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Research Journal

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(A Peer Reviewed Open Access Journal)

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Editorial...

Since a journal is a research journey for researchers and academicians, Research Management Cell (RMC), a research part of J S Murarka Multiple Campus Lahan, Siraha has been bringing out research based journals as its main publications for last five years with the aim of enhancing the faculty members' research culture in their respective realms and promoting them for integrating research activities with teaching and learning strategies. The primary aim of the RMC is to promote and expand the research activities by providing a number of grants; thesis support grants, mini-research grants, support for trainings and seminars, and travel grants for faculty members, and supports for MPhil and PhD. It gives us an immense pleasure that we are giving the fourth volume of our journal a complete shape as an annual publication. Although this volume was supposed to have been published in 2022, it remained awaited due to some internal hurdles of RMC, and now onward it's been decided to be biannual.

Regarding the articles submitted for this volume, we had fifteen submissions in different categories from the faculty members of J S Murarka Campus (60%) and other campuses (40%) across the country. Nearly 25% of the submissions did not proceed to the next stage of the editorial process because they were not prepared based on the recommended guidelines. So, this is a reminder to the authors to follow the manuscript preparation guidelines. The articles of this volume broadly address multi major themes: theoretical and applied linguistics, science stream, health sector, and management realm. One notable feature of this volume is that it includes five articles addressing different theoretical aspects of Rai, Maithili, Tharu and Limbu languages, and one of them is from applied linguistics discussing psychological violence caused by the students against teachers in the classrooms. Similarly, another one addresses the roles of Diaspora for the dynamic development of Lahan Municipality. Regarding the science spectrum, the article investigates the fish selling price fluctuation at Lahan market and the types of fish available in Siraha and Saptari. Moreover the articles related to the health issues are also addressing the present problems many people are facing at present across the country and one more attempt made for surveying the quality enhancement of faculty members due to the implications of technology in Koshi Province is also very practical. These contributions reflect the multi-disciplinary nature of our journal and the collective efforts of the scholars from different backgrounds.

As an editorial team, we are committed to fostering a culture of rigorous scholarship and open exchange of ideas. We invite you to explore the contents of this volume, engage with the research presented, and contribute to the ongoing discourse in your respective fields.

We would like to express our gratitude to the authors who have chosen J S Multi-disciplinary Journal as a platform for sharing their research and for maintaining patience during the long review process. We thank our dedicated reviewers for contributing time out of their busy schedules for reviewing the submissions by providing invaluable feedback and ensuring the quality of the articles published, and we hope the collective hard work will help us improve the quality of the journal more for the next issue. We would also like to earnestly appreciate UGC Nepal's financial support in overall research activities of this campus.

The Editorial Board

October, 2023

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Classroom Psychological Violence against Teachers

Dr. Dinesh Kumar Yadav 'Aastic'

Abstract

This is a phenomenological nature of study of the situation overshadowed by a society where assumption is that classroom is always under control of a teacher. It is a teacher that causes everything to happen. But reality could be much further than the assumption. This is a study about psychological violence experienced by teachers in a Nepalese context. It has tried to shed light on what happens to a teachers' mental health being when bullied, tortured and disturbed by his/her own students. Obviously, the impact of students' undesirable behavior against teachers is duly focused in this study. This study is a mixed method study with the data obtained from a minimal participant set. Though there exist variables in the study, they have not been quantified. The interpretation is solely based on the data collected from the questionnaire and the interview. And the conclusion is drawn in line with the purposes of the study and research questions.

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Introduction

There are lots of real and fabricated stories about students experiencing bullied and violence and being bullied by teachers; however, little attention appears about teachers' experiences of psychological violence by students. Galand, Lecocq, and Philippot (2007) mentions that the majority of researches has focused on the impact of students against student violence, whereas the impact of violence against teachers has been relatively neglected, despite potentially serious consequences (e.g., teacher burnout, deteriorated teacher-student relationships). Espelage et al., (2013) supports the issue that teachers' experiences of psychological violence is "rarely defined, empirically studied, or meaningfully discussed within academic circles". From media coverage whether social, prints or electronic to public discourse, students get marked space, which is what is often missed out in the case of teachers. The real stories of teachers often seem to be overshadowed, smeared and blurred.

Undoubtedly, teachers bullied by students are not exposed to the world outside the school, the intensity of such acts differ from a context to context though. The study conducted in 2012 by Ozkilic and Kartal reports that ninety one percent of 84 teachers who participated in the research conducted by Pervin and Turner (1998); and 56.4% of 101 teachers who participated in the research conducted by Terry (1998) stated that they had been bullied by their students. Bullying, physical assault, bad remarks, and/or anything like such result in psychological violence against teachers. And the impact of psychological violence against teachers is often seen fatal. Teachers do not feel safe in the profession. They cannot develop rapport with the students in the classroom. They remain weak in controlling the classroom, therefore, engaging classroom becomes scarce. Most importantly, they happen to develop negativity towards the profession itself. In this regard, Kauppi and Porhola (2012) states:

It can be assumed that teachers who feel comfortable in their position and are content with their working conditions have a better chance to succeed in supporting the work of their students. Correspondingly, teachers who are not comfortable in their work or lack a feeling of well-being may not be able to perform to their own satisfaction in the demanding position. (P.396)

Hence, the issue raised above seems worth exposing. This is so because 'teachers' safety' in their work place is always desirable for the productive results for the students. But the teachers are sometimes found to be experiencing violence against themselves so implicitly that cannot be observed by others; however, its impact is detrimental. According to the

literature, psychological violence has become commonplace, especially in nonprofit organizations that are hierarchically structured such as schools and medical establishments (Einarsen, 2000; Hecker, 2007).

Defining Psychological Violence

The term 'psychological violence' appears in the literature with different terminology with slight different meanings. In this regard, Kauppi and Porhola (2012) mentions:

Researchers have used various terms to describe mental and physical violence directed at teachers by their students, such as bullying (De Wet, 2010a; James et al., 2008; Terry, 1998), harassment (Kauppi, & Pörhölä, 2009), victimization (e.g. Dworkin, Haney, & Telschow, 1988), and violence against teachers. (p. 397)

Simply, any action that creates fear in an individual is a psychological violence. It injures a person's dignity and psychological integrity. In the case of a teacher, when a teacher experiences threat, attack on his/her self-esteem, disrespect, unsafe environment, etc; we can call it a psychological violence. This also includes bullying, insult, humiliation, and bad remarks. In this regard, World Health Organization (1997) states that psychological violence simply is an uncomfortable feeling caused by others. It includes affront, humiliation, offence, indignity, repeated verbal, harassment, confinement, and deprivation of physical, financial and personal resources. On the surface, it does not appear to be nasty; however, it has a long term effects. Its affects are worth highlighting since it is directly related to mental and physical health. Psychological violence is defined as the systematic aggression committed by adult individuals with the intention to damage others within organizations (Davenport, Schwartz, & Elliott, 2003; Leymann, 1996).

Though there is not much literature available on the net, nor in hard copy; however, whoever has worked on this issue, they have shed sharp light on it. Mostly, the same issue is discussed under the title 'bullying'. Chen and Astro (2009) mentions, "The bullying of teachers by students usually manifests as insulting, hostile, and unethical verbal and nonverbal communication, for example, by means of name-calling, use of inappropriate language, use of insulting gestures, refusal to cooperate, ...". This happens when a teacher appears weak in front of the students. The students take control of the class, turn disobedient, and make chaos there. And generally, this kind of environment is created in the upper classes, especially at post-secondary and university levels. They cannot prepare any content very well, nor perform, nor can they plan for any events like presentation, workshop, project work, etc.

The researcher believes in "safe teachers for safe academic environment". Since the instructional phenomenon is completely psychological one, none of the concerned parties should be vulnerable; however, the situation of teachers is worth noticing elsewhere. Ramsey (2010) makes a claim for prevalence of violence in the school elsewhere. He says:

Bullying is a common form of school violence, which is a major issue of concern for students, parents, teachers, and administrators across the country. Episodes of school violence beginning in the 1990s have created a national focus on school safety and the problems associated with bullying. (p.211)

Teachers' experiences of violence in their work place can develop deep psychological and emotional problems that can impact negative attitudes towards students and the profession itself. If this keeps happening to maximum number of teachers, its result will be fatal for the whole society. Simply, the slogan of safe school can never be imagined if the teachers are not safe. Hence, as a responsible and sincere professional, it naturally came to mind to explore this issue and bring it to the light. Maybe it can give insight to the policy makers along with all stake holders. This piece of work might work as suggestive in the sense that if this issue is not taken seriously, qualified teachers might be a big scarce in the days to come.

Factors for Teachers' Psychological Violence

There is sufficient literature on violence against teachers showing its prevalence elsewhere irrespective of geography around the globe. The nature of factors for victimization has semblance from one context to another. In Nepalese context, and the school/college environment, teachers' personality, size of the classroom, teachers' poor performance, dealing with the students loosely, and many more are the sole factors for violence against teachers. Teachers who are not strict are often seen vulnerable. The more disciplined the classroom is, the safer is environment for teachers. In this regard, Terry (1998) asserts that bullying of teachers by students differs significantly in nature from school and workplace bullying taking place at peer level. When a student bullies his or her teacher, there exists a situation where a party holding an inferior status position within the institution bullies a party holding a superior status position. This can be considered to constitute so-called "cross-peer abuse. The most common causes are: ...supporting violent methods on all levels even if we declaratively stand against them (for example, those who got rich in unlawful ways, taking what does not belong to them and who achieve their goals in an aggressive way are considered successful) neglecting moral values and moral education in general bullies and abusers are most often heroes of many TV shows, movies, video and computer games, as well as our neighbor-

hoods (Bili?, 2007, p. 63). He further stresses the students' behavior learned in their family, (p. 47).

Though my study resembles others in terms of purposes, questions, methods, and area, it has marked gaps from others. The gap exists at three different levels, i.e. knowledge gap, methodological gap, and theoretical gap. All the researches referred to and explored in this study surround the western world; however, this research is specifically focused on Nepalese context. This can be generalized into to the South Asian context too. The main concern of this study is teachers' experiences of psychological impact which is what is missing in others. This study was prompted by an extreme example of violence against a fellow teacher. Over tea, we had a quite informal talk regarding the violence targeted to the teacher. His experience was more painful than mine. Some days later, I talked to three different teachers, whom I had witnessed being tortured by students, at the same time on the issue of violence experience by teachers. Then with two teachers, then with one, and the like, I talked to 14 teachers in person, and with one online.

This study, thus, was conducted to find out the impact of psychological violence in the professional life and get insight into the solution to it, and has been guided by the questions: (a) How does a teacher become a victim of psychological violence?, (b) What misdeeds are directed against teachers?, (c) What are the causes of teachers' psychological violence?, and (d) What measures can be applied to sort out the issues of psychological violence against teachers?

I have taken support of a body of knowledge available both online and on paper. And in line with the purposes of this study and research questions, I have reviewed the works Teachers bullied by their students: how their classes influenced after being bullied? by Ozkilig and Kartal (2012), violence against teachers- rule or exception? By Balic, Lokmic and Opic (2013), Understanding and Preventing Violence Directed Against Teachers: Recommendations for a National Research, Practice, and Policy Agenda, by Espelage et al., (2013), The Student Bullying of Teachers: An Exploration of the Nature of the Phenomenon and the Ways in which it is Experienced by Teachers by Garrett (2014), Violence in Schools: Perceptions of Secondary Teachers and Head-teachers Over Time by Munn, Johnstone, Sharp and Brown (2007), Teachers as Targets of Bullying by their Pupils: A Study to Investigate Incidence by Terry (1998), Teachers' Experiences with Student Bullying in Five Rural Middle Schools by Ramsey (2010), Violence against teachers: Prevalence and consequences by Wilson, Douglas, and Lyon (2011), and few more. Very little research has been conducted on teachers' psychological violence-in Nepal or worldwide. Surprisingly enough, teachers

are found not to be open regarding this issue. Espelage et al. (2013, p. 76) mentions that only 14 published studies have examined violence directed against teachers in education system. The researchers in the US, Turkey, Belgium, Canada, Israel, the Netherlands, Slovakia, and Spain have exploited the issues from different angles with their conclusion that teachers' safety needs reconsideration.

Methods

This study is a product of mixed method design, mostly centered on in depth study of responses of the respondents via questionnaire, partly, the analysis of body of knowledge already available, and slightly on personal experience of those teachers who were the real victims in my area. So, there is marked differences in the methodological processes too from the others. Comparatively, the population size of this study was quite small. The idea discussed in this study is based on: (a) informal talk regarding the issue with four different teachers, (b) in depth study of the responses via questionnaire by four teachers, and (c) analysis of some of the studies previously accomplished. Those who responded are referred to hereafter as R1 (Respondent 1), R2 (Respondent 2), (Respondent 3), and R4 (Respondent 4) are from different backgrounds, different subjects, different levels, different sexes, and different job statuses. The respondents were approached both purposively and randomly.

Findings and Interpretation

The study highlights the intensity of the impact of psychological violence experienced by teachers. Some teachers disclosed their feelings that they would rather have been some other professionals than teachers. Others were worth recording when they claimed that psychological violence was more detrimental than the physical ones; actually, they were not physically assaulted ever though. The impact was so intense that it gave them feeling of job quitting idea culminating in hatred towards the teaching profession itself.

Age Group, Gender and their Characteristics

This study's core concern was the students' bad behavior that had a nasty impact on the teachers' parts. Generally, the students in the late teens, especially, 17/ 18 years old are often understood to be more problematic for teachers. Out of five categories, like, students aged 10-14, 15-16, 17-18, 19-20, and 21- 25, the third category, that is, 17-18 age group was stressed to be most trouble givers to the teachers. Three respondents stressed the third category, and the one respondent pointed the second category, that is 15-16 age-group.

Table 1. The Age Group

S.N.	Age group	Respondents
1.	10 -14	
2.	15-16	R1
3.	17-18	R2, R3, R4
4.	19-20	
5.	21-25	

Characteristics of Disruptive Students

On the checklist, they were asked to tick the characteristics of disruptive behavior. The most disruptive students as to them are those who have bad company outside the classroom. Three of them also ticked the option in the second slot 'They hate studies' and two of the stressed on 'week in studies'.

Table 2. Characteristics of Disruptive Students

S.N.	Possible reasons	Respondents
1.	They are from backward/socially low status background.	
2.	They are week in studies.	R2, R3
3.	They hate studies.	R1, R3, R4
4.	They have a bad company outside the classroom.	R1, R2, R3, R4
5.	No apparent reason.	

Students' Behaviors Hampering the Class

When the responses were collected both through interview and questionnaire regarding the factors that hampered the class, the most obvious response was disruptive learners, others being noise outside the classroom, crowded classroom and poorly facilitated classroom. In the rating scale that ranked from 1 to 5, the 'disruptive learners' was ranked at the top. In this case, the study of Ozkilic and Kartal (2012) also asserts that classes in which teachers are bullied are at risk in terms of learning-teaching activities and communication between students and teachers. Thus, the rapport is distorted and that naturally hampers the class.

Forms of Psychological Violence

During the interview, all the interviewers were asked what forms of psychological violence they had ever experienced. There were different responses; however, the common forms of violence as mentioned by them are bullying, threatening, defaming, torturing, verbal

abuse, and ignoring. There have been big studies regarding violence experienced by teachers in the west, and almost all studies claim for different forms of violence the students target against the teachers.

Causes of Psychological Violence

One of the core concerns on the interview was to get insight into the causes of violence targeted by students. 'School management and teachers losing control over students' was found to be the main cause. The R4 (female participant) duly stressed this fact over the interview. And the same was asserted by all four participants. According to R2 (a retired professor), misinterpretation of children's rights by media people and NGO workers seem to have taught the children that there is no punishment for children by law. And this has justified the students to misbehave the teachers.

Alzyoud and Al-Ali (2016) in their study shed light on main four reasons of violence. They are: (a) schools not offering any educational co-curricular activities; (b) the depression that students experience. (Violent students are from poor, broken, and single parent families. Students from such families are depressed. They often imitate their parents and their experience outside school.); (c) drug and alcohol problems. (Students who take drugs and drink alcohol are not aware of the consequences of their acts.); and (d) lack of proper legislation that would punish students that commit such crimes against their teachers. There is no specific legislation issued to protect teachers from student-on-teacher violence.

Effects of Psychological Violence on Teachers and their Reaction

One out of four teachers felt like quitting this profession. The two of the felt psychologically tortured. And one felt like making it a police case. When asked about their reaction, none of them were found to have ever reacted violently, rather cursed the students. Sometimes, they scolded the students orally. When they were asked to tick on a checklist, everyone had something to share. Their responses as follows:

Table 3. Types of Reaction

S.N.	Reaction	Respondents
1.	I shared this issue with my colleagues and management team.	R1, R2, and R4
2.	I went for a legal help.	None
3.	I never talked to them ever again.	R2 and R3
4.	I share this issue with my family members.	All respondents
5.	I planned to find another career.	R4
6.	I thought of changing the school.	R4

The table above clearly shows that students' behavior had very much negative impact on teachers in their personal and professional life. Except for a legal action, they seem to have reacted one way or another. The effect was to the level that some of them felt like quitting the job itself without sharing the issue with friends and family. Two of the respondents said that they did not talk to those students personally ever.

Teachers' Perception of Students' Bad Behavior

When asked how they took the students' behavior, they had varied responses. Actually, they were asked to tick against the responses on a checklist. Two of the respondents took the students' behavior as serious and bearable, one of them 'seriously' and the rest one 'unbearable'.

Table 4. Teachers' Perception of Students' Bad Behavior

S. N.	Suggested responses	Respondents
1.	I take it normally.
2.	I take it seriously.	R3
3.	Not a real problem!
4.	Serious but bearable!	R2, R4
5.	Serious and unbearable!	R1

Conclusion

Teachers' psychological safety is very much desirable. If we wish for a smooth go in the classroom, students' manners should always be amicable. First, when studied intensively, it was found that teachers experiencing violence is not confined to a particular geography, rather it is prevailed elsewhere. What other reality is that 'teachers as victims of students' has been studied much less, whereas the opposite is paramount. When surfed the documents related the purposes of this article on the net, not a single document was found studied by the teachers, teacher-educators and researchers in the eastern world. Second, teachers experiencing violence can't/shouldn't be underestimated. The painful experience of psychological violence affects teachers badly. In long run, students themselves will be at the loss in the sense that if the teachers are not sound, they can't perform well in the classroom. It suggests that psychological violence is often detrimental to the victims. The victims' physical and mental healths don't remain fine. Third, the teachers feeling insecure can never be good sign for the profession itself. Their safety is equally important. Their psychological and mental wellbeing appear to be worth considering. Bullying, verbal abuse, defaming, threatening, and some other forms of violence seem to exist elsewhere. Out of different forms of violence, psychological violence seems to create more of mental health related issues. Job-

quitting idea and profession-changing idea coming to the mind of teachers is the most apparent impact of psychological violence. Hence, teachers must be aware of such issues, and understand the different classroom dimensions. Well preparedness in dealing with them tactfully and sensibly is very important.

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Dialectal Variations in the Gurung (Tamu) Language

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Abstract

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This paper presents the lexicostatistical analysis of the Gurung (Tamu) language and its varieties based on 210 wordlist using the COG software. As we were hired to observe the dialects in the Gurung (Tamu language), we, the linguists asked them about their claims of the unintelligibility of their varieties. They simply reported us around the 12 different varieties and the data implied in this study are obtained from the direct elicitation from the speakers of the different locations namely Syangja; Kaski (Siklesh), Kaski (Ghandruk); Kaski (Gahlel); Parbat, Tanahun (Western), Tanahun (Eastern), Siranchowk Gorkha, Lamjung, Manang, Northern Gorkha, Barpak (Gorkha). The highest lexical similarity among these varieties is 98% and the lowest is 36%. Being Based on Syangja, Kaski (87%); Kaski (Ghandruk (86%), Kaski-Ghalel (86%), Parbat (87%), Tanahun-eastern (86%), Siranchowk Gorakha (86%); Lamjung (85%), Manang(84%), Northern Gorakha (62%) and Barpak Gorakha(58%) share the lexical similarities with Syangja. Lexically, there exist about the 3 distinct dialects in the Gurung (Tamu), namely the Gorkha (Northern) and Barpak, a pocket area; Lamjung and Kaski-Parbat.

Keywords: lexicostatistical, phonetic, similarity, global correspondence

Introduction

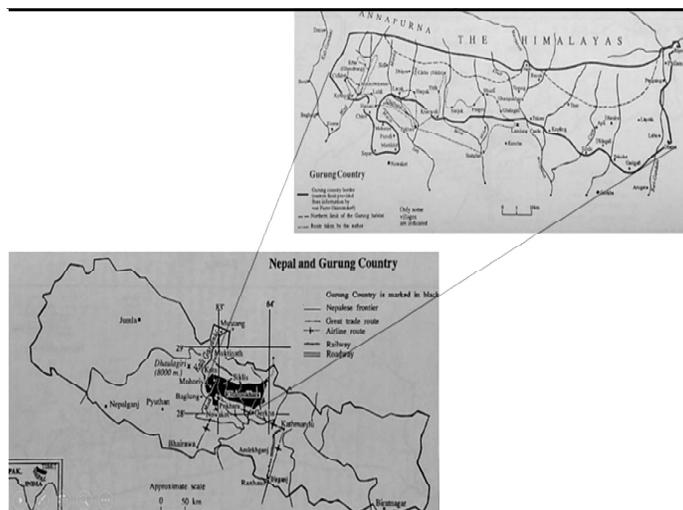
Gurung [639-3, ISO] is a Bodish language of Western Tibeto-Burman group of Sino-Tibetan language family which is spoken by 325,622 speakers (Census 2012). This language is known as Tamu kyi or kwi as there are regional varieties. Eppele et al. (2012) have distinguished Gurung as Eastern Gurung [ggn] and Western Gurung [gvr]. They are linguistically closely related and are seen as having a homogenous culture and ethnic identity. Gurung (Tamu) people prefer to be called by Tamu and the language they speak by Tamu ki (Chalice and Rai 2015, p.67).

Gurung (Tamu) language is of the features having SOV order, postpositions, no noun classes or genders, clause constituents indicated by case markings, split-ergative systems according to tense, no voice, 24 consonants and 5 vowel phonemes (Eppele et al. 2012, pp. 48-49). There is a reportedly high level of bilingualism in Gurung and Nepali and there are an estimated 35,000 monolingual speakers of Gurung (Lewis, et al. 2015).

Gurung is currently placed on the Expanded Graded Intergenerational Disruption Scale (EGIDS) 7 as 6b, or threatened. This level of language vitality status is defined as, "the language is used for face-to-face communication within all generations, However, it is losing users" (Lewis, et al. 2015). Mixed use is seen at this level in home, work, religious, and friendship situations; there is typically a much greater level of mother tongue usage among the older generation (Swenson 2015, p.7).

There has been made various attempts for the revitalizing the Gurung language since decades. Recent years, Gurungs have attempted for the preservation, conservation and restoration of their languages, culture, and traditional heritage in various ways. They have their own script called 'Khema' but this is not effectively practiced or recognized in the entire Gurungs community (Gurug et al. 2078 BS.p.3)

Figure 1. Gurung Speaking Area

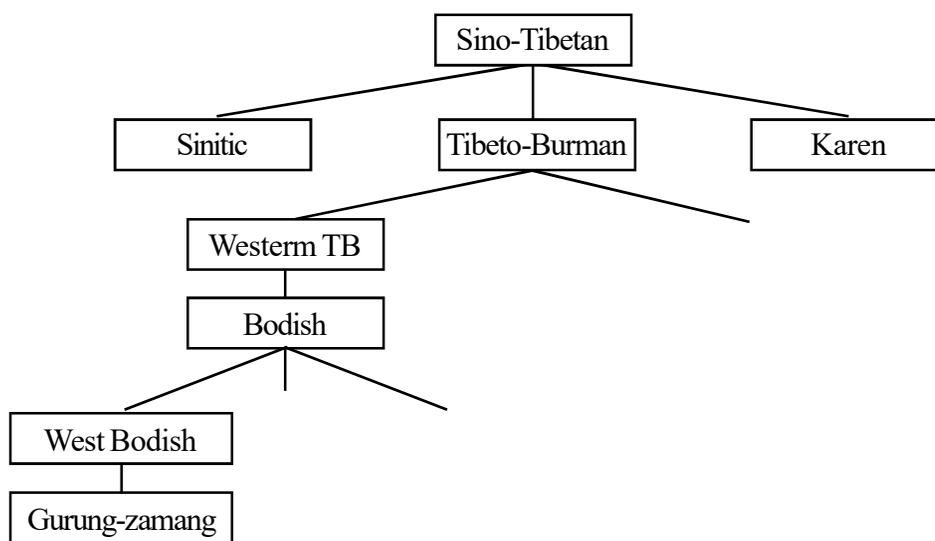


(Source: Pignède, 1993)

Gurung is one of the members of the Tibeto-Burman (Trans-Himalayan) language family in the large scale. Shafer (1955) classified Gurung within the Bodish division, sub-grouping that into Bodish and West Central Himalayish. Within the Bodish section, he located Gurung branch including Gurung, Tamang and Thakali. Based on lexical cognates established by Shafer and updated by van Driem (2003), Shafer constructed the Bodish sub-grouping into three sub-divisions: (1) Western, (2) Central and Southern (a.k.a. "Old Bodish", including Tibetan), and (3) Eastern (containing "archaic" languages like Monpa) and mainstream languages.

Noonan (2008) referred to the Western sub-grouping within Bodish as Manange and Nar-Phu and Gurungic (containing Gurung, Thakali and Chhantyal. Epele et al. (2012) has classified that Gurung-Tamang under the West Bodish of the Western T-B of Tibeto-Burman Language family.

Tree diagram 1. Genetic Affiliation of the Gurung Language



(Source: Epele et al. 2012)

There are some dialects in this language as Gorkha Gurung, Lamjung Gurung, Tamu kyi (Epele et al 2012, p.48). But the Gurung community claims that there are some other varieties of the Gurung (Tamu) language.

The literature review paves the way that there exist very few studies based on the comparison of the Gurung (Tamu) varieties. So the main objectives of this paper is to present the lexicostatistical analysis of the Gurung (Tamu) language based on 210 words from Swadesh list using the computer software i.e. COG.

Research Methods

The data were gathered by direct elicitation from the different speaking areas viz. Syangja, Kaski (Sikles), Kaski (Ghandruk); Kaski (Ghalel), Parbat, Western Tanuhun, Eastern Tanuhun, Siranchok Gorkha, Lamjung, Manang, Northern Gorkha, Barpak (Gorkha) representing different sex, age and literacy. The data 210 words were elicited. The words from each speaking area were provided phonetic transcription in MS word table using IPA. Then the words had been entered into COG software for comparison. The data were compared in terms of lexical and phonetic similarity in the software. And the researchers analyzed them on basis of output of the software. 60% is the basic cutoff point for lexical similarity. On the basis of the cutoff point, less than 60% lexical similarity is considered as different language whereas more than 60% lexical similarity is considered to be the same language. In some conditions, this cutoff point may be flexible.

Table 1. Evaluation Criteria

S. N.	Lexical similarity	Evaluation
1.	60%	cutoff point
2.	less than 60%	different languages
3.	60% or more than 60%	different languages or dialects
4.	more than 85%	speech varieties or related dialects
5.	more than 95%	same language

Results and Discussion

Gurung (Tamu) has different varieties of their language in terms of the geographical distribution. They are namely Syangja, Kaski (Sikles), Kaski (Ghandruk); Kaski (Ghalel); Parbat, Western Tanuhun, Eastern Tanuhun, Siranchok Gorkha, Lamjung, Manang, Northern Gorkha, Barpak (Gorkha). Of them, they have intelligibility to each other in some of the varieties but other few varieties may not have intelligibility. For this, we have presented the lexical comparison where there are phonetic and lexical statuses. We have compared both lexical and phonetic similarity of the varieties and languages respectively.

Lexical Similarity

In this section, we compare and analyze the 210 wordlist using a computer software COG, a recently developed program for lexical and phonetic comparison between and among dialects and languages. Cog allows us to compare and analyze wordlists from different language varieties using an iterative approach. Using this program, we can quickly make sense of the data and then refine the wordlists and more settings, improving the comparison results and the understanding of the varieties at each step.

Lexical similarity presents the status of the lexicon in the percentage. We have compared the lexicon among Syangja, Kaski (Sikles), Kaski (Ghandruk); Kaski (Ghalel); Parbat, Western Tanahun, Eastern Tanahun, Siranchok Gorkha, Lamjung, Manang, Northern Gorkha, Barpak Gorkha that can be seen in Table 2.

Table 2. Matrix of Lexical Similarity

	Syangja	Kaski (Sikles)	Kaski Ghandruk	Kaski (Ghalel)	Parbat	Eastern Tanahun	Western Tanahun	Siranchok Gorkha	Manang	Lamjung	Northern Gorkha	Barpak (Gorkha)
Syangja		82	81	80	80	79	78	80	77	78	43	36
Kaski (Sikles)	82		93	90	88	87	88	88	86	83	46	39
Kaski Ghandruk	81	93		90	89	88	88	87	86	83	45	40
Kaski (Ghalel)	80	90	90		85	83	83	85	84	81	44	37
Parbat	80	88	89	85		92	92	91	85	83	46	38
Eastern Tanahun	79	87	88	83	92		98	91	85	84	46	38
Western Tanahun	78	88	88	83	92	98		91	85	85	47	39
Siranchok Gorkha	80	88	87	85	91	91	91		85	86	48	39
Manang	77	86	86	84	85	85	85	85		87	45	37
Lamjung	78	83	83	81	83	84	85	86	87		46	38
Northern Gorkha	43	46	45	44	46	46	47	48	45	46		81
Barpak (Gorkha)	36	39	40	37	38	38	39	39	37	38	81	

As can be seen in Table 2, Syangja shares 82 % similarity with Kaski (Sikles), 81% with Kaski Ghandruk, 80% with Kaski (Ghalel), 80% with Parbat, 79% with Eastern Tanahun, 78% with Western Tanahun, 80% with Siranchowk Gorkha, 77% with Manang, 78% with Lamjung, 43% with Northern Gorkha and 36% with Barpak (Gorkha). It shows that the Syangja share the highest similarity with Kaski sikles verity where there is 82% lexical similarity and the lowest lexical similarity with Barkpak (Gorkha) that is 36%. The verity Kaski (sikles) shares the 82% with Syanja where as 93% with Kaski Ghandruk, 90% with Kaski (Ghalel), 88% with Parbat, 87% with Eastern Tanahun, 88% with Western Tanahun, 88% with Siranchowk Gorkha, 86% with Manang, 83% with Lamjung, 46% with Northern Gorkha and 39% with Barpak (Gorkha). Kaski (sikles) shares the most lexical similarity with Kaski (Ghandruk). The Kaski (Ghandruk) shares the 81% with Syanja where as 93% with Kaski (Sikles), 90% with Kaski (Ghalel), 88% with Parbat, 87% with Eastern Tanahun, 88% with Western Tanahun, 88% with Siranchowk Gorkha, 86% with Manang, 83% with Lamjung, 46% with Northern Gorkha and 39% with Barpak (Gorkha). Kaski (sikles) shares the most

lexical similarity with Kaski (Ghandruk). The Kaski (Ghalel) shares the 80% with Syanja where as 90% with Kaski (Sikles), 90% with Kaski (Ghandruk), 85% with Parbat, % with Eastern Tanahun, 83% with Western Tanahun, 83% with Siranchowk Gorkha, 85% with Manang, 81% with Lamjung, 44% with Northern Gorkha and 37% with Barpak (Gorkha). Kaski (Ghalel) shares the most lexical similarity with Kaski (Sikles) and Kaski (Ghandruk).

