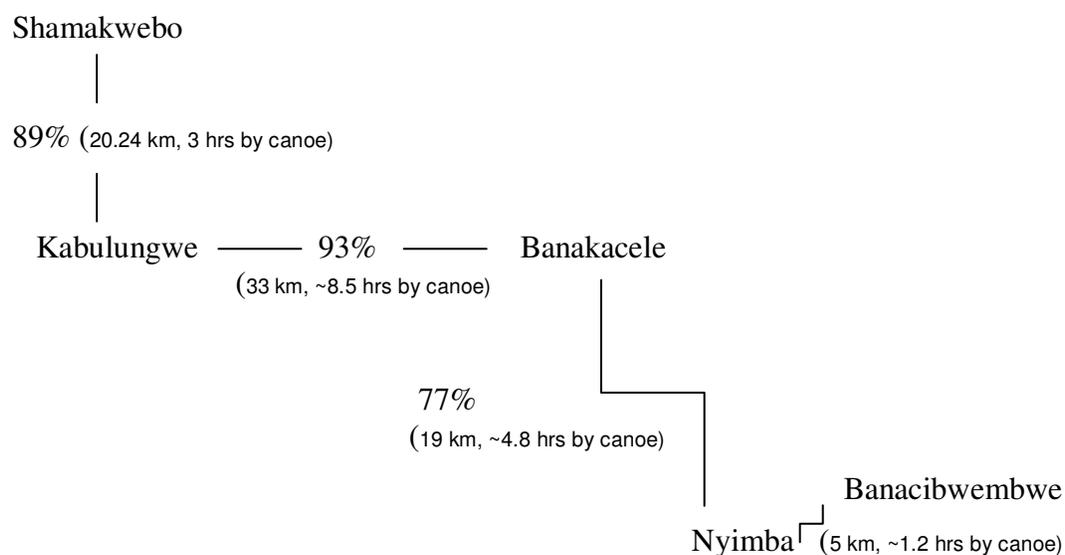


Figure 15: Distances and some lexical similarities between four Batwa centers.

Locations		Lexical similarity	Lexical difference	Distance in km
Comparison within western region	Shamakwebo to Kabulungwe	89%	11%	20
	Kabulungwe to Banakacele	93%	7%	33
	Shamakwebo to Banakacele	85%	15%	39
Average of all locations		82%	18%	39
Comparison to eastern region	Banakacele to Nyimba	77%	23%	19
	Kabulungwe to Nyimba	73%	27%	52
	Shamakwebo to Nyimba	73%	27%	72

Table 8: Percent of lexical similarity among Chitwa varieties sorted by distance

The above table shows that those varieties that are the most geographically distant tend to have the greatest percent of lexical difference within each region. The difference between 11% lexical difference of Shamakwebo to Kabulungwe and 7% of Kabulungwe to Banakacele is within the 5% margin of error estimated for this survey. It appears more likely from these results that the 19 kilometers between Banakacele and Nyimba is the dividing line between the east and west regions of the Batwa. More on why these two regions are divided is explained in section 2.3.

1.1.1. Phonostatistical comparison within Chitwa Speech Varieties

Besides the lexicostatistical analysis a phonostatistical comparison was made as well using the WORDSURV program. The phonostatistical analysis calculates the average degrees of difference per correspondence of phonetic segments. The WORDSURV program exports this analysis as the degrees of difference values divided by the correspondences value. Therefore the lower the ratio, the closer the similarity is between the two varieties.³⁰ However for our purposes and to more easily show the correspondences to the lexicostatistical data we converted the ratios to percentages. The following table shows the phonostatistical similarities between the varieties of Chitwa,

Variety	Shamakwebo	Kabulungwe	Banakacele	Nyimba
Shamakwebo	100	93	91	90
Kabulungwe	93	100	98	86
Banakacele	91	98	100	86
Nyimba	90	86	86	100

Table 9: Phonostatistical Analysis percentages for Chitwa varieties.

