



A Lexicostatistic Survey of the Signed Languages in Nepal

Hope M. Hurlbut

A Lexicostatistic Survey of the Signed Languages in Nepal

Hope M. Hurlbut

SIL International®
2012

Contents

- 0. Introduction
- 1.0 The Deaf
 - 1.1 The deaf of Nepal
 - 1.2 Deaf associations
 - 1.3 History of deaf education in Nepal
 - 1.4 Outside influences on Nepali Sign Language
- 2.0 The Purpose of the Survey
- 3.0 Research Questions
- 4.0 Approach
- 5.0 The survey trip
 - 5.1 Kathmandu
 - 5.2 Surkhet
 - 5.3 Jumla
 - 5.4 Pokhara
 - 5.5 Ghandruk
 - 5.6 Dharan
 - 5.7 Rajbiraj
- 6.0 Methodology
- 7.0 Analysis and results
 - 7.1 Analysis of the wordlists
 - 7.2 Interpretation criteria
 - 7.2.1 Results of the survey
 - 7.2.2 Village signed languages
- 8.0 Conclusion
- Appendix Sample of Nepali Sign Language Wordlist (Pages 1–6)
- References

Abstract

This report concerns a 2006 lexicostatistical survey of the signed languages of Nepal. Wordlists and stories were collected in several towns of Nepal from Deaf school leavers who were considered to be representative of the Nepali Deaf. In each city or town there was a school for the Deaf either run by the government or run by one of the Deaf Associations. The wordlists were transcribed by hand using the SignWriting orthography. Two other places were visited where it was learned that there were possibly unique sign languages, in Jumla District, and also in Ghandruk (a village in Kaski District). Neither place had a school for the Deaf.

The results of the wordlist comparisons showed that there are at least three signed languages in the country. In addition, there is another sign language that was not investigated as part of this survey (Taylor 1997).

Nepali Sign Language (NpSL) was created by the Deaf children in the main Deaf school in Kathmandu during the days of oralism. This school was started in 1967.

In more recent years NpSL has been introduced to many Deaf in scattered areas in Nepal mainly by the Deaf themselves. The Deaf Associations have undertaken to open classes for Deaf children in many places where the government does not yet have a school for the Deaf.

0. Introduction

The *Ethnologue* contains a comprehensive listing of the world's languages as far as they are known, including more than one hundred and thirty signed languages in the world today.¹ At the time of this survey the 15th Edition of the *Ethnologue* (Gordon 2005) listed only one sign language in Nepal, Nepali Sign Language, which was developed by the Deaf children in the first school for the Deaf in Kathmandu during the days of oralism.² My companion, Diana Johnson from England, had been a teacher of the Deaf in Nepal previously so she volunteered to be my guide to carry out a sign language survey when she came back to Nepal on a visit. Our 2006 survey was a Rapid Appraisal Survey (Parkhurst 1998) consisting of collections of wordlists and interviews.

1.0 The Deaf

In any people group from one to three individuals³ in every 1000 births are born deaf (Parkhurst 1997). The majority of Deaf children (more than 90%) are born into families where both parents are hearing (Mitchell 2005). They have no way to learn a language either spoken or signed. They do not learn to speak because they cannot hear, and they do not learn to sign because there is no one to teach them and no model to follow. Most deaf worldwide grow up without any language. The family will often develop a few rudimentary signs, called "home signs", but a sign language does not occur in isolation.

Usually Deaf children learn a signed language in school. It is only the few Deaf children who are born into Deaf⁴ families who will usually learn the sign language of their parents in the normal way that hearing children learn from their parents. If there is a group of deaf children in a school where no sign language is taught, the children will develop a sign language in a few years. For example, this is how Penang Sign Language developed in Malaysia in the 1950s to 1970s (Hurlbut 2003), and this is also how Nicaraguan Sign Language is currently developing in Nicaragua (Morgan and Kegl 2006).

Deaf children who have been to school do not necessarily learn to read the language they are taught in school. Most, if not all, written languages are based to some extent on the sound system of that language. Since the Deaf child cannot hear the sounds of the written language he has no way to decipher how it should be spoken or what the symbols on the page mean. He must memorize every word individually, as if he were memorizing a series of telephone numbers. It is not surprising then that an average Deaf high school graduate in a developed country usually has a reading level of about grade 4 (primary 4). In most other countries Deaf children who have completed school very soon lapse into illiteracy again.

¹ SIL International is an organization that has specialized in working with minority language groups around the world for more than 70 years. SIL International began to be interested in the signed languages of the world only in the late 1980's

² Oralism is a system of teaching the Deaf to speak and read the lips of the one he or she is talking to. This system began in the 1880s, and lasted for about a hundred years in most deaf schools throughout the world. It is gradually being replaced by a new system called "Total communication" whereby Deaf children are taught to sign, and if they have residual hearing they are also taught to speak and lip read as well.

³ These figures apply to developed countries. In some underdeveloped countries the incidence may be as high as double these figures. (Private communication from Dr. Valerie Inchley, quoting Dr. Michael Smith, a British ENT surgeon who worked in Nepal for many years).

⁴ Some years ago the convention was started in the United States of using upper case Deaf to refer to those who are hearing impaired, use sign language and consider themselves to be part of a community of Deaf people. Lower case deaf refers to the hearing impaired, often older people who are more comfortable in the hearing world (Parkhurst 1997).

1.1 The deaf of Nepal

According to the national census of 2001/2002 (Chaulagai, 2005) there were over 500,000 deaf people in Nepal. This figure would probably include all late-deafened individuals as well as those born deaf and other pre-lingual deaf.⁵ Of the total number of Deaf in the census only 5,743 persons were recorded as using Nepali Sign Language.

Tribhuvan University Teaching Hospital and Britain Nepal Otology Service (BRINOS) did a survey on the prevalence of deafness and ear diseases in 1991 (Maini, 2006). They found that about 16 percent of the Nepalese population over 5 years of age had some hearing impairment, often caused by inner ear infections, communicable diseases, use of ototoxic drugs, genetic causes, etc. That would be about 3,000,000 individuals, many of whom would be profoundly deaf.