Parbat verity shares the highest degree of similarity with eastern and Estern Tanahun and Western Tanahun 80% with Syanja where as 90% with Kaski (Sikles), 90% with Kaski (Ghandruk), 85% with Parbat, % with Eastern Tanahun, 83% with Western Tanahun, 83% with Siranchowk Gorkha, 85% with Manang, 81% with Lamjung, 44% with Northern Gorkha and 37% with Barpak (Gorkha). Kaski (Ghalel) shares the most lexical similarity with Kaski (Sikles) and Kaski (Ghandruk).

Eastern Tanahun shares the highest degree (98%) with Western Tanahun, and the lowest with Barpak that is 38%. Similarly, Western Tanahun shares the highest percentage (98%) with the Eastern Tanahun whereas the lowest percent with Barpak (Gorkha) that is 38%. Siranchowk Gorkha shares the highest degree with 91% with Parbat, Eastern Tanahun and Western Tanahun respectively. Manang exhibits the most frequency (86%) with Parbat, Eastern Tanahun and Western Tanahun and Lamjung and the lowest with the Barpak (Gorkha). Lamjung is very less lexical similarity with the rest verities except Barpak (Gorkha). Barpak and Northern Gorkha are closer since they share 81% with each other.

Phonetic Similarity

Phonetic similarity among Gurung varieties is different from lexical similarity. Phonetic similarity is the phonetic realization of lexicon. Phonetic similarities of different verities, namely Syangja, Kaski (Sikles), Kaski (Ghandruk); Kaski (Ghalel); Parbat, Western Tanuhun, Eastern Tanahun, Siranchok Gorkha, Lamjung, Manang, Northern Gorkha, Barpak Gorkha of the Gurung are presented in the Table 3.

Table 3. Matrix of Phonetic Similarity

	Syangja	Kaski (Sikles)	Kaski Ghandruk	Kaski (Ghalel)	Parbat	Western Tanahun	Eastern Tanahun	Siranchok Gorkha	Lamjung	Manang	Northern Gorkha	Barpak (Gorkha)
Syangja		87	86	86	87	85	86	86	85	84	62	58
Kaski (Sikles)	87		95	93	92	92	91	91	88	89	65	61
Kaski Ghandruk	86	95		93	93	92	92	92	88	89	64	61
Kaski (Ghalel)	86	93	93		90	89	89	90	87	89	64	60

	Syangja	Kaski (Sikles)	Kaski Ghandruk	Kaski (Ghalel)	Parbat	Western Tanahun	Eastern Tanahun	Siranchok Gorkha	Lamjung	Manang	Northern Gorkha	Barpak (Gorkha)
Parbat	87	92	93	90		95	95	94	88	88	65	61
Western Tanahun	85	92	92	89	95		98	94	89	89	65	61
Eastern Tanahun	86	91	92	89	95	98		93	88	88	65	60
Siranchok Gorkha	86	91	92	90	94	94	93		90	89	66	62
Lamjung	85	88	88	87	88	89	88	90		90	65	61
Manang	84	89	89	89	88	89	88	89	90		64	60
Northern Gorkha	62	65	64	64	65	65	65	66	65	64		88
Barpak (Gorkha)	58	61	61	60	61	61	60	62	61	60	88	

Table 3 shows that Syangja shares 87% with Kaski (Sikles), 86% with Kaski (Ghandruk), 87% Kaski (Ghalel), 87% (Parbat), 85% with Western Tanahun, 86% with Siranchowk Gorkha, 85% with Lamjung, 84% Manang, 62% with Northern Gorkha, 58% Barpak (Gorkha) respectively. The highest degree of similarity of Syangja is 87% with Kaski (Sikles) and Parbat. Kaski (Sikles) shares 87% with Kaski (Sikles), 95% with Kaski (Ghandruk), 93% with Parbat, 92% with Parbat, 92% with Western Tanahun, 91% with Siranchowk Gorkha, 88% with Lamjung, 89% Manang, 65% with Northern Gorkha, 58% Barpak (Gorkha). Kaski (Ghandruk) shares 86% with Syangja, 95% with Kaski (Ghandruk), 93% with Parbat, 93% with Parbat, 92% with Western Tanahun, 92% with Siranchowk Gorkha, 92% with Lamjung, 88% Manang, 89% with Northern Gorkha, 64% Barpak (Gorkha) and 61% with Barpak (Gorkha).

Kaski (Ghalel) shares the highest degree of similarity with 93% with Kaski (Sikles) and Kaski (Ghandruk) whereas 60% is the lowest degree of similarity between Kaski (Ghalel) and Barpak (Gorkha). Parbat shares 95% with Western Tanahun and Eastern Tanahun which is the highest degree among others whereas the lowest degree 61% with Barpak (Gorkha). Similarly, Siranchowk Gorkha has 94% with Parbat and Western Tanahun. Lamjung shares 90% with Siranchowk Gorkha and Manang. Northern Gorkha shares 65% with Western Tanahun and Eastern Tanahun and Siranchowk Gorkha. Barpak (Gorkha) shares 62% with Siranchowk Gorkha.

Hierarchical Graphs

The lexicostatistical result of five different varieties of Gurung is presented by hierarchical graph. Such graph displays the genetic relatedness of language varieties based on lexicostatistical

similarity. There are two methods for mapping the graphs: UPGMA (Unweighted pair group method with arithmetic mean) and neighbor-joining. The UPGMA method is such a method that helps to construct the rooted tree base on a pairwise similarity matrix. In this method, at each step, the nearest two clusters are combined into a higher-level cluster. Dendrogram 1 presents a hierarchical graph showing a rooted base tree.

Figure 2. Lexical Similarity

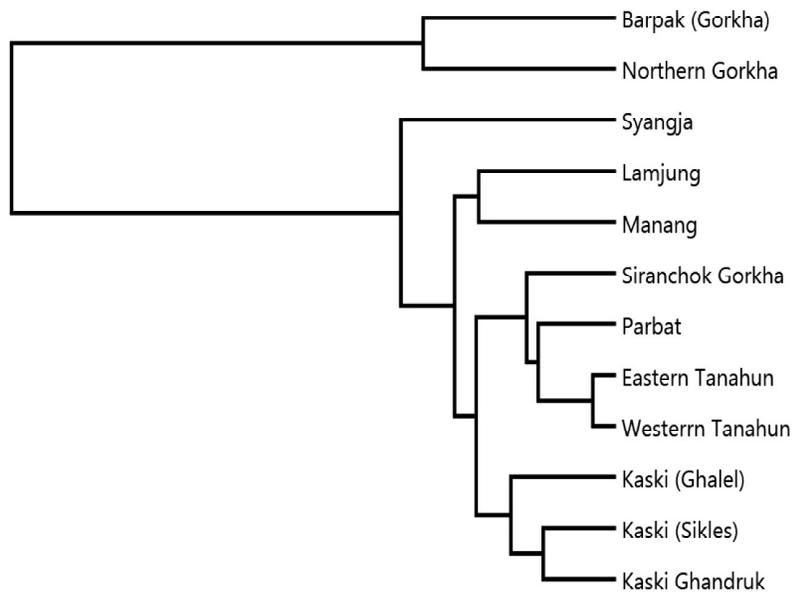
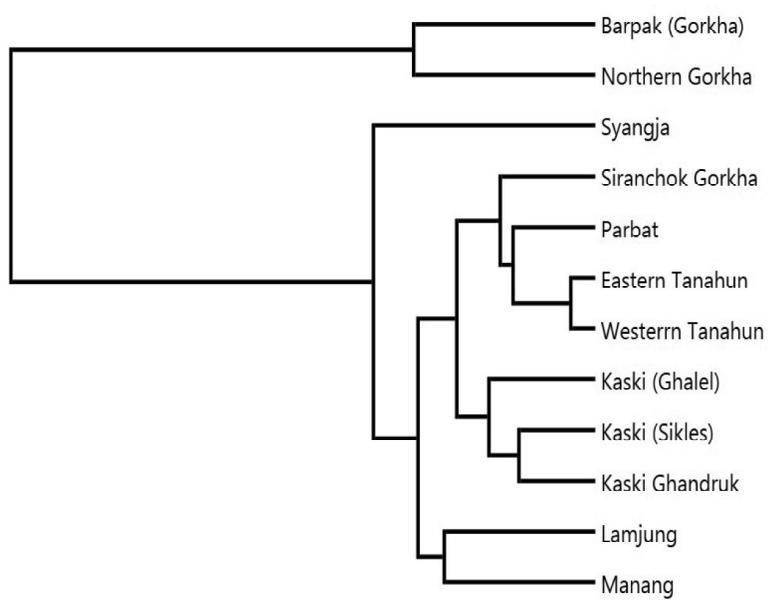


Figure 3. Phonetic Similarity



Besides Barpak, Gorkha and Northern Gorkha, Other 10 varieties have made up of sub-clusters. Syangja seems to be a bit different from those of other sub-clusters. Lamjung and Manang are closer to each other and have one sub-cluster. Similarly, Siranchok Gorkha, Parbat, Eastern Tanahun and Western Tanahun created another sub-cluster. Kaski (Ghalel), Kaski (Sikles) and Kaski (Ghandruk) have a different sub-cluster.

Phonetic dendogram also shows the same result that Barpak and Northern Gorkha are absolute different from other dialects of the Gurung (Tamu). Within, the sub-clusters, Lamjung and Manang seem to be closer, Kaski (Sikles) and Kaski (Ghandruk) same.

Network Graph

The network relations show the relationship of the languages in two ways: first by showing the clusters of close languages and, secondly, by showing how they are nearer to each other.

Lexical dendogram presents the verities of Barpak and Northern Gorkha as an isolate graph than those of other verities. Phonetic dendogram also shows the same result that Barpak and Northern Gorkha are absolute different from other dialects of the Gurung (Tamu). Within, the sub-clusters, Lamjung and Manang seem to be closer, Kaski (Sikles) and Kaski (Ghandruk) same.

Figure 4. Lexical Network Graph

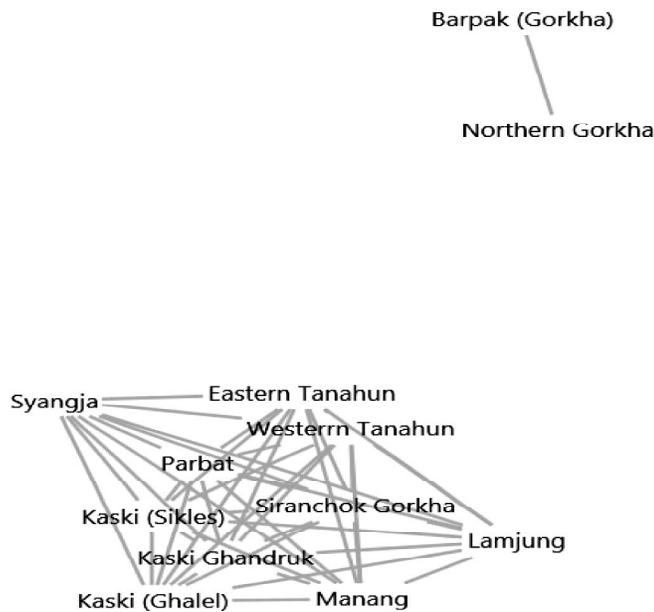
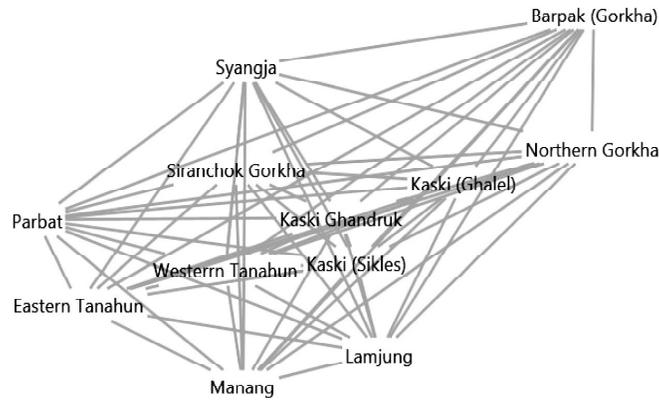


Figure 5. Phonetic Network Graph

As can be seen, Barpak Gorkha has no more close relation with other varieties. However, there is no remarkable cluster of language varieties in phonetic network graph.

Global Correspondence

The global correspondence displays all of the segments that occur in a particular syllable position across the wordlists from all the five different points. Edges indicate that at least one correspondence has occurred between those two segments. The thickness of the edge indicates the number of correspondences.

Figure 6 presents an IPA consonant chart (column headers are place of articulation; rows are manner of articulation) in their onset position.

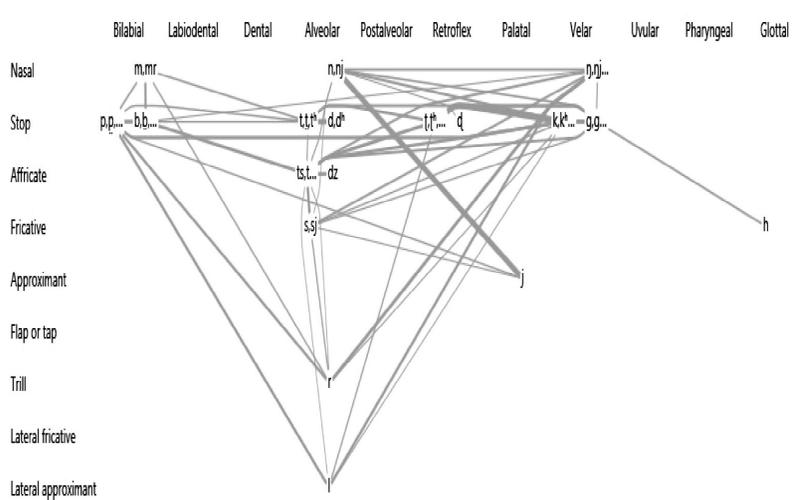
Figure 6. Onset: Global Correspondence

Figure 6 allows us to get a good sense of correspondences that occur across multiple variety pairs in Hayu. The phoneme /n/ and /nj/, /t, t^h/ indicate the thickness of the segments share the most correspondence onset position. Also the thickness of the edges can be seen in the phonemes /k/, k^h/, /g/, g^h/ with /t/t^h/ and /d/, /d^h/.

Figure 7. Nucleus: Global Correspondence

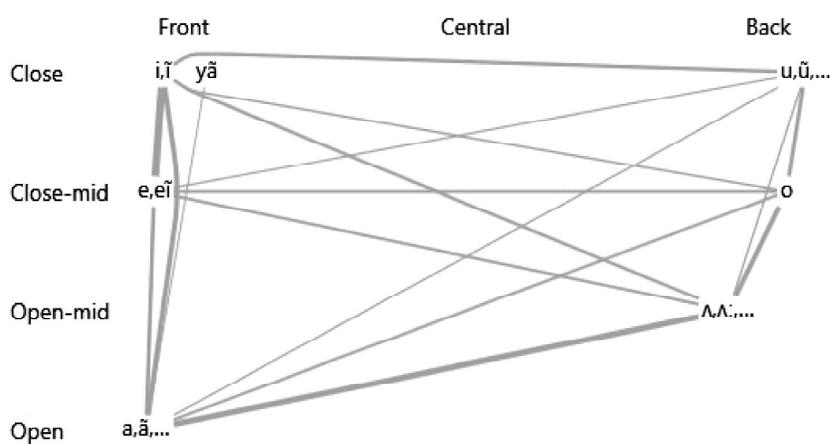


Figure 7 shows the vowels phonemes of the Gurung (Tamu) varieties in nucleus position of the syllables. The thickness of the edge indicates the number of correspondences. The frequency of vowels like close /i/, close-mid /e/, /e?/, open /a/, /a?/ tend to appear as the nucleus position in the comparison to the wordlists. Also the back vowel /u/, /o/ and /ʌ/ are realized as the nucleus position.

Conclusion

Gurung (Tamu) is a Bodish language of Western Tibeto-Burman group of Sino-Tibetan language having a number of the geographical variations. There were a number of assumptions about the dialects of the Gurung (Tamu). But this study has declared that there are hardly three distinguished languages within the broader Gurung (Tamu) language. For this, we had employed the lexical data of 12 different varieties like Syangja; Kaski (Siklesh), Kaski (Ghandruk); Kaski (Gahlel); Parbat, Tanahun (Western), Tanahun (Eastern), Siranchowk Gorkha, Lamjung, Manang, Northern Gorkha, Barpak (Gorkha).

The highest lexical similarity among these varieties is 98% and the lowest is 36%. Being Based on Syangja, Kaski (87%); Kaski (Ghandruk (86%), Kaski-Ghalel (86%), Parbat (87%), Tanahun-eastern (86%), Siranchowk Gorakha (86%); Lamjung (85%), Manang(84%), Northern Gorakha (62%) and Barpak Gorakha (58%) share the lexical similarities with Syangja. Lexically, there exist about the 3 distinct languages in the Gurung

(Tamu), namely the Gorkha (Northern) and Barpak, a pocket area; Lamjung and Kaski-Parbat. They seem to be not intelligibility each other.

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**Predicatehood of Light Verbs in Maithili Complex Predicates
within LFG**

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Abstract

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A simple predicate consists of a single verb that operates the whole mechanism of a sentence but two predicative elements (polar + light verb) are also found together functioning as a single predicate and unitely affect the structure of whole sentence forming a complex predicate. Thus, this paper mainly focused on analyzing how the light verbs in Maithili nominal complex predicates have their own predicatehood affecting valance number, case marking or meaning of the clauses within the lexical functional grammar (LFG). The researcher collected the data from the appendixes prepared for his PhD dissertation and also used previous research materials about the Maithili complex predicate constructions. The analysis was based on the four distinct but interacting structures of LFG with more focus on argument and function structures affected by the light verbs. The result showed that the light verbs attached with simple predicates have their own values for regenerating the whole mechanism of clauses showing their thematic roles, number of arguments and grammatical functions within the Maithili nominal complex predicates.

Keywords: predicatehood, nominal complex predicate, Maithili language, light verb, LFG

Introduction

Maithili, an Indo Aryan language, is the mother tongue of 11.05% of the total population of Nepal and the second language spoken in terms of the speakers, viz. 3,222,389 (Centre Bureau Statistics, 2021, p. 9). This language has also been alternatively called *Mithila Bhakha*, *Tirhutiya*, *Dehati*, *Theṭhi*, *əwəhəta* or *əpəbhrəmsə* (Yadava, 2001b), and spoken in the south-eastern part of Nepal, Terai and in the northern part of Indian State of Bihar as the language of residents of Mithila. Regarding the role and scope of this language, Yadava (1989) states that Maithili is one of the major languages of Nepal and the Bihar state of India, and in both states; Nepal and India, Maithili is predominantly used in all the contexts of role relationship of home domain within its speech community (pp. 55-68).

Maithili is a very rich in its verbal morphology and is found that the verbal feature distinguishes it from other languages of Indo-Aryan languages of India and Nepal. Grierson (1909, p.108) wrote 'The conjugation of the verb forms is the most complicated part of Maithili Grammar'. Yadav (1996, pp.153 & 191) discusses the verbal structure of Maithili as stem + tense + mood + person/honorificity in the finite simple verb structure and as V1 [+/- stem alteration] + V2 + Inflectional affixes in the compound verb structure. It has been found that the verbal constructions of Maithili consist of several elements normally to the right of the verb stem to the various forms of the personal pronouns, the grammatical features of which are encoded in the agreement marking (Yadava, 1999). It is noticed from the latter case of Maithili verb structure and as Yadav (1996) describes that there are three parts (functioning as a single unit) in a Maithili compound verb phrase: V1 which is called polar verb, V2 called vector verb and the last one is called auxiliary bearing tense, mood, person, etc markers. The first (polar) of these brings semantic burden and the last one (auxiliary) bears grammatical burden. The verb that appears between these two generally called vectors (Hook, 1974) or explicators (Masica, 1976) as the second part of a compound verb or complex predicate influences in the argument structure (a-structure) and the semantic structure (s-structure) of the main/polar verb. This second set of such verbs are the product of 'concomitant lexical emptying or grammaticalization' (Masica, 1976, p.141) in the lexical meaning of the full verb. The second group of verbs, with low calories thematically (Barma, 1993) which, when combine with some non-verbal elements, namely nouns, adjectives and adverbs, partially emptying element, they form non-verbal predicates and some verbal elements, they form verbal/compound predicates. Such verbs (second set) are called light verbs (V2s) that influence in the argument structure of the V1s, for which Jespersen, as quoted in Butt (2003), is generally credited with first coining the term, and applied them to English V+NP constructions as in the examples below (Yadav, 2022b).

take a drive, a walk, a plunge
give a sigh, a pull, a ring

In these examples, the verbs do not predicate fully although these verbs are predicating as main ones in other constructions, such as 'he takes money from his pocket, he gives me a book' in English. That is, one does not actually physically 'take a drive' but rather one 'drives'. This shows that these verbs are semantically bleached and concatenated with the main verb 'have' and seem to be more of a verbal licenser for nouns. However, Yadav (2022a) stated that the verbs are clearly not entirely devoid of semantic predicative content either: there is a clear difference between *take a bath* and *give a bath*. The verbs thus seem to neither retain their full semantic predicational content, nor are they semantically completely empty. Rather, they appear to be semantically *light* in some manner that is difficult to identify (Butt, 2005), and still they contribute for regulating the sentences in Maithili. Yadav (2022a, pp. 64-66) found some Maithili verbal constructions: serial verbs, compound verbs and conjunct verbs that look alike but they are not. He identified the serial verbs have two/more main verbs with their primary meanings/events, the compound verbs are constructed by the combination of two main verbs having a single event and the conjunct verbs are the constructions in which two predicational elements (first being noun, adjective or adverb and second being verb having its bleached meaning called light verb) contribute the a-structures in a single clause. Complex predicates can be defined as predicates which are multi-headed; they are composed of more than one grammatical element (either morphemes or words), each of which contributes parts of the information ordinarily associated with a head (Alsina, Brennan and Sells, 1997, p.1). The Maithili nominal complex predicate is formed by the combination of the noun as its nominal host and the verb (light verb) as delexicalized element but the number of arguments, their case, and their meaning are jointly sanctioned.

Research Problem

The predicatehood concept is generally bound with the main verbs of verbal constructions across languages, i.e., such verbs govern the entire mechanism of sentences; argument, function, and semantic structures. In the compound and conjunct constructions, can be called complex predicates, the second elements are light verbs that also have predicational values together with the first one (verb, noun, adjective or adverb) and they together are called complex predicates. The entire syntactic mechanism of a sentence is shaped by the nature of its predicational elements but which element (first or second) contributes in what manner in the case of Maithili nominal complex predicate remains has been a subject of researchers' interest. Thus, this paper mainly aims at analyzing how the light verbs in Maithili nominal

complex predicates have their own predicatehood affecting valance number, case marking or meaning of the clauses within the lexical functional grammar (LFG), i.e., it explores how a light verb with a nominal host also contributes in the argumenthood: its valency, case or semantics. The analysis is restricted to only some of Maithili light verbs and how they contribute their own predicatehood along with nominal hosts. So, this attempt addresses the two basic questions: (a) how do light verbs as elements in Maithili nominal complex predicates have predicative value to the structures of clauses, and (b) do they contribute the argument structure and others alone or jointly with the nominal hosts?

Methodology and Theoretical Base

The data was based on the appendixes the researcher prepared for his PhD dissertation during 2018-2019 and he also used previous published/unpublished research materials about the Maithili complex predicate constructions. The theoretical concept the data has been analysed is Lexical Functional Grammar which is defined as "a theory of grammar which has a powerful, flexible, and mathematically well-defined grammar formalism designed for typologically diverse.... it has no serial derivation (unlike transformation grammar); there are no deep structures or initial structures" (Bresnan et al., 2016). LFG presents the basic syntactic and semantic information of a language in four interacting levels which are: Constituent structure (c-structure), Functional structure (f-structure), Argument structure (a-structure) and Semantic structure (s-structure). The analysis of the data is, thus, based on these four distinct but interacting structures of LFG with more focus on argument and function structures affected by the light verbs in the nominal complex predicates.

Results and Discussion

The concept of predicatehood in this context is better described from the functional and notional perspective. That is, a CP is a functional word governing the whole mechanism of a clause in the way a simple predicate does. The discussion made so far shows that different light verbs in the combination with different nominal elements give reanalysed a-structure and s-structure with respect to number, meaning (thematic role) and case marker of arguments. This subsection presents how this unification in regard with argument influence is working, i.e., the contribution of nominal host and light verb together and individually as well. Regarding the Maithili light verbs, some of frequently used are presented below along with their lexical and bleached meaning as well.

Table 1. List of some Light Verbs of Maithili with their Meanings

light verbs	lexical meanings	bleached meanings
<i>de-</i>	give	allow, benefactive, do for other
<i>le-</i>	take	directed towards the speaker, reflexive
<i>chod-</i>	leave	do sth with thorough determination
<i>rəh-</i>	remain	stay/continuity
<i>a-</i>	come	continue on from the past
<i>kər-</i>	do	habit
<i>khoj</i>	seek	try
<i>pər-</i>	fall	must, obligation, suddenness, accident
<i>ho-</i>	become	be proper
<i>sək-</i>	complete	be able, complete
<i>mag-</i>	beg	request sb to do sth.
<i>hal-</i>	pour, put,	insert immediately, instant
<i>dhər/rakh-</i>	put	continuity, completion
<i>cah-</i>	look	examine, experiment
<i>lag-</i>	benefit, adhere	begin
<i>pa-</i>	get	be allowed to
<i>pug-</i>	reach	result, completion
<i>laga-</i>	put on	cause sb to do
<i>uṭh</i>	stand up	unwanted
<i>bəiṭh/bəis</i>	sit	completion, regret, stubbornness
<i>kəs</i>	tighten	insist to do sth

Mohanani (1994, pp. 197-198) claims "the phenomenon of complex predicates is extremely pervasive, and encompasses a wide range of predicate types. Nouns, adjectives, and nonfinite forms of verbs can all combine with verbs fairly productively to form complex predicates." The construction showing the N+V sequence is a case of a nominal complex predicate because the clause structure is determined not by the verb alone, but jointly by the N and the V. That is to say, the argument structure of a clause containing a nominal complex predicate is regulated jointly by the light verb and the nominal host. The following two examples containing the verb *uṭh* 'stand' can be analyzed:

- (1) a. *əhākə mənme səŋka uṭhəl hoet* (Jha, 2006: 5)
 əhā-kə mən-me səŋka uṭh-əl ho-et
 2SG-GEN mind-LOC doubtness rise-PST be-FUT.3H
 'There might be doubtness in your mind'

- b. *o benchpər uthla*
 o bench-pər uth-l-a
 3SG bench-LOC stand-PST-3H
 'He stood on the bench.'

In (1), there is verb *uth* 'stand' in both sentences. But the same verb is used as its light form in (1a) where it has lost its content meaning and combined with the nominal category *səṅka* 'doubtiness'. But in (1b), it reserves its lexical dictionary meaning and alone determines the syntactic mechanics of the clause. The argument structure of the verb *uth* in (1a) is affected due to the presence of nominal unit *səṅka* 'doubtiness'. In (1b), only the main verb *uth* determines the syntactic structure of the clause where the verb requires altogether two arguments: first being agent with nominative case and second is oblique, an optional argument in locative case. But in (1a) the predicational value is distributed between the nominal and verbal elements, hence a nominal complex predicate is resulted where there are still two arguments only but with different case and role of the first argument *əhā-kə* 'your', i.e., the role of experience with genitive case marker.

In response to the question, i.e., whether a light verb has predicative value within a nominal complex predicate, the Maithili predicative sequence *ḍər ləg ch* 'fear adhere be' used as in (2b) can be examined. It has three elements respectively: first being noun, second main verb and third auxiliary where the second has lost its full semantic predicational content, i.e., adhere/attach but contributes in the clause structure of the sentence (its arguments, their meanings and their case) along with the nominal host *ḍər* 'fear'.

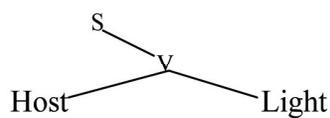
- (2) a. *gari ləgəl chəi(k)*
 gari ləg-əl ch-əi(k)
 gari stand-IPFV be.PRS-3NH
 'There is a vehicle (on the stand).'
- b. *binodkə kəhanikə/sə ḍər ləgəl chəi*
 binod-kə kəhani-kə/sə ḍər ləg-əl ch-əi
 binod-DAT story-ABL fear adhere-IPFV be.PRS-3NH
 'Binod feels fear of the story.'

In the predicative units of such a conjunct structure, most of the verbs (vectors) provide grammatical flavor to the meaning of the nominal predicative unit or nominal host, and are used as light verbs which contribute with its host. In this structure, *ḍər ləg* 'fear adhere' is a nominal CP where the host is *ḍər* 'fear' which is noun and *ləg* 'adhere' is light verb but the

argument structure and case marking of this sentence are affected by the noun *ḍar* rather than the verb sequence *lāg* 'adhere'. This shows that the verb *lāg* 'adhere' functions as a main verb in the example (2a) and takes a single argument in nominative case but there are two arguments in (2b): the first being an experiencer 'Binod' with dative marker and the second *kāhani* 'story' as a theme also with dative/ablative one, contributed jointly by the nominal host *ḍar* 'fear' and the light verb *lāg* 'adhere'. Here, the noun in this CP has the capacity to constrain the number, meaning, and overt expression of the argument in the clause, that is, to participate in the predicatehood.