The different varieties average of 91% similarity in their phonemes. The greatest difference is 8 percentage points between the Kabulungwe-Banakacele and Kabulungwe-Nyimba comparisons.

The following table shows the percentage of lexical similarity between the varieties of Chitwa as well as the percentage of phonostatistical similarities.

Varieties of Chitwa lexical & phonostatistical similarity		
Varieties	Lexical similarity	Phonostatistical similarity
Shamakwebo- Kabulungwe	89	93
Shamakwebo- Banakacele	85	91
Shamakwebo- Nyimba	73	90
Kabulungwe-Banakacele	90	98
Kabulungwe-Nyimba	73	86
Banakacele-Nyimba	77	86
Average	81	91

Table 10: Lexical and Phonostatistical similarities for Chitwa varieties.

1.1.2. Most linguistically central Chitwa variation

The comparison within varieties is important when making decisions as to what variety of Chitwa will be most understood by the largest portion of the Chitwa population. For example if

Nyimba is chosen as the variety for written materials the populations of some other chiefdoms may understand perhaps only 73% of the vocabulary.

One more analysis is in the following table. The percent lexical similarities for the four varieties of Chitwa as shown in Table 6: are organized into separate columns and totaled as follows:

	Shamakwebo	Kabulungwe	Banakacele	Nyimba
Shamakwebo- Kabulungwe	89	89	--	--
Shamakwebo- Banakacele	85	--	85	--
Shamakwebo- Nyimba	73	--	--	73
Kabulungwe-Banakacele	--	93	93	--
Kabulungwe-Nyimba	--	73	--	73
Banakacele-Nyimba	--	--	77	77
Totals	247	255	255	223

Table 11: Percent lexical similarity organized for each Chitwa variety.

The totals above show that the Nyimba variant has a lower total than the other three words lists taken in the western regions. This result shows either the Kabulungwe or Banakacele variants are the best alternatives for reaching the largest number of Chitwa people, however as mentioned in section 3.4.1 **Error! Reference source not found.** those groups in the west tended to think that a village in the west is where the best form of the language was spoken or those groups interviewed in the east think that an eastern village is where the best form of the language is spoken.³¹ The above results are strongly biased in favor of the western regions because three out of the four word lists were taken in the western region. However the results are helpful to reveal the differences in the variations between regions.

The lexical and phonostatistical results showed that the Nyimba variety is least similar lexically with the other varieties from where were word lists were taken. The highest lexical difference of margin was 27% between Shamakwebo and Nyimba as well as 27% between Kabulungwe and Nyimba. This is expected since these locations are the most geographically distant that were studied and human traffic does not occur overland between these villages. Any travel between the two villages is via the Kafue River and would take travelers through Banakacele. The distances between these locations show a direct correlation with the lexical similarity. The highest level of similarity is between Kabulungwe and Banakacele with 93% lexical similarity. These two locations are 19.38 kilometers apart however this is if the distances are measured in a straight line. Travel via the winding river is a journey of 33 km and takes five hours with 15 horse power engine on a banana boat.

The results above are what were obtained on the survey and of course include a margin of error which we estimate to be at 5%. The actual lexical similarity is probably higher rather than lower. This is because of errors and misinterpretations in the responses obtained. For example, in

eliciting the word for ‘cooking pot’ in one area, a commonly used word *impoto* used for ‘iron pot’ was given. In another area, Banakacele, although the people may use both words, submitted a more authentic Chitwa word, *imbiza*, as their word for ‘cooking pot’. *Imbiza* means ‘clay pot’. This is just one example. It is likely that some other lexical differences were the result of similar flaws in data collection or misunderstandings as well.³² Thus, like any survey the results from this testing is only an indicator of the actual situation.

3.4.2. Comparison to Ila and Tonga

In comparing the four Chitwa varieties to Ila, Tonga and Soli the following percentage similarities were obtained. Soli was included because it is considered to be part of the Bantu – Botatwe confederation which is commonly known within Zambia to be part of the Tonga-Lenje-Ila grouping. We would have expected Soli to have a higher degree of lexical similarity with Ila and Tonga.