The Danish Association of the Deaf (LBH) also did a census. It was a thorough census, but was limited to one area only. They found that about 2 percent of the residents of that area were functioning as pre-lingually, profoundly deaf. If these figures are generalized to the whole population, there would be 580,000 Deaf in Nepal today.

Deaf children are generally not welcomed in a Nepali family because it is believed that a congenital or acquired problem like that is the result of “bad karma” (Joshi 1991:165). As a result, Deaf children have a very difficult time even at home.

Although the incidence of deafness is approximately one to three in every one thousand births worldwide, in Nepal the incidence of deafness becomes much higher than elsewhere because of the high incidence of certain illnesses. Nepal has a high incidence of otitis media (infection of the inner ear, known as “glue ear” by English speakers in Nepal) and some contagious diseases such as measles, meningitis and rubella in the mother during pregnancy. These lead to a higher than normal incidence of deafness, due to the difficulty of travel to and from remote villages, and the lack of medical care available. Other factors that may contribute to a high incidence of deafness are marriages between cousins in some language groups, and patients who take their medications for tuberculosis incorrectly. Streptomycin, which is commonly used for tuberculosis in some places, may also be a contributing factor for sensitive patients. For a number of years there has been a group of Nepali and British Ear, Nose and Throat surgeons who have held camps in rural areas of Nepal to treat some of the neglected Deaf. Other NGOs have also responded to the need (Shrivastav, Rakesh Prasad 2004).

1.2 Deaf associations

The Nepali Federation of the Deaf has about two dozen institutional members (i.e., local Deaf Associations) scattered throughout the country, but most are in the centre and in the east.

The Kathmandu Association of the Deaf, a member of the Federation, offers sign language classes for the hearing to learn Nepali Sign Language (Ozolins 1996) and still continuing in 2006, (personal communication at Kathmandu Association of the Deaf). In Pokhara, the Gandaki Association of the Deaf (also a member of the Federation) provides sign language classes for the hearing as well. Sometimes even the smaller deaf associations will run sign language classes from time to time. There is also a National Association for the Deaf and Hard of Hearing, but we did not obtain any new information from their office.

1.3 History of deaf education in Nepal

Only about 1 percent of Deaf and hard of hearing children in Nepal have the opportunity to have any education, and that is usually only up to class 5. In some places the classes only go up to class 3. Only two schools, one in Kathmandu and one in Pokhara have schooling up to class 10, so very few Deaf children are able to get their SLC (School Leaving Certificate). When we were in Pokhara they were starting class 11 and hoping to expand to class 12 in the future.

⁵ Pre-lingual Deaf means those who are born deaf, or who become deaf before they learn to speak well.

The first school for the Deaf was started in Kathmandu in 1967 by a lady named Indira Shrestha. She was still the headmistress of the school when we visited Kathmandu in 2006, and the progress of the school over the years was very impressive. The school began as a speech training centre with 10 children, but later developed into a school using oralism. A hostel was opened in 1981, so the children naturally developed their own sign language there. In 1984 an American teacher came to the school and introduced Total Communication for the classroom teaching. After that Indira Shrestha went to Gallaudet University for Deaf studies in 1986. By 1989 there were enough signing Deaf to produce the first dictionary of Nepali Sign Language (Ross, 1989). Gradually the teachers were trained to use sign language, and the school was upgraded to follow the government curriculum. The students began to take the examinations for the School Leaving Certificate, and three of them became teachers in the school out of twenty-three teachers.

Other schools followed: Bhairahawa (also known as Siddharthanagar or Baruwa) in the early 1980s, Surkhet about 1981 to 1983, Rajbiraj also about 1983, Pokhara in 1987 with others following them, in some cases with only one class. In addition to the schools for the Deaf, there are some special classes for Deaf students within pre-existing schools for hearing pupils (Dyssegaard 2000). Some young Deaf men who were fluent in sign language were employed as teachers' aides in order to facilitate communication between the teachers and students. Some of these programs have been discontinued. One relatively new special class had been started in the government school in Jumla about a year before we visited there.

The Deaf children in Nepal are more fortunate than most Deaf children in third world countries in that the government and the Deaf Associations have undertaken to provide education for some of them. There are 5 special schools for Deaf children run by the government, seven run by Deaf Associations, and at least one privately run. Some of the schools are having financial difficulties because the overseas funds that they have been relying on have started to dry up, so they have to send home some of the older children who are boarders. Another problem faced in some schools is lack of training for the teachers. In one school the teacher had taken a course in Nepali Sign Language and also knew the local village sign language. However, he was not yet proficient in Nepali Sign Language. As a result the children were only able to learn the little he knew of Nepali Sign Language.

Many Deaf are unemployed, but some are self-employed as vendors, or work as beauticians, tailors, etc. Others help on the farm as Nepal is largely a farming country. A few of the Deaf are employed in schools for the Deaf or employed by Deaf Associations as sign language teachers if there is funding available from abroad.

1.4 Outside influences on Nepali Sign Language

Nepali Sign Language has been somewhat influenced by American Sign Language (ASL) since the Nepali Sign Language dictionary was prepared with the help of an American Peace Corps volunteer. Another outside influence was Indian Sign Language (ISL) as India shares a border with Nepal. Yet another influence was British Sign Language (BSL), probably via Indian Sign Language.

2.0 The Purpose of the Survey

The purpose of the survey is to determine which variety, or varieties, of sign language used in Nepal would be the most useful in which to produce materials that communicate well for all the Nepali Deaf.

Since Nepali Sign Language has been somewhat influenced by ASL and BSL, another objective is to determine how closely NpSL is related to ASL or BSL. Is there any relationship or are they related but separate languages?

3.0 Research Questions

This paper addresses the following questions:

1. How many varieties of NpSL are there in Nepal?
2. Is there one variety of NpSL that is understood by all the Deaf?
3. In comparing the NpSL wordlists with the ASL and BSL lists, are they clearly the same or clearly different?