There are some productive light verbs in Maithili that are also used as members of nominal complex predicates, among them, four light verbs; *a* 'come', *bhel* 'become', *rakh* 'keep' and *kār* 'do' are treated here individually in details showing how they carry their own predicatehood in the combination with their nominal hosts. The categorical structure of N+V CPs that emerges from these discussions is:

Figure 1. Structural Concept of Syntactic Complex Predicate in Maithili



Similarly, in the following figures, the categorical concept of adjunct complex predicates is presented:

Figure 2. Categorical Concept of Conjunct Complex Predicate in Maithili

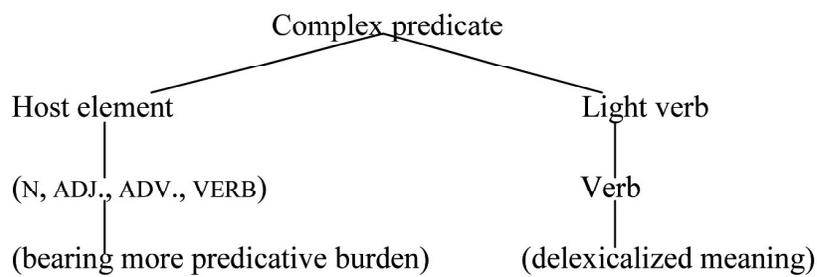
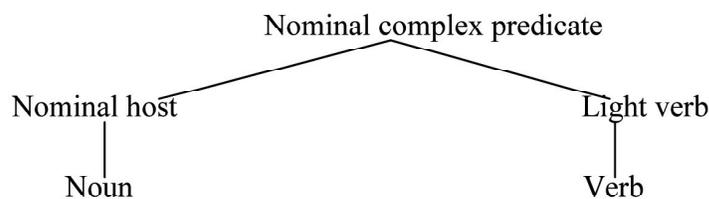


Figure 3. Structural Concept of Nominal Complex Predicate in Maithili



Now we examine how the compositionality of the NCPs formally is expressed, i.e., the semantic and syntactic representation of the light verb and its host, together with the structural relation between these two. First, how the nominal host in a nominal complex predicate dominates the predicative value of the predicate construction and the light verb supports it to create the desired pragmatics of a clause. We can compare the following examples:

- (3) *sāntos hāmār ghār ael*
sāntos hām-ār ghār a-el
 Santosh 1SG-GEN home come-PST.3NH
 'Santosh came to my home.'

The verb a 'come' takes two arguments when it is used as a full verb; the entity that comes, here in (3) Santosh and its locative destination ('home' here). But the same verb when functions as a light verb gives different status of its predicatehood as in (3) below, where the nominals are the predicatehood of the CPs.

- (4) a. *sāntoskə hāsi ael*
sāntos-kə hāsi a-el
 Santosh-DAT laughter come-PST.3NH
 'Santosh happened to laugh.'
- b. *sāntoskə kəhani yad ael*
sāntos-kə kəhani yad a-el
 Santosh-DAT story remembrance come-PST.3NH
 'Santosh remembered the story.'
- c. *sāntoskə bāccakə dhiyan ael*
sāntos-kə bācca-kə dhiyan a-el
 Santosh-DAT child-GEN thought come-PST.3NH
 'Santosh thought of the child.'

In (4a), there are two arguments; the entity that comes; laughter and the destination; Santosh, which is in abstract condition and also taken as an experience. Similarly, regarding the theta role, the entity in (3) is in nominative and the destination shows the location, but the destination in (4a) is a goal. These sentences (3 and 4a) have the following thematic structures where the sentence (3) has a simple predicate construction but the sentence (4a) has a

complex predicate. These constructions have different thematic and argument structures as shown below.

- (3) *a* <1 2>
 COME COMER DEST
- (4a) *hasi* *a* <1 2>
 COME DEST COMER
 LAUGHTER EXP

Similarly (4b) and (4c) also have an abstract destination. In addition, they have an extra argument which is not contributed by the verb a 'come', but by the nominal host. Furthermore, the case marking in the additional argument can differ depending on the nominal host: it is nominative in (4b) and genitive in (4c) respectively.

The difference between (3) and (4) in valency and case marking can be accounted for if we assume that the sentences in (4) involve the CPs: the noun in a CP has the capacity to constrain the number, meaning and overt expression of the arguments in the sentences, that is, to participate in the predicatehood. Thus, the nominal host in a CP can contribute to the number, meaning, and case of the arguments.

The nominal host in a nominal CP can govern the argument structure, but it does not mean that the light verb has nothing to do with the argument structure. It also contributes the valency and argument meanings in CPs, i.e., it has also its own predicative values in nominal complex predicates as in the sentences (5 and 6) below. The two light verbs a 'come' and *rakh* 'keep' are used with the same nominal host *yad* 'remembrance' but they take different case markers.

- (5) *sāntoskə kəhani yad ael*
 sāntos-kə kəhani yad a-el
 Santosh-DAT story remembrance come-PST.3NH
 'Santosh remembered the story.'
- (6) *sāntos kəhanikə yad rakhlāith*
 sāntos kəhani-kə yad rakh-l-āith
 Santosh story-DAT remembrance keep-PST-3NH
 'Santosh remembered the story.'

The CP in (5) is *yad* a 'remembrance come' that has two arguments: an experiencer in dative and a theme in nominative, while the number of argument is same with the CP *yad rakh* 'remembrance keep' in (6). However, the theta role in two sentences is different, only because of the light verb. In the first case, *a* is with *yad*, and in second, *rakh* is with *yad* but the experiencer is in the nominative form and the theme is in the dative which is vice versa in the former case (5). Thus, this shows that the light verb can also contribute in the case marking of the arguments in a clause. The difference in the case markers can be attributed to the different light verbs. The conclusion is that the light verb also contributes to organize the a-structure of a construction in a nominal CP. Similarly, the light verbs also contribute the argument structure along with the case marking. In the sentences (7 and 8), the light verbs *kār* 'do' and *bhel* 'remain' are used with the same nominal host *khus* 'happiness' but due to the different light verbs, there are different numbers of arguments having their different grammatical functions and theta roles.

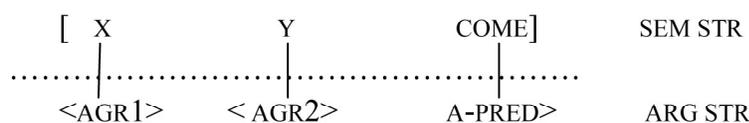
- (7) *həm khus bhelu*
həm khus bhe-lu
 I.SG.NOM happiness become- PST.1NH
 'I became happy.'
- (8) *həmra o khus kelək*
həmra o khus ke-lək
 I.SG.DAT he.SG.NOM happiness do- PST.3NH
 'He pleased me.'

In the sentence (7), the light verb *bhel* 'become' along with the host noun *khus* 'happiness' takes only one argument *həm* 'I' having the nominative case and the theta role as an experience, but in the sentence (8), the light verb *kār* 'do' with the same host noun *khus* takes two arguments *həmra* 'mine' and *o* 'he' where the first argument is in its dative case and the second is in nominative. Here the number of argument gets changed due to the light verbs. This phenomenon shows that the light verbs have the predicative values in Maithili nominal complex predicates.

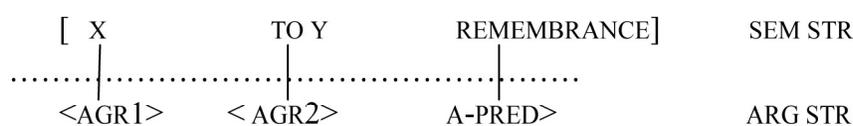
Following Mohanan (1997 & 1994), different types of CP information relevant for syntax are factored apart and represented along different parallel dimensions of structure (argument structure, semantic structure, grammatical function structure and grammatical category structure). These structures form a set of independent, interacting dimension of structure, linked to one another by general principle of grammar. In the NCPs, there is the composition

of an incomplete predicate and a complete predicate. The a-structures of matrix predicates are underspecified and on embedding this slot came to be filled with arguments of embedded predicates. The simple mechanism of this composition is the sharing of one argument between two a-structures, and this shared argument is mapped onto object function. This is facilitated due to the semantic identification of internal argument of the incomplete predicate with the argument, or one of the arguments (if there are many), of the embedded predicate, irrespective of role in the base structure. The very fact has preserved the argument-function biuniqueness. In the representation of nominal complex predicates, arguments are positions holders in syntax for what they may be called semantic participants that are hierarchically ordered and their prominence is determined by their semantics. Moreover, the information carried by traditional theta roles is factored apart into ARG STR and SEM STR. This theory of formal representation shows that the highest AGR in an ARG STR is the logical subject which is also called grammatical subject. Thus, all these parallel occurring of nominal complex predicates can be better figured in the following ways.

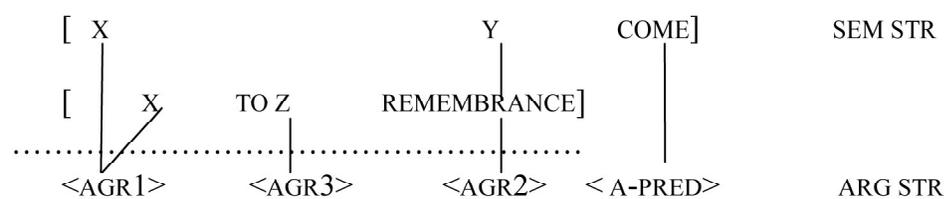
The representation of the verb a 'come' as a full verb in (3) and *yad* 'remembrance' as a nominal host in (4b) is:



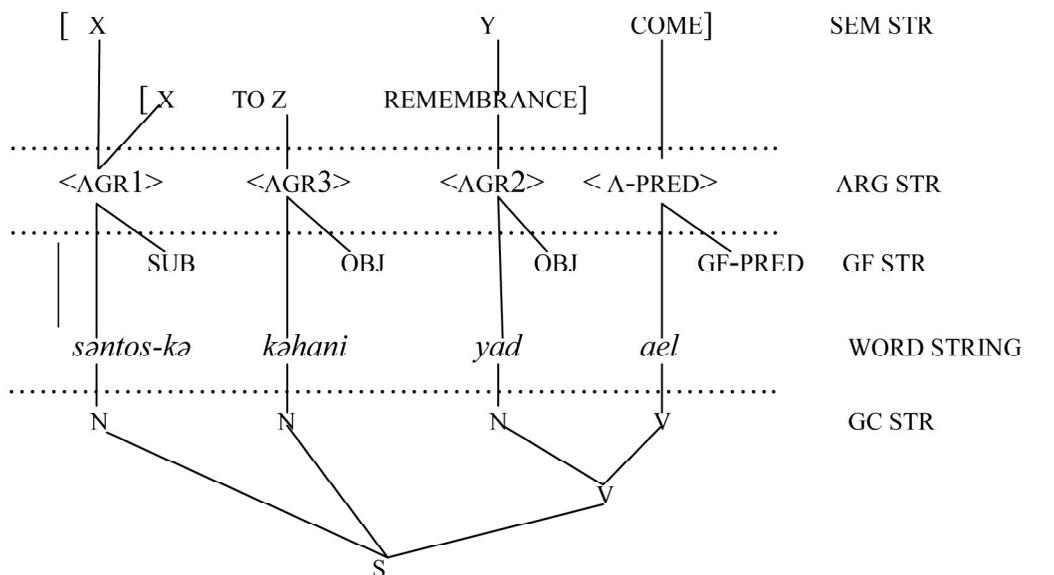
The SEM STR and ARG STR of *yad* 'remembrance' is as:



These two separate representations of the predicate a 'come' as a simple predicate and *yad* 'remembrance' also as a single nominal predicate can be put together to show how the nominal host and the light verb have their own predicative values within the LFG framework.



The representation of the predicate *yad a* 'remembrance come' as a single predicate in (4b) within the four distinct but interacting levels of the LFG framework can be presented as follows:



Conclusion and Recommendation

Maithili complex verbal constructions are found to consist of two elements (noun, adjective or adverb + verb) together functioning as a single unit called a complex predicate and the structure having noun as host and verb as light is called a nominal complex predicate in Maithili, but the number of arguments, their case, and their meaning are jointly sanctioned in the sentences. As, this paper aimed at analyzing how the light verbs in Maithili nominal complex predicates have their own predicatehood within the lexical functional grammar (LFG), it has been found that The nominal host in a nominal CP can govern the argument structure, but it does not mean that the light verb has nothing to do with the argument structure. Light verb of Maithili also contributes the valency and argument meanings in CPs, i.e., it has also its own predicative values in nominal complex predicates as in the sentences (5 and 6). As examined the two light verbs *a* 'come' and *rakh* 'keep', it has been seen that they are used with the same nominal host *yad* 'remembrance' but they take different case markers. Similarly, in the sentence (5), *yad a* 'remembrance come' that has two arguments: an experiencer in dative and a theme in nominative, while the number of argument remained same with the CP *yad rakh* 'remembrance keep' in (6). However, the theta role in two sentences became different, only because of the light verb. Thus, this shows that the light

verb can also contribute in the case marking of the arguments in a clause in Maithili language. In the NCPs, there is the composition of an incomplete predicate and a complete predicate. The a-structures of matrix predicates are underspecified and on embedding this slot came to be filled with arguments of embedded predicates. The simple mechanism of this composition is the sharing of one argument between two a-structures, and this shared argument is mapped onto object function within the lexical functional grammar. LFG is a well defined formalism for analyzing different structures of a language in very distinct ways and Maithili language can also be structured within it. However, the researchers have not yet tried for exploring this language under this framework and also Maithili light verbs need to be studied further.

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**Quality Analysis of Different Commercial and Local Milk
Available in the Markets of Siraha District**

Ram Prabodh Yadav, PhD Scholar, TU¹

Rambha Kri Chy, Dharendra Kr Chy, Santoshi Chy, Himalya Chy & Dip Kiran Chy²

Abstract

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A comprehensive study was conducted to evaluate and compare the nutritional quality of milk from three distinct species: cow, buffalo, and a type known as "Santoshi package milk," sourced from different parts of the Siraha district. The objective was to assess the levels of crucial nutrients in the milk, including protein, casein, lactose, sucrose, and ash, to understand their impact on human health and safety. To carry out the study, the researchers collected more than 30 raw milk samples from buffalo, cow, and dairy product owners at four local markets. The milk quality was rigorously analyzed using titration and precipitation methods, which provided reliable data on nutrient concentrations. The results of the analysis revealed significant differences in the nutritional composition of the three milk variants. Buffalo milk emerged as the clear winner, boasting a remarkable 4.5% protein content, outperforming cow milk with 3.5% protein and Santoshi milk with 2.8% protein. Similarly, buffalo milk exhibited the highest ash concentration at 9.6%, while Santoshi milk had the lowest at 7.9%, and cow milk fell in between at 9.5%. Furthermore, the study examined the proportion of solids in the milk samples, which play a crucial role in determining the nutritional density and quality of the milk. Buffalo milk once again stood out with the highest solid content at 11%, while Santoshi milk had the lowest at 8.8%, and cow milk showed a solid content of 10%.

Keywords: nutritional value, box plot, quality of milk, qualitative analysis, titration

Introduction

Milk is the best and cheapest source of nutrition and an article of the daily diet, easily accepted and used by all age groups in rural as well as urban areas. Milk, if present in its natural form, has high food value and supplies good quality nutrients like energy- providing lactose and fat, body-building proteins, bone-forming calcium, and health- promoting vitamins and minerals in significant amounts than any other single food (Pehrsson et al., 2000). Milk is considered a balanced food rich in fats, proteins, vitamins, and minerals, as it provides complete nutrition in a balanced proportion. Milk and milk production and also their consumption have registered a continuous global augmentation.

The milk production in acquisition units means over one million tonnes, whereby cow milk is more than 87%. There are about more acquisition centers all over the world. The importance of milk derives also from its nutritive value as well as its versatility for technological conversion through a very large number of dairy products, over 1000, which is the explanation for food diversification (Dabija et al., 2018). The quality, quantity, and composition of milk are also influenced by climatic conditions, such as metrological conditions, air humidity, and air temperature and all these could produce significant increase or decrease in milk turnover and also, could influence the percentage of milk fat and protein. The composition of milk, in particular fat and protein, changes during pasture feeding and this contributes to dairy product yield (Dabija et al., 2018).

The dairy sector is an integral part of Nepalese farming systems. It is also important as it is a source of income for the rural poor, it contributes to nutritional security and household income (Smith et al., 2022). Milk and dairy products are considered to be important sources of protein, fat, minerals, and vitamins. The safety standards are not only important for public health but also to avoid the negative impression during international trade. Milk quality tests are designed to ensure that milk products conform to the accepted standards for chemical composition and purity as well as levels of a variety of microorganisms (Nirwal et al., 2013). In Nepal, the Department of food technology and quality control has developed several legal standards for the quality assurance of milk and milk products. According to a report by the Department of food technology and quality control, almost 70% of milk sold in Nepal is "adulterated," as it does not match the standards (Upadhyay et al., 2021a).

Table 1. Province-wise Milk Production

Province	Cow milk (MT)	Buffalo milk (MT)	Total milk produced (MT)
1	195,592	220,745	416,337
2	108,946	185,249	294,195
3	123,797	267,245	391,042
4	67,878	206,627	274,505
5	109,753	258,123	367,876
6	44,370	69,004	113,374
7	103,790	131,284	235,074

(Source: CDSPL & MDTPL, 2020)

The term "milk quality" can have different meanings in different situations. A relevant starting point for discussion of the future milk quality is therefore the expressed needs or views of the consumer. Milk standards for fat and solids not fat (SNF) are different for species of buffalo and cow. The legal standard of milk is given in Table 2.

Table 2. Standard Measure and Standard Value of Fresh Milk of Different Livestock

SN	Species	Minimum milk Fat%	Minimum SNF%
1.	Cowmilk	3.5	7.5
2.	Buffalo Milk	5	8

Source: Food Standard, DFTQC, 2019

Milk is a considerable resource of products whose composition varies. Four components are dominant in quantitative terms: water, fat, protein, and lactose; while the minor components are minerals, enzymes, vitamins, and dissolved gases. It satisfies the demand of the consumer who seeks more and more innovative products with consistent quality. In general, cow milk is less rich in lactose, fat content, and protein than buffalo and other animals. On the other hand, the mineral content is similar (Guétouache et al., 2014).

Table 3. The Composition of Milk from Different Mammals in g/100 g Milk

Species	Water	Proteins	Fat	Lactose	Ash
Cow	87.2	3.5	3.7	4.9	0.72
Sheep	82.7	5.5	6.4	4.7	0.92
Goat	86.5	3.6	4.0	5.1	0.82
Camel	87.7	3.5	3.4	4.7	0.71

(Guétouache et al., 2014)

It contains nutrients that are essential for the consumption of milk by humans.

Since milk is typically thought of as a nutrient-rich food with a lot of vitamins, minerals, lipids, proteins, etc., it is consumed as a beverage. It includes minerals that prevent diseases including cancer, autoimmune disorders, heart disease, etc. Minerals are essential components of milk intended for human consumption. There are numerous

sources for milk samples, but enough details on their minerals, particularly protein and fat, are available. Dairy goods made from milk include cream, butter, yogurt, kefir, ice cream, and cheese. There aren't many studies that compare the various types of milk. Therefore, this research was done to evaluate samples of cow and buffalo and market available packet dairy milk that contained reduced sugar and solid fat-free milk as well as to assess the quality of the milk.

Material and Method

For this research, 10 of each pure cow milk, buffalo milk, and Santoshi milk were purchased from different villages and markets in the Siraha district. All the samples were stored at 4°C until further use.

Determination of Solid Contain

The milk 500 grams was taken in a pre-weighted flat-bottom dish. The dish was placed in a hot air oven at 101°C for 3hrs until dry mass was obtained and placed in a desiccator for 1hrs. Repeated the cooling and heating of the dish two or three times to achieve the constant weight. The total solids contained in the milk were determined by the formula

$$\text{Percentage of solid} = \frac{\text{wt.of solid}}{\text{wt of milk taken}} \times 100$$

Determination of Protein

A 10 ml milk sample was taken in a conical flask. A few drops of phenolphthalein, 0.4ml saturated potassium oxalate was added. Neutralized by 0.1N NaOH solution until the pink color disappeared. 2ml neutral formalin was added into it and kept standing for 5 minutes till the pink color disappeared, titrate the mixture against 0.1 N NaOH until the endpoint (a_1). then 10ml distill water instead of milk, 2ml formalin, and 0.5 ml phenolphthalein and titrated with NaOH until the endpoint (b_1) protein value was determined by formula;

$$\text{Protein value} = 1.7(a_1 - b_1),$$

Determination of Ash

Ash percentage was determined by gravimetric analysis. 5gm milk was taken into a pre-weighted crucible with a lid and burnt it up to 2hrs. Put into desiccator as desiccant. After an hour the crucible was weighed and the content was calculated by formula.

$$\text{Ash}\% = \frac{\text{residue wt.}}{\text{sample wt.}} \times 100$$

Determination of Cashin'

Take 50 ml milk in the round bottom flask and dilute it with 25 ml water. Heat this milk to about 45oc. Then added dropwise acetic acid solution (10%) with constant stirring until the precipitation was completed (casein gets precipitated at pH= 4.5). Filter and washed the precipitate first with distilled water and then with alcohol. Transfer the precipitated to a mortar and added some ether and grind with a pestle to remove the fat. Filter the solid material. This was the crude sample of casein.

$$\text{Casein}\% = \frac{\text{weight of the ppt}}{\text{weight of sample}} \times 100$$

Determination of Lactose

Lactose can be separated from fat and protein by filtration method. For this about 100 gm of milk was taken to obtain skim milk. The skim milk was then concentrated to increase the lactose content. This can be achieved through processes like evaporation, where water is removed from the skim milk to increase the lactose concentration. The concentrated milk is then subjected to crystallization to separate lactose from other components. This can be done by cooling the concentrated milk

and allowing lactose crystals to form. The crystals can be separated from the liquid portion through filtration. The lactose crystals obtained from crystallization are usually washed to remove any impurities or residual components. This helps ensure the purity of the extracted lactose. The washed lactose crystals were then dried to remove any remaining moisture. This can be achieved through spray drying methods, where hot air was used to evaporate the moisture and leave behind dry lactose powder.

$$\text{Lactose \%} = \frac{\text{weight of lactose}}{\text{weight of sample}} \times 100$$

Determination of Sucrose

250 ml flasks with a capacity for the liquid obtained during the lactose determination process shall also add 34 mL of hydrochloric acid. The flask shall then be placed immediately inside a pot of vigorously boiling water. After adding acid, the contents should be at a temperature of $21 \pm 2^\circ\text{C}$. Allow the item to remain in the bathtub for precisely 5 minutes, then take it out and quickly cool it down to the temperature of the room. Counteract using a solution of sodium hydroxide. Cool to room temperature, makeup to the mark, shake well, filter through a suction filter, washed four or five times with hot water and once with alcohol, and dry for 30 minutes at 98 to 100°C.

Observation Tables

Table 4. Qualitative Analysis of Milk

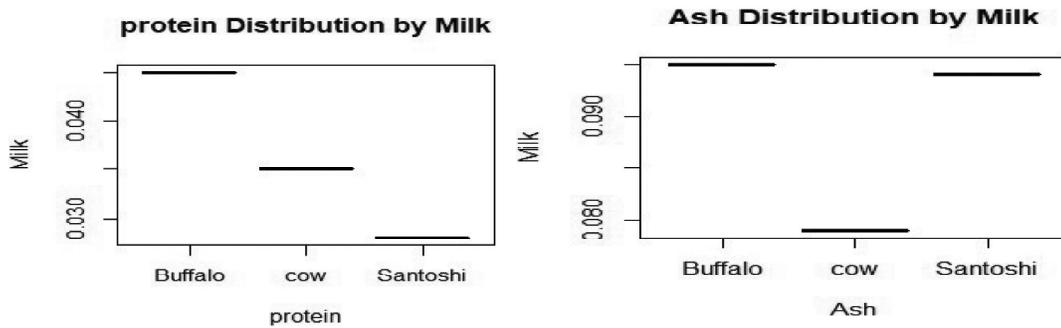
S.N.	Detected substance	Reagent	Method	Result
1	Urea	Phenol or sodium nitroprusside	2ml sample +2ml phenol	Blue color
2	Starch	HCl, KI KIO ₃	Iodometric titration	Blue-black color
3	Casein	Acetic acid	Precipitation	Curd formation
4	protein	Triphenylmethane dye	Protein dye combination	Brown to blue
5	Lactose	Benedict's reagent	Redox reaction	Blue to green
6	Sucrose	Fehling's solution	Redox reaction	Blue to brick red

Table 5. The Composition of Milk from Different Mammals in g/100 g Milk

S.N.	Milk	Casein	Solid	Protein	Ash	Lactose	Sucrose
1	Cow	7.9%	10%	3.5%	7.9%	3.6%	4.8%
2	Buffalo	9.5%	11%	4.5%	9.5%	2.9%	3.4%
3	Santoshi	9.4%	8.8%	2.8%	9.4%	2.4%	3.5%

Result and Discussion

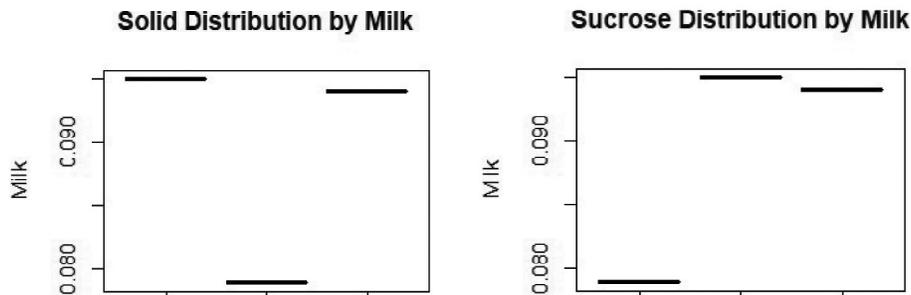
Quality wise animal protein especially milk protein is considered one of the best for human use. The result showed that the protein had a good range from 2.8% to 4.5%. The average percentage of protein is 3.6%. The result of the three species is significantly different from each other. The percentage of the result is shown in table 5. The buffalo milk showed a maximum percentage of protein (4.5%) than the other two species. i.e., buffalo, Santoshi milk. The Santoshi milk showed a minimum percentage of protein (2.8%) than the other two species. i.e., cow, buffalo. The percentage of protein in cow milk showed medium (3.5%) between cow and Santoshi milk.



The provided data discusses the ash content, solid content, and casein percentage in different types of milk samples collected from various species, specifically buffalo, cow, and Santoshi milk. Ash content in food refers to the mineral substance left behind after the evaporation and incineration of the dry sample. The average percentage of ash in these milk samples is found to be 8.9%, with a range varying from 7.5% to 9.5%. Among the three types of milk, buffalo milk shows the highest ash content, with a percentage of 9.5%. Cow milk and Santoshi milk have significantly lower ash content, with percentages of 7.9% and 9.4%, respectively. These variations in ash content may be attributed to the differences in the mineral composition of the milk obtained from different species.

Similarly, the solid content of milk is analyzed, which refers to the non-water components of milk. The average solid content is 6.9%, with a range from 8.8% to 11%. Buffalo milk contains the highest percentage of solids, with 11%, while Santoshi milk has the lowest percentage of solids at 8.8%. Cow milk falls in between, with 10% solid content. Again, these variations in solid content indicate differences in the composition of milk from various species. The percentage of casein, a protein found in milk, is also examined. The average casein percentage is 8.9%, with values ranging from 7.9% to 9.5%. Cow milk contains the highest percentage of casein at 9.5%, while buffalo milk has the lowest percentage at 7.9%. Santoshi milk falls in between, with 9.4% casein content.

These variations in ash content, solid content, and casein percentage can be attributed to several factors, including the diet of the animals, their breed, and the processing methods used. The mineral content in the soil and water the animals consume can influence the ash content in their milk. Similarly, the type of feed given to the animals can affect the solid content and the protein composition in their milk.



Previous studies showed that cow milk from rural areas often contained a protein concentration of less than 3.6% (Lynch & Barbano, 1999). However, the possible reason for this may be due to the proximity to industrial and traffic areas which increases significantly the protein concentration in cow milk. Protein deficiency is characterized by growth retardation, loss of appetite, and impaired immune function. Reports have shown that protein deficiency in most cases causes hair loss, diarrhea, delayed sexual maturation, impotence, hypogonadism male and eye and skin lesions (Wojciechowski et al., 2016).

Milk collected from Lahan had the highest protein content. Although the values were low when compared with the results obtained by Santoshi Dairy Udyog. Fresh milk is the most important source of protein for infants and individuals that are vegetarians. This protein source contains high levels of amino acids and is desirable for consumption. The composition of milk determines its nutritive quality, its value as raw material for making food products, and many of its properties (Edozien et al., 1976). Seasonal variation and regional differences in milk composition are of great importance to the manufacture of dairy products. Also the quality and composition of milk protein and the content of vitamins and minerals are of the utmost importance to the dairy industry (Hopkins, 1920).

A thorough and systematic investigation of numerous features of these milk products would be required for the comprehensive quality analysis of different commercial and locally produced types of milk available in the Siraha District. The major goal is to evaluate and contrast the properties and qualities of milk produced by commercial brands and milk sourced locally within the district. The examination will place a heavy emphasis on the quality of the milk products under consideration, taking taste, nutritional content, safety, and overall product integrity into account. The study will use a variety of evaluation methods to accomplish this goal, including sensory testing to assess taste and flavor profiles, laboratory testing to verify nutritional content and safety parameters, and inspections to check compliance with regulatory standards and hygiene practices.

The study attempts to deliver relevant and trustworthy information to various stakeholders by focusing on quality. The findings will enable consumers to make informed purchasing decisions, ensuring that they select milk products that match their preferences and nutritional needs. The study's findings will help regulators monitoring the dairy industry better comprehend the overall quality and safety of milk products on the market. This can help them develop or update regulations to maintain high standards and protect public health. Furthermore, the study's findings will be of interest to a wide range of stakeholders, including dairy farmers, retailers, and distributors. They will acquire vital insights into the advantages and disadvantages of various milk varieties, allowing them to optimize their products and strategies to efficiently satisfy consumer needs.

The analysis's comprehensive nature attempts to provide a thorough understanding of the milk market dynamics in the Siraha District. Industry decision-makers can utilize this data to discover possible areas for improvement and make data-driven decisions to improve product quality.

Conclusion

A thorough and systematic investigation of numerous features of these milk products would be required for the comprehensive quality analysis of different commercial and locally produced types of milk available in the Siraha District. The examination will place a heavy emphasis on the quality of the milk products under consideration, taking taste, nutritional content, safety, and overall product integrity into account. The study attempts to deliver relevant and trustworthy information to various stakeholders by focusing on quality. The study's findings will help regulators monitoring the dairy industry better comprehend the overall quality and safety of milk products on the market. This can help them develop or update regulations to maintain high standards and protect public health.

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Tobacco Consumption among People of Nepal: Review of Nepal Demographic Health Surveys

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Abstract

Tobacco is the main source of carcinogens and is a cause for 8 million deaths in the world. So, this paper aims to describe prevalence of tobacco consumption among people of Nepal. This paper was based on the published reports of Nepal Demographic Health Surveys 2006, 2011 and 2016. Proportion was used to describe prevalence of tobacco consumption among people. Prevalence of tobacco use was higher among men, people from higher age group, lower education level and lower socio-economic status in each survey 2006, 2011 and 2016. Therefore, tobacco cessation program considering sex, age, education and economic status is necessary to minimize prevalence of tobacco among people.