Variety	Shamakwebo	Kabulungwe	Banakacele	Nyimba	Ila	Tonga	Soli
Shamakwebo	100	89	85	73	80	71	36
Kabulungwe	89	100	93	73	78	69	33
Banakacele	85	93	100	77	75	67	33
Nyimba	73	73	77	100	70	68	34
Ila	80	78	75	70	100	73	31
Tonga	71	69	67	68	73	100	34
Soli	36	33	33	34	31	34	100

Table 12: Comparison of Chitwa varieties to three other languages.

The Chitwa variety with the highest similarity to either Ila or Tonga is the Shamakwebo variety which has 80% similarity with Ila. This is expected because when asked about the Shamakwebo variety in the other Chitwa areas the speakers there said that the Shamakwebo variety was influenced more than their varieties were by the Mbala and Sala languages. Since Mbala is a northern dialect of Ila it is understandable how the Shamakwebo variety is most like Ila.

The Chitwa variety least similar to Tonga or Ila is the Banakacele variety which shares only 67% lexical similarity with Tonga. Although the Banakacele variety is geographically closer to Batwa’s eastern border with Tonga it is also more isolated than the other Chitwa varieties. So it is understandable how the Banakacele variety has a lower lexical similarity with Tonga. This variety of Chitwa is what we were told was the purest form of the language.

The four Chitwa varieties share an average of 76% lexical similarity with Ila but average only 69% lexical similarity with Tonga. As stated in section 1.7 the Ethnologue lists Twa as a dialect of Tonga while Maho (2009) lists Kafue Twa as a dialect of Ila. Despite this the Batwa people in the western region of our survey, when asked if Chitwa was more like Tonga or Ila all agreed that their language was more like Tonga than Ila. This is perhaps because Chitwa is more like Tonga in grammar, phonetics or other ways. This study only compared the lexical similarity of the three languages.

According to Grimes (1988b),

The threshold levels high enough to guarantee good communication from the central dialect to its periphery is usually 85% or above. When the percentage of similarity in the two languages is 85% or above, it is then reasonable to speak of the two as a dialect cluster of a single language. From the linguistic point of view speech varieties that come together only at 70% or below are too distinct to qualify as the same language. In between, 70% to 85% is an area of marginal intelligibility where some communication is satisfactory and some is not. The threshold depends on the risk associated with not communicating well. The final criteria for making these decisions are normally not purely linguistic criteria.

Between themselves Ila and Tonga have 73% lexical similarity. Both Ila and Tonga are recognized as distinct languages and have active language development programs. Perhaps the purest form of Chitwa from our results is the Banakacele variety it has 75% similarity with Ila and only a 67% lexical similarity with Tonga. The relative lexical difference between these different languages is a reason why Chitwa should be regarded as language separate and distinct from Ila and Tonga. As stated, the 85% or above threshold is not the final criteria but there are many factors involved that are not purely linguistic. One of the most convincing is that the Batwa, Ila and Tonga all recognize Chitwa as a separate language and recognize the Batwa as a separate people.

3.5. Group Questionnaire

The group questionnaires were administered in five Batwa locations, three in the western region and two in the eastern region. Nearly an equal number of men and women were present for these interviews, although the men gave most of the responses. The ages of the participants ranged approximately from 35 to 75 years old. Attempts were made to administer group questionnaires at two other locations but they failed either as at Chubi when we learned that only one of the 11 participants was Batwa and the remaining were all Ila or because of non-cooperation of the villagers as at Banacibwembwe.