4.0 Approach

In the survey, the principal tools I used were to ask questions and video record people showing me the sign they use for a given word in a standard wordlist. The two-part list of words chosen was basically the same list as that which was developed by the participants in the Sign Language courses at the University of North Dakota in 2002 and is the same list that I have used in other Asian countries (Hurlbut 2003, 2008a, 2008b, 2009).

The lists of words elicited from different people in different towns were compared using a method to be described below.

It is difficult to determine what the percentages of similarities mean when comparing the wordlists, but I think it is safe to conclude that for the comparison method I am using, if the percentage of similarities between the wordlists from two towns is greater than 85 percent, this indicates that these lists represent two varieties of the same sign language. However, if the results show percentages below 60 percent, we are probably dealing with different languages and the signers would not really understand each other. The same is true in comparing NpSL with ASL and BSL.

If the results of the wordlist comparisons fall between 60 percent and 85 percent further research may be needed to determine the need for language development in the signing community.

The attitudes of the signing community are sometimes an important factor in determining the need for language development, and may override the conclusions based merely on wordlist percentages.

5.0 The survey trip

We spent several days in Kathmandu to prepare for the survey and video the Deaf in that city signing the words in our wordlist. From there we visited Surkhet, Pokhara, Dharan, and Rajbiraj. These towns were chosen as they had well established schools for the Deaf, and so they had a pool of students who had graduated who could potentially help with signing the wordlist. We were told that there was a separate sign language in Jumla, so we included that town. We were also told that there seemed to be a lot of people signing in the village of Ghandruk, so we went to see what the situation was there.

While we were in Kathmandu preparing to conduct the survey I read a book by Irene Taylor (1997)⁶ in which she writes about the Deaf of Jhankot in Nepal who have their own unique sign language. She was told that 10 percent of the villagers were completely deaf. This book gave a good background as to the causes of the unusually high incidence of deafness in Nepal and prepared us to watch for similar village sign languages. Unfortunately we did not have the opportunity to visit Jhankot.

⁶ Irene Taylor is a CODA (Child of Deaf Adults) from America who had learned American Sign Language as a small child. She discovered and documented a new sign language in the village of Jhankot when she was trekking there with the purpose of studying the Deaf.

5.1 Kathmandu

We began the actual survey with a visit to the office of the Nepali Federation of the Deaf and Hard of Hearing. While there I was able to video some Deaf members of the Federation: two young people, one man and one woman plus an older woman.

5.2 Surkhet

Our first trip was to the town of Surkhet (also known as Birendranagar.) We went to the Deaf school (Sri Siddhu School for Deaf children), about half an hour's walk away from the town centre. This school is affiliated with the school in Kathmandu, and had been subsidized by a Danish organization for several years. Funding had been cut back and they had to reduce the number of children in the hostel. The Deaf man who was representing the Federation of the Deaf and Hard of Hearing promised to find subjects for us to video, but when we arrived the next day he was alone, so we videoed him first, then videoed a couple of the older male students.

5.3 Jumla

From Surkhet we flew to Jumla where there was no school for the Deaf. However, we had been told that one organization had a worker there who knew the local sign language. About one year previously the government had trained one of the local teachers in Nepali Sign Language for three months, and opened a class for Deaf pupils in the local school.

With the help of the worker who knew the local sign language we went around the town and nearby hills looking for Deaf people to video. The first one we videoed was a lady who had trouble recognizing the pictures on the wordlist. She would sign a generic term such as "animal" instead of "cat, dog," etc., so we discontinued the videoing after a couple of pages. We then found a couple of Deaf porters out near the air strip and videoed them together, so that they could help each other out. One of them added details to the signs that the other sometimes missed. The following day we were able to video a man who was recruited by the teacher of the Deaf children. He sometimes had to prompt the Deaf man when he did not recognize a picture.

From Jumla we flew to Nepalgunj, where we stayed until we could get a van to Pokhara.

5.4 Pokhara

In Pokhara we visited the Deaf school where Diana had taught a few years before. There we made arrangements to video a couple of the teachers who were themselves Deaf when school was out at the end of the week.

5.5 Ghandruk

From Pokhara we made plans to climb up to Ghandruk village. Since we had been informed that there were a lot of people in the village who signed, we wondered whether they were using a distinct sign language or Nepali Sign Language. It was 1½ day's climb to reach the village. The following day we videoed three of the Deaf in the old part of the village. We met or were told of 9 different Deaf in that part of the village, so I estimated that there may be as many as 20 or so early deafened Deaf in the whole village. Many of the hearing in the village also know how to sign the village sign language. The following day after we videoed a young Deaf man, we returned to Pokhara..

5.6 Dharan

From Pokhara we travelled by taxi to Dharan, near the eastern border with India, taking 1½ days to reach there. We first visited the Deaf school and met the Deaf teacher who is also the hostel warden. It was a holiday, but there were many children in the hostel. The next day we found a group of Deaf at a small art shop where we videoed three of the Deaf leaders.

5.7 Rajbiraj

From Dharan we drove for about three hours to reach Rajbiraj. There we visited the Deaf school, and saw their hostel and classes. The teachers were very helpful in finding the Deaf, and before long we had videoed two Deaf men. From there we headed back to Kathmandu.

6.0 Methodology

In videoing the Deaf we used a two-part wordlist. (See Hurlbut 2008a) Part 1 consists of 111 pictures of items, such as animals, food items, implements, vehicles, people, and a few verbs. Part 2 consists of items that are difficult to picture. There were 138 written words in Nepali, such as terms for nature, adjectives (including some opposites), some nouns that are difficult to draw, some verbs, etc. The reason that Nepali was used is that it is the language taught in the schools for the Deaf. To make elicitation more natural, related items are arranged in categories where possible.

In each place visited, one or more Deaf signed the words on the wordlist, and these were videotaped using a camcorder and 8 mm. videotapes. After that he or she was asked to sign a personal story about some incident that had happened to him or her.