Keywords: cigarette, economic status, education level, sex, smokeless tobacco

Introduction

Cigarette, *bidi*, *hookah*, *sulpha* and *chillum/kankad* are forms of smoked tobacco while tobacco leaves, *khaini*, *gutakha* and *pan* with tobacco ingredients are form of smokeless tobacco (Ministry of Health and Population, n.d.). Tobacco and tobacco smoke are the main sources of many chemicals such as nicotine, tar, carbon monoxide, N-nitrosamines that are toxic, carcinogenic, atherogenic, teratogenic and addictive and among them nicotine is more addictive and psychoactive (mood alerting) than other drugs (World Health Organization, 2005). Tobacco use is attributed to many diseases. Lung cancer, cancer of mouth, oesophagus, larynx and pharynx, ischaemic heart disease, cerebrovascular disease and chronic obstructive pulmonary disease (Government of Nepal Ministry of Health and Population, n.d.). Likewise, *gutkha*, *khaini*, *surti* (dry tobacco leaves), *pan masala*, *supari*, *pan parag* and similar smokeless tobacco products are responsible for mouth, throat and digestive tract cancers. Tobacco use is responsible for 8 million death in the world each year (World Health Organization, 2019b) and 27,137 death each year in Nepal (World Health Organization, 2018).

Although the proportion of people who consumed tobacco is in declining way in the world, death attributed to tobacco use is in increasing trend. In 2000 and 2015 the user of any tobacco among both men and women respectively were 33.3% and 24.9% (World Health Organization, 2019a). For male, in 2000 and 2015 the prevalence of tobacco use respectively was 50% and 40.3%. Similarly, for women, in 2000 and 2015 it respectively was 16.7% and 9.5%. In South-East Asian Region, the prevalence of any tobacco use among both men and women was 46.6% and 31.2% respectively in 2000 and 2015. In lower middle-income countries, prevalence of any tobacco use among both men and women was 40.4% and 27.4% respectively in 2000 and 2015, which is higher compared to other countries.

Prevalence of tobacco use among people from male sex, higher age group, higher education level and higher socio-economic status is lower than people from lower education and lower socio-economic status in Nepal. Tobacco use is around four times higher among men (51%) than among women (13.7%) (Nepal Development Research Institute, 2020). STEP wise approach to non-communicable diseases surveillance (STEPS) Survey 2019 shows that the 42.7% people of age group 55-69 years consumed tobacco whereas proportion of people who consumed tobacco in age group 15-24 years was least (15.1%) (Dhimal et al., 2020). Prevalence of tobacco use was highest among people who had no or less than primary education (34.4%) whereas it was least among people who had education

more than secondary (21%). More than one-third (33.4%) and 25.3% people from the lowest wealth quintile and the highest wealth quintile consumed tobacco respectively.

Although many initiations such as ratification of the World Health Organization Framework Convention on Tobacco Control (WHO FCTC), Tobacco Product (Control and Regularization) Regulation Act 2011 (National Health Education Information and Communication Centre, 2018) and others are practiced in Nepal, the prevalence of tobacco consumption is seen high. In this context, this paper tries to describe the proportion of tobacco use among people based on their sex, age group, education and economic status.

Method

This review study was based on published reports of Nepal Demographic Health Surveys conducted in 2006 (Ministry of Health and Population Government of Nepal et al., 2007), 2011 (ICF Macro, 2011) and 2016 (Ministry of Health Nepal et al., 2017) in Nepal. The Demographic and Health Survey (DHS) is a country specific national sample survey, which is focused on collection of information related to people and many aspects of health such as nutrition, reproductive and sexual health, maternal and child health and family planning (ICF Macro, 2011). Surveys collected data mainly from randomly selected women and a small number of male. The respondents age ranges between 15-49 years but it can be changed as countries need and situation. In this study, tobacco consumption behavior (smoking cigarette and smokeless tobacco) of people was taken as dependent variable whereas sex, age group, education, wealth status and ecological region where they lived were taken as independent variables. Descriptive statistics such as percent was used to analyze tobacco consumption behavior of people regarding different independent variables.

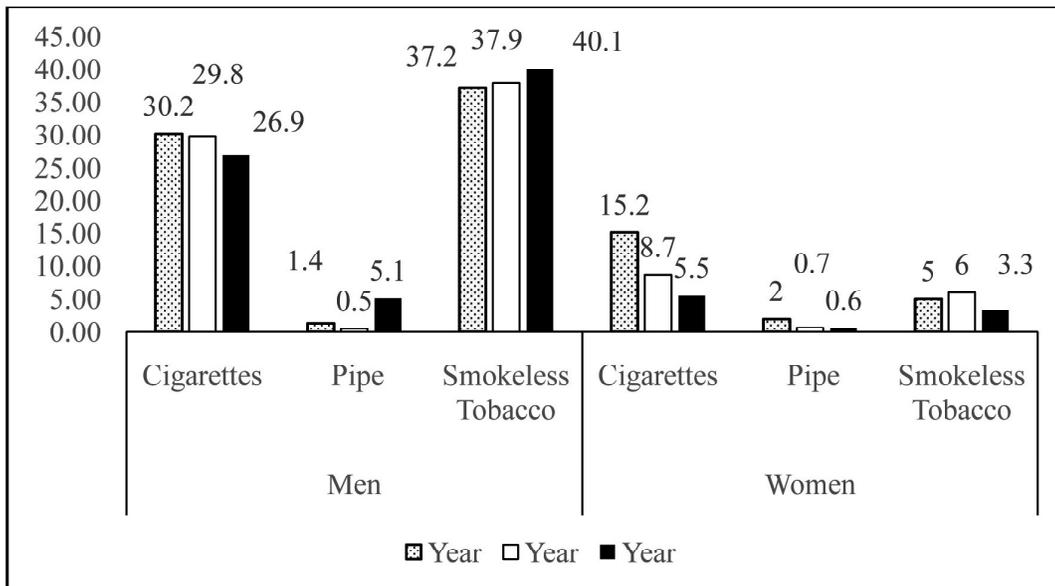
Results

In this section, findings based on the variables; sex, age group, education level, wealth quintile and ecological region are presented in figures and tables.

Sex-wise Tobacco Consumption among People

Nearly one-third men (30.2%), 29.8%, and 26.9% men smoked cigarette in 2006, 2011, and 2016, respectively, but, only 15.2%, 8.7%, and 5.5% women smoked cigarette in 2006, 2011, and 2016, respectively (Figure 1). Similarly, 37.2%, 37.9%, and 40.1% men consumed smokeless tobacco in 2006, 2011, and 2016, respectively, and only 5%, 6%, and 3.3% women consumed smokeless tobacco in 2006, 2011, and 2016, respectively.

Figure 1. Sex wise Tobacco Consumption in Different Nepal Demographic Health Surveys



Source: Nepal Demographic Health Surveys 2006, 2011, and 2016

Age-wise Tobacco Consumption among People

Table 1 shows that the highest proportion (50.3%) of men from age group 45-49 years and the lowest proportion (10.8%) of men from age group 15-19 years smoked cigarette in 2006. Half (50.9%) and 13.9% of men from age group 40-44 years and 15-19 years consumed smokeless tobacco, respectively, in 2006. For women, the highest proportion (38.3%) from age group 45-49 years and the lowest proportion (1.8%) from age group 15-19 years smoked cigarette. Whereas 9.3% and 1.1% of women from age group 35-39 years and 15-19 years consumed smokeless tobacco, respectively.

In 2011, the highest (46%) and the lowest (13.1%) percentage of men from age group 45-49 years and 15-19 years, respectively, smoked cigarette (Table 1). Similarly, the highest (55.3%) and the lowest (11%) of men consumed smokeless tobacco. For women, age group 44-49 years and 15-19 years contributed the highest (24.9%) and the lowest (0.5) cigarette smoker, respectively. Similarly, the highest (15.1%) and the lowest (0.7%) consumer of smokeless tobacco fell under age group 44-49 years and 15-19 years, respectively.

In 2016, the highest proportion (36.9%) and the lowest proportion (15%) of men belonged to age group 45-49 years and 15-19 years, respectively, who smoked cigarette

(Table 1). For women, it was age group 45-49 years and 15-19 years that contributed the highest (18.6%) the lowest (0.5%) proportion, respectively, who consumed cigarette.

Table 1. Age wise Tobacco Consumption in Different Nepal Demographic Health Surveys

Year	Age group	Men			Women		
		Cigarettes	Pipe	Smokeless tobacco	Cigarettes	Pipe	Smokeless tobacco
2006	15-19	10.8	0.1	13.9	1.8	0	1.1
	20-24	25.3	0.3	34.2	5.1	0.5	3.2
	25-29	27.2	0.7	43.6	10	1.3	4.8
	30-34	39.1	1.5	49.5	16.6	2.3	6.2
	35-39	42.3	4	48.7	27.1	3	9.3
	40-44	42.4	1.6	50.9	37.3	5.8	8.4
	45-49	50.3	3.7	45.9	38.3	5.3	8.2
	15-49	30.2	1.4	37.2	15.2	2	5
2011	15-19	13.1	0.1	11	0.5	0	0.7
	20-24	26.5	0.3	28.8	1.9	0.3	1.7
	25-29	36.4	0.3	50.1	5.7	0.4	0.4
	30-34	32	0.6	50.6	9.4	1.1	6.8
	35-39	33	0.7	55.3	15.5	1.2	9.9
	40-44	42.5	0.9	51.5	22.2	1.4	13.6
	45-49	46	0.9	47.5	24.9	1.9	15.1
	15-49	29.8	0.5	37.9	8.7	0.7	6
2016	15-19	15	3.3	-	0.5	0.1	-
	20-24	15.3	8.1	-	1.2	0	-
	25-29	31.4	8	-	2.4	0.4	-
	30-34	29.3	3.5	-	5.3	0.3	-
	35-39	26.3	4.9	-	7.7	0.8	-
	40-44	28.7	3.7	-	14	1.9	-
	45-49	36.9	5.1	-	18.6	1.8	-
	15-49	26.9	5.1	40.1	5.5	0.6	3.3

Source: Nepal Demographic Health Surveys 2006, 2011, and 2016

Tobacco Consumption of People Based on their Education Level

In 2006, the highest proportion of men who had no education consumed cigarette (50.5%) and smokeless tobacco (55.7%) whereas the least proportion of men who had education SLC and above consumed cigarette (14.9%) and smokeless tobacco (23.6%) (Table 2). Similarly, the highest proportion of women who had no education consumed cigarette (25.7%)

and smokeless tobacco (6.7%) and cigarette smoking (0.6%) and smokeless tobacco (0.1%) was least in among women who had education SLC and above.

In 2011, cigarette and smokeless tobacco was consumed by 50.4% and 60.8% of men, respectively, who had no education whereas the least proportion of men having education SLC and above consumed cigarette (18.1%) and smokeless tobacco (23.3%) (Table 2). For women, who had no education, 17.9% and 10.8% consumed cigarette and smokeless tobacco, respectively. One-fourth (23.3%), who had education SLC and above, smoked cigarette whereas no women consumed smokeless tobacco from this education group.

Table 2 mirrors that 37.8% men and 13% women, who had no education, consumed cigarette in 2016 while 19.3% men and only 0.5% women, who had education SLC and above, smoked cigarette.

Table 2. Tobacco Consumption among People Based on their Education Level

Year	Education	Men			Women		
		Cigarette	Pipe	Smokeless Tobacco	Cigarette	Pipe	Smokeless Tobacco
2006	No education	50.5	3.6	55.7	25.7	3.7	6.7
	Primary	38.4	1.5	43.6	7.7	0	6.1
	Some secondary	21.3	0.6	29.8	0.7	0	1.7
	SLC and above	14.9	0.4	23.6	0.6	0	0.1
2011	No education	50.4	1	60.8	17.9	1.7	10.8
	Primary	40.4	0.7	52.3	7.1	0.1	6.8
	Some secondary	26.4	0.4	34.1	1.4	0	2
	SLC and above	18.1	0.2	23.3	0.1	0	0.2
2016	No education	37.8	5.3	-	13	1.5	-
	Primary	36.4	5.5	-	4.7	0.3	-
	Some secondary	26.7	4.6	-	1.1	0.1	-
	SLC and above	19.3	5.5	-	0.5	0	-

Source: Nepal Demographic Health Surveys 2006, 2011, and 2016

Tobacco Consumption among People Based on their Wealth Quintile

Table 3 shows that 45.1% and 24.4% men, respectively, from the lowest wealth quintile and highest wealth quintile consumed cigarette and 39.6% and 28.5% men, respectively, from the lowest and the highest wealth quintile consumed smokeless tobacco in 2006. Similarly, 29.1% and 5.5% women who belonged to the lowest and highest wealth quintile, respectively, consumed cigarette and from the lowest wealth quintile 7.8% and from the highest 2.3% women consumed smokeless tobacco.

In 2011, prevalence of smoking cigarette and smokeless tobacco in the lowest wealth quintile and the highest wealth quintile was 39% and 23.7%, respectively, among men (Table 3). Prevalence of smokeless tobacco among men from the lowest and the highest wealth quintile was 45.6% and 26.3%, respectively. Likewise, prevalence of smoking cigarette among women from the lowest wealth quintile and the highest wealth quintile was 20.1% and 2.7%, respectively. From the lowest wealth quintile 14.4% and from the highest wealth quintile 1.4% women consume smokeless tobacco.

In 2016, one-third (34%) and 21.3% men, respectively, from the lowest wealth quintile and the highest wealth quintile smoked cigarette (Table 3). Likewise, the highest percent (12.9%) women from the lowest wealth quintile consumed smokeless tobacco and it was 1.7% in the highest wealth quintile.

Table 3. Tobacco Consumption among People Based on their Wealth Quintile

	Wealth quintile	Men			Women		
		Cigarette	Pipe	Smokeless tobacco	Cigarette	Pipe	Smokeless tobacco
2006	Lowest	45.1	5.4	39.6	29.1	5.4	7.8
	Second	35.7	1.2	45.6	18	2	5
	Middle	28.9	1.1	40.3	15.6	2.5	5.4
	Fourth	22.6	0.2	35.8	10.1	0.4	5
	Highest	24.4	0.2	28.5	5.5	0.1	2.3
2011	Lowest	39	2.2	45.6	20.1	3	14.4
	Second	34.2	0.6	41.8	11.6	0.6	7.5
	Middle	32.8	0.2	47.8	7	0.4	5
	Fourth	25	0.0	34.4	5.2	0	4
	Highest	23.7	0.0	26.3	2.7	0	1.4
2016	Lowest	34	5.5	-	12.9	2.1	-
	Second	27.9	2.3	-	6.6	0.6	-
	Middle	27.3	5.4	-	3.8	0.2	-
	Fourth	27.2	5.4	-	4.2	0.2	-
	Highest	21.3	6.6	-	1.7	0.2	-

Source: Nepal Demographic Health Surveys 2006, 2011, and 2016

Discussion

The main purpose of this paper is to describe prevalence of tobacco consumption among people based on the published reports of NDHS conducted in 2006, 2011 and 2016 in Nepal. For this, sex, age, education level and wealth quintiles of them are taken as the basis of describing prevalence of tobacco consumption.

Overall, this review study shows that tobacco (cigarette and smokeless tobacco) consumption rate among people especially men was high in each survey although proportion of people who consumed tobacco have decreased from 2006 to 2016. A study conducted by Sreeramareddy and Harper (2019) based on NDHS surveys support the findings of this review study. However, the study conducted by Abdulkader et al. (2019) based on the findings of surveys reports of India partially support this findings. They reported that proportion of people who smoked and consumed smokeless tobacco was in descending order. This reducing proportion of tobacco user might be the effect of smoking cessation program and high taxation of it.

This review study found that, for men, smoking cigarette decreased from 2006 to 2016 while consumption of smokeless tobacco increased among them from 2006 to 2016. However, proportion of women who consumed cigarette and smokeless tobacco decreased from 2006 to 2016. Compared to women, proportion of men who consumed tobacco was many times higher. Global Adult Tobacco surveys 2016/17 evidences that prevalence of tobacco use in India is three times higher among men (42.4%) compared to women (14.2%) and prevalence of smoked tobacco is ten times (19%) higher among men compared to women (2%) (Chhabra et al., 2021). Many studies report high (more than three times) prevalence of smoking and SLT among males (Khanal & Khatri, 2021) and male consume tobacco more than two times (39.6%) than females (18.3%) consume. In South-East Asian countries consumption of tobacco is higher where smoking is more favorable among men and smokeless tobacco is more favorable among women (Sinha et al., 2011). The prevalence tobacco among male is higher than female because our society is patriarchal society where female should be depend upon their counterparts. Females are not free like male. Our tradition and religion prohibit them to enjoy tobacco like male. Religion is the most predictable tobacco use among men and female in many countries including Nepal (Sreeramareddy et al., 2014). Lower prevalence of tobacco use among women is due to patriarchal society and masculinity feeling among people (Nepal Development Research Institute, 2020).

This review study shows that, in each survey, proportion of tobacco consumer was highest in upper age groups and lowest in lower age groups for both men and women. It was seen that proportion of people who consumed tobacco was many times higher in upper age group than lower age group in each surveys. Compared to men, negligible proportion of women who consumed tobacco was found in lower age group (15-19 years) in 2006, 2011, and 2016. It matches with the findings of review study conducted by (Chhabra et al., 2021). They reported that proportion of people who consumed tobacco was higher in age

group 45 years and more than it was in age group 24-44 year, and it was least in age group below 24 years. A study (Panda et al., 2012) echoes with this study and found that the prevalence of tobacco use in age group 31 to 40 year, 41 to 50 year and more than 50 year respectively was 47.2%, 55.1% and 60.6%. The higher prevalence of tobacco use in upper age groups mirrors the traditional thought of society that adult are more free than younger hence tobacco use is preferable for them rather than younger children. They also are habituated due longer experience of tobacco use (Lakew & Haile, 2015), and they cannot easily leave it and hence more elder adults are engaged in tobacco consumption.

This review study found that people who had no education consumed more tobacco than people who had education in each surveys. The highest proportion of people who consumed tobacco belonged to people who had no education and the lowest proportion of people who consumed tobacco belonged to people who had education SLC and above. Proportion of people who consumed tobacco decreased as level of education of them increased. In comparison of men, maximum reduction in percentage of women who consumed tobacco was found as their education level increased. Many studies such as Chhabra et al. (2021), Sreeramareddy and Harper (2019), Khanal and Khatri (2021) and Shrestha et al. (2019) echo with this review study. These studies mentioned that prevalence of tobacco consumption was lower among people from higher educational status. Education makes people more thoughtful and responsible towards their role and health, as a result least people from higher education consume tobacco. Educated people are more aware towards the harmful impact of tobacco consumption hence they remain away from tobacco use. Uneducated people are not able to utilize the health promotional messages (Khanal et al., 2013) and hence there is more probability of engaging in tobacco consumption by them.

This review study evidences that percentage of people who consumed tobacco was highest in the lowest wealth quintile and lowest in the highest wealth quintile in each surveys. As wealth quintile of people increased the percentage of people who consumed tobacco decreased. From the upper wealth quintile the percentage of women who consumed tobacco was lower than men who consumed tobacco. A study is, in line with this study, conducted by (Sreeramareddy & Harper, 2019) stated that as economic status increases tobacco use is decreases among both men and women. Many studies support our study by stating that families from lower economic status are more likely to smoke than families from higher economic status (Khanal & Khatri, 2021) and in slum areas the prevalence of tobacco use is higher (27.9%) than non-slum areas (18.3%) (Chockalingam et al., 2014). Higher prevalence of tobacco consumption among people from lower socio-economic status might be due to having no or less awareness towards it (Chhabra et al., 2021).

However, this study lacks higher statistical analysis; it provides brief data about tobacco consumption among people of Nepal from 2006 to 2016. It provides insights to develop tobacco cessation programs considering people especially men including people from upper age groups, lower socio-economic and educational status that directly or indirectly help to reduce tobacco consumption behavior of them.

Conclusion

Based on the findings of this review study, we concluded that proportion of people who consumed tobacco decreased since 2006 to 2016. But tobacco consumption among people especially among men was higher. More people from older age group, lower educational and socio-economic status consumed tobacco. Therefore, we emphasize the need of tobacco cessation program considering sex, age, education and economic status of people.

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Fish Market of Lahan, Siraha

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Abstract

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An investigation was carried out twice a week per month from September to November, 2021 during winter and May to July, 2022 during summer to distinguish and record about various fish species and their price and to analyze what is happening of fish market of Lahan. The present study was based on a survey of Lahan fish market with the help of direct observation, interview and questionnaire. During survey, a total of 21 sellers were asked a series of questions in the study area. Secondary data from published records were also administered to complement primary data. A total, 22 different fish species were identified during the winter and 23 different species were identified during the summer, among them 3 were native fish i.e., Rohu, Naini, Bhakur which are commercially cultured and remaining 20 were found to be exotic among them 7 exotic species i.e. Big head carp, Common carp, Grass carp, Silver carp, Singhi, Pangasius and Mungri are commercially cultured by farmers in Nepal. The average marketing cost of fish was found to be higher in winter while least fish price was reported in summer in the study area. The cost of fish was about 1.5-2 times in winter than those of the summer. The finding showed that fish seller were facing several problems like lack of fixed stall, lack of sanitation, poor storage facilities and lack of well managed fish market which needs to be addressed to enhance the improvement of transport networks and promoting market efficiency in the study area.

Keywords: culture, merchant, perishable, sanitation, storage, transportation

Introduction

In many Asian countries, fish is regarded as a staple item that ranks right after rice. Aquaculture in Nepal has grown significantly during the past ten years, with a normal 8.5% growth rate (Giri, 2017). Fish is one of the healthiest foods since it is rich in essential nutrients like protein and vitamin D and is a wonderful source of omega-3 fatty acids, which are crucial for the health of the human body and brain. All non-vegetarian Nepalese often accept and prefer fish (Khanal et al., 2020). Fish has several benefits that make it a desirable part of a healthy diet. It is also a high-protein food that functions reasonably well as a meat substitute (de Boer et al., 2020). The demand of fish showed increasing trends due to people awareness about their health and nutrition. The cost of production and profitability of the fish farming differs due to locality, inputs price, and distance to market (Poudel et al., 2022). Marketing of fish involves all the activities in the flow of fish or fish products from the farmer to the consumers. The goal of marketing is often to make a profit while bridging the gap between fish availability and shortage (Khanal et al., 2020). Furthermore, fish marketing is primarily an element of the confidential area and works through a complicated arrangement of town markets, municipality markets (bazaar), get together focuses, major metropolitan discount and retail advertises. Fish marketing system development in Nepal is in newborn child stage (Husen, 2019). However, concept of live fish marketing system has emerged and the number of live fish shop is increasing trend in our country. Fishing is one of the significant and customary lifestyles supporting for low financial local area like Tharu, Majhi, Mukhiya, Malaha, Danuwar, Kewat, Jalari, Kumal, Bote, Musahar, Danger and others (Patel et al., 2020).

Fisheries and aquaculture is a reliable source of income. Thousands of people are directly or indirectly engaged in this sector that has contributed in reduction of youth migration to some extent (Mishra, 2015). Moreover, in Nepal, fishery development has progressed in a sustainable manner. Out of almost 12,500 ha of such region accessible in the country, around 1,225 ha are as of late being utilized for fish cultivating (Budhathoki et al., 2018). Over the most recent 16 years, there has been an increment of in excess of 23000 mt of fish creation in Nepal contrasted with that of the base year 1999/00 with 37427 mt creation in the year 2013/14 (RERP, 2019). Furthermore, the fish production is fundamentally from aqua-farming of terai area. There are 44,722 ponds covering 11895.31 ha place in Nepal with the productiveness 4912 kg/ha. The maximum manufacturing of pond aquaculture is from Madhesh Province (Subedi & Shrestha, 2020). The Siraha district is one of the 77 districts that make up the Madhesh province, which is located in Nepal's Terai region. It has

a 1,188 sq km land area and a population of 637,328. The district consists of 17 municipalities, nine of which are in rural areas and eight of which are governed centrally, all of which are directly under the supervision of the federal government (CBS, 2012). The Madhesh province of Nepal's Siraha district is home to the Lahan municipality. There are 24 wards in the municipality. According to the 2011 Census, there are 91,766 people living in the municipality. The municipality is situated at latitude 26.717 and longitude 86.483. It is 111 metres above sea level (Shrestha et al., 2020). Although the Siraha district has a lot of potential for fish production, income, nutrition, and rural development in general, productivity is low due to a lack of management and technical expertise in fish farming, which is a difficult problem for increasing market demand and managing trade in domestic and international fish markets (Magar et al., 2022). In addition, the huge fish production nearby are Bara, Dhanusha, Saptari, Rupandehi, Mahottari, and Chitwan of terai local of Nepal (Husen, 2019). However, fish supply could not meet the demand of consumer in Nepal as result live fish have getting higher price in the market and fish imported from India price is lesser than fresh wet fish of Nepal. Besides, in Nepal, per capita fish production slacks far under most of the world (Gurung, 2014) and it is due to overfishing, illegal fishing methods, invasive species, parasites, and natural degradation of the habitat (Khanal et al., 2020b).

There is no single fish marketing procedure in Nepal. It changes from one spot to another. Fish marketing is a complex and significant issues of present time. However, the study on fish market has not received adequate attention in Nepal and only few literatures available regarding fish market of Lahan Municipality, Siraha. Therefore, this study was directed to distinguish and record about various fish species and their price and to analyze what is happening of fish market of Lahan market. However, it doesn't encompass the smoking and various dry fish (Sukuti) and its cost. It very well may be contributed by different specialists. This article will be useful for providing information on the arrangements, plans, projects, and improvement patterns for the fish displayed area in the future.

Materials and Methods

Study Site

The study was based on market survey obtaining information through a sample survey among fish farmer (one who selling fish) as shown in photo 1, 2, 3 and 4. Radhakrishna chowk is a famous market in Lahan Municipality. There is a large area of market (bazaar) and together with a Machha bazaar is separately. The Machha bazaar is situated at the embankment of the Khuti Khola. It is situated about 2 km north away from Mahendra Highway. There is a significant number of fish farmers engaged in selling fish on commercial

basis in this market. For this reason, Radhakrishna Machha bazaar was selected as a study area as shown in figure 1 and 2.

Figure 1. Map of Siraha District



Source: Google

Figure 2. Map of Study Area



Source: Google



Photo 1: Fishes are put into bamboo basket



Photo 2: Fishes are selling in fish market



Photo 3: Pickup van used to bring fish



Photo 4: Aeration in fish

Data Collection

Data collection occurred twice every month between September to November, 2021 and May to July, 2022. The data used in the current study came from both primary and secondary sources. The primary data was gathered at a fish market using a random sample technique, interviewing techniques, direct observation, and a questionnaire. Secondary data was gathered from a variety of published sources, including books, journals, articles, thesis, and research findings. In the study area, a total of 21 sellers were questioned during the survey. All were local seller or local collectors who go directly to the farmer's pond, purchase fish, and bring them to the market for sale. They purchased fish from Lahan, Bakhair, Budbhan, Kurwa, Bhotiyatole, Barchawar, Banauli, Golbazaar, Gadhiya, Motipur of Siraha district, Kadamaha Saptari, Sarlahi, Rauthat and also imported fish from Calcutta Indian state of West Bengal.

Results

Fish Species

In total, 22 different fish species were identified during the winter and 23 different species were identified during the summer along with their scientific name and local name. The fishes were accessible during winter for example Naini (*Cirrhinus mrigala*), Rohu (*Labeo rohita*), Big head Carp (*Aristichthys nobillis*), Common Carp (*Cyprinus carpio*), Grass Carp (*Ctenopharyngodon idella*), Silver Carp (*Hypophthalmichthys molitrix*), Bhakur (*Catla catla*), Gaichi (*Macrognathus aral*), Kotri (*Oreochromis mosambicus*), Mungri (*Clarias batrachus*), Jalkapoor (*Clupisoma garua*), Jalkapoor (*pangasius*), Bowari (*Wallago attu*), Mara (*Aspidopario jaya*), Kati (*Mystus seenghala*), Tengra (*Mystus tengra*), Chelwa (*Oxygaster bacaila*), Pothia (*Puntius sophore*), Garai (*Channa punctatus*), Saura (*Channa striatus*), Dedhwa (*Esomus danricus*) and Latta (*Lepidocephalichthys guntea*) were kept (Table 1). Similarly, during the summer, the fish may be accessed as Naini (*Cirrhinus mrigala*), Rohu (*Labeo rohita*), Big head Carp (*Aristichthys nobillis*), Common Carp (*Cyprinus carpio*), Grass Carp (*Ctenopharyngodon idella*), Silver carp (*Hypophthalmichthys molitrix*), Bhakur (*Catla catla*), Gaichi (*Macrognathus aral*), Kotri (*Oreochromis mosambicus*), Mungri (*Clarias batrachus*), Jalkapoor (*Clupisoma garua*), Jalkapoor (*pangasius*), Singhi (*Heteropneutes fossilis*), Bowari (*Wallago attu*), Mara (*Aspidopario jaya*), Kati (*Mystus seenghala*), Tengra (*Mystus tengra*), Chelwa (*Oxygaster bacaila*), Pothia (*Puntius sophore*), Garai (*Channa punctatus*), Saura (*Channa striatus*), Dedhwa (*Esomus danricus*) and Latta (*Lepidocephalichthys guntea*) were kept (Table 2).