Five of the points selected from the Group Questionnaire are as follows:

- All five group interviews suggested that Chitwa is the same spoken everywhere although the Shamulumba group said that the variety spoken at Kabulungwe and other locations spoken further down river is a purer form of Chitwa.³³
- When asked what other languages most resembles Chitwa four of the groups said that the question was not applicable as Chitwa is different from other languages. One of the groups volunteered that Tonga and Ila were similar.³⁴
- Every group gave responses indicating that they appreciated their own language, and feel that it is very important to continue speaking it yet they are also concerned for its future.
- Four of the five groups said that they believe their children will continue to speak Chitwa. One group said the children will speak Ila when they are adults.³⁵

- Each group expressed great pride in their language. They do not think that the Batwa people will stop using Batwa to speak only some other language.

Regarding language use, the Shamulumba group said that children before school age and school age children use Ila when playing together. The Kabulungwe group said that the children use Chitwa and Ila and the Banakacele group said the children use Chitwa and Tonga. Two other groups (Matanda and Nyimba) said the children before school age speak only Chitwa. More than one third (38%) of the results from the twenty-five individual questionnaires said that children speak only Chitwa and another 21% speak only Ila when playing together. But 21% of the responses in the individual questionnaires said the children speak only Tonga and others mentioned the influence of Nyanja (8%) either mixed with Chitwa or alone. When the results of the individual questionnaires are compared to the results of the group questionnaires they are fairly consistent for two similar but not identical questions that related to language use. The exception is the responses given in relation to Tonga being used alone or mixed with Chitwa. The results from both the individual and group questionnaires are summarized in the following table:

	Only one language used				Chitwa used also with		
	Chitwa	Ila	Tonga	Nyanja	Ila	Tonga	Nyanja
What language do children use when playing? (Individual Questionnaire)	38%	21%	21%	0%	17%	0%	4%
What language do children use before school (Group Questionnaire)	40%	20%	0%	0%	20%	20%	0%

Table 13: Language children use when playing

The primary indicator that a language is no longer serving a community is when children no longer use the language and parents speak it only to older people. At that point the language is in danger of dying and will likely be replaced by another language with a generation.

Tonga is taught in the schools although there is a strong desire that Chitwa school materials could be produced as well. Many Batwa children do not do well in school and do not strongly embrace the benefits of learning at primary schools. Few Batwa children advance to secondary school. Some children have no access to any schooling in remote areas. Banakacele has no school but Kabulungwe has a primary school. To attend secondary school children need to go to Mumbwa, Nakambala, Mazabuka, Monze or Lusaka

The consensus of three of the five group interviews was that the children are not learning to speak Batwa correctly. One of the five groups said that some of the children are speaking Batwa correctly. One of the five groups, the Matanda group interview, said that the young people are learning to speak Batwa correctly.³⁶

When asked if there were places where Batwa people do not speak much Batwa but speak other languages four of the five groups said that this occurs in the areas of the country where Tonga and Ila only are spoken.³⁷ This could be an indication that the Batwa people are being absorbed by these larger groups and that the Kafue Flats areas considered in this study serve as a refuge

for the preservation of the Chitwa language. See the previous section 3.2 on Language Shift for the survey's results regarding intermarriage.

Every group felt strongly about their language and that it was important to keep speaking Batwa.³⁸ When asked what they thought of Chitwa people who do not speak Chitwa but only other languages, a common response was, "They must learn it".³⁹ When asked if they intermarry with other language groups the response from all the interviews was 'rarely'. Although all but one of the groups said that intermarriage was a good thing.

In general the people prefer to speak Chitwa and are proud of their language despite the pressures being put upon them to share the resources of the Kafue Flats. They have never seen anything written in Chitwa but would very much like to have materials in their own language.⁴⁰

3.6. Dialect Mapping

The purpose of the dialect mapping was to examine which speech varieties are listed by each group and note any relatedness between the varieties as well as find what the bordering languages are.

Table 1 below summarizes the mapping exercise completed in the Group Interview at Kabulungwe.