In comparing the wordlists, I look at various parameters of the signs (Liddell and Johnson 1989), the handshape, orientation, location, contact, movement, and non-manuals⁷. If two of these parameters are identical, then probably the sign is similar on the two lists, but I weight the parameters of the sign differently.

1. Handshape: This seemed to be the most important criterion, as often a change in handshape only will change the meaning of a sign.
2. Location: The location of a sign seemed to be quite important, so was ranked higher than some other parameters. Signs on the head and face were given a heavier weighting than those made farther from the head, when deciding on similarities or differences between different forms of the signs.
3. Movement: Movement seems to be somewhat less important in signed languages than handshape, but the movement can also carry a lot of weight for some signs.
4. Orientation: Orientation refers to the direction of the palm of the hand which can face up or down, forward or backward, or on an angle. For certain signs the orientation is crucial. (For example, in American Sign Language, “children” is signed with the palm facing down, but the handshape and movement are the same as for “thing” where the palm faces up.) Sometimes orientation does not seem to matter, especially the orientation of the non-dominant or base hand.
5. Contact: The presence or absence of contact and the kind of contact was taken into consideration only if it seemed important for that particular sign.
6. Non-manual signals (NMS): There were very few signs that seemed dependent on non-manual signals, since many of the respondents only used them for a few signs, such as smile, angry, sour, etc. For those particular signs, of course, the NMS were considered important in evaluating the sameness or difference when comparing signs.

⁷ Non-manuals include facial expressions, eye movement, eyebrow movement, mouth movements, etc. as well as head movements and body movements, such as twisting or tilting the body.

7. Number of hands: Usually the use of one or two hands was not significant. If there was some doubt about whether the signs were similar or not, the fact that one or two hands were used was taken into account.

There are nearly always one or more signs on a list that are questionable as to similarity with signs on another list, but they are always very few.

7.0 Analysis and results

7.1 Analysis of the wordlists

The wordlists were transcribed using the system known as SignWriting which was invented by Valerie Sutton (Sutton, 1999). This system uses hand shapes based on the expressive point of view of the signer, with arrows to indicate the type of movement and direction, and other symbols to show the type of contact, the location of the hands and place of contact, body movement and facial expression. Not all the parameters are significant in every sign, and the transcription only includes the significant features of each sign.

The wordlists were grouped by town and the groupings were compared with each other.

In comparing the signs in different wordlists, those that were identical were marked as such, and those that were similar had their own category. For the final comparisons these two groups were combined into one. The reason for having a category of identical was in case questions arose of whether certain signs were really similar or not. The ones that were marked “identical” did not need to be revisited. The criteria for analyzing signs as the same or similar were based on the categories listed in Section 6.0. They are ranked in order of importance as defined by the author.⁸

In deciding whether two signs were similar or not, a minimum of two parameters had to be the same. For example, if the handshape of the dominant hand and the movement were the same in the two signs they were regarded as similar, even if only one hand was used instead of two hands. However, if the handshape was similar, but not identical, and the movement was also similar, but not identical, then the use of one or two hands became an important factor in deciding similarity. For example, “cat” was considered different in one set of comparisons, because the handshape, movement and orientation were all a bit different, even though the sign was in the same location. Differences in the non-dominant hand were sometimes ignored, especially an open or closed thumb as those handshapes are considered to be allophones (Liddell and Johnson 1989). A working assumption was that all the Deaf living in the same town would know all the signs used by those from whom I was eliciting the words. Thus when comparing the signs from two towns with each other, if a sign from one subject was the same or similar to any one of the signs from the other town, the two were counted as similar for that item. Often there were clear regional differences in the way the Deaf signed certain items. Sometimes all the subjects in one town would sign a Nepali word using exactly the same sign, and those in a different town would also sign exactly alike, but the signs used in one town were quite different from those in the other.

7.2 Interpretation criteria

Steve and Diane Parkhurst (2007), using a method similar to the method I am using, hypothesized the following criteria for evaluating the results of wordlist comparisons.

Lexical Similarity

0% – 40% = different language family

40% – 60% = different language, same language family

⁸ Others have used slightly different ranking.

60% – 70%	=	likely to be considered a separate language but intelligibility testing is necessary
70% – 80%	=	unable to determine if same or different language; intelligibility testing is necessary
80% – 95%	=	same language, different dialect; intelligibility testing necessary to determine how distinct the dialects are
95% – 100%	=	same or very similar dialects of the same language

In a follow-up communication, Steve Parkhurst (2007 personal communication) had this comment:

I would say that if similarity is above 80%, it's not really necessary to do intelligibility testing—unless you have anecdotal data saying that there is some possible miscommunication or some other issue that makes things harder to understand. I would still say that for most lists that have less than 60% similarity, you're going to need an adaptation. The 60–80% range is the big "iffy range" and needs more testing.

Albert Bickford (2007 personal communication) was not quite so definite, but had this to say:

Most of the studies I've seen tend to come up with similarity figures around 85–100% for two wordlists from the same language, and around 10–40% for two unrelated languages. So, if two samples score in the 30%–65% range, I'd say there is a likelihood they've had some historical contact (not necessarily genetic, it might be borrowing or creolization), but they are probably not mutually intelligible. I'd expect that other factors would lead us to conclude that they are separate languages, and unless there is anecdotal evidence that they may be dialects of the same language, I'd just assume they are distinct languages and not test further. Between about 60% and 90%, I'd want to look much closer at other types of evidence to help determine if they should be considered the same language or dialect, if they can use the same video materials, etc., I'd consider things such as attitudes toward other varieties of signing, perceptions of sameness or difference, evidence of regular communication between two groups, and if necessary RTT testing [recorded text testing]. But, I wouldn't rely on wordlist comparisons alone to make that judgment (as the scale above implies). Rather, I'd use the wordlist comparison to distinguish clear cases from unclear ones, so as to focus the more time-intensive survey work on those situations where it is most needed.