**Table1. Fish Found in Fish Market of Lahan Bazaar, during Winter
(i.e. the Month of September, October and November, 2021)**

S.N.	Scientific name	Local name
1.	<i>Cirrhinus mrigala</i>	Naini
2.	<i>Labeo rohita</i>	Rohu
3.	<i>Catla catla</i>	Bhakur
4.	<i>Aristichthys nobillis</i>	Big head Carp
5.	<i>Cyprinus carpio</i>	Common Carp
6.	<i>Ctenopharyngodon idella</i>	Grass Carp
7.	<i>Hypophthalmichthys molitrix</i>	Silver Carp
8.	<i>Macrognathus aral</i>	Gaichi
9.	<i>Oreochromis mosambicus</i>	Kotri
10.	<i>Clarias batrachus</i>	Mungri
11.	<i>Pangasius pangasius</i>	Jalkapoor
12.	<i>Clupisoma garua</i>	Jalkapoor
13.	<i>Wallago attu</i>	Bowari
14.	<i>Aspidopario jaya</i>	Mara
15.	<i>Mystus seenghala</i>	Kati
16.	<i>Mystus tengra</i>	Tengra
17.	<i>Oxygaster bacaila</i>	Chelwa
18.	<i>Puntius sophore</i>	Pothia
19.	<i>Channa punctatus</i>	Garai
20.	<i>Channa striatus</i>	Saura
21.	<i>Esomus danricus</i>	Dedhwa
22.	<i>Lepidocephalichthys guntea</i>	Latta

**Table 2. Fish Found in Fish Market of Lahan Bazaar, during Summer (i.e. the
Month of May, June and July, 2022)**

S.N.	Scientific name	Local name
1.	<i>Cirrhinus mrigala</i>	Naini
2.	<i>Labeo rohita</i>	Rohu
3.	<i>Catla catla</i>	Bhakur
4.	<i>Aristichthys nobillis</i>	Big head Carp
5.	<i>Cyprinus carpio</i>	Common Carp
6.	<i>Ctenopharyngodon idella</i>	Grass Carp
7.	<i>Hypophthalmichthys molitrix</i>	Silver Carp
8.	<i>Macrognathus aral</i>	Gaichi
9.	<i>Oreochromis mosambicus</i>	Kotri
10.	<i>Clarias batrachus</i>	Mungri
11.	<i>Pangasius pangasius</i>	Jalkapoor

S.N.	Scientific name	Local name
12.	<i>Clupisoma garua</i>	Jalkapoor
13.	<i>Heteropneutes fossilis</i>	Singhi
14.	<i>Wallago attu</i>	Bowari
15.	<i>Aspidopario jaya</i>	Mara
16.	<i>Mystus seenghala</i>	Kati
17.	<i>Mystus tengra</i>	Tengra
18.	<i>Oxygaster bacaila</i>	Chelwa
19.	<i>Puntius sophore</i>	Pothia
20.	<i>Channa punctatus</i>	Garai
21.	<i>Channa striatus</i>	Saura
22.	<i>Esomus danricus</i>	Dedhwa
23.	<i>Lepidocephalichthys guntea</i>	Latta

Price of Different Fishes

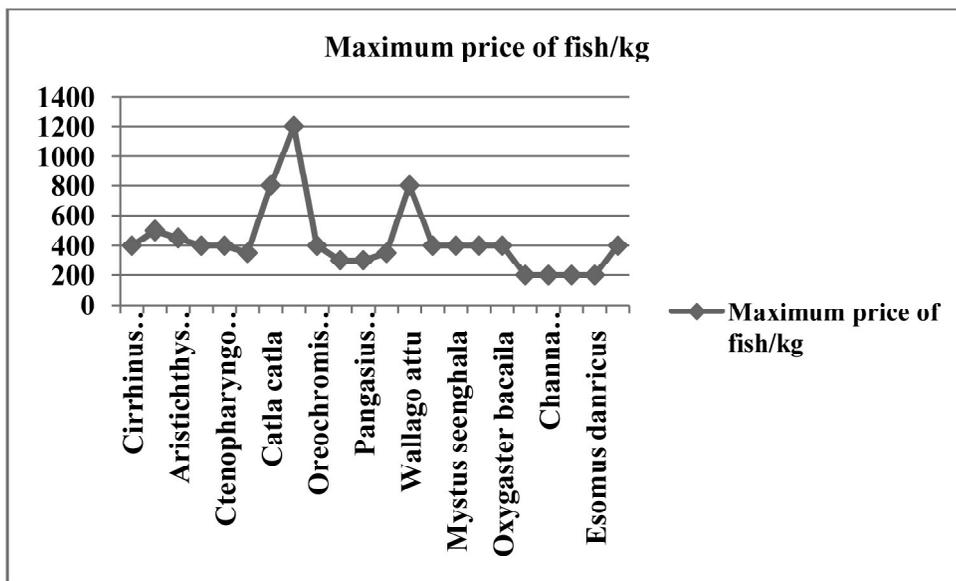
During winter, the cost of Naini, Grass Carp, Common Carp, Kotri, Mara, Kati, Tengra, Chelwa were NRs. 400-380/kg while the cost of Big head Carp was NRs. 450-440/kg and those of Rohu was NRs. 500-480/kg. Comparatively the cost of Bhakur was NRs. 800-750/kg and Bowari was NRs. 800-780/kg. The cost of Latta was NRs. 400-350/kg, Jalkapoor (*Clupisoma garua*), and Silver Carp were NRs. 350-340/kg, Jalkapoor (*pangasius*) was NRs. 300-280/kg and Mungri was NRs. 300-250/kg in concentrate on region. Information uncovers that the most extreme cost of Gaichi was NRs. 1200-1000/kg while least cost of Pothia, Garai, Saura, Dedhwa were NRs. 200-150/kg in concentrate on region (Table 2 and Figure 4).

Table 2. Price List of Fishes in Fish Market of Lahan Bazaar, during Winter (i.e. the Month of September, October and November-2021)

S.N.	Scientific name	Local name	Maximum price of fish/kg	Minimum price of fish/kg
1.	<i>Cirrhinus mrigala</i>	Naini	400	380
2.	<i>Labeo rohita</i>	Rohu	500	480
3.	<i>Aristichthys nobillis</i>	Big head Carp	450	440
4.	<i>Cyprinus carpio</i>	Common Carp	400	380
5.	<i>Ctenopharyngodon idella</i>	Grass Carp	400	380
6.	<i>Hypophthalmichthys molitrix</i>	Silver Carp	350	340
7.	<i>Catla catla</i>	Bhakur	800	750
8.	<i>Macrornathus aral</i>	Gaichi	1200	1000
9.	<i>Oreochromis mosambicus</i>	Kotri	400	380
10.	<i>Clarias batrachus</i>	Mungri	300	250
11.	<i>Pangasius pangasius</i>	Jalkapoor	300	280

S.N.	Scientific name	Local name	Maximum price of fish/kg	Minimum price of fish/kg
12.	<i>Clupisoma garua</i>	Jalkapoor	350	340
13.	<i>Wallago attu</i>	Bowari	800	780
14.	<i>Aspidopario jaya</i>	Mara	400	380
15.	<i>Mystus seenghala</i>	Kati	400	380
16.	<i>Mystus tengra</i>	Tengra	400	380
17.	<i>Oxygaster bacaila</i>	Chelwa	400	380
18.	<i>Puntius sophore</i>	Pothia	200	150
19.	<i>Channa punctatus</i>	Garai	200	150
20.	<i>Channa striatus</i>	Saura	200	150
21.	<i>Esomus danricus</i>	Dedhwa	200	150
22.	<i>Lepidocephalichthys guntea</i>	Latta	400	350

Figure 4. Price of Fish during Winter

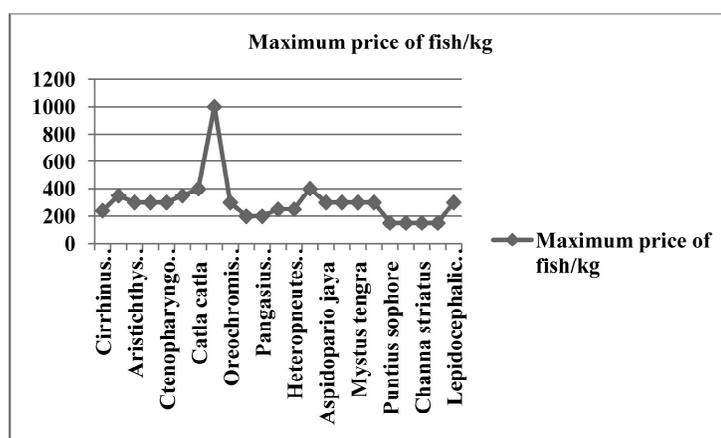


During summer, the cost of Bhakur and Buhari were NRs.400-300/kg while the cost of Rohu and Silver carp were NRs.350-300/kg. Likewise, the cost of Big head carp, Common carp, Grass carp, Latta, Kotri, Chelwa, Kati, Tengra, Mara were NRs. 300-250/kg while the cost of Singhi was NRs.250-200/kg, Naini was NRs.240-200/kg, Mungri and Jalkapoor (pangasius) were NRs. 200-150/kg. Information uncovers that the greatest cost of Gaichi was NRs. 1000-950/kg while least cost of Pothia, Garai, Saura, Dedhwa were NRs. 150-100/kg in concentrate on region (Table 3 and Figure 5).

Table 3. Price List of Fishes in Fish Market of Lahan Bazaar during Summer (i.e. the Month of May, June and July-2022)

S.N.	Scientific name	Local name	Maximum price of fish/kg	Minimum price of fish/kg
1.	<i>Cirrhinus mrigala</i>	Naini	240	200
2.	<i>Labeo rohita</i>	Rohu	350	300
3.	<i>Aristichthys nobillis</i>	Big head Carp	300	250
4.	<i>Cyprinus carpio</i>	Common Carp	300	250
5.	<i>Ctenopharyngodon idella</i>	Grass Carp	300	250
6.	<i>Hypophthalmichthys molitrix</i>	Silver Carp	350	300
7.	<i>Catla catla</i>	Bhakur	400	350
8.	<i>Macrognathus aral</i>	Gaichi	1000	950
9.	<i>Oreochromis mosambicus</i>	Kotri	300	250
10.	<i>Clarias batrachus</i>	Mungri	200	150
11.	<i>Pangasius pangasius</i>	Jalkapoor	200	150
12.	<i>Clupisoma garua</i>	Jalkapoor	250	200
13.	<i>Heteropneutes fossilis</i>	Singhi	250	200
14.	<i>Wallago attu</i>	Bowari	400	350
15.	<i>Aspidopario jaya</i>	Mara	300	250
16.	<i>Mystus seenghala</i>	Kati	300	250
17.	<i>Mystus tengra</i>	Tengra	300	250
18.	<i>Oxygaster bacaila</i>	Chelwa	300	250
19.	<i>Puntius sophore</i>	Pothia	150	100
20.	<i>Channa punctatus</i>	Garai	150	100
21.	<i>Channa striatus</i>	Saura	150	100
22.	<i>Esomus danricus</i>	Dedhwa	150	100
23.	<i>Lepidocephalichthys guntea</i>	Latta	300	250

Figure 5. Price of Fish during Summer



(Shrestha, et al., 2017) reported that Rohu, Naini, Bhakur, Big head Carp, Common Carp, Grass Carp, Silver Carp, Singhi, Pangasius and Mungri are commercially cultured by farmers in Nepal (Table 4).

Table 4. Indigenous and Exotic Fish Species of Nepal and their Present Status

S.N.	Scientific name	Local name	Status
Indigenous fish species			
1.	<i>Cirrhinus mrigala</i>	Naini	Well established in warm water culture
2.	<i>Labeo rohita</i>	Rohu	Well established in warm water culture
3.	<i>Catla catla</i>	Bhakur	Well established in warm water culture
Exotic fish species			
4.	<i>Aristichthys nobillis</i>	Big head Carp	Well established in warm water culture
5.	<i>Cyprinus carpio</i>	Common Carp	Well established in warm water culture
6.	<i>Ctenopharyngodon idella</i>	Grass Carp	Well established in warm water culture
7.	<i>Hypophthalmichthys molitrix</i>	Silver Carp	Well established in warm water culture
8.	<i>Macrornathus aral</i>	Gaichi	Not in culture
9.	<i>Oreochromis mosambicus</i>	Kotri	Not in culture
10.	<i>Clarias batrachus</i>	Mungri	Breeding success in research station
11.	<i>Pangasius pangasius</i>	Jalkapoor	Culture in limited farm (Warm water)
12.	<i>Clupisoma garua</i>	Jalkapoor	Not in culture
13.	<i>Heteropneutes fossilis</i>	Singhi	Breeding success at Institute of Agriculture and Animal Science
14.	<i>Wallago attu</i>	Bowari	Not in culture
15.	<i>Aspidopario jaya</i>	Mara	Not in culture
16.	<i>Mystus seenghala</i>	Kati	Not in culture
17.	<i>Mystus tengra</i>	Tengra	Not in culture
18.	<i>Oxygaster bacaila</i>	Chelwa	Not in culture
19.	<i>Puntius sophore</i>	Pothia	Culture in limited farm (Warm water)
20.	<i>Channa punctatus</i>	Garai	Not in culture
21.	<i>Channa striatus</i>	Saura	Not in culture
22.	<i>Esomus danricus</i>	Dedhwa	Not in culture
23.	<i>Lepidocephalichthys guntea</i>	Latta	Not in culture

(Source: Shrestha, et al., 2017)

Present Condition of Fish Marketing

Fish Market

Fish markets were situated at better places in Lahan. A temporary fish market was located in Lahan close to Hulak Chowk along the Mahendra Highway, while a second temporary fish market was located at Sahid Chowk about 100 metres south along the Mahendra Highway. These fish markets are combined and incorporated to Machha

marketplace which lies close to the Khuti khola of Naya market which is presently renowned fish market of Lahan. The selling market occurs twice daily over the course of seven days, but it is visible frequently throughout the year. This fish market is performed exclusively for a couple of hours during day time consistently. The purpose of the market is to provide fresh, live fish to customers, as well as to inns. Market day of Lahan marketplace on every Monday and Friday were held from 2:00 PM to 7:00 PM during summer and 2:00 PM to 5:00 PM during winter.

Marketing Infrastructure

Road Facilities

Street road system was poor in Lahan Siraha, Madhesh Province.

Transport Facilities

Transportation of fish is a fundamental piece of fish market. Different strategies of transportation are utilized for dispersion of fish and fishery items. Transportation is one of the major factors of marketing which assists with conveying fishes from creation awareness to promoting attention. The interest of objects in marketplace cannot be happy without keeping workplace. The advancement of the country is likewise relying to transportation workplaces. It was observed that transportation of fish, bicycle, motorbike, motorcycles are utilized. Local sellers that acquire little amounts of goods already have been using plastic crates as transportation for their bicycles, motorbikes and other vehicles. The pickup van was utilized to import greater amount fishes from Sarlahi, Rauthat of Nepal and Calcutta Indian territory of West Bengal.

Utensils Used in Fish Market

Fish vender utilizes aluminum utensil, privately known as hundies and plastic boxes are generally utilized for taking fish to the market. They cover these vessels with garments or plastic and bind it with rope.

Hygienic Condition and Sanitation

Marketing system of Lahan is not so systematic which lack hygienic condition and sanitation. There is no enough supply of water and no proper drainage structure in the study area. At the market time these spot become dirty because of continuous use of water stored in aluminium utensil (i.e. Hundies) at the time of cleaning fish in the market.

Preservation Facilities

The appropriate stocking of fish targets keeping away from decay and disintegration in nature of fish. Generally new fishes are sold and remaining fishes are protected in ice for following day in Bamboo basket or plastic boxes for next time selling. Fish seller said that the unsold fish about was kept in bamboo basket or plastic box by keeping layers of crushed ice in the middle between layers of fish at a proportion of half ice and half fish for protection during summer. The capacity of bamboo basket or plastic box to hold fish about 15-20 kg.

Discussion

Fish Species of Nepal

This marketing of fish revealed that a total of 23 fish species were sold in fish market of Lahan during survey (Table 1 and 2). Koirala et al., (2021) reported that all the farmers were found to culture both indigenous carp species (Rohu, Naini, Bhakur) and exotic carp species (Common carp, Silver carp, Bighead carp and Grass carp) together with some of local species like Bhuna, Mohi, Patara, Golhi, Chaguni, Pothia, Budhuna etc in Dhanusha fish market. Budhathoki et al., (2018) mentioned indigenous and exotic fish species are farmed in Nepal, a similar study conducted by Patel et al., (2020) reported that three indigenous species; Rohu (*Labeo rohita*), Naini (*Cirrhus mrigala*) and Bhakur (*Catla catla*) and four are exotic species; Common carp (*Cyprinus carpio*), Silver carp (*Hypophthalmichthys molitrix*), Bighead carp (*Aristichthys nobilis*) and Grass carp (*Ctenopharyngodon idella*) are bred and cultured in the country.

Price of Fish

The study was conducted in different two seasons, which might be another constraint for difference in their price/kg of different fishes in the study area (Table 2 and 3). The price of *Catla catla* (Bhakur) were around NRs. 800/kg and fishes like Rohu, *Ctenopharyngodon idella* (Grass carp), *Cyprinus carpio* (Common carp) were around NRs. 400-450/kg during winter whereas during summer the price of *Catla catla* (Bhakur) were at about NRs. 400/kg and fishes like Rohu, *Ctenopharyngodon idella* (Grass carp), *Cyprinus carpio* (Common carp) were approximately NRs. 300-350/kg in fish market of Lahan. This suggests that the average marketing cost of fishes are somewhat similar than those reported at Nepalese marketplaces and supermarkets such as Kathmandu, Chitwan, Butwal, Biratnagar, Malekhu, Janakpur, Jhapa, Dhankuta, and Karnali (Budhathoki et al., 2018). Kumari, (2015) found similar results in the markets of Kalimati, Kathmandu. Similarly, Husen, (2019) found that price of Common carp, Rohu, Mrigal, Catla and Grass carp were at the rate of NRs.

300-450/kg while Silver carp, Bighead carp, Nile tilapia, African magur and striped catfish were at the rate of NRs. 200-350/kg.

Additionally, Patel et al., (2020) also reported that the current domestic production meets only 40% of the total country's demand and about 60% of the total fish demand in Nepal comes from neighboring countries, mainly India, that highlighted the fluctuation in price of fish in the fish market. Husen, (2019) reported similar results. Flowra et al., (2013) reported that the price of small fishes and also other fishes varies according to the season of the year with marketing cost. When the supplies of fishes were high then the price of fishes were dropped and when the supplies of fishes were low the price increases. Similarly, Alam et al., (2010) found that the price of carp depends on market structure, location, species, quality, size and weight but the price is also influenced by supply and demand and there are generally seasonal variations in prices with the highest in summer (March to May) and the lowest in winter (November to January), during the fish harvesting season in Swarighat, Dhaka. However, higher fish demand was in winter while least fish consumption was reported in Asadh, Shrawan and Bhadra (Laudari et al., 2017) which was found to be similar in the study area that revealed the price of different fishes in winter season was found to be highest than those of summer. It might be due the reason that a fisherman cannot keep the fish for a long time during summer because the products are highly perishable and there is no fixed stall for seller, lack of sanitation, cold storage for fish distribution. Similarly, Nurullah et al., (2003) reported that in fresh fish market, consumer market received higher marketing profit followed by primary market and secondary market, respectively due to which at every step the people involved are getting profit from it and that is why the price at the catching area is low but at the consumers area is high or sometimes even double. Hence, price of fishes remains changeable in market.

Fish Market in Nepal

The study revealed that fish marketing system is not systematic due to lack of sanitation and cold storage facilities, a similar study was conducted by Husen, (2019) found that marketing system of Nepal is not so systematic due to lack of roads connecting fish producing areas, absence of cold storage facilities for holding the harvest and regulate supply, absence of insulated vehicles to prevent spoilage during sales for the supply of fish in the market. Kumari, (2015), Flowra et al., (2013), Budhathoki and Sapkota, (2018) and B. G. Kumar et al., (2008) reported similar results. The fish marketing information recorded here is supported by previously reported findings of various authors Kumari, (2015), Flowra et al., (2013), Budhathoki and Sapkota, (2018) and B. G. Kumar et al., (2008).

Thus, key informants mentioned about their worries for challenging in marketing of fish due to perishable nature of fish, poor quality fish, inadequate storage facilities and instability of market prices, inadequate transport system in marketing of fish. Due to climate change, it can lead to the loss of habits, distribution of fish stock and the structure of ecosystem that influences by impacting fish costs and different labor and products expected by fishers and fish ranchers. Hence, considerable and their detail marketing system might be another possibility for future.

There were three temporary fish markets in Lahan: fish market at Hulak Chowk along the Mahendra Highway, fish market close to Sahid Chowk, and fish market close to Khuti khola. There is currently only one fish market in Lahan, close to the khuti khola that is well-known for Machha Hatiya. Regarding the fish market in Lahan, there is no historical documentation. Local fish vendors claim that during the winter and summer, the fish at Hulak Chowk and Sahid Chowk was more expensive than the fish at Machha Hatiya. It was brought on by fresh, live fish. Fish prices were not regulated throughout the Lahan. However, as of right now, the cost of fish in Lahan is same whatever of the species.

Conclusion

A total of 22 different species of fish were found during the winter and 23 different species of fish were found during summer months; of these, 3 were native fish (Rohu, Naini, and Bhakur), which are also commercially farmed, while the other 20 were exotic fish, among them 7 exotic species i.e. Big head Carp, Common Carp, Grass Carp, Silver Carp, Singhi, Pangasius and Mungri are commercially cultured by farmers in Nepal. The average marketing cost of fish was higher in winter while least fish price was in summer. In winter, fish can be stored easily but the production rate of fish remains less, consumer prefers more fish, wedding ceremony and festivals usually takes place during winter, hence, the cost price of fish increased more whereas in summer, more fish production, quick spoilage, people do fasting during the month of May, June and July, and consumer prefers less, hence, price of fish get decreased. Considering the above facts, it can be concluded that the price of fish increases about 1.5 -2 times in winter than those of the summer. On the other hand, poor road system increases the cost of buying and selling fish, reduces payments to fish seller and increases prices to consumers. Fish farmers were facing several problems like lack of fixed stall, lack of sanitation, poor storage facilities, lack of well managed fish market and poor transportation in the study area. From the above point of view it may be concluded that fish market of Lahan was not satisfactory. So, various factors which influence overall subsector must be addressed. This will help further support in the livelihood of poor farmers who are

partially or fully depend on fish and fishery by selling or buying in the study area. Hence, public-private relationship ought to be elevated to work on the current arrangement of fish marketing and the fish promoting foundation ought to be created by distinguishing the conceivable creation and assortment focuses in the country.

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**Vision Error among Students at J.S. Murarka Multiple Campus
Lahan (Siraha)**

Bhola Prasad BK

Abstract

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The main objective of this study was to find out the visual defect due to refractive error of students of J.S. Murarka Multiple Campus, Lahan (Siraha). According to the annual plan of this campus, the eye-checking camp has been conducted with close coordination and technical support by Sagarmatha Chaudhary Eye Hospital, Lahan. An eye care team comprises an optometrist or ophthalmic assistant (OA) and an eye health worker. Eye health workers were responsible for conducting vision screening whereas optometrists or ophthalmic assistants did the screening and retinoscopy of all Students. Instruments used during the screening program were a Snellen chart, ophthalmoscope, retinoscope, and a torch light. Single-day vision testing screening has been done and screened 526 campus students who identify with vision impairment. Among all (526) visually impaired students 5 % was a refractive error. Likewise, there were found amblyopic (0.76%), squint (0.57%), cataract (0.38%), and 0.19 % allergy, ophthalmic evacuation, mass, and ptosis respectively. The nature data was secondary collected during a checkup on the clinical register of the hospital.

Keywords: refractive error, eye-checking, vision impairment, ophthalmic

Introduction

Refractive errors are the most common visual problem in Nepal as well as the entire country of the world. A study has reported ocular prevalence of children covered more than 20% of children having refractive errors (Hashemi, et al., 2014). They explored that refractive errors are easily correctable. Many studies have focused on the prevalence of refractive errors throughout the world. It is well known that myopia is more prevalent in Eastern Asian countries while European and American nations are mostly affected by hypermetropia. Although they stated that racial and ethnic differences are the most important reason for differences in the prevalence of refractive errors, differences in lifestyle such as the number of near vision tasks have also increased the global variation in the prevalence of refractive errors. According to the anatomy and physiology of the eye, the refractive error is a defect in the optical system of the eye that prevents light from being brought to a single point focus on the retina, thus reducing normal vision. Refractive error is the second most common cause of visual impairment globally as well in Nepal. At present, there are 285 million visually impaired people in the world. An estimated 4 out of 5 visual impairments (80%) can be prevented or cured, uncorrected refractive errors are the leading cause (42%) followed by cataracts 33% (Rizal, 2019). A descriptive cross-sectional study was conducted to determine the proportion of undergraduate medical students with refractive errors in Nepal Medical College and to identify factors associated with it. A total of 210 medical students volunteered for this study, with 100 males (47.6%) and 110 females 52.4% (Rizal, 2019). The age of these students was between 18 to 26 years, with an average of 20.5 years. The proportion of medical students with refractive error was slightly more than half (51.4%), with simple myopia being the leading type (42.9%), followed by astigmatism (7.1%) and simple hypermetropia (1.4%). Parental history of refractive error was observed to be significantly associated with that of the medical students. There was also a significant association between refractive error and the daily use of mobile phones and laptops. However, years spent in medical education were not observed to be significant (Rizal, 2019). Reduced vision among school-going children is a global public health problem and uncorrected refractive error, the main causative factor is most prevalent in under-developed countries. Correction of refractive error can be easily done when diagnosed. Therefore regular eye health screening among school-going children and early correction is necessary to alleviate the problem and reduce its consequences. It was a retrospective cross-sectional study and the data were retrieved from eye health screening camps conducted in different schools of Dudhkunda municipality in 2015 in collaboration with Solukhumbu Polytechnic Academy and District Community Eye Center Solukhumbu. Permission from respective authorities and ethical approval for the

research was received from the institutional review committee of the Tilganga Institute of Ophthalmology (Sherpa, 2020). Out of 3097 records, 2517 records were analyzed to identify the prevalence of refractive error. Age of the children ranged from 6 to 18 years and most of the children were studying in grades 1 to 7, at government schools. The most common eye disorder noted was a refractive error and the prevalence was 3.5% (87). Refractive error was higher among older children compared to younger children. A higher proportion of students from private schools had refractive errors compared to students from government schools. Both the findings were statistically significant (Sherpa, 2020). Refractive error is one of the causes of avoidable blindness. Myopia, hypermetropia, and astigmatism are the common types of refractive error. Not many studies have been done to detect a pattern of refractive error in Western Nepal. So, the study will determine the prevalence and distribution of refractive errors. Myopia was the most commonest refractive compared to hypermetropia. Refractive error was more common in females than in males. Such studies help to know the picture of refractive errors in the community and such reports help plan programs to prevent avoidable blindness (Tuladhar, 2013).

The most common visual disorder in school-age children is refractive error globally. The present study aimed to know the prevalence of refractive errors and explore the factors associated with refractive error in school-age children in the Palpa district of the western part of Nepal. All the school children were selected between age groups 5 to 18 years from four schools in Palpa by multistage sampling method. After the preliminary examination of visual acuity, the children were referred to the Department of Ophthalmology, Lumbini Medical College, Palpa for confirmation of the refractive errors. In school-age children, the prevalence of refractive error was 9% of which myopia was the most common (4.05%). Females (about 12%) were more likely to have refractive errors than males (about 7%). The refractive error of males was 0.106 (right eye) and 0.564 (left eye) times more likely than females. The refractive errors were statistically found more common in Dalit students (14.6%) than Brahmin/Chhetri (about 12%) and Janajati (7.6%). The prevalence of refractive errors among students using Smartphones/laptops (about 12%) was higher than those not using (8.36%). Sex, ethnicity, and near-work activity like using the smart device were the covariates of developing refractive error in the eye. Myopia was more common among those students who were using Smartphones/laptops. Near activities stress the eyes of the children and might be one of the causes of developing myopia (Bhandari, 2021). Amblyopia is defined as a unilateral or bilateral decrease in visual acuity caused by deprivation of pattern vision or abnormal binocular interaction without a detectable cause. It is the most common cause of

monocular blindness globally.²⁻⁴ In Nepal, prevalence has been reported to be 0.9 - 1.8%.⁵⁻⁷ The different causes of amblyopia include strabismus, anisometropia, bilateral high-refractive errors, form deprivation, high astigmatism, or a combination of two or more etiologies in the same patient. Though the causes are different, the basic mechanisms of either abnormal binocular interactions between two eyes or form deprivation in one or both eyes remain the same in all cases of amblyopia.⁸⁻¹⁰ the mainstay of amblyopia treatment is occlusion therapy with patching of the sound eye along with optical correction. The outcome of occlusion treatment depends on the age at presentation, types, and severity of amblyopia, initial visual acuity, and treatment compliance.¹¹ In Nepal; few retrospective studies on the clinical profile of amblyopia and the outcome of occlusion therapy have been reported. This study analyzed the clinical profile of amblyopia and the outcome of occlusion therapy in amblyopic children (Karmacharya, 2021).

School screenings for eye diseases are aimed at identifying children who are at risk of eye diseases at a sub-clinical stage and which can be diagnosed with the application of tests, examinations, and procedures carried out rapidly on a large scale. Although Vision 2020: the right to sight imposes a mandate to abolish the preventable causes of blindness, fewer infrastructures and resources are available. Schoolchildren form an important target group for the nation as any ocular morbidity in this age group has huge physical, psychological, and socio-economical implications. Early diagnosis of the ocular morbidity and apposite correction helps in overall visual development and better academic performance as well. In a study conducted on schoolchildren in Kathmandu; an urbanized area; the prevalence of ocular morbidity was observed at 11%. Another study claims that refractive errors are more prevalent in schoolchildren of private schools than students at government schools (Marasini, 2010). Bhandari, Pachhai, Pant & Jamarkattel (2021) have stated the most common visual disorder in school-age children is refractive error globally. The prevalence of refractive errors among students using Smartphones/laptops (about 12%) was higher than those not using (8.36%). This article is going to explore students' visual problem that affects their study.

Methodology

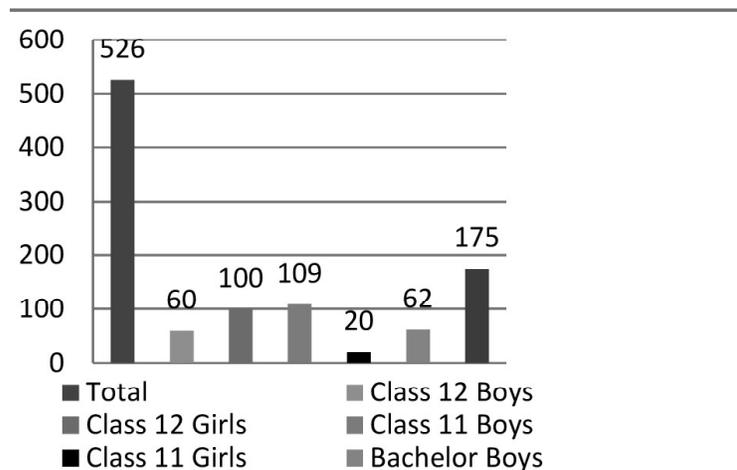
A total number of 526 students including class 11, 12, and Bachelor level were selected for the screening test of an eye. The eye-checking camp was planned activities conducted by J.S. Murarka Multiple Campus with technical support of Chaudhary Eye Hospital, Lahan. The nature of the data was secondary and collected during the clinical examination of students.

The screening of the students was done by Choudhary Eye Hospital, Lahan. An eye care team comprised of an optometrist or ophthalmic assistant (OA) and an eye health worker. Eye health workers were responsible for conducting vision screening whereas optometrists or ophthalmic assistants did the screening and retinoscopy of all Students. Instruments used during the screening program were a Snellen chart, ophthalmoscope, retinoscope, and a torch light.