	VARIETY	COMPREHENSION	COMMUNICATION
VARIANTS OF THE SAME LANGUAGE (ranked by linguistic similarity to central variant)	1. Kabulungwe	full	No changes made to communicate
	2. Shamulumba	full	No changes made to communicate
	3. Banakacele	full	No changes made to communicate
DIFFERENT LANGUAGES (ranked by Batwa speakers perception of easiest to understand)	1. Tonga	full	No changes made to communicate
	2. Ila	full	We change our language to communicate with them
	3. Mbala	full	We change our language to communicate with them
	4. Sala	full	No changes made to communicate
	5. Nkoya	Less than half	Each language is changed to communicate

Table 14: Dialect mapping exercise with Kabulungwe Group Interview

Note that these results are contrary to what the word lists lexical similarity results for Ila and Tonga were. The word list results showed that Chitwa was shared 76% lexical similarity with Ila but average only 69% lexical similarity with Tonga. It seems contrary to these word lists results for Chitwa speakers would make no changes to communicate when speaking to a Tonga person but would make changes when speaking to an Ila person. When asked for reasons why this

occurs Chitwa speakers said that the ‘accent’ of Tonga is more similar to Chitwa. Perhaps what is meant is that the tonal system or the pronunciation of words in Tonga is more similar to Chitwa. There could also be more similarities in Chitwa grammar or noun class system to Tonga than to Ila.

Likewise if a Mutwa speaks to an Ila person the Mutwa will change their Chitwa language and adjust it to communicate better with an Ila person. However, when speaking to a Sala person neither a Mutwa person nor the Sala speaker makes changes to their language to communicate. This is despite the fact that the group interviewed listed Sala as fourth in ranking of easiest to understand. When asked more about this the Batwa explained that the Sala in some areas speak Chitwa.

4. CONCLUSIONS AND RECOMMENDATIONS

Based on the list of questions that this survey addressed we were able to formulate several conclusions for each of the areas studied.

4.1. Language Vitality and Viability

For the majority of the Batwa people their language is essential to them and is used in all domains of daily life. However, the statistics gathered regarding Language Shift indicate that a language development project is important at this time if Chitwa is to remain a viable language for very long and not lose more ground to its neighboring languages. For example, the answers given to the Individual Questionnaires said that only 38% of the children use Chitwa alone when playing with other children. Another 21% said that the children use Chitwa with another language like Ila when playing with other children. While 42% of the respondents said that Chitwa is not used by children when playing together.⁴¹

Sixty-three percent of the answers given indicated that Chitwa alone is spoken by adults to children. Children respond in Chitwa alone according to 50% of those interviewed and children respond in Chitwa and Ila or Chitwa and Tonga according to 76% of those interviewed. This is very significant. It likely relates to the level of intermarriage with other language groups such as Ila and other language pressures. A shift to Ila and Tonga is progressing slowly. The government of Zambia instituted Tonga as a medium of instruction in and several generations of Batwa people have had Tonga taught in their primary school education. Were it not for the lack of schools and isolation of Batwa areas the transition to Tonga may have been more rapid.

4.2. Language Shift

Chitwa does show signs of being replaced by Ila, Tonga and Nyanja in some aspects of life, such as education and in life in large town. If there were only a single language that was applying linguistic pressure upon the Batwa the shift to another language may be more rapid or more easily discerned. But with Ila on one side and Tonga on another, with Tonga used in the school

system, and Nyanja used when trading in Lusaka as well as being used as a medium for political news, no one of these languages is invading every realm of Chitwa daily life.

With the great amount of societal pressure put upon the Batwa people a language development project at this time in Chitwa is urgent if the language is to maintain itself. With it the Batwa have a better chance of preserving their language and the existence of printed materials in the vernacular will bring recognition to this people group as a separate and distinct language.

4.3. Church response

Our surveys indicated that the Batwa people would use literature and Chitwa Scriptures would be of great benefit to them. The use of the vernacular languages in written or audio materials may not stem the influence of other languages like Tonga and that is not the goal of a language development project. Rather development of the Chitwa language would help the Batwa people transition to other languages like Tonga or English while at the same time preserving their own linguistic heritage.

We did not interview many church leaders during our survey but of those that were interviewed they expressed an interest in having Chitwa scriptures and a willingness to participate in a language project.