My evaluation criteria were similar to those used by the Parkhursts. I do not feel that the difference in categories or the prioritization that I used to compare these wordlists should make a significant difference to the scores obtained. As Bickford points out, conclusions based solely on wordlists are indicators but not completely definitive, but it is not thought to be profitable to try to analyse the present data in greater detail.

7.2.1 Results of the survey

There is one national sign language in Nepal, Nepali Sign Language (NpSL) and at least three village sign languages, namely Jumla Sign Language, Ghandruk Sign Language and Jhankot Sign Language.

Nepali Sign Language has been influenced by a number of other signed languages, such as Indian Sign Language (ISL), British Sign Language (BSL) and American Sign Language (ASL). The most important influence is probably Indian Sign Language because of its close proximity to Nepal. According to James Woodward (Woodward 1993) the languages share from 68–71 percent similarities. British Sign Language has also influenced Nepali Sign Language, probably via Indian Sign Language. The score between BSL and NpSL was only 46 percent, so it does not seem to be as significant an influence as ISL. The influence of ASL does not seem to be very significant as the score for the comparisons between the two languages was only 33 percent.

The results of the comparisons of the NpSL wordlists by cities and towns are found in the Table of Wordlist Comparisons. (See below.) Except for the scores comparing the sign language as it is used in Dharan with the other towns which varied from 81–84 percent, the other towns seemed to have fairly high scores, varying from 85–92 percent. If there seems to be a problem with the Dharan Deaf

understanding the sign language as it is used elsewhere, it might be good to do Recorded Text Testing. Otherwise it seems that the Nepali Sign Language is fairly uniform and language development should be able to proceed without too many problems.

7.2.2 Village signed languages

Jhankot Sign Language in Dolpo District was documented by Irene Taylor in her book, Jumla Sign Language is found in Jumla District and Ghandruk Sign Language in Kaski District. The latter two Sign Languages were observed by various travellers, and the information was passed on to us. When we checked out the possibility of new signed languages, in both cases it proved to be true. The population of Deaf in each of these villages is small, but compared to the total village population is higher than one would normally expect.

Irene Taylor is an American who came to Nepal for three years to write a book about deaf people in Nepal. Her parents are Deaf, and she learned American Sign Language early in life. Her travels took her to Jhankot Village in Dolpo District where she met some Deaf with whom she could not communicate, as they had their own sign language, Jhankot Sign Language. She learned to communicate a little with them, and eventually included several pages in her book about her encounter with this small group of Deaf people. She was told that 10 percent of the villagers were completely deaf.

In Jumla we met 19 different local Deaf people, or had their houses pointed out to us. We did not cover all the trails by any means, so there are probably more Deaf than we were told about. (Our guide did not come to the office the next day, so we could not ask any detailed questions of her.) Since Jumla is the main town in Jumla district it is possible that more than the usual number of Deaf reside there or work there. We were not able to get the statistics for Jumla District, so it is difficult to estimate the percentage of those using Jumla Sign Language. Some of the Deaf school children came from up to 4–5 hours walk away, and some as much as 2 days walk away. The oldest boy of 16 was too old to stay in the hostel so walked three hours each way to school and back each day. We did not find out how many of the children know Jumla Sign Language. They were learning Nepali Sign Language in school, and none of them were from the town itself, so the language may be dying out, as the youngest Deaf adult we met was probably in his late twenties.

In Ghandruk Village which is 1½ days travel from Pokhara, we met six Deaf, and were told about several others in that part of the village. Since there were two sections to the village we extrapolated the numbers and estimated about 18–20 Deaf in an area of about 1500 people. The percentage of Deaf there is probably about 1.2 percent. There seemed to be quite a few hearing people who could sign as well. In one case a Deaf mother could not understand Nepali Sign Language, so a young hearing neighbour boy explained to her what we wanted. In another case the Deaf daughter seemed to have trouble seeing the pictures, so her hearing father would explain what the picture was about, and she would sign the name of the pictured item.

When the Ghandruk wordlists were compared with those from Kathmandu the result was 63 percent suggesting that the Ghandruk Deaf have had quite a bit of contact with Nepali Sign Language. The result of the comparisons of Ghandruk Sign Language with the NpSL used in Pokhara was 53 percent, showing that even though there has been contact with outsiders, Ghandruk Sign Language has not assimilated a lot of Nepali Sign Language yet. They are only distantly related languages.

Given the rugged conditions in much of Nepal, and the lack of medical care due to the difficulties of travel, it is probable that there are other village sign languages tucked away up in the mountains.

Table of Wordlist Comparisons for Nepali Sign Language and some Village Sign Languages

KTM									
85	SUR								
92	87	POKH							
83	81	82	DHA						
91	86	92	84	RAJ					
45					JUM				
63		53			49	GHAN			
46							BSL		
33								ASL	