Results

A total number of 526 students were the ages 20-24 years of age, studying in classes 11, 12, and Bachelor level. They were selected as participants for the screening test of an eye at the time of availability and interest.

Figure 1. Class and Sex-wise Distribution



Source: Primary data, clinical register (SCEH, 2022)

The above data shows that the participants were studying class 11 boys (N=109), class 11 girls (N=20), class 12 boys (N=60), and class 12 girls (N=100). Likewise, bachelor-level boys (N=62) and bachelor-level girls (N= 175) students were selected as respondents. In the class, 11 majorities (N=109) boys and 12 class girls (N=100) took part in the screening eye test. Likewise, bachelor-level majority (N=175) girls were examined.

Table 1. Prevalence of Ocular Morbidity

S.N.	Types of ocular morbidity	N=526	%
1.	Refractive error	26	5
2.	Cataract	2	0.38
3.	Allergy	1	0.19
4.	Ophthalmic evacuation	1	0.19
5.	Mass	1	0.19
6.	Amblyopic	4	0.76
7.	Ptosis	1	0.19
8.	Squint eye	3	0.57

Source: Primary data, clinical register (SCEH, 2022).

Table 1 shows among all students most (5%) had a refractive error with the visionary problem. Refractive errors need to be diagnosed by an eye examination and treated with corrective glasses, contact lenses, or refractive surgery. The next ocular problem (0.76 %) was amblyopic students. They all have an image in which one eye is blurred and in the other is a clear need for vision therapy. Another ocular problem (0.57%) was a squint eye. This problem is associated with weak muscle development of the eye as a result one eye looks at one object while the other eye turns in a different direction and looks at another object. The rest of the eye problems were found cataracts (0.38%), and 0.19% allergy, ophthalmic evacuation, mass, and ptosis respectively

Discussion

This study has focused on the visual impairment of the students who are studying at this campus. A total number (526) students of this campus including class 11, 12, and Bachelor level are eye-checked by Choudhary Eye Hospital, Lahan. The majorities (5%) of students have refractive problems and are referred to the hospital for further treatment and an eyeglass. This type of problem of the student affects their study. A study conducted by Shrestha, Sujakhu & Joshi (2011) reported that out of 2236 students, refractive error was present in 192 (8.58%). Likewise, a similar study conducted by Signes-Soler, Hernández-Verdejo, Estrella Lumeras, Tomás Verduras & Piñero (2017) carried out uncorrected refractive errors are the main cause of visual impairment in developing countries (43%), followed by cataracts (33%). Refractive errors were not considered a cause of blindness until recently, with the increasing use of the concept of presenting visual acuity for defining blindness. The global magnitude of low vision caused by uncorrected refractive error (nearsightedness,

farsightedness, or astigmatism) published in the Bulletin of the World Health Organization in 2010 is estimated to be 103 million.

There are eight hundred (800) boys and girls students who are studying in this J.S.Murarka Multiple Campus among them five hundred twenty-six (526) students have participated in the eye-checking program. Eye problems are common problems for those students who are more involved in writing and reading. Instead of many factors that affect eye vision. We all know that in modern times people can't 'not do anything without smart phone. It is a part of human life. In particular, students are crazier on Smartphones for seeking educational materials as well, and chatting and using social networks like Facebook are more common these days.

This campus organized an eye program for students with the close coordination of Sagarmatha Choudhary Eye Hospital. A one-day eye screening program had been organized with the technical support of the hospital. The main objective of this program was to find out student's vision errors. The technical team examined students' eyes and found that many students have eye problems and precipitating factors are more using Smartphones. The technical team advised that decrease use of smartphones should be decreased.

Conclusion

There is a visual disorder major problem for student readers. Most students have suffered and this affects their studies. There are multiple associated factors responsible but those who often use a Smartphone are vulnerable to suffer the refractive error. The prevalence of refractive errors among students using Smartphone/Laptops is higher than among those not using. This study has found a total number (of 526) screened students among them 26 (5%) is a refractive error. Therefore, it is suggested that students should be decreased their use of the smart phone.

Acknowledgment

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Complementizers in Maithili

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Abstract

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Normally, a complementation is a process where complement clauses and complementizers come to complete a sentence. This study briefly discusses the complementizers in Maithili, an Indo-Aryan language, within the framework of the functional-typological grammar developed mainly by Givon (1984; 2001) and other related linguists. The main goal of the study is to analyze the forms and functions of complementizers in Maithili. The researcher used 50 Maithili sentences for analysing the Maithili complementizers using the contextual sociolinguistic questionnaire. Maithili complementizers are analyzed based on the social and regional area of Maithili. Results show that some Maithili complementizers are varied. There are six types of complementizers in the Maithili language such as *je*, *ki*, *se*, *jeki*, *ək-əb* and zero-complementizer.

Keywords: complimentizers, maithili, functional-typological theory, lingua-franka

Introduction

Maithili is a cross border language spoken in two adjacent neighboring countries Nepal and India. The term Maithili comes from Mithila, which was an independent state in ancient times. As its name implies, Maithili is properly spoken in Mithila, the prehistoric ancient kingdom, which was ruled by the king Janak and was the birthplace of Janaki or Sita (Lord Ram's wife). This region was also called Tairabhukuti, the ancient name of Tirhut comprising both Darbhanga and Muzaffarpur districts of Bihar, India. Mithila is now a region located in the south-eastern part of Nepal Tarai and north-eastern Bihar (India), where its speakers have been residing since the ancient times in proximity and regular interactions. As a result, these regions, despite being politically segregated, have so far continued to exist as an indivisible cultural entity. Their inhabitants speaking the same language frequently visit from one country to another owing to their open border, kinship relations and cultural affinity. Hence their language is a 'cross border' language (Yadava 2011). This language has been commonly called 'Maithili'; however, it has also been alternatively called *Mithilaa Bhaakhaa*, *Tirhutiyaa*, *Dehaati*, *Gaunvari*, *Thethi*, *Avahata* or *Apabhramsa*. In both Nepal and India Maithili is predominantly used in all the contexts of role relationship of home domains within its speech community (Yadav, 1989, p. 225). It functions as *lingua franca* in communicating with non-Maithili speakers such as Hindi, Urdu and Nepali speakers in the region as well. The number of Maithili speakers in Nepal is approximately 3222389, which constitutes 11.05% of the country's total population and ranks second, following Nepali (Census 2021). According to the Sahitya Akademi it is the 16th largest language group in India and it has 44th in the world.

The distribution of Maithili speakers is presented in Table 1.

Table 1. Distribution of Maithili Speakers in Nepal (CBS 2021)

Population of Maithili speakers in Nepal						
Morang	Sunsari	Saptari	Siraha	Dhanusha	Mahottari	Sarlahi
259980	261210	568691	625887	697460	501351	117286

In the study of complementizers, Noonan (1985:44-47) says that A word, particle, clitic, or affix whose function is identify the entity as a complement. Such forms are known as complementizers. Moreover, he says that complementizers typically derived historically from pronouns, conjunctions, adpositions or case markers, and rarely verbs and so may resemble words currently used in these capacities. Kroeger (2005: 220)

mentions that a complementizer is a word or a particle in some languages. Singh (1979:185) presents that Maithili has two main complementizers: *je* (comparable to Hindi *ki*, and Bengali and Oriya *je*), and ‘*ək-əb*’ (comparable to Hindi *kaa-naa* and Bengali *er-a*). The former is a finite complementizer and in that sense similar to that-complementizer in English, while the latter is an indefinite complement marker. Yadava (1998) mentions Maithili grammar presents a contrast between two kinds of embedded clauses: verb complements and noun complements. NP consists of a demonstrative adjective/pronoun: *i/se*, representing the preceding embedded clause and an (optional) N from the following set. Yadav (2011) says that the term ‘complement’ in a general sense means something that is necessary to complete a grammatical construction and complementizer is a conjunction which marks a complement clause. Normally, a complementation is a process where complement clauses and complementizers come to complete a sentence.

Methodology

This research is a qualitative research, which aims to analyze the forms and functions of complementizers in Maithili. The data was collected both primary and secondary data. The primary data was collected from the informants and the secondary data from dissertation, article and book. Maithili basic sentences were gathered from dissertation, article and book contributed by different scholars Singh (1979:185), Yadava (1998) and Yadav (1996) etc. Moreover, some sentences also were gathered directly from Maithili speakers. The researcher used with 50 sentences to analyze the complementizers and also used sociolinguistic questionnaire. Maithili complementizers are analyzed based on the social and regional area of Maithili. Results found that some Maithili complementizers are varied.

Results

Analyzing Maithili complementizers related to the social and regional area.

Complementizer-*je* ‘that’

As mentioned earlier, *je* is the most common complementizer in Maithili. It is quite likely that historically the complementizers derive from, and therefore resemble the relative pronoun *je* ‘that/who’ and the interrogative pronoun *ki* ‘what’ as suggested in the earlier studies (Yadav, 1996:345-348). The following examples illustrate complementizer ‘*je*’:

- (1)
- a. *həri kəhələk je əhā cəil jau*
 həri kəh-əl-ək je əhā cəil ja-u
 3NH say-PST-3NH COMP you (H) walk go-IMP 2H
 ‘Hari told me that I go.’
- b. *həm okra puchəlāi je əhā ləru khæb*
 həm ok-ra puch-əl-əi je əhā ləru khæ-b
 ISG 3NH-ACC ask-PST (3H+1) COMP you (H) sweet eat-FUT 2H
 ‘I asked him that you would like to sweet.’
- c. *həm agrəh kərəi chi je rəih jau*
 həm agrəh kər-əi ch-i je rəih ja-u
 ISG request do-IMP AUX-PRES 3H COMP live go-IMP 2H
 ‘I request him to stay.’

In the example (1a-c), the complementizer *je* is used to combine two clauses. In all the three both the sentences the first one is matrix clause and the second one is complement clause.

Complementizer-‘*ki*’

Complementizer *-ki* follows the complement-taking predicate and precedes the extraposed (heavy-shifted) finite complement clause, basically in complementation processes in Indo-Aryan languages (Masica 1991). Note that *je*, which is commonly employed in Maithili, is sometimes replaced by *ki* as an example of convergence with its adjacent language Hindi. The following examples exemplify the complementizer-‘*ki*’:

- (2)
- a. *u həmra kəhlək ki əhā bəḍ murkh chi*
 u həm-ra kəh-l-ək ki əhā bəḍ murkh ch-i
 3SG.NH 1SG-DAT say-PST-NH.1 COMP 2SG.H very foolish be-PRES.2H
 ‘He told me that I was very foolish.’
- b. *həmra bujhæəl ki əhā khisia ge-əl-əhū*
 həm-ra bujhæə-l ki əhā khisia ge-əl-əhū
 I-ACC/DAT feel-PST-(3NH+1) COMP you (H) be angry go-PST-2H
 ‘I felt that you became angry.’
- c. *həm okra puchliəi ki tū ki khebəhi*
 həm ok-ra puch-li-əi ki tū ki kheb-hi
 ISG 3NH-ACC ask-PST (3H+1) COMP you (NH) what eat-FUT 2NH
 ‘I asked him what he would like to eat.’

As presented in the example (2a-c), the complementizer *ki* is used to combine two clauses matrix and embedded. Both *je* and *ki* occur in the initial position of a finite complement clause.

Complementizer-‘se’

According to Yadava (2008), it is generally believed that there is another complementizer -‘se’. The following examples are illustrative:

(3)

- a. *həm həri bimar chəl se kəhələũ*
 həm həri bimar ch-əl se kəh-əl- əũ
 ISG Hari sick be-PST.3NH COMP say-PST I
 ‘I said it that Hari was sick.’
- b. *u nirdos əich se gələt əich*
 u nirdos əi-ch se gələt əi-ch
 he (NH) innocent AUX-PRES 3NH COMP false AUX-PRES 3NH
 ‘That he is innocent is false.’
- c. *u i kəelək se həm biswas kərəit chi*
 u i kə-el-ək se həm biswas kər-əit ch-i
 3SG.NH this do-PST-3NH COMP 1SG believe do-IMPERF AUX-PRES.1
 ‘That he did I believe.’

As presented in the example (3a-c), the complementizer *se* is employed to join two clauses: matrix and embedded. Unlike to *je* and *ki*, *se* can occur in the initial as well as medial positions of the clause.

Complementizer-‘jeki’

It is a finite complementizer which is rarely used in formal discourse in Maithili. This complementizer is derived from the combination of two concepts, the relative pronoun *je* ‘that/who’ and the interrogative pronoun *ki* ‘what’. Sentences (4a and b) are illustrative:

- a. *u kəhlək jeki əhā rəih jau*
 u kəh-l-ək jeki əhā rəih ja-u
 3SG.NH say-PST-3NH COMP 2SG.H live go-IMP
 ‘He asked me to stay.’
- (4) b. *dinesh rameshke puchlək jeki umesh kətə əich*
 dinesh ramesh-ke puch-l-ək jeki umesh kətə əi-ch
 Dinesh Ramesh-DAT ask-PST-3NH COMP Umesh where AUX-PRES.3NH
 ‘Dinesh asked Ramesh where Umesh was.’

- c. *əhāke agrəh kərəi chi jeki rəih jau*
 əhā-ke agrəh kər-əi ch-i jeki rəih ja-u
 you(H)-DAT request do-IMP AUX-PRES1 COMP live go-FUT (2H)
 ‘I requested you to stay.’

In the examples (4a-c), the relative pronoun *je* ‘that/who’ and the interrogative pronoun *ki* ‘what’ are used respectively to combine two clauses. The complementizers-*je*, *ki* or *jeki* are more or less synonymous. They can be used interchangeably without affecting the meaning of the utterances. The example (5a and b) illustrates the statement:

- a. *o həmra kəhləinh je/ki/jeki əhā bəḍ*
 o həmra kəhləinh je/ki/jeki əhā bəḍ
 3SG.H 1SG-ACC/DAT say-PST-3II.1 COMP 2SG.II very
murkh chi
 murkh ch-i
 (5) foolish be-PRES-2H
 ‘He told me that I was very foolish.’
- b. *həm hunka puchəliəinh əhā je/ki/jeki ki khəb*
 həm hun-ka puch-əl-iəinh əhā je/ki/jeki ki khə-b
 1SG he(H)-ACC ask-PST-(1+3H) you (H) COMP what eat-FUT.2H
 ‘I asked him what he would like to eat.’

Complementizer ‘ək-əb’

According to Singh (1979:198), it is generally believed that there is another complementizer-‘ək-əb’. The following examples exemplify the complementizer ək-əb:

- (6) a. *həm sureshək nokri həebak khəbər sunləūh*
 həm suresh-ək nokri həeb-ak khəbər sun-l-əūh
 1SG Suresh-GEN job be-INF-of news hear-PST-1
 ‘I heard the news of Suresh’s job.’
- b. *həm khəbər sunləūh sureshək nokri həebak*
 həm khəbər sun-l-əūh suresh-ək nokri həeb-ak
 1SG news hear-PST-1 Suresh-GEN job be-INF-of
 ‘I heard the news of Suresh’s job.’
- c. *həm sunləūh khəbər sureshək sureshək nokri həebak*
 həm sun-l-əūh khəbər suresh-ək suresh-ək nokri həeb-ak
 1SG hear-PST-1 news Suresh-GEN Suresh-GEN job be-INF-of
 ‘I heard the news of Suresh’s job.’

- d. *həm khəbər sureshək nokri həəb-ak sunləüh*
həm khəbər suresh-ək nokri be-INF-of sun-l-əüh
 1SG news Suresh-GEN job həəb-ak hear-PST-1
 ‘I heard the news of Suresh’s job.’

As shown in the examples (6a-d) the complementizer *-ək-əb* is used to combine two clauses.

Zero-complementizer

Zero strategy, or juxtaposition, whereby the complement, always a direct-quote utterance, occurs after the main clause and its complement-taking predicate without any overt complementizer or other linking devices. The sentences (7a-c) illustrate the zero complementizer:

- (7) a. *netaji həmra sã puchləinh ki kərəhəl chi*
neta-ji həm-ra sã puch-l-əinh ki kə-rəhəl ch-i
 leader-H 1SG-DAT ABI ask-PST-1.3H what do-PROG AUX-PRES.2H
 ‘The leader asked me what I was doing.’
- b. *u nokərke kəhəlkəik ghər bəhair le*
u nokər-ke kəh-əl-kəik ghər bəhair le
 3SG.NH servant-GEN say-PST-3NH house sweep take-IMP
 ‘He told the servant to sweep the room.’
- c. *ɖaktər həmra kəhləin cah nəi pibu*
ɖaktər həm-ra kəh-l-əin cah nəi pi-bu
 doctor 1SG-ACC/DAT say-PST-1.3H tea not drink-IMP
 ‘The doctor advised me not to drink tea.’

A few words should be said about the distribution of the complementizers. Usually the complementizers occur clause initially in an object complement position irrespective of the type of the subordinate clause (Yadav, 1996:346):

- (8) a. *o kəhəliəin je rastpəti əutah*
o kəh-əl-iəinh je rastpəti əu-tah
 3SG.H say-PST-3H COMP president come-FUT
 ‘He said that the president would come.’
- b. *həm jənəit chi je ramesh sãpke*
həm jən-əit ch-i je ramesh sãp-ke
 1SG know-IMPERF AUX-PRES.1 COMP Ramesh snake-ACC/DAT

marlāinh
mar-l-əinh
kill-PST-3H

‘I know that Shashi killed the snake.’

- c. *həm nəi jənəit chi je u*
həm nəi jən-əit ch-i je u
1SG not know-IMPERF AUX.PRES.1 COMP 3SG.NH
pas bhel
pas become-PST.3NH
‘I don’t know whether he passed.’

The object complement clause does not allow the complementizer *je*, *ki*, or *je ki* to occur in a non-clause-initial position. Consider the following examples:

- (9) a. *həm puchəliəik *ke je həsəit əich*
həm puch-əl-iəik *ke je həs-əit əi-ch
1SG ask-PST-1.3NH who COMP laugh-IMPERF bc-PRES.3NH
‘I asked who was laughing.’
b. *həm kəhəliəinh *rəih je jau*
həm kəh-əl-iənh *rəih je ja-u
1SG say-PST-1.3H live COMP go-IMP.2H
‘I asked him to stay.’

In a subject complement clause, the complementizers *je*, *ki*, or *je ki* are not permissible to occur clause-initially. Consider the following examples:

- (10) a. **je səsi sāpke marlāinh həm jənəit*
je səsi sāp-ke mar-l-əinh həm jən-əit
COMP Shashi snake-DAT kill-PST-3H 1SG know-IMPERF
chi
ch-i
AUX-PRES.1
‘Whether Shashi killed the snake I know.’
b. **je u pas bhel se həm nəi*
je u pas bh-el se həm nəi
comp 3SG.NH pass become-PST.3NH that 1SG not
jənəit chi
jən-əit ch-i
know-IMPERF AUX-PRES.1
‘Whether he passed I don’t know.’

On the other hand, the subject complement clause permits the complementizer to occur in a non-clause-initial position if the complement clause is declarative. Consider the following examples:

- (11) a. *dhirendrək upənyas je nik chəl se bat*
 dhirendr-ək upənyas je nik ch-əl se bat
 Dhirendra-GEN novel COMP good be-PST.3NH that matter
səb jənəuth
 səb jən-əuth
 all know-IMP-3H
 ‘That Dhirendra’s novel was good should be known to all.’
- b. **dasji je kəhiya biyah kəelək se bat həmsəb*
 dasji je kəhiya biyah kə-el-ək se bat həm-səb
 Dasji COMP when marriage do-PST-3NH that matter 1-PL
nəi jənləũh
 nəi jən-l-əũh
 not know-PST-1
 ‘We do not know when Dasji got married.’

Conclusions

Maithili is a cross border language spoken in two adjacent neighboring countries Nepal and India. This study is an attempt to analyze complementizers in Maithili within the framework of functional-typological grammar mainly developed by Givon (1984; 2001) and other related linguists. Complement clauses in Maithili are formed by the complementizers such as *je, ki, se, jeki, ək-əb* and *zero*-strategy. This typological-functional model of analysis may be further extended for comparing Maithili complementizers with those in other areally and genetically related languages in Nepal and other South Asian countries.

Abbreviations

ACC	Accusative	PST	Past Tense
AGR	Agreement	PRES	Present Tense
AUX	Auxiliary	PROG	Progressive
COMP	Complementizer	1	First person
DAT	Dative	2	Second person
EMPH	Emphatic	3	Third person
FUT	Future		
GEN	Genitive		

H	Honorific
IMP	Imperative
IMPERF	Imperfective aspect
INF	Infinitive
NH	Non-honorific
POSS	Possessive

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**Technological Changes and Job Performance of Teachers in
Higher Education Institutions**

(A study with reference to quality accredited colleges in Koshi Province, Nepal)

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Abstract

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This article examined the effects of technological advancements on the job performance of teachers in accredited higher education institutions in Koshi province, Nepal. The study utilized a descriptive survey research approach, focusing on a study population up to 554 academic staff members across 10 high-quality accredited higher education institutions in the Koshi province. To create a representative sample, a convenience sampling method was employed, resulting in the selection of 73 academic staff members from three accredited colleges within the Koshi province. The data collected through a structured questionnaire, employing a five-point Likert scale, was subjected to both correlation and regression analyses. The findings demonstrated that technology had a significant impact on job performance of teachers by simplifying their tasks, significantly increasing employee productivity, and saving time. The utilization of information and communication technology (ICT) can enhance instructional efficiency for teachers and improve students' learning effectiveness. Consequently, the need of the hour to enhance and fortify the quality of education lies in the digitization of teaching and learning methodologies. Nevertheless, the adoption of technological changes in accredited higher education institutions within Koshi province remains at a moderate level.

Keywords: employees' performance, technological changes, higher education institution

Introduction

In the contemporary landscape, all organizations rely on technology in every facet of their operations. Technological change denotes an enhancement in the efficiency of an organization, leading to higher output without requiring an increase in input.

According to Heeks and Stanforth (2015), organizations should extend their use of technology beyond standard office tools such as laptops and smart phones. They recommend implementing information systems, tailored software, and specialized technological equipment to improve operational efficiency. Technological advancements have the potential to reduce the time required to complete tasks and, in certain instances, even eliminate the necessity for certain business processes or functions.

As indicated by Caliskan (2015), the choice to acquire or enhance technology carries a financial burden for both sizable and smaller enterprises. This necessitates a careful evaluation of the expenses associated with the upgrade or implementation in relation to the perceived benefits it brings to the company. The financial impact often causes small businesses to postpone these actions. Nonetheless, if the technology substantially enhances operations, the resulting profit increase over time can offset the initial costs.

Gone are the times when students had to gather in a vast auditorium solely to listen to a speech. Prerecorded videos allow students the flexibility to access the content at their convenience, from any location, and as frequently as needed. This implies that classroom hours can now be devoted to enhancing the speech material through discussions, group activities, and quizzes.

Tamilselvi (2017) suggested that faculty members should enhance their qualifications and adopt innovative methods to effectively deliver educational content to their students. It is recommended that they embrace modern technological tools such as smart boards and PowerPoint (PPT) presentations for the effective teaching.

This shows that the utilization of information technology in education provides numerous advantages for both educators and students. Teachers can effectively convey their content to students using tools like smart classrooms and PowerPoint presentations. Additionally, teachers can inspire students, leading to increased motivation and excitement for learning. Communication among stakeholders, including students, instructors, and management, is facilitated through social networking platforms such as WhatsApp, Messenger, and Facebook. Internet and email facilities are valuable for updating the knowledge of both faculty and students. However, older individuals often resist change and the implementation of new technologies due to potential challenges in adapting to these innovations. To encour-

age them to embrace new technologies, proper training and motivation are essential. These technological advancements also enhance the efficiency and productivity of office operations. Thus, the primary purpose of this study is to assess the impact of technological changes on the job performance of teachers in HEIs, especially the quality accredited higher education institutions in Koshi province, Nepal.

Literature Review

Concept of Employee's Performance

Performance is linked to the volume of output, the excellence of output, the punctuality of output, one's presence and attendance at work, efficiency and effectiveness of work completion (Mathis & Jackson 2009).

The basic functionalities of university employees are teaching, research, public service and other related roles and responsibilities. The teaching roles of universities employees involves preparation, planning and delivering of lectures, evaluating students' progress, supervision of students on industry training and teaching practice, development of innovative teaching methods, students' consultation and production of teaching materials for students. Research roles of university employees are carrying out investigations on identified problem(s), presentation of findings of such investigations conferences/seminars and publishing the findings in journals and/or text books. The third role of university employees is community or public service rendering to the school and community at large. In the teaching domain, university employees engage in tasks such as preparing and delivering lectures, assessing student progress, overseeing students during industry training and teaching practice, developing creative teaching approaches, conducting student consultations, and creating educational materials. In the realm of research, university staffs conduct inquiries into identified issues, present their findings at conferences or seminars, and publish these discoveries in journals or textbooks.

Technological Changes and Employee's Performance

Abbas et. al. (2014) conducted a practical investigation that explored how information technology impacts the performance of employees at Allied Bank in Pakistan. The study revealed that technology significantly boosts employee productivity, leading to time savings. It also has a notable impact on reducing employee workload and ensures better control over mistakes and fraudulent activities.

Similarly, Imran et. al. (2014) found that technological advancement has significant impact on motivation and training of employees, and for technological advancement and employee performance, there is significant relationship among them.

Moreover, regarding the impact of technology, Wanza & Nkuraru (2016) revealed a great impact on employees' performance claiming the rapid technological changes eases employee's work load and increases efficiency and effectiveness at work place.

From the study of Archibong & Ibrahim (2021), it is clear that there is a positive relationship between technology change and employee performance since it simplifies the work to be done and makes work more efficient, it also reduces effort, time, and working methods which speeds up delivery.

Technology enhances quality service delivery to university students and the public. Over the past twenty years, there has been a swift integration of high-tech modifications that will undoubtedly shape the world's future across policies, programs, activities, operations, and strategies. All universities in Nigeria have made substantial investments in technological resources since its inception. The evolution and enhancement of technological tools within the university context appear to significantly impact employee performance, leading to reduced human effort and quicker task completion times (Pohekar, 2018).

All these studies clearly indicate that use of Information Technology (IT) positively impact the job performance of employees and is essential to every organization and its usage has grown at a phenomenal rate within organization. Technological changes seem to be important to job performance of university employees.

Methods

The study was conducted using a descriptive survey research design based on primary data. It was undertaken in all the quality accredited HEIs in Koshi province. There were altogether ten quality accredited HEIs in Koshi province till date; Damak Multiple Campus (Jhapa), Mahendra Ratna Multiple Campus (Ilam), Sukuna Multiple Campus (Morang), Janta Multiple Campus (Sunsari), Triyuga Janta Multiple Campus (Udaypur), Mechi Multiple Campus (Bhadrapur), Tridev Multiple Campus (Jhapa), Mangalbare Multiple Campus (Ilam), Biratnagar Nursing Campus (Biratnagar) and Kankai Multiple Campus (Jhapa). The primary data was obtained from 1st July, 2022 to 31st December, 2022.

Survey was conducted using well formulated Likert's 5 point scale questionnaire. All the teaching faculties (up to 554) of the quality accredited colleges involved in higher education in Koshi province were taken as study population. Convenience sampling method was applied for generating data. Questionnaires were distributed to 99 respondents (40 teachers in Janta Multiple Campus, Ithari; 28 teachers in Triyuga Multiple Campus, Udaypur; and 31 teachers in Sukuna Multiple Campus, Morang). The questionnaires were directly circulated to the college teachers and collected them on the same day. Altogether 73 respondents

responded in the survey (29 teachers from Janta Multiple Campus, Ithari; 15 teachers from Triyuga Janta Multiple Campus, Udaypur; and 29 teachers from Sukuna Multiple Campus, Morang).

Reliability of Questionnaire as Instrument

Cronbach's alpha was used to determine the reliability of the instruments. Cronbach's alpha measures the internal consistency, which is, how closely related a set of items are as a group. The higher the α -value, the more reliable the instruments will be considered. If a α is greater than 0.70, then the items will be considered as reliable in social science research. In other words, the respondents were knowledgeable of the questions, understood them very well and answered them to the best of their knowledge.

Cronbach's alpha was employed to assess the reliability of the tools. Cronbach's alpha evaluates internal consistency, which indicates how closely interconnected a group of items is. A higher α -value indicates a greater level of reliability for the instruments. If α is equal to or greater than 0.70, it signifies that the items are regarded as reliable in the context of social science research. In simpler terms, it suggests that the respondents had a good understanding about the questions, and provided their answers to the best of their knowledge.

Table 1. Reliability Statistics of Constructs

Name of Constructs	Cronbach's Alpha	N of Items
Technological Changes	.825	10
Performance of Teachers	.881	15

Table 1 displays that the Cronbach's alpha values for both the independent variable (technological changes) and the dependent variable (job performance of teachers) exceed 0.70, meeting the typical criteria for instrument reliability in research.

Data Analysis

Descriptive statistics such as mean and standard deviation were employed to determine the central tendency and measure of dispersion of technological change and job performance of teachers, respectively. Correlation analysis was utilized to gauge the connection between technological change and job performance of teachers. Additionally, simple regression analysis was applied to ascertain the impact of technological changes on the job performance of teachers.

$$PoTi = \alpha_0 + \beta (TCi) + \epsilon_i \dots\dots\dots(1)$$

Where, TC = Technological changes; ϵ = Error Term,
 PoT = Performance of teachers; α_0 = intercept line; β = Regression line.