The Batwa community would likely respond well to a project but much needs to be done in this area to educate the people so that they would understand their important role in supporting the project. We suggest that a program of church education and mobilization for the support of the project begin immediately with the guidance of an organization like Partners in Bible Translation. Support of the project needs to be sought not only from the church but all who are interested in the Chitwa language.

It is very important that the support for the project be generated from the Batwa people themselves. Without this local support the project risks losing the essential involvement of the Batwa people. The local support is a key factor if the scriptures are to be widely accepted or read, and are also important to sustaining a language development effort.

4.4. Dialectology

The survey indicated that there are no recognized different ‘dialects’ of Chitwa. Rather each group recognizes that Chitwa varies as it makes contact with neighboring languages.

It is unclear from this survey if one variation of Chitwa is preferred over others; however the statistical data showed that Chitwa spoken in near Banakacele is the variant that has the most in common with variants of the western and eastern regions.

4.5. Recommendations

Based on the results that Chitwa is a vital language in daily life for a significant percentage of the population, the following is recommended:

- That the Batwa people should meet to discuss the crucial situation for the Chitwa language. The future of their language needs to become a common topic of discussion. To not take action at this time would be to allow Batwa culture and the Chitwa language to further degenerate. They should invite qualified linguists such as those available from Partners in Bible Translation[®] to help guide their discussions and planning.
- Discussions should include the commitment among the Batwa for the support of a language development project. Possible goals of the project might include the creation of literacy primers in Chitwa, small booklets of interest to the Batwa people such as folktales, their history, or the translation of Scriptures such as portions of Genesis or the Gospel of Luke, for example. Depending upon the reception of these Scripture portions, as well as the continued support of the Batwa people, efforts could later be made to translate other materials in Chitwa.
- Though bilingualism was not one of the questions this survey addressed, we observed that many Batwa people demonstrate a level of Tonga sufficient to understand the Tonga Bible. Despite this one can argue that the message of the Bible has not had a full impact upon the society because although it is understood intellectually in a second language, the truths of the Christian message has not reached the depths of the culture if it is not in the everyday language of the people.
- Further work needs to be done to determine the grammatical similarities of Chitwa with Tonga and Ila or other neighboring languages. Such comparisons of the syntax and sentence structures of each language can greatly help a translation project. For example, linguists today are able to do scripture adaptations that would assist Batwa translators to produce a draft copy of translated scriptures very quickly.

Should there be enough local support for a language project some factors related to the location of the project should be considered. The Batwa community needs to discuss these issues:

- Most acceptable variety of Chitwa that would reach villages in both the eastern and western regions.
- Accessibility to the Batwa area. This is important for example for the checking of translation drafts with review committees and access to external consultants.
- Location best suitable to a professional work environment, including access to reliable electricity and communication networks (landlines or Internet services).
- Location that allows the most community ownership.

It is important to note that the location where most of the translation work occurs does not limit the participation of other areas. There are needs for local revision committees, literacy centers and other related project activities to occur throughout the Batwa areas.

5. NOTES

5.1. Distribution of Results

The results of the survey will be distributed to the following Batwa leaders: via the Headman Agrisson Nzuma, Headman Hatembo of Hatembo Village, the Prime Minister of Nyimba and the Bible Society of Zambia which supplied a letter of introduction for the work.

A copy will be given to the Office of the President, Provincial Administration, Itzhi-Tezhi District Commissioner Mary Mukwiza. Copies will be submitted to the University of Zambia Linguistics and Literature Department, the Bible Society of Zambia and also to the headmen in those centers that helped us during the survey. Copies may also be available to interested agencies upon requests.

Some information will be made available to the public by making our survey results available in public libraries or the internet.

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5.3. Endnotes

ⁱ Linda Jordan. SIL International. Personal Correspondence

ⁱⁱ pg 41ff.

ⁱⁱⁱ pg 79.