Place name acronyms

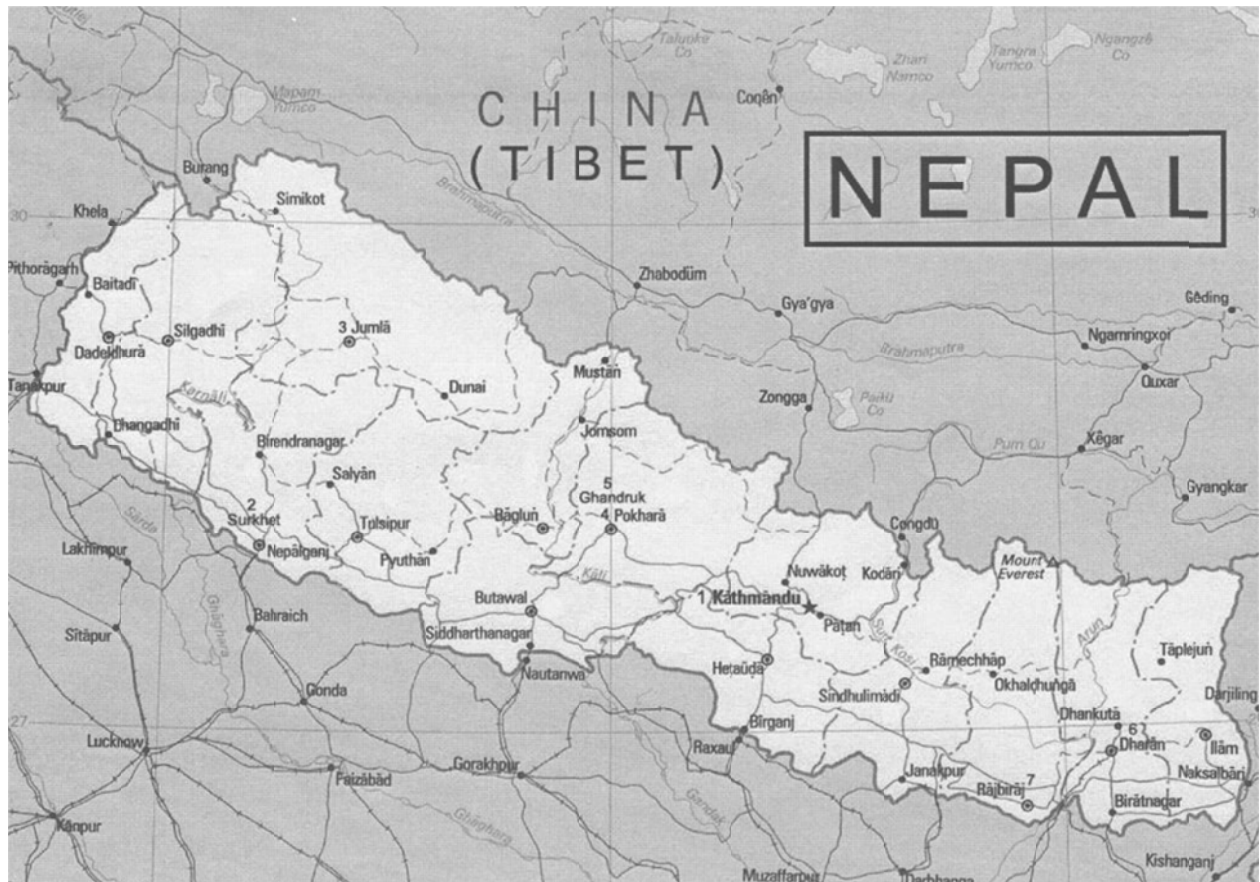
KTM	Kathmandu	JUM	Jumla
SUR	Surkhet	GHAN	Ghandruk
POKH	Pokhara	BSL	British Sign Language
DHA	Dharan	ASL	American Sign Language
RAJ	Rajbiraj		

8.0 Conclusion

Based on the wordlist comparisons, there seems to be no doubt that Nepali Sign Language is the language of choice for the Deaf in Nepal.

In addition to Nepali Sign Language, there are at least three other signed languages in Nepal: Jhankot Sign Language, Jumla Sign Language, and Ghandruk Sign Language. At least two of these three signed languages are widely used in their own villages for everyday communication amongst the Deaf and for communicating with the hearing in their own village.

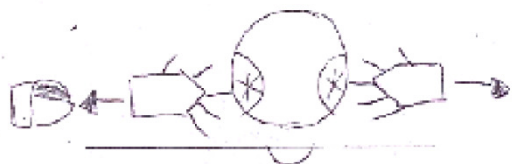
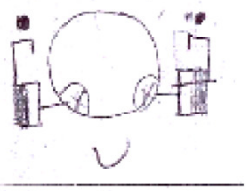
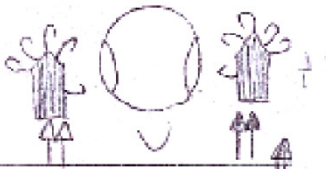
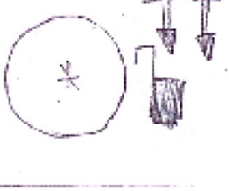
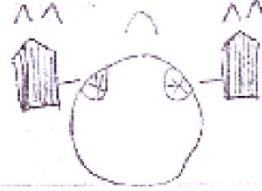

Because of the cost of schooling in Nepal and the limited number of schools for the Deaf, most Deaf children do not have an opportunity to get an education or even to have a language of any kind. There is a strong stigma attached to deafness so that the children are often kept hidden in the house. The parents feel embarrassed to be burdened with a Deaf child as deafness is considered to be a sign of bad karma. There are few schools for the Deaf, and when outside assistance is lacking only a few can afford to send their children to school. Often the schools are far away from home, and some children are not able to go to school until they are in their teens. Only a fortunate few who can get an education and even that does not guarantee that they will get work. Some sell trinkets by the roadside or resort to begging. Since Nepal is a very highly agricultural country most of the Deaf can be employed on the family farm.



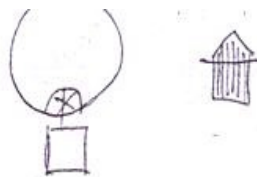
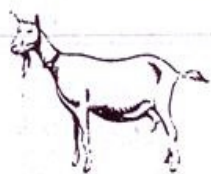
Survey Locations in Map

- 1 Kathmandu
- 2 Surkhet
- 3 Jumla
- 4 Pokhara
- 5 Ghandruk
- 6 Dharan
- 7 Rajbiraj

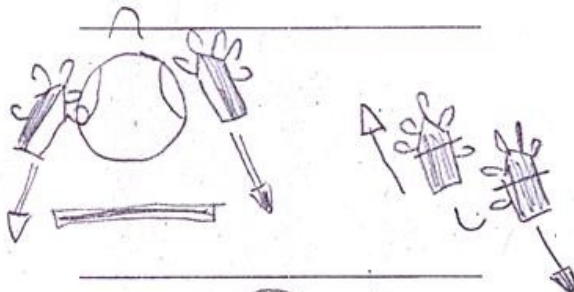
Appendix Sample of Nepali Sign Language Wordlist (Pages 1–6)

SIGN LANGUAGE WORD LIST – PART ONE		PICTURES
1	English cat	<p>Signs</p> 
2	mouse, rat	
3	dog	
4	chicken	
5	rabbit	
6	horse	