Analysis and Discussion

Descriptive Results of Variables

Table 2. Descriptive Result of Technological Changes

Items	SDA	DA	N	A	SA	Total	Missing
TC_1 Every teacher possesses and uses laptop for effective teaching. Easy access to internet facilities is provided to both teachers and students to update their knowledge.	6(8.2%)	12(16.4%)	21(28.8%)	24(32.9%)	10(13.7%)	73(100%)	Nil
TC_2 Smart class rooms are facilitated for effective teaching.	4(5.5%)	12(16.4%)	16(21.9%)	27(37%)	14(19.2%)	73(100%)	Nil
TC_3 Power point is used for effective teaching.	6(8.2%)	14(19.2%)	20(27.4%)	19(26%)	14(19.2%)	73(100%)	Nil
TC_4 The institution uses electronic media to inform/ notice the employees/ students/ guardians/ others.	3(4.1%)	7(9.6%)	20(27.4%)	21(28.8%)	22(30.1%)	73(100%)	Nil
TC_5 Communication among the stakeholders, students, teachers, and campus administration becomes conducive through electronic media.	2(2.7%)	6(8.2%)	16(21.9%)	25(34.2%)	24(32.9%)	73(100%)	Nil
TC_6 The online classes are effective in my institution.	5(6.8%)	16(21.9%)	22(30.1%)	22(30.1%)	8(11%)	73(100%)	Nil
TC_7 Teachers as well as students are benefited by e-library.	2(2.7%)	13(17.8%)	23(31.5%)	23(31.5%)	12(16.4%)	73(100%)	Nil
TC_8 CC camera has been used for controlling unnecessary activities in the classrooms.	4(5.5%)	19(26%)	23(31.5%)	20(27.4%)	7(9.6%)	73(100%)	Nil
TC_9 ICT has made the teaching- learning process convenient as well as effective.	6(8.2%)	10(13.7%)	14(19.2%)	21(28.8%)	22(30.1%)	73(100%)	Nil
TC_10	3(4.1%)	7(9.6%)	14(19.2%)	29(39.7%)	20(27.4%)	73(100%)	Nil

Table 3. Descriptive Result of Performance of Teachers

Items	SDA	DA	N	A	SA	Total	Missing
PoT_1 The teachers have acquired additional degree after the appointment.	2(2.7%)	10(13.7%)	25(34.2%)	24(32.9%)	12(16.4%)	73(100%)	Nil
PoT_2 The teachers are providing reading materials to their students.	Nil(0%)	8(11%)	18(24.7%)	29(39.7%)	18(24.7%)	73(100%)	Nil
PoT_3 The teachers have adopted innovative teaching learning methods.	2(2.7%)	3(4.1%)	31(42.5%)	21(28.8%)	16(21.9%)	73(100%)	Nil
PoT_4 The teachers have published books or college /national / international level papers.	1(1.4%)	15(20.5%)	19(26%)	26(35.6%)	12(16.4%)	73(100%)	Nil
PoT_5 The teachers guide project work/thesis of Bachelor/ Masters level students independently.	4(5.5%)	4(5.5%)	13(17.8%)	29(39.7%)	23(31.5%)	73(100%)	Nil
PoT_6 The teachers finish the assigned course timely.	1(1.4%)	11(15.1%)	12(16.4%)	23(31.5%)	26(35.6%)	73(100%)	Nil
PoT_7 The teachers are invited as guest lecturers or subject experts by other institutions.	4(5.5%)	11(15.1%)	19(26%)	23(31.5%)	16(21.9%)	73(100%)	Nil
PoT_8 The teachers attend their classes timely.	1(1.4%)	6(8.2%)	13(17.8%)	32(43.8%)	21(28.8%)	73(100%)	Nil
PoT_9 There is a reduction in the absenteeism of teachers.	1(1.4%)	10(13.7%)	17(23.3%)	31(42.5%)	14(19.2%)	73(100%)	Nil
PoT_10 There is a reduction in work-related complaints against me..	4(5.5%)	11(15.1%)	15(20.5%)	18(24.7%)	25(34.2%)	73(100%)	Nil
PoT_11 Most teachers have strong command over their subjects.	1(1.4%)	4(5.5%)	17(23.3%)	33(45.2%)	18(24.7%)	73(100%)	Nil
PoT_12 Teachers really care whether students understand their lessons or not.	2(2.7%)	6(8.2%)	16(21.9%)	30(41.1%)	19(26%)	73(100%)	Nil
PoT_13 Examination results of students are weak.	3(4.1%)	25(34.2%)	29(39.7%)	13(17.8%)	3(4.1%)	73(100%)	Nil
PoT_14 Much care is taken in paper setting and evaluating answersheets by the teachers.	2(2.7%)	10(13.7%)	20(27.4%)	28(38.4%)	13(17.8%)	73(100%)	Nil
PoT_15 Most teachers do not teach well.	34(46.6%)	18(24.7%)	13(17.8%)	7(9.6%)	1(1.4%)	73(100%)	Nil

Note: SDA- Strongly Disagree; DA- Disagree; N- No response; A- Agree; SA- Strongly Agree

Descriptive Analysis of Variables

Table 4. Descriptive Statistics of Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Technological Changes	73	1.60	4.90	3.4644	.70482
Performance of Teachers	73	1.93	4.87	3.6785	.67945
Valid N (listwise)	73				

The mean values of both independent variable (technological changes) and dependent variable (performance of teachers) seem to be greater than 3 which show a positive perception towards the variables among the respondents. On the other hand, the value of standard deviation of both independent variable (technological changes) and dependent variable (performance of teachers) are less than 1 which reveals that data is consistent with minimum value 1 to maximum value 5.

The mean values for both the independent variable (technological changes) and the dependent variable (teacher performance) appear to exceed 3, indicating a positive perception of these variables among the respondents. Additionally, the standard deviation values for both the independent variable (technological changes) and the dependent variable (teacher performance) are less than 1, indicating that the data exhibits consistency within a range from a minimum value of 1 to a maximum value

Correlation between Technological Changes with Performance

The Pearson correlation coefficient was computed to check the association between technological changes with job performance of teachers.

Table 5. Correlation between Technological Changes with Performance of Teachers

		Technological Change	Performance of Teachers
Technological Change	Pearson Correlation	1	.582**
	Sig. (2-tailed)		.000
	N	73	73
Performance of Teachers	Pearson Correlation	.582**	1
	Sig. (2-tailed)	.000	
	N	73	73

** . Correlation is significant at the 0.01 level (2-tailed).

Table 5 revealed that there is a positive association between technological change and job performance of teachers, $r(71) = 0.582$, $p=0.000$.

Regression Analysis

Simple linear regression analysis was used to determine the effect of technological change on job performance of teachers.

Table 6. Impact of Technological Changes on Job Performance

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	β	Std. Error	Beta		
(Constant)	1.736	0.329		5.278	.000
Technological Change	.561	0.093	.582	6.026	.000
R	0.582				
R ²	0.338				
Adjusted R ²	0.329				
F-Value	36.315		(p=0.000)		

Table 6 revealed that technological changes significantly predicted job performance of teachers, $\beta = 0.561$, $t(71) = 6.026$, $p < 0.01$. Technological change also explained a significant proportion of variance in job performance of teachers, $R^2 = 0.338$, $F(1,71) = 36.315$, $p < 0.01$.

Discussion

Table 5 above aimed to determine the strength of the relationship between the independent variable (technological changes) and the dependent variable (job performance of teachers). The observed Pearson correlation coefficient between technological changes and teacher job performance is 0.582, significant at the 0.01 level. This result suggests a positive relationship between these variables. This finding aligns with results from other studies, including Al-Jaradat et al., 2013 ($r = 0.648$); Archibong & Ibrahim, 2021 ($r = 0.428$); Osunsan et al., 2019 ($r = 0.717$); and Timalsina, 2022 ($r = 0.825$).

In Table 6, the R² value serves as an indicator of how much of the total variation in the dependent variable (job performance) can be accounted for by changes in the independent variable (technological changes). In this instance, approximately 33.8% of the variation can be explained. This result is consistent with the findings of other studies, such as Archibong & Ibrahim, 2021 ($R^2 = 35.4\%$), although it is comparatively weaker when compared to studies like Osunsan et al., 2019 ($R^2 = 51.4\%$). The β value signifies the extent to which the dependent variable (job performance) changes when the independent variable (technological changes) increases by one unit. In this case, job performance increases by 0.561 units

when technological changes increase by one unit. This result is in line with findings from other studies, although the β value is weaker in comparison to studies like Archibong & Ibrahim, 2021 ($\beta = 2.151$); Methode et al., 2019 ($\beta = 0.7$); and Timalina, 2022 ($\beta = 0.426$). Interestingly, this result contradicts the finding of Ekechi & Umar, ($\beta = -0.205$).

Conclusion

The introduction of technology has had an impact on teachers' job performance by making their tasks simpler, significantly boosting employee productivity, and saving time. The use of information and communication technology (ICT) can help teachers deliver more efficient instruction, leading to enhanced student learning outcomes. Therefore, to improve the quality of education, it is crucial to digitize teaching and learning methods. However, the adoption of technological advancement in accredited higher educational institutions in Koshi province is currently at a moderate level.

Implications

A research study titled impact of technological changes on job performance of teachers in HEIs can have comprehensive and multifaceted implications. Here are some potential implications of such a study:

1. **Incorporating Technological Advancements:** Institutions may prioritize investments in relevant educational technologies and provide training to teachers, enabling them to leverage technology effectively in their teaching practices.
2. **Enhanced Student Learning:** The study may reveal how technology can positively impact student learning outcomes when utilized effectively by teachers. As a result, institutions may be encouraged to create a technology-rich learning environment that enables teachers to engage students in innovative and interactive ways, leading to improved academic achievements.
3. **Quality Assurance and Accreditation:** QAA and other accreditation bodies may consider technology integration as a component of institutional quality assessment. The research findings could influence the criteria for accreditation, recognizing institutions that effectively leverage technology to enhance teaching and learning experiences.
4. **Digital Pedagogy Development:** The study's results may inspire the development of digital pedagogy guidelines and best practices tailored to the context of higher education in Nepal. These guidelines can serve as a resource for teachers to improve their technology-related teaching skills and methodologies.

5. Faculty Motivation and Job Satisfaction: The research can also explore how teachers' attitudes toward technology impact their job satisfaction and motivation. Institutions can use this insight to foster a positive technology culture that encourages teachers to embrace technology as a tool for professional growth and increased job satisfaction.

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Preliminary Investigation on Kinship Terms in Tharu

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Abstract

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This study explores the kinship terminology used by the Tharu ethnic group, which is mostly found in the Tarai region of Nepal. This research uses a qualitative method/approach that includes ethnographic interviews, participant observation, and language analysis and abides by strict ethical guidelines to ensure adherence to the cultural norms of the Tharu community. To explain the structural and cultural intricacies of Tharu kinship words, both qualitative and quantitative methodologies are used. The research reveals a complex system of kinship terms in Tharu that is rich in linguistic nuance and cultural value. Furthermore, the research notes the usage of descriptors like "bāraka", "mājhāla", and "kānāki" which denote "older," "middle," and "younger," together with root words, to distinguish age within distinct family ties. These adjectives are used in the case of brothers, sisters, father's brother, Father's sister, mother's brother, and mother's sister to distinguish age in the relation. By shedding light on this frequently ignored aspect, this study advances knowledge of Tharu linguistic diversity and cultural preservation and lays the foundation for further, in-depth research into Tharu kinship terms, their historical development, and current societal relevance.

Keywords: kinship, classificatory, morphology, terminology, cultural preservation

Introduction

Tharu is one of the Indo-Aryan languages spoken by an ethnic nationality referred to as Tharu. The census of Nepal, 2021 shows out of 18,07,124 people, 17,14, 091 (5.88%) speak this language. These people are generally distributed in the different Provinces; Koshi, Madhesh, Bagmati, Lumbini, and far-western of Nepal. All the Tharus living in different places do not speak the same form of language. They have developed different dialects of Tharus because of geographical distance and language contact. Mainly it has been influenced by Maithili, Bhojpuri, Hindi, Awadhi, and Nepali.

Kinship terminologies are a system of consanguinity and affinity that promote people's organized identification of their ancestry (Morgan, 1871). In this way, kinship terminology is the language employed in one culture to express a particular set of familial ties. Kinship terminologies encompass the words of address and terms of reference that are used in various languages or groups for various relatives. Kinship, one of the most extensive cultural systems, is the foundation of social relationships that are either really or conceptually tracked through parent-child or sibling relationships (Ramya, 2019). The study of kinship term is an interdisciplinary academic field that offers not only linguists but also ethnographers, anthropologists, sociologists, and social historians, among others (King, 2006). It serves as the fundamental guideline for the establishment of social groups whose members are connected through intricate, interlocking, and ramifying links in all human civilizations (Sonowal, 2014).

Every human community has its kinship language, which is a list of phrases for addressing and referring to various categories of relatives. Kinship terminologies are a class of phrases that teach people to recognize the major groups in the social structure they are born into (Leach, 1958). In their civilization, all kinship term systems take into account variables including sex, age, generation, blood, and marriage. Each culture has a unique definition of kinship words and the social functions they perform. Kinsmen can include countless distant categories of genealogical links and can extend to an infinite number of relationships (Doley, 2014). Kinship relations are defined as blood relations or natural relatives created naturally. It is the acknowledgment of a social bond initiated by blood, genetics, or marriage. Kinship plays an important role in all human cultures and interactions. Kinship bounds are of fundamental importance in every society all over the world. There are mainly two types of kinship within a family and they are affinal kinship and consanguineous kinship. Affinal relation is bound based on marriage most primary affinal relation is one between a husband and a wife which in its extended form includes parents and siblings of both sides and their spouse and children. Kinship based on descent is consanguineous kinship, commonly known as blood relation. According to M. Lamp to understand fully the nature of kinship system, it is neces-

sary to understand what kind of linguistic element these are, and what kind of linguistic relationship (Sydney 1945). Kinship plays a vital role in the social, economic, and political structure of a society.

Tharu language has been in contact with Hindi, Maithili, Bhojpuri, and Awadhi, another four dominant languages, for a very long period. When a language is in contact with each other for a long period, they tend to assimilate several features of languages in contact at all levels of grammar and thus deviate considerably from the characteristic features of their genetic stock (Abhi, 2001). Since, the Tharu language is in constant contact with their four languages (Hindi, Maithili, Bhojpuri, and Awadhi), some similarity in kinship forms cannot be denied completely. The purpose of this paper is to examine the existing kinship terms used by the Tharu people. This study mainly focuses on both kinships, Affinal and Consanguineous. This study also aims to analyze the morphological patterns of kinship terms of the language.

Methodology

The researcher employed questionnaire and direct interview methods. According to consanguineous relations, kinship terminology is provided in the questionnaire. The data was collected from a sample of five native speakers of the Tharu language from the Saptari district of Nepal. The study is entirely based on primary data collected from these five Tharu speakers.

Results

In their native language, the Tharu use the term */Jait/bhait/*. They learn the kinship terms during the earlier stage of their life. In the Tharu community, marriage is not allowed between a man and his close relatives on his parent's side, and they refer to this relation as */laig/* which means bad relation. Kinship terms are used in addressing persons of ascending generations or of the same generation but older. A family member senior to oneself in generation or age is never addressed by name in Tharu society as a sign of respect, whereas those junior to oneself in generation age may be addressed by name. (Appendix)

Consanguine Kinship Terms

With the term */bhāiya/* for "brother" and */bāhin/* "sister", siblings address each other according to their relatives. They use */bārāka/*, */māijhola/*, and */kənāki/* which means elder, middle, and younger with root words to differentiate age. For elder brother, they use the term */bārākabhāiya/*, and for elder sister */bārākadāiya/*, */bārāka/* means "elder" and */bhāiya/* and */dāiya/* means "brother" and "sister" respectively. If somebody is younger, they

use the term */kənəki/* like */kənəki bhai/*, */kənəkibəhəin/* for younger brother and younger sister. In the parental generation, differentiation by age also applies to both the parental and material side. For Example;

Father's brother.....*/bərəka babu/*
 Father's elder sister.....*/bərəka didi/*
 Father's younger sister.....*/kənəkididi/*
 Mother's elder sister.....*/bərəka mosi/*

For the mother's brother, they use the word */məma/*. For elder ones, they use the term */bərəkaməma/*, while for younger ones they address him as */kənəkiməma/*. No differentiation is made between the mother's brother based on their relative age to the mother but based birth rank. Grandfather and grandmother of the parental side are usually addressed or referred to as */bəba/* and */dadi/*. But for the maternal side, grandfather and grandmother, they use the term */nəna/* and */nani/* for both address and reference.

In daily speech, children are called by their first names or pet names for address and reference. The terms which are used for offspring are */beta/* for 'boy' and */beTi/* for 'girl'. The two specific terms are used for nephew and niece and these are */bhətiJa/* and */bhətiJi/*. The speaker will refer to her sister's children as her own children */beta/* and */beTi/* whereas her brother's children will be referred to as */bhətiJa/* and */bhətiJi/*.

Grandchildren are also commonly referred to by their names. On the son's side and the daughter's side, the grandchildren are referred to differently. The male grandchild from the son's side is called */pota/* and the female grandchild is called */poti/*. Whereas, on the daughter's side the word */nəti/* is used for a male grandchild, and */nətənia/* is used for a female grandchild

Affinal Kinship Terms

In the case of affinal relations, similar elementary terms */babu/* (father) and */məiya/* (mother) are used exclusively. These terms are preceded by adjectives to differentiate the age and these elementary terms are used for parental generation. The term */bərəkaməiya/* is used for the father's elder brother's wife. Whereas, the term */bərəkamosi/* is used for the mother's elder sister. The term */bərəka babu/* is used for the father's elder brother whereas, the term */bərəkamosi/* is used for the mother's elder sister's husband (affinal). Other kinship terms that are found in the Tharu language are */nənəid/* husband's younger sister, */diyadni/* husband's elder/younger brother's wife, */jəmai/* daughter's husband, */bohoriya/* son's wife, */səmədhi/* son's wife father and */səməshin/* son's wife mother. Husband and wife do not use any particular term to address each other. The other kinship terms */jethsəus/* husband elder sister, */sarhubhai/* wife's sister's husband, */bhabo/* brother's wife. They use the word */sar/*

for the wife's younger brother as a reference and /pəhuna/ for the sister's husband both for address and reference.

Suffixation to Determine Gender

The Tharu language differentiates gender by adding various suffixes, such as /i/ /ni and /nia/. Women are more likely to add suffixes. Like Indo-Aryan languages; Hindi, Maithili, Nepali, Tharu also has a number of kinship terms in which female gender is indicated by a final suffix /i/ is added to determine feminine gender. The Tharu language has special terms for the female gender for /mama/ (maternal uncle) and /baba/ father's father. The maternal aunts are referred to as /mami/ and their maternal grandmothers as /nani/. For Example;

Relative class	Kinship term in Tharu	Gender marker suffix
Mother's father	/nəna/	
Mother's mother	/nani/	/i/

Addition of suffix /i/ with root words

Relative class	Tharu kinship term	Gender marker suffix
Brother's son	/bhətija/	
Brother's daughter	/bhətiji/	/i/

Addition of suffix /nia/

Relative class	Tharu Kinship term	Gender marker suffix
Daughter's son	/nati/	
Daughter's daughter	/nətənia/	/nia/

Discussion

The Tharu community uses consanguine kinship terms to structure familial relationships and reflect their cultural intricacies. These terms address siblings based on age and gender, with age hierarchy denoted by descriptors like "bərəka" (elder), "məijhola" (middle), and "kəkəki" (younger). Tharu individuals use age-based differentiation in addressing siblings, highlighting the cultural emphasis on hierarchy and respect within their families. Elder siblings are addressed as "bərəkabhəiya" and younger siblings as "kənəkibhai" or "kənəkibəhain". The Tharu language differentiates kinship terms by age, extending beyond generation to both parental sides. For example, addressing an elder brother or sister using "/bərəka babu/" and a mother's younger sister using "/kənəkididi/" emphasizes age's role in familial interactions. Tharu kinship terms in affinal relationships are complex, highlighting the distinction between consanguine and affinal relatives and reflecting cultural norms surrounding marital relations.

The usage of suffixes to indicate gender in the language makes Tharu kinship phrases

fascinating. These endings, such as /i/, /ni/, and /nia/ are used to denote gender. Notably, women are more likely to end kinship words with these suffixes. In the Tharu language, for example, /bhtija/ signifies a brother's son, whereas /bhtiji/ denotes a brother's daughter. The feminine gender is denoted by the suffix /i/ in this instance, illustrating the grammatical complexity of Tharu kinship nomenclature. The Tharu kinship terminology system carries immense cultural significance within this ethnic group, serving as a reflection of familial relationships and cultural norms. The incorporation of descriptors like /bərəka/, /məjholal/, and /kəkəki/ in addressing siblings underscores the importance of age and hierarchy. Tharu culture places a significant emphasis on respecting elders and acknowledging age-based seniority within the family structure. Consequently, kinship terms not only facilitate communication but also reinforce cultural values of respect and reverence.

The use of suffixes in establishing gender in Tharu kinship words offers insightful information on gender dynamics in the Tharu culture. Interestingly, women are more prone to add these suffixes, which increases the language's complexity. How women have shaped and preserved language traditions is reflected in this practice as well as larger gender conventions. The Tharu community's complex view of gender roles and connections is reflected in the language difference of gender within the intersection of the Tharu marriage norms with kinship terminology revealing the deep-rooted connection between cultural practices and language. The specific terms used to address affinal relatives, such as /bərəkaməiyal/ and /bərəkamosi/ highlight the differentiation between consanguine and affinal relationships. Tharu marriage norms, which prohibit unions with specific relatives, necessitate these distinctions in terminology to avoid ambiguity and uphold cultural norms. Within the Tharu kinship terms, the insertion of gender-specific suffixes like "/i/" is consistent with Indo-Aryan linguistic trends. The Tharu kinship terminology both reflects and reinforces cultural norms, demonstrating the connection between language and society. Understanding these linguistic patterns offers important new perspectives on the development and maintenance of the Tharu language.

Understanding Tharu kinship terms helps one gain a greater understanding of the Tharu culture, language, and social structure in addition to satisfying linguistic curiosity. A thorough knowledge of kinship jargon can be helpful in efforts to preserve and revive indigenous languages and customs. The importance of conserving linguistic variety and cultural history within indigenous tribes like the Tharu is brought home by this research. The Tharu kinship terminology system expresses and upholds the Tharu social mores, familial ties, and cultural values. It emphasizes how crucial these concepts are to preserving and passing along Tharu cultural history and practices. The terminology of the Tharu kinship can be used outside of the Tharu group. In addition to increasing the appreciation of linguistic variety and cultural legacy in other contexts, it may have ramifications for the preservation of indigenous lan-

guages and customs across the world. Additionally, by highlighting particular linguistic patterns and practices that could have an impact on the study of languages generally, it can contribute to the larger science of linguistics.

Conclusion

Kinship holds a central place in the Tharu heritage, embodying values of family bonds, respect, solidarity, and communal responsibility within both the family clan and broader society. The Tharu people extensively employ kinship terms for addressing and refining their family members, reflecting the deep significance of these terms in their daily lives. This research emphasizes the pivotal role of suffixes in distinguishing gender within the Tharu language. Furthermore, the Tharu community employs a systematic kinship classification system, utilizing classification both as kinship is the reference and forms of address. This observation contributes to a subtle distinction understanding of the Tharu people's social organization and cultural identity. In conclusion, our study illuminates the profound cultural and linguistic importance of kinship within the community, highlighting its role as a cornerstone of identity, tradition, and social cohesion. The recognition of these intricate linguistic and cultural nuances enriches our comprehension of Tharu heritage and underscores the broader significance of preserving indigenous languages and cultural traditions.

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Appendix

Consanguineous Relation

S.N.	Relative Classes	Terms of address in Tharu
1	Grand Father (father's side)	<i>/bāba/</i>
2	Grand Mother (father's side)	<i>/dadi/</i>
3	Grand Father (mother's side)	<i>/nāna/</i>
4	Grand Mother (mother's side)	<i>/nani/</i>
5	Father	<i>/babu/</i>
6	Mother	<i>/māiya/</i>
7	Elder Brother	<i>/bhāiya/</i>
8	Elder Sister	<i>/dāiya/</i>
9	Middle Brother	<i>/māijhālabhāiya/</i>
10	Middle Sister	<i>/māijhilibāihin/</i>
11	Younger Brother	<i>/kānāki bhai/</i>
12	Younger Sister	<i>/kānākibāihin/</i>
13	Father's elder Brother	<i>/bārāka babu/</i>
14	Father's elder Sister	<i>/bārākadidi/</i>
15	Father's younger Sister	<i>/kānākididi/</i>
16	Mother's Brother	<i>/māma/</i>
17	Mother's elder Sister	<i>/bārākamosi/</i>
18	Son's son	<i>/pota/</i>
19	Son's Daughter	<i>/poti/</i>
20	Daughter's Son	<i>/nati/</i>
21	Daughter's Daughter	<i>/nātīānia/</i>
22	Brother's Son	<i>/bhātija/</i>
23	Brother's Daughter	<i>/bhātiji/</i>
24	Sister's Son	<i>/bhāgina/</i>
25	Sister's Daughter	<i>/bhāgini/</i>
26	Mother's Brother's Son	<i>/māmiyot bhai/</i>
27	Mother's Brother's Daughter	<i>/māmiyotbāihin/</i>
28	Father's Brother's Son	<i>/bhāiya/bhai/</i>
29	Father's Brother's Daughter	<i>/didi/bāihin/</i>
30	Mother's Sister's son(elder)	<i>/bārākabhāiya/</i>
31	Mother's sister's daughter (elder)	<i>/bārākadāiya/</i>

Affinal Relation

S.N.	Relative Classed	Terms of address in Tharu
1	Wife's Father	/səsur/
2	Wife's Mother	/səus/
3	Husband's Father	/səsur/
4	Husband's Mother	/səus/
5	Father's elder sister's Husband	/pisa/
6	Father's younger sister's Husband	/kənəkipisa/
7	Mother's elder sister's Husband	/mosa/
8	Mother's Younger sister's Husband	/kənəkimosā/
9	Father's elder brother's Wife	/bərəkamāiya/
10	Husband's Sister (younger)	/nənəid/
11	Husband's sister (elder)	/jethsəus/
12	Wife's sister's Husband	/sarhu/
13	Husband's elder Brother's wife	/diyadni/
14	Wife's elder brother	/jethan/
15	Wife's younger Brother	/sar/
16	Sister's Husband	/pahun/
17	Husband's brother's Son	/bhətija/
18	Husband's brother's daughter	/bhətiji/
19	Daughter's Husband	/pauhuna/
20	Son's Wife	/putauh/
21	Son's Wife Father	/samdhi/
22	Son's Wife Mother	/samdhini/
23	Brother's Father-in-law	/burəha/
24	Brother's wife	/bhabo/
25	Sister of brother's wife	/sair/
26	Caste and relatives	/jait/ or /bhait/
27	Blood relations/ kin and kith relations	/laig/

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A Healing Impact of Diasporas in Globalization

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Abstract

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Many people of India and other countries are living in Nepal at present. It has become a burning issue in globalization as it has a broader impact on the connection between/among Nepal, India and other countries as well as development in different sectors of home land and host land. Immigration policy plays a vital role to develop the host countries and Diasporas as well. Diasporas are the boons for Nepal and home lands as well. The government has made several policies regarding Diasporas but the results are not so satisfactory. That is why; the government should do rigorous homework for making the diplomacy for Diasporas. This paper attempts to explore on the Diasporas who are living in Lahan Municipality and their role in the field of educational development. This article is descriptive and analytical in format. The data are collected from secondary sources.

Keywords: globalization, impact of Diasporas, educational development, socio-economic development, inter-cultural communication

Introduction

People move from one country to another country easily in the age of Globalization as technology and transportation are available everywhere in the world. Diasporas are those people whose origin country is one and living in another country by enjoying a special bond with their home country. They are dwelling in other lands for profession, business and other purposes as well. The term "Diaspora" had come in usage in English in 1876. It has been derived from the Greek word "Diasperio" which means scattering. Historically, Diasporas indicate the forceful dispersion of Jewish people from Israel to live in other parts of the world.

It now implies the people who have moved to another country recently or earlier intending to live, either for shorter or temporary or for extended and permanent time but have a special connection towards the country of their origin (Agunias & Newland, 2012). In the twenty first century, new kinds of challenges are resulting from interdependence among different countries or states and globalization has had determining impacts on diplomacy. Diplomacy has become multifaceted, multi-directional, volatile, and intensive due to the increased complexity in terms of actions, dialogues, modes of communication, modes of plural objectives, and basket of dreams, ambitions and opportunities as well. Global system has been changed to expand the theory of international relationship, world trade market, foreign policy and migrant workers. It is traditionally used to describe the cultural, social, educational and political connections between Nepal and India. Asian, Irish, African, Caribbean and other ethnic groups in the post imperial or post-colonial world have a tie between host land and Diasporas. The symbolism associated with the sense of belongingness can produce nostalgic feelings. It describes about migration from an actual or desired homeland to others lands where Diasporas feel confusion, transformation, difference and displacement. They connect with the confused condition and experience of hybridity. The term is used more loosely to describe a dispersed intellectual formation or the spread and interlamination of the ideas. The global development and variety of forms of cultural studies itself has been described as a Diaspora story.

In modern megacities of Globalization, innumerable Diasporas live together. They are: Indian Diaspora, Nepalese Diaspora, Chinese Diaspora, Polish Diaspora, African Diaspora etc Rana, K.S. (2011).

Such Diasporas promote their culture, literature, social norms, and religious values in the host lands. Diaspora studies starts with migration of people and follows their life in the host countries. They are marginal groups there but they struggle for identity and equal opportuni-

ties there too. They do not have pure culture and language as well. Everything is mixed for them. This situation in life of Diaspora is called cultural ambivalence which is very common in their life.

Regarding the impacts of cultural ambivalence, Birka & Kalvins opine, Diaspora diplomacy is well known use for the foreign services, or other branches of government to endorse the systematic relationship for the mutual benefits between or among the countries of origin, Diaspora groups in the nation of resistance and the various interests associations in both the countries of origin and country of resistance (2020).

The trend of the migration of people from one country to another has been increasing rapidly these days. Therefore, the government of both origin and host countries make different legal and institutional mechanisms to get connected with the Diasporas of different countries. As Diasporas have previous knowledge, qualification, technique and ideas of their own original land, they implement these ideas in host lands so that the host lands develop very much.

The institutionalization of Diaspora diplomacy shows that a country's Diasporas community has become considerably more important as a subject of interest for the foreign policy and associated government activities (Emre OK, 2018).

According to the report on Nepal's Foreign Affairs (2019-2020) Adapting a well-defined foreign policy of Nepal recently in October 2020, the government of Nepal has appreciated the contribution of Nepali Diasporas in other lands and vice-versa in the field of education, health, socio-economic development as well. The transformation of knowledge from origin lands to the host lands helps to develop the host lands very much. Indian Diasporas and the Diasporas of other countries are involved in different professions as well as employments such as teaching, business and other employments in Nepal. This article has highlighted the special priority promoting civilization, cultures, lifestyles, thoughts, diversity, arts, language, religion, political relationship, literature, and sports. Thus, this article tries to analyze the roles of "Indian Diasporas" to develop Nepalese communities of Lahan.

Eric Rill (2022) discusses the scientific study of Diaspora and their international migration. He means Diaspora refers to the displacement of an individual, community or groups of people from the original homelands to an alien territory in the age of Globalization. Amardeep (2021) has written in "Diaspora" that it is one of the most important social phenomena of the post-colonial era which has been the migration and settlement of people around the world which has led to the certain of new-diasporic cultural identities. On the other hand, Paola Toninato (31 December, 2009) writes in *The Making of Gypsy Diasporas* that it offers

thoughts on strengths and limits of this discourse and emphasizes positive implications of use of the diasporas concept for ongoing negotiations.