^{iv} <http://www.thetype herecommonsjournal.org/index.php/ijc/article/view/189/158>

^v <http://assets.panda.org/img/original/kafuemap.gif>

^{vi} Although Shamakwebo is not “a Batwa village” per say, it is representative of much of where the Batwa have dispersed to along the edges of their traditional homeland. About 50 Batwa are estimated to live in this village.

^{vii} International Travel Maps Zambia <http://www.itmb.com>.

^{viii} Also referred to as Chunga Lagoon.

^{ix} The spelling here *kafwe* may be an archaic form of *kafue* or perhaps a misspelling that has endured.

^x <http://www.thecommonsjournal.org/index.php/ijc/article/view/189/158>

^{xi} <http://www.thecommonsjournal.org/index.php/ijc/article/view/189/158#fn2>: Governance issues, potentials and failures of participatory collective action in the Kafue Flats, Zambia. Harry Nixon Chabwela University of Zambia, Tobias Haller University of Berne, Switzerland

¹² For more details on sampling see Bergman, T. G. 1990, Wetherill, G. Barrie, 1995, and Hasselbring, Sue. 1996.

¹³ According to Decker (1993:1): Language vitality can be defined as the presence of factors which maintain a language community as a separate and united social group, who perceive of their language as an important part of their identity. When a group has linguistic vitality, the individuals in the group behave in a manner which maintains group linguistic unity and distinction as separate from other linguistic groups.

¹⁴ Individual Questionnaire, Question number 3.1a.

¹⁵ Individual Questionnaire, Question number 3.4a.

¹⁶ Individual Questionnaire, Question number 3.12a.

¹⁷ Individual Questionnaire, Question number 3.11 a,b,c

¹⁸ Individual Questionnaire, Question number 3.16a, b, c, 3.17.

¹⁹ Individual Questionnaire, Question number 1.2d. 10 out of 22 respondents that were married have a Batwa spouse and one had a spouse of Ila/Mutwa origin.

²⁰ Soli Survey Report, Kachinda, Kabwe & Sawka. 2006. Individual Questionnaire, Question number 3.11b. 11 out of the 12 responses said Nyanja

²¹ The Group Questionnaire, Question 4.1 asked, “Do the children here speak Chitwa correctly?” Two groups answered “no” and one said “some”. Question 4.2 asked “Do the young people here speak Chitwa correctly?”. Two groups answered “yes” and one said “some”.

²² Individual Questionnaire, Question number 3.14a.

²³ Individual Questionnaire, Question number 3.15a.

²⁴ Individual Questionnaire, Question number 3.9.

²⁵ Individual Questionnaire, Question number 3.5a.

²⁶ Individual Questionnaire, Question number 3.6.

²⁷ Individual Questionnaire, Question number 3.15b.

²⁸ Bergman (2001) cites Grimes (1986) who suggested that when a group becomes sufficiently small, they are in danger of being absorbed by a larger population. There is a critical size, below which a language is less likely to maintain itself. This critical population size for Africa is 10, 000 language speakers.

²⁹ Some additional distances measured through Google Earth:

Kabulungwe to Nchiku: 10.55 km

Kabulungwe to Shinshinde: 16.29 km

Kabulungwe to Banakachele: 32 km

³⁰ WORDSURV 6.0. 2000 pg. 32.

³¹ Group questionnaire: question 2.10a

³² Another example is the word for 'dull'. At our first elicitation in Shamakwebo a word that would be used for a 'dull intellect' was given.

³³ Group Questionnaire, Question number 2.6 to 2.10a

³⁴ Group Questionnaire, Question number 2.12

³⁵ Group Questionnaire, Question number 4.8

³⁶ Group Questionnaire, Question number 4.a,b

³⁷ Group Questionnaire, Question number 4.3, 4.4.

³⁸ Group Questionnaire, Question number 4.9, 4.10a.

³⁹ Group Questionnaire, Question number 4.6.

⁴⁰ Group Questionnaire, Question number 6.1 to 6.2.

⁴¹ Individual Questionnaires number 3.7.