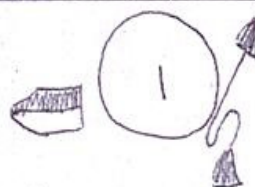
7 goat



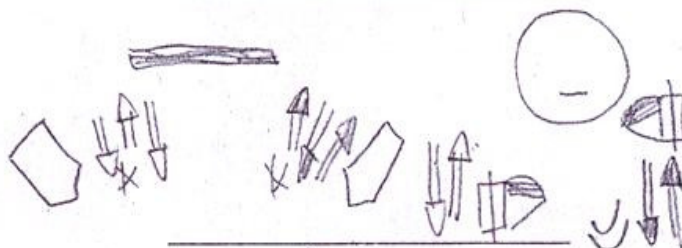
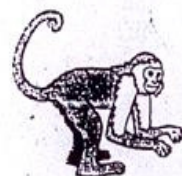
8 lion



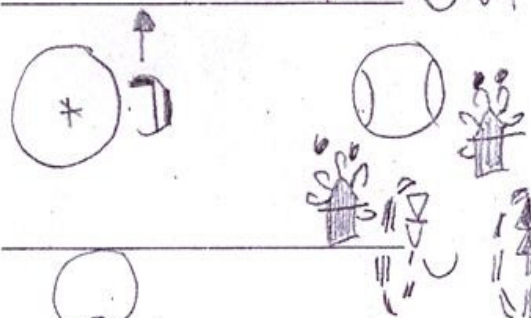
9 elephant



10 monkey



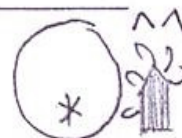
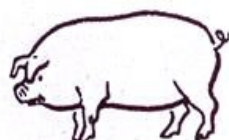
11 bear



12 frog



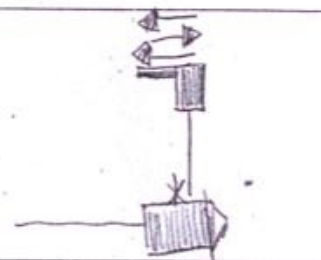
13 pig



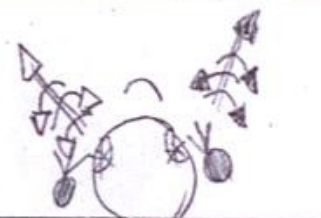
14 earthworm



15 snake



16 deer



17 cow



18 spider



19 bird



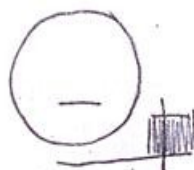
20 fish



21 tiger



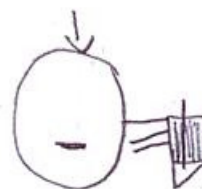
22 feather



23 apple



24 grapes



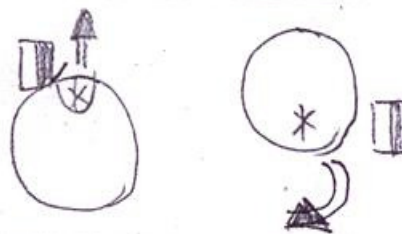
25 tomato



26 orange



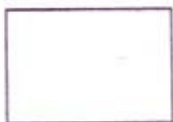
27 carrot



28 red



29 yellow



30 green



31 blue



32 white



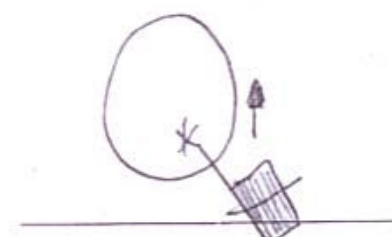
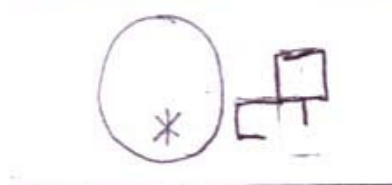
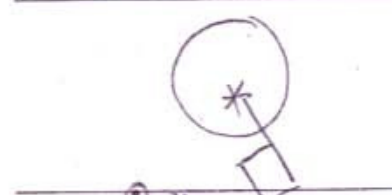
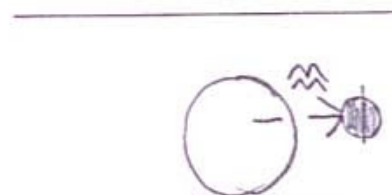
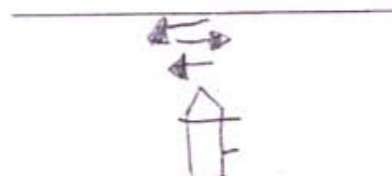
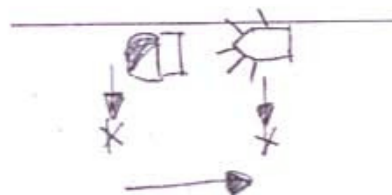
33 black



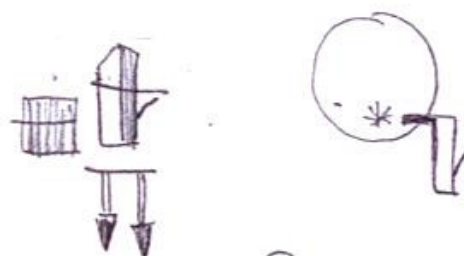
34 onion



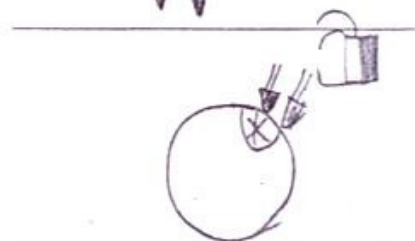
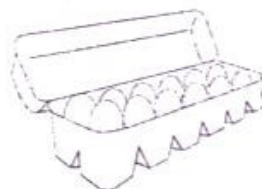
35 chilli