Although different scholars have written their articles on Diasporas but this research is entirely different from them. The main objective of this article is to explore the positive impact of Indian Diasporas in Lahan Municipality, Siraha, Nepal highlighting about their role for development in the fields of education. The term "Diaspora organization" refers to the organization which is based on the origin in a particular place or country of personal or ancestral origin that do not coincide with the country of settlement and whose leader and membership base primarily consists of the persons identifying with this origin. Thus, Diaspora organizations include a wide range of organizations, including hometown associations, branches of homeland political parties, cultural associations, migrant youths associations and many more (Sinnati & Horst, 2014; Orozco & Rouse 2007).

Methods

This article is descriptive and analytical in format. The required data has been obtained through various secondary sources. Similarly, the researcher consulted two Institutions: J S Murarka Multiple Campus Lahan, Siraha and Pashupati Adarsha School Matiarwa Lahan, Siraha where secondary data analysis had been done to collect the information through Smarikass.

Results and Discussion

Diasporas in Globalization

The main focus of the global migration development debate- collective remittances from Diaspora organizations generally focus on the local community level or it is intended to benefit broader parts of the population through support to social service provision, infrastructure, or social society. Specific objectives of the Diasporas may include up-scaling of projects, strengthen the quality of proposals, enhancing the participation in policy decision making and public debates on development and enabling common platforms of understanding. Courses offered as a part of capacity building cover a great range of fields, such as civil society, organizational development, project cycle management, leadership, proposal writing and fund raising capacity, financial management, etc.

The end of the cold war set in motion for a number of changes in the industrialized states from the beginning of the 1990s onwards. These changes led to a gradually shifting discourse from integration to return as well as a shift from viewing migrants as victims of rival regimes to the agents of change in their countries of origin. The first consequence of the end

of the cold war was an increasing reluctance to accommodate asylum seekers. Protecting refugees from rival regimes had previously been a powerful source of political propaganda and, at the same time, the non-departure regime of the iron curtain had kept the refugee levels manageable.

In addition, fading national and international boundaries, growing the numbers of Indian Diasporas in different parts of the globe, it has increased the education level in the hostlands. (Castles, De Haas & Miller, 2014).

Increasing number of Diaspora flows grow the social cohesion, welfare and security in the destination countries. This has resulted in growing public and political resistance in the homelands and host lands as well. Regarding Lahan Municipality, the Indian Diasporas have taught different subjects in different fields which have developed the competence and performance of the learners.

In Globalization, the governments and international agencies have attracted Diasporas' moral responsibility for educational development and peace building in their places of the origin. A recognized fact about international migration scholars is the dynamic and active connection of Diasporas with the host and home country. This has been made more important by the globalization interchange. Diaspora groups are recognized and valued in the development interventions of their region and the host lands. This recognition could be attributed to scholarly studies in developmental interventions of host. Diaspora, encourage the native scholars by interchanging their knowledge, skills and techniques as well. The Diasporas could not utilize the globalized advantages of technology and lack of opportunities in the homelands; they are attracted to live in the host lands.

Diasporas may engage in education development for reasons that diverge from those of international levels. Diasporas engagement in businesses, for example, is driven not only by educational and financial returns but also emotional and social status returns, connected to personal and identity-based attachments (Nielsen and Riddle, 2009).

The goal of globalization is to increase education, skills, knowledge, material, wealth, goods and services through international division of labor, a process by which regional economies, societies, and cultures have become integrated through communication, transportation, technology and world trade; also the integration of national economies into the international economy (Akanni, 2010, p. 2).

It is noteworthy that globalization is driven by a combination of economic, technological, socio-cultural, political, and biological factors as well.

In Globalization, advantages have led to increase the migration and a resultant of transnational networking across the state boundaries. These advantages have created new dimensions for the needs of the state, the process of state development intervention being influenced more and more by external contacts as well as negative and positive outfalls bringing in new dimensions for development interventions. Technological development continues to affect several aspects of the state, and one important area, which is the focus of this work, is the contribution of the Diaspora. The wave of international migration across the globe is increasing day by day and the impact of such migrations on host and home country has become a continuous quest of research inquisition.

Obstacles to other lands in search of better lives for themselves and their children. Currently, the number of people living outside their country of birth is estimated to be over 180 million or 3% of the world population. (World Bank, 2006 cited in Caglar & Maurice, 2007, p. 8). During 20th and 21st centuries, the diasporas especially Indian Diasporas migrate to other countries like Nepal which have developed not only educational sectors but intercultural communication as well.

Inter-cultural Communication and Socio-economic Development

Inter-cultural communication has led to the formation of transnational communities. It has resulted into the building of network, social bridges across borders, familial economic status, social status, and organizational status, religious and political status as well. Transnationalism is an extended idea of Diaspora. Green (1987) says:

Transnational is a process whereby trans-migrants forge and sustain multi-stranded social relationship that connects their societies of origin of with the societies of settlement. Consequently, they build social fields that enable them to maintain multiple relationships in familial, economic, social, organizational, religious, and political - that span borders. (p. 95)

The crucial to the impact of globalization on migrations is the brain gain advantage which will result only from a consciously managed system of Diaspora contributions to the development of the state. Contributions of Diaspora support in different facets of development such as education, trade, health, culture, and politics as well to the host lands. Diasporas are categorized in different categories in globalization according to their level, qualifications, occupations, professions as well. Indian Diaspora, German Diaspora, and other Diasporas have assisted very much to develop in Nepalese towns and villages as well.

Important Key Variables to the Implication of Diaspora and Development

- i. Form a Diaspora organization

- ii. Host and home state- Diaspora relationship
- iii. Information and communication flows between home and Diaspora
- iv. Local conditions in developing region that necessitate charitable interventions or create ideal conditions for Diaspora investment
- v. Circumstances of Diaspora in host environment.

(AFFORD, 2000, p.12)

In the era of globalization, access to and effective use of information and communication technology is central to the effectiveness of a Diaspora contribution for development. Different forms of Diasporas are engaged in different sectors which are listed below:

- i. Person-to-person transfer of money, consumer goods, and even larger items such as cars, mainly to family, immediate and extended.
- ii. Community-to-community transfer for constructive but sometimes for destructive purposes.
- iii. Identity building awareness raising in current home about ancestral home either with other members of same community or with wider groups.
- iv. Lobbying in current home on issues relating to ancestral home either of current home politicians or visiting ancestral home leaders.
- v. Trade with and investment in ancestral home.
- vi. Transfers of intangible resources such as knowledge, values, and ideas.
- vii. Support for development on a more -" professional basis".

(AFFORD, 2000, p. 6)

Contributions of Diasporas in Initial Period of Educational Development in Lahan Municipality

Table 1. The Teachers Team of Secondary Level in Pashupati Secondary School Lahan

S.N.	Name	Date of Appointment	Diaspora/Non-Diaspora	Levels
1.	Mr.Kameshwor Chaudhary	2006/7/1	Diaspora	Secondary
2.	Mr Laxman Jha	2015/5/1	Diaspora	Secondary
3.	Mr. Bholalal Chaudhary	2020/6/6	Non-Diaspora	Secondary
4.	Mr. Rajendra Jha	2018/7/11	Diaspora	Secondary
5.	Mr. Bishwa Nath Mahato	2027/11/4	Non-Diaspora	Secondary
6.	Mr. Krishan Prasad Upadhyay	2030/6/29	Non-Diaspora	Secondary
7.	Mr. Laxman Mahato	2030/11/12	Non-Diaspora	Secondary
8.	Mr. Jeebachh Prasad	2022/12/1	Diaspora	Secondary

S.N.	Name	Date of Appointment	Diaspora/Non-Diaspora	Levels
9.	Mr. Sahadev Yadav Diwakar	2028/6/24	Non-Diaspora	Secondary
10.	Mr. Mahabir Chaudhary	2033/7/12	Diaspora	Secondary
11.	Mr. Raj Dev Yadav	2026/11/12	Non-Diaspora	Secondary
12.	Mr. Upendra Sah	2031/10/1	Non-Diaspora	Secondary
13.	Mr. Narendra Kumar Jha	2047/8/27	Non-Diaspora	Secondary
14.	Mr. Mohammad Kishmat	2029/11/18	Non-Diaspora	Secondary
15.	Mr. Jwala Prasad	2017/8/1	Non-Diaspora	Secondary
16.	Mr. Baidh Nath Yadav	2033/2/1	Non-Diaspora	Secondary
17.	Mr. Mukti Nath Jha	2017/1/20	Diaspora	Secondary
18.	Mr. Jay Kishor Mallik	2006/10/12	Non-Diaspora	Secondary
19.	Mr. Nand Lal Jha	2005/12/11	Diaspora	Secondary
20.	Mr. Bidhya Nand Jha	2005/5/21	Diaspora	Secondary

Source: Golden Jubilee Souvenir of Pashupati Secondary School Lahan Matiarwa, Siraha

The researcher explored that Diasporas are beneficial for the both home and host lands as well. On the basis of Table 1, he came to know that education field of host land, i.e. Lahan Municipality developed very much from the contributions of especially Indian Diasporas who were teaching different subjects such as English, Mathematics, Science and others in Pashupati Secondary School of Lahan which was only the secondary level school in this area. The data shows that 35% teachers were Indian Diasporas who collaborated with non-Diaspora teachers to make the school run smoothly.

Table 2. Name List of Campus Chiefs in J. S. Murarka Multiple Campus Lahan from 2044 B.S. to 2080 B.S.

S.N.	Name	Diaspora/Non-Diaspora	From	To
1.	Mr. Kameshwor Chaudhary	Diaspora	2044/6/22	2047/4/1
2.	Mr. Laxman Jha	Diaspora	2047/4/4	2054/5/12
3.	Mr. Anil Kumar Jha	Diaspora	2054/5/13	2056/7/30
4.	Dr. Laxmi Lal Chaudhary	Non-Diaspora	2056/8/1	2057/8/30
5.	Dr. Anil Kumar Jha	Diaspora	2057/9/1	2067/2/31
6.	Mr. Tulsiram Pokharel	Non-Diaspora	2067/3/1	-----

On the other hand, Table 2 shows that J.S. Murarka Multiple Campus Lahan, Siraha was only the public campus when it was established in 2044 B.S. During that period of time,

Indian Diasporas handled the administrative posts to make the organization run properly. The data shows that out of seven campus chiefs from 2044 B.S. to 2080 B.S., three campus chiefs were Indian Diasporas. Thus, it clarifies that Indian Diasporas had supported very much to develop educational fields of Lahan Municipality.

Table 3. Name List of Assistant Campus Chiefs from 2052 B.S. to the Present

S.N.	Name	Diaspora/ Non-Diaspora	From	To
1.	Mr. Anil Kumar Jha	Diaspora	2052/4/1	2054/5/12
2.	Mr. Tulsiram Pokharel	Non-Diaspora	2057/9/4	2067/2/1
3.	Mr. Babunath Yadav	Non-Diaspora	2057/9/4	2059/6/1
4.	Mr. Kanhaiya Kumar Bhatta	Non-Diaspora	2057/9/4	2059/2/6
5.	Mr. Kanhaiya Kumar Bhatta	Non-Diaspora	2067/4/1	2068/12/19
6.	Mr. Sanjay Kumar Chaudhary	Non-Diaspora	2067/4/1	-----
7.	Mr. Mod Narayan Jha	Non-Diaspora	2067/4/1	2068/10/4
8.	Mr. Sajan Kumar Sah	Non-Diaspora	2067/4/1	-----

Source: Rajat Jayanti Smarika of J.S.Murarka Multiple Campus Lahan, Siraha

Table 3 is the list of assistant campus chiefs of J.S.Murarka Multiple Campus Lahan, Siraha from 2052B.S. to 2080 B.S. where there is only one Indian Diaspora among 8 assistant campus chiefs. Mr. Mod Narayan Jha and Mr. Sajan Kumar Sah were the products of the same campus which shows that educational field developed slowly and gradually in this location.

Findings

Based on the data presented and analyzed above, the researcher came to know that Lahan Municipality developed very much in the field of education. Development of local manpower in different subjects of different levels has been the big asset here. Such human resources have developed Lahan very much by opening different colleges/campuses. The local hands are encouraging higher level of professionalism to adjust in the global market. Such professional development has increased Socio-economic and cultural status. Because of intercultural communication, there is a Strong relationship between India and Nepal.

Conclusion

The local government has made strong policy for the Diasporas in the age of Globalization. National policies in most countries have permitted and even encouraged the Diasporas to participate in developmental activities of different fields such as education, culture, socio-

economic, politics etc. Contributions of Indian Diasporas have done systematic educational development in Lahan Municipality. The data clarify that Indian Diasporas had taught in different schools and campuses/colleges of Nepal including Lahan. They have contributed very much in the field of education. Cultural and social norms and values have been exchanged between homeland and host land too. No doubt, Nepal is a multi-cultural, multi-racial, multi-religious, and multi-lingual country as India. As Indian Diasporas have worked in different educational sectors of Nepal including Lahan Municipality, their competence and performance have a healing impact on several issues of Nepal. Migrant workers particularly of the developing countries are expected to experience a substantial fall in their wages and employment, causing severe distress to the livelihood and the economy of their country of origin. Thus, foreign labors have played an important role not only for earning foreign money but also for education, health, employment, poverty alleviation and social development. Labor migration and social development of Nepal are not only correlates, but also have causal relationship between them. Despite diverse state-level factors that fostered different forms of education development and enabled different relationships with government authorities, participants universally described relationships of trust and reciprocity with communities in the home and host lands as well.

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A Standardization Issue in Limbu

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Abstract

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This paper attempts to explicate the relevancy of standardization in Limbu and propose some strategies for its standardization at the present socio-political context of Province No.1 of Limbu, a Tibeto-Burman language. Limbu has been highly imperative to standardize with the consent among dialect speakers within the popular models of standardization. The standardization of Limbu is possible and needed too. This standardization process or issue of Limbu is conducted through mixed research method. The selection is done for defusing debates in phonological, morphological, syntactical, semantically and discourse level in consensus among representatives. selection of norm is done. After that codification of form also done. The codification or grammar writing is conducted. After having codified, elaboration of function is done and the concerned community has to accept it. Then, only the standardization is completed. and Limbu is considered as the standardized language for effective implementation as an official language of the Province No.1. Phonological, morphological, syntactical, semantically and discourse level problems are solved and made common concept for standardization of all four dialects of Limbu as a finding.

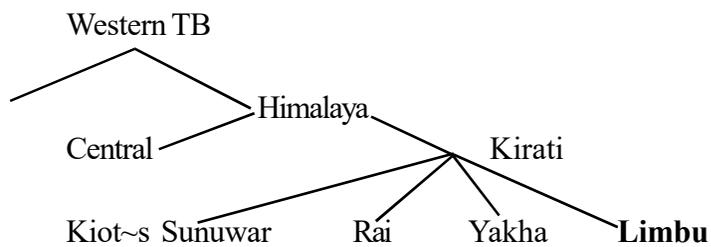
Keywords: standardization, different levels of Limbu, discourse, codification, selection

Introduction

Language is the most important medium of the expressing idea, opinion, feeling as well as emotion from a person with another person. This is also the vehicle of the culture and civilization through speech, written symbol and gesture. It is estimated that there are around 6,909 languages in the world. Nepal is the multilingual country of the world. According to the census of 2021, there are 124 languages spoken in Nepal. All languages spoken in Nepal are consist of five language families like Indo-Aryan, Tibeto-Berman, Astro-Asiatic, Dravidian, and at last but not the least, Kusunda language is also called endangered and isolate language. In this context, Limbu is under the Tibeto-Burman language family. First of all, Tibeto-Berman, under this there is Himalayan language. And there is central and Kirati. There are four branches under Kirat including Koinch Sunuwar, Rai, Yakha and **Limbu**. *Kirat1 Yakthung Chumlung*, (KYC) has led for the protection, promotion and overall development of the Limbu language. Therefore, the standardization issue in Limbu is here attempted to study through structural as well as functional perspective of linguistics.

Genitive affiliation of Limbu

The genitive affiliation of Limbu in tree diagram as follows.



(Source: David Bradley Tibeto-Berman of the Himalayas, 1997)

Geographical Distribution

Limbu is one of the main languages of Nepal, is spoken in eastern region of the country. Particularly, this language is spoken in Taplejung, Pachthar, Tehrathum, Ilam, Dhankuta. Similarly, some parts of Sankhuwasabha, Sunsari, Morang and Jhapa districts, this utterance is spoken. Furthermore, Limbu speaking area is also famous as *Limbuwan* or *Yakthung laje*. The Limbuwan is located in just eastern region from Arun river, western from Jarjeeling and west Begal of neighbouring country India. The Limbuwan has touched by Tibet in northern side, is the autonomous region of China and the southern side of Limbuwan is touched by Bihar state of India.

Many local bodies such as metropolis, sub-metropolis, municipalities and rural municipalities of eastern Nepal, Limbu is taught as the subject and medium of instruction

(MOI) in education or in school level. Limbu is also implemented as the official language in Mangshebung rular municipality word no-5 of Ilam. It means that the Limbu language has become the language of official use. Because, this language has been advanced writing culture or writing tradition too. This language has its own script which is the *Srijanga* script. According to the census of 2021, 3,43,303 speakers of this language in total 3,87, 603 population. There are mainly four main regional dialects of Limbu like *Tamarkhole*, *Pachthare*, *Phedappe* and *Chhathare* (Tumbahang, 2070 BS).

What is the standardization in context of Limbu particularly in Province No-1? What is the phonological level problems for standardization? What are morphological, syntactical, semantically as well as discourse level problems? How to bring simplicity, uniformity, solidarity and use of complete structure instead of contrastive form for making reliable standardization in Limbu? These questions are problems of this study which are going to be solved by this researcher. Based on the research questions mentioned above, this study attempts to find out the ways of the standardization in Limbu in the context of Province No-1 for implementing it in context of prescribed Limbu with Maithili as the official language of the Province No-1, by language commission (LC), to solve the phonological, morphological, syntactical, semantically as well as discourse level problems for standardization of it, which is needed, and to solve the corpus and status level problems in term of doing standardization of it.

Theoretical Framework

There are mainly two perspectives on the way of writing any paper from theoretical point of view. One is formal/structural perspective and next one is functional perspective. To write any paper or such research article, both either formal/structural perspective or functional perspective is equally important and essential. So, to this article or paper a standardization issue in Limbu is also tried to apply both structural and functional perspective as a theoretical framework.

Imperial Literature Review

The selection of norm, codification of form, elaboration of function and acceptance by community are the four process of standardization (Haugen, 1966). On the way of doing standardization of any language, the selection norm or standardized variety is the first process is conducted. And then, codification form is done or grammar writing is done. After having conducted the codification, the elaboration of the function process of language is conducted. Finally, the acceptance by the concerned community is done and then only the process of standardization of any language is completed.

Moreover, other linguists Fuguson (1968), Nutsy (1970) and Fishman (1974) as cited in Haugen supported the four techniques or standardization processes of Haugen to the selection of norm, codification of form, elaboration of the functions and acceptance of norm by the community. Furthermore, Danraj Regmi (2018) in general, according to any rules of grammar the written and spoken language is standardization. The standardized language is used in government office, education, media etc. The standardized language is the universal language. Moreover, Hehangraj Adhikari (2080 BS) states the standardization is a part of language of language planning and policy (LPP). It is also the uniformity of the language. Similarly, Tamang (2080 BS) a standardization of language means to promote or to uplift the local dialect of any colloquial mother tongue for official use or to standardize of the any mother tongue as the official use.

In case of Limbu language, for four processes of language standardization was assimilated or accepted. At first, the umbrella organization of Limbu, *Kirat Yakthung Chumlung*, KYC (2052 BS) accepted the 4 processes of standardization and among main four dialects of Limbu, *Pachthare* was accepted as the root dialect or standardized variety for standardization due to writing tradition and more use than other dialects. So, authentically and officially, the standardization of Limbu started by accepting *Panchthare* as the standardized variety. Similarly, linguists, Limbu language lovers and different institutions of Limbu including KYC (2054 BS) conducted work-shop related with standardization of Limbu language in Dharan Sunsari, Nepal. The main purpose of that work-shop was to make simple, uniformity, consistent form of grammar in all dialects and to use full structure avoiding the contrastive use. This was the 2nd initiation for the standardization. Moreover, Bairagi (2068 BS) brought concrete idea of standardization in Limbu language. This standardization is another standardization process in Limbu used in many areas. Finally, Tumbahang (2011) did the research work in *Chhathare* Limbu language and wrote *The Chhatare Grammar* which also directly helped to standardize Limbu in phonology, morphology, syntax and semantic as well as the discourse etc, level.

In conclusion, the above linguists, Limbu language lovers, researchers, speakers, institutions like *Kirat Yakthung Chumlung*, KYC did studied and wrote Limbu grammar, dictionaries, journal papers etc, which helped remarkably for the standardization of this language. However, they did not find out enough basis for standardization in Limbu on the basis of changed context. Therefore, it needs the standardization of Limbu according to changed context.

Methods

This paper is prepared through qualitative and quantitative research method, i.e., using the mixed research method by having collected the essential informations from reliable and authentic informants. Similarly, the data or information was collected through taking interview with experts, with speakers of Limbu from different 4 dialects of Limbu lanague. Furthermore, the data was also collected from print papers, journal articles, books ralated with history, cultures, grammars etc, pen-friend letters, dictionaries etc, as the secondary sources of data.

Field Study Area

The Limbu language is spoken in eastern Nepal including Taplejung, Pachthar, Ilam, Tehrathum, Dhankuta, Sangkhuwasabha, Jhapa, Morang and Sunsari districts. This langauge speaking area is called *Limbuwan (Yakthung Laze)*, is also the study area of this paper.



Source: Nagarik Network, 2022).

Data Collection

The data was collected from the primary as well as from secondary sources for this paper. The primary sources of data was collected from talking or dicussing with informants, linguists, reseachers, speakers with the help of questionares. Data was also collected from different villages of Taplejung, Pachthar, Tehrathum, Dhankuta, Sunsari etc, as the primary data. Furthermore, the secondary souces are collected from *Limbu-Nepali-English* dictionary and *Limbu Grammar* from Nepal Academic Council, Tanchhoppa Limbu news papar, from publications of *Kirat Yakthung Chumlung* KYC as well as from other different sources, from different Limbu cultures, as well as planning books etc.

Results and Discussion

There are five level of standardization in Limbu language. Such as, it has phonological, morphological, syntactical, semantic and discourse level of standardization. To conduct the 5 levels of standardization in Limbu is analyzed by keeping centre to Haugen (1966) the four process of standardization of language. Such as, selection of norm, codification of form, elaboration of functions and acceptance by community which are analyzed as follows.

Phonological Level

Phonology is related with study of speech act in any particular language. Similarly, in context of Limbu, phonology is also related with study of speech act. It is related with the pronunciation, speech production and use of sounds in Limbu. Particularly, the phonology studies the sound, speech and pronunciation of four regional dialects of Limbu. Somewhat, there is speech different found in phonological level among four varieties. Those speech differences should be agreed upon among four dialects on the basis of already accepted the **Pachthare as standardized variety** which solves the problems for using Limbu as the official in Province No-1 as follows.

Tamakhole	Phedapp	Chhathare	Pachthare/Standardized	English
<i>med3a</i>	<i>med3ak</i>	<i>med3ak</i>	<i>med3ak</i>	eat
<i>ked3i</i>	<i>ked3i</i>	<i>ked3i</i>	<i>ked3i</i>	goat

In this phonological (sound) level example in four dialects of Limbu, goat is called *med3a* in Tamarkhole, *med3ak* Phedappe, Chhatare and Pachthare in 3 dialects. This phonological or sound level different has created. Therefore, based on common sound or uniformity the standardized (Pachthare) dialect has been selected as *mad3a* (goat) to solve the problems. In this way, all phonological (sound) level different should be solved for the standardization of Limbu.

Morphological Level

Morphology is related with structure of the words in the language. Similarly, in the context of Limbu, morphology is also related with the structure of words. It is related with the formations, production and use of words regional dialects in Limbu language. The agreement should be conducted among the four varieties based on already accepted **Panchare dialect as standardized variety**. This standardized variety will solve the problems to implement Limbu language as the official language in Province No-1 to make simple, uniformity and to maintain the consistency as follows.

Tamakhole	Phedappe	Chhathare	Pachthare or Standardized M	English
<i>kotso</i>	<i>kotso</i>	<i>kotso</i>	<i>kotso(k^hyaba)</i>	dog
<i>sap</i>	<i>t^haga</i>	<i>t^haga</i>	<i>sap</i>	basket

In this morphological (word) level example in four dialects of Limbu, dog is called kotso in Tamarkhole, kotso Phedappe, Chhatore and Pachthare in 3 dialects. This morphological (sound) level different has created. Therefore, based on common sound or uniformity the standardized (Pachthare) dialect has been selected as kotso (dog) to solve the problems. However, Pachthare dialect dog is called kyaba. In this way, all morphological (word) level different should be solved for the standardization of Limbu.

Syntactical Level

Syntactical level is related with the structure of sentence in the language. Similarly, in the case of Limbu language, syntactical level is also related with structure of sentences. It is related with the structure of the clause or sentences, sentence production and use of sentences in Limbu regional varieties or dialects. Somewhat, different in syntactical level, it is found among four varieties. That should be agreed upon on the basis of already accepted as standardized variety Pachthare dialect to solve very properly, and that can be standardized before implementing the Limbu language in Province No-1 as follows.

Tamakhole	Phedappe	Chhathare	Pachthare/ Standardized	English
<i>aati kebek?</i>	<i>aati kepek?</i>	<i>aataŋg kebek?</i>	<i>aati kebek?</i>	Where do u go?
<i>aasen, tək ketso</i>	<i>aasen, tək ketso</i>	<i>aasen, tək ketso</i>	<i>aasen, tək ketso</i>	Yesterday, you ate rice

In this syntatic (sentence structure) level example in four dialects of Limbu 'where do you go?' is called *aati kebek?* in Tamarkhole, Phedappe. '*aataŋg kebek?*' is called Chhatore and Pachthare in 3 dialects. This syntatic or structure level different has created problems. Therefore, based on common sentence or uniformity the standardized (Pachthare) dialect has been selected as. '*aataŋg kebek?*' (where do you go?) to solve the problems. In this way, all syntatic (sentence structure) level different should be solved for the standardization of Limbu.

Semantical Level

Semantical is related with study of meaning in language. Similarly, in the context of Limbu, semantical is also related with study of meaning or it is related with the communicating function, production and use of meaning in Limbu regional varieties or dialects. Somewhat different in semantic level, it is found. That should be agreed upon, based on the

already accepted as standardized variety of Limbu **Pachthare dialect** to solve the problems very properly and that can be standardized before implementing it in Province No-1 as follows.

Tamakhole	Phedappe	Chhathare	Pachthare/ Standardized	English
tsembi	tsembi	tsembe	tsembe	soyabean
t ^h əga	t ^h əga	t ^h əga	ngaa	sapbasket
na	na	na	na	fish

In this semantic (meaning) level example in four dialects of Limbu, soyabean is called tsembi in Tamarkhole, tsembi in Phedappe, tsembe Chhatare and Pachthare in 3 dialects. This semantic (meaning) level different has created. Therefore, based on common sound or uniformity the standardized (Pachthare) dialect has been selected as tsembe (goat) to solve the problems. In this way, all semantic (meaning) level different should be solved for the standardization of Limbu.

Discourse Level

Discourse level is related with the contextual meaning in word, phrases, clauses, sentences in the language. Similarly, in the context of Limbu, discourse level is also related with meaning in the word, phrase, clause, sentences in Limbu or it is related with the meaning of word, phrases, clause, sentence production and use of them in Limbu regional varieties like in dialects. Furthermore, how to use the words, phrases, even sentences which come from other languages like Nepali, English, Bantawa etc. To use to these balance way should be trace out. Similarly, the banned or taboo words of the language how to use and protect are also very important in the process of standardization of Limbu. The issue related with corpus planing like script, alphabet choosing, writing system development are another important steps of standardization Limbu under discourse level. Moreover, status planing like selection, codification, elaboration and acceptance by community Haugen (1966) are the process of standardization under discourse.

Typological Implication-comapirion with other Standardizations of other Languages

English, Nepali, Tharu languages etc, has been standardized for their official use. English has a lot of standardizations, However, English has mainly two types of standardizations. One is British English and next one is American English standardizations. Nepali has different standards, the standardization of Nepali are Academic Council, Gorkha Patra standardizations, standardization of Kantipur publication, sajha publicaion etc. Similarly, Tharu community recently conducted their language standardization.

In this context, Limbu language should also be conducted the standardization in this change situation. Although, there are 3 different standardizations of Limbu including Nepal Academic Council (ADC) standardization, local standardization led by Puspa Thamsuhang Limbu, other standardization led by Dilendra Kurumbang Limbu (personal interview, Tumyahang, 2023). It is natural that the standardization of Nepal Academic Council are considered authentic standardization of Limbu. It is also natural to be such standardization issue in Limbu on the context of Province No-1 like other languages.

Findings and Conclusion

The main finding of this paper is to help to minimize or to solve morphological, syntactical, semantics and discourse level of problems or differences and to make common concepts accepting *Pachthare* dialect as the standardized variety in Limbu language for implementing as the official language in Province No-1. Now, let's go to write down the findings one by one as follows.

- To find out the simplicity, uniformity, consistency and use of complete structure instead of contrastive form is the finding of standardization of any language. In the case of Limbu also is applied to this common concept which is found here on the way of conducting study on the topic of standardization issue in Limbu.
- There are mainly five concepts level of standardization such as phonological, morphological, syntactical, semantics and discourse level, are applied in language standardization. These concepts are also found in Limbu language which are also applied too.
- Types of languages planning are corpus, status and acquisition plans, are also applied for standardization in any language; mainly corpus planning related with sound, letter, word, phrase, sentence etc, it has been also applied in the process of standardization in Limbu.
- Selection of norm, codification of form, elaboration of functions and acceptance by community is also process of standardization of any language that should also be applied in standardization issue in Limbu language in Province No.1.
- There are four dialects in Limbu dialects which are *Tamarkhole*, *Panchthare*, *Chhathare* and *Phedappe*. *Panchthare* dialect has been accepted as the standardized variety of Limbu language.

Typological implication-comparison with other standardizations of languages are found in the case of Limbu language too.

How to use the words, phrases, even sentences come from other languages like from Nepali, English, Bantawa etc, are applied balancly in Limbu, which should be traced out practically. Similarly, how to protect and to use the banned or taboo words are very important on the process of standardization issue in Limbu language which are protected, promoted and developed properly and practically for proper use. Thus, these banned and taboo words are properly and practically used for the protection, promotion and overall development of Limbu language on the way of implementing it as the official use in Province No-1.

However, some experts of Limbu language state that there is no difference in dialects which seem interchangeability in Limbu language, apart from *Chhathare* dialect. This dialect seems a bit difference than other three dialects. Anyway, on the basis above findings standardization in Limbu, this language should be implemented in Province No-1 as soon as possible.

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