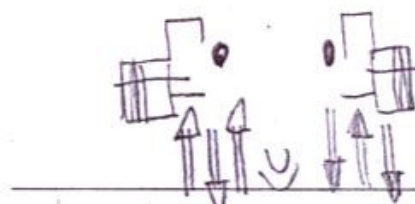
36 bread



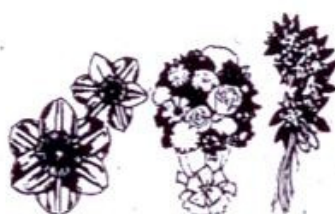
37 eggs



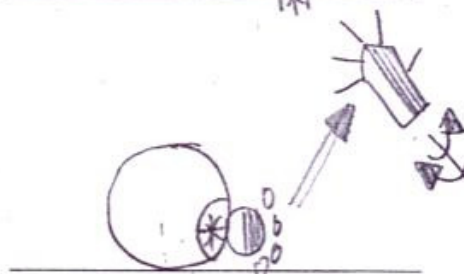
38 milk



39 flower



40 sun



41 stars



42 moon



References

- Chaulagai, Devlal. 2005. The development and spread of Nepali Sign Language and the question of recognition. 2005 edition of *Ekchhin*, newsletter of MS Nepal, 16–19.
http://www.msnepal.org/reports_pubs/ekchhin/2005/ekchhin_eng.pdf (Last Reviewed in 2009.)
- Dyssegaard, Birgit. 2000. Emerging educational programs for deaf students in Mongolia and Nepal: A special report. In Patricia Elizabeth Spencer, Carol J. Erting, and Marc Marschark (eds.), *The deaf child in the family and at school: Essays in honor of Kathryn P. Meadows-Orlans*, 239–254. Mahwah, NJ: Lawrence Erlbaum Associates).
- Gordon, Raymond G., ed. 2005. *Ethnologue: Languages of the World*. Fifteenth Edition. SIL International. Dallas, Texas.
- Hurlbut, Hope M. 2003. A preliminary survey of the signed languages of Malaysia. In Anne Baker, Beppie van den Bogaerde, and Onno Alex Crasborn (eds.), *Cross-linguistic perspectives in sign language research : selected papers from TISLR 2000*, 31–46. Hamburg: Signum Verlag.
- Hurlbut, Hope M. 2008a. A survey of sign language in Taiwan. *SIL Electronic Survey Reports 2008-001*: 115 p. <http://www.sil.org/silesr/abstract.asp?ref=2008-001>
- Hurlbut, Hope M. 2008b. Philippine signed languages survey: A rapid appraisal. *SIL Electronic Survey Reports 2008-010*: 16 p. <http://www.sil.org/silesr/abstract.asp?ref=2008-010>
- Hurlbut, Hope M. 2009. Thai signed languages survey—a rapid appraisal. *SIL Electronic Survey Reports 2009-016*: 14 p. <http://www.sil.org/silesr/abstract.asp?ref=2009-016>
- Hurlbut, Hope M. forthcoming. The signed languages of Indonesia: An enigma. *SIL Electronic Survey Reports*.
- Inchely, Valerie. 2011. Personal communication.
- Joshi, Ragay Bir. 1991. Nepal: A paradise for the Deaf? *Sign Language Studies* 71:161–168.
- Liddell, Scott K., and Robert E. Johnson. 1989. *American Sign Language: The phonological base*. Washington D.C.: Gallaudet University Press.
- Maini, Sangeeta Kapur. 2006. Hear all about it. <http://careers.bmj.com/careers/advice/view-article.html?id=1991> (Viewed Oct. 2010)
- Mitchell, Ross E., and Michael A. Karchmer. 2005. Parental hearing status and signing among deaf and hard of hearing students. *Sign Language Studies*, 5(2):231–244. Washington D.C.: Gallaudet University Press.
- Morgan, Gary, and Judy Kegl. 2006. Nicaraguan sign language. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 47(8):811–819.
- Nepal National Federation of the Deaf and Hard of Hearing (NFDH). 2003. *Nepali Sign Language Dictionary*. Kathmandu, Nepal.
- Ozolins, Birgitta. 1996. Deaf women in Nepal. *World Federation of the Deaf World Congress proceedings*. (1996:738–740)
- Parkhurst, Steven, and Dianne Parkhurst. 1997. Untitled draft report of a sign language survey in Spain.
- Parkhurst, Steven, and Dianne Parkhurst. 1998. Introduction to Sign Language Survey. *Notes on Sociolinguistics* 3:215–242. Dallas, Texas: Summer Institute of Linguistics.
- Ross, Patricia, Nirmal Kumar Devotka, and Dhruva Man Maskey. 1989. *Nepali Sign Language Dictionary*. Kathmandu: Welfare Society for the Hearing Impaired, Naxal School for the Deaf.
- Schein, Jerome D., and Marcus T. Delk, Jr. 1974. *The Deaf population of the United States*. Silver Spring, MD. The National Association of the Deaf.
- Shrivastav, Rakesh Prasad. 2004. One and a half decades of Mobile Ear Surgery Camps in rural areas of Nepal to combat deafness and ear disease. In J. Suzuki, T. Kobayashi, and K. Koga (eds.), *Hearing Impairment: An invisible disability*, 466–470. Tokyo: Springer.
- Sutton, Valerie. 1999. *Lessons in signwriting: Textbook and workbook*. Second Edition. La Jolla, CA: The Deaf Action Committee for SignWriting.

- Taylor, Irene. 1997. *Buddhas in disguise*. San Diego, CA.: Dawn Sign Press.
- Woodward, James. 1993. The relationship of sign language varieties in India, Pakistan and Nepal. *Sign Language Studies*, V78, 15–22.
- Zeshan, Ulrike. 2000. Gebardensprachen des Indischen Subkontinents. [In-depth analysis of selected topics in morphology, syntax, nonmanual aspects, sign space and discourse, with sociolinguistic data and lexical comparison of regional varieties.] Ph.D. dissertation. University of Cologne. Munich: LINCOM Europa.