# CHAPTER - 2

# NUMERAL

## 2.1 Introduction

The Morphological term 'Numeral' means the symbol and mark of figures such as 1, 2, 3, 4..... these numerals are used for counting the living and non living things. *Prithibir sob bhasathe gunowar bebosta ase",gunowar somoi je sobdoguli bebohar kori, se sobdogulike songkya bole. tinta kola, soita dim, ataro jon lok, biyalis din somoi, asob kota amra boli "taki*[1] (There is counting system in all Languages, the word used in counting is called numeral. three bananas, six eggs, eighteen peoples, forty-two days, one words). As human being is connected with living and non living things in day to day life, so the counting system is mostly related with them, they can not be expressed without the used of the numerals

## 2.2 Introduction of Bodo Morphology

In linguistics, the study about the numeral is included in the Morphology level. *Etymologically the term morphology means study of " 'shape' or 'form'-ology'means '-morph' means 'form' or 'shape' and ' study. morphology' means study of the form and structure of ' In Biology organisms and in geology it is the study of the making and evolution of land forms. In linguistics Morphology it is the study of how the words are formed. "sIt deals with the internal sructure of the word*[2]

Morphology is the science and study of the smallest grammatical units of language, and their formation into words, including inflection, derivation and composition. According to Bloomfield *it is the study of the construction in "*

*".pear among the constituentswhich sound forms ap*[3] According to Dorfman , *Morphology is the study of the ways and method of grouping " sounds into sound-complexes or words, of definite, distinct, conventional "meaning*[4].

The Nominal and Verbal group are found in Bodo Morphology. In Nominal group**,** noun, pronoun, number, gender, numeral classifiers, case and case ending are found. In Verbal group verb, adjective, adverb, tense and tense marker and verticles are found.

## 2.3 Sailent feature of using numerals:

The Egytian first used the counting system.  According to Zoologist**,** numerals up to 3 and 4 were first used to count the mammals and people. The Anthropologist called that in 4000 BC**,** they used a 'Token'**,** some sticks and bone to count the things.

In early time**,**  Bodo did not have  their own system of  counting numerals. But they used  some words to count things and number**s**. They used their fingers to  count the  number**s** from 1 to 5 figures**.** For academic purposes, when the medium of instruction of Bodo was intoduced in primary level in 1963, they introduced their counting number system. The writters and researchers called it as the Bodo loan numeral 6 to 10 from their cognate language 'Dimasa'.

Before the use of Devanagiri scripts, Bodo used Deod$^h$ai script, sometimes Bengali, Assamese, Roman scripts. Before 1963, Bodo language had nothing of its own only few written literature was existed. Later on some Bodo writers, Scholars and students tried to develop this language. Many people sacrificed their life, lost their near and dear ones and with much struggle the Devanagiri script was introduced in primary level. As there was need for the Text books, so many writers and literate people of Bodo community come forward to fulfill the need of students in primary level.

According to Swarna Prabha Chainary, *"Bodo had counting system only from 1 to 5 in early period."*[5] Rev. Sidney Endle, in his book *The Kacharis* has mentioned about the use of numeral in Darrang district that *"The numerical system in this District is very defective, only seven digit, se, ne, tham, bre(broi), ba, ra(da), sni(sini), being generally used, though the remaining three, skho, zat, zi(zu), are occasionally recognized."*[6]

In early period Bodo have only 1 − 5 counting numerals and they used their fingers to count more than 5 numerals. In that system they felt in big problem

The counting was as -

| Bodo | English |
|------|---------|
| *se* | one |
| *nwi* | two |
| *t$^h$am* | three |
| *brwi* | four |
| *ba* | five |

The Bodo people were also counted for living and non living things with their fingers as −

| | |
|---|---|
| *ak$^h$ai mun se goi* | one hand's fingers betel nut that means five betel nuts |
| *ak$^h$ai mun nui bijab* | two hand's fingers books that means ten books |
| *ak$^h$ai mun t$^h$am musuu* | three hand's fingers cow that means fifteen cows |
| *ak$^h$ai mun ba paruu* | five hand's fingers pigeon that means there are twenty five pigeons |

They also used some words in their counting like which are the unit of two numbers, unit of four numbers, unit of twenty numbers and unit of eighty numbers and all these numbers or words of Bodo languages are even numbers.

Like –

| | |
|---|---|
| *zora* | Unit of two numbers |
| *zok$^h$ai* | Unit of four numbers |
| *gonda* | Unit of four numbers |
| *k$^h$rui or sangase* | Unit of twenty numbers |
| *ponai.* | Unit of 80th numbers |
| *k$^h$auan* | Unit of  2000$^{th}$ numbers |

After these words they added the numeral 1 to 5 and used their counting.

For Example –

| | |
|---|---|
| *zora – se sila* | Two kites |
| *zok$^h$ai – nwi bere* | eight bees |
| *gonda – t$^h$am lesu* | twelve litchies |
| *k$^h$rui or sangase - bizab* | Twenty books |
| *ponai – nwi nareng* | 160$^{th}$  numbers of lemons |
| *k$^h$auan – se goi* | 2000$^{th}$ numbers of areca nuts |

In these way the counting were done in those days, with the used of different word before the numeral of one to five and adding {zok$^h$ai} they used to count the greater numbers. "*There is  also a useful collective word za-k$^h$ai =four*"[7] This classifier is used for different types of things like human being, natural objects, things, non human being and God and Goddess. Generally at that time the counting was only from 1 to 5. So when they need to count the maximum number of five than they added the words or classifiers to create their counting systems.

In Bodo language the classifier *{sa}* is used only with human being and the classifier *{ma}* is used with animals, birds, insects the classifier *{t$^h$ai}* is with fruits *{mun}* is used with things and many other classifier are there to used with different things and objects. In this way counting system was created.

In the book '*A Descriptive Analysis of the Boro Language*' by Pramod Chandra Bhattacharya "*it found that the classifier in Bodo language {gond$^h$a\gand$^h$a} came from Assamese word {gonda or buri}.*"[8]

With 1 to 5 numerals the classifier *{zok$^h$ai}* or *{gond$^h$a}* are added and the numeral 6 to 20 are created.

Like:

| | |
|---|---|
| *zok$^h$ai – se – ma – nui = 6* <br> *gond$^h$a –se - ma –nwi = 6* | animals, birds, insects <br> (4+2) =6 |
| *zok$^h$ai – nui – t$^h$ai – t$^h$am = 11* <br> *gond$^h$a– brui –t$^h$ai –t$^h$am = 19* | fruits (8+3=11) |
| *zok$^h$ai – t$^h$am – mun – se = 13* <br> *gond$^h$a – ba – mwn – nwi =22* | things (12+1=13) |

After 20 they count with other words like –

| | |
|---|---|
| *san-ga-se & k$^h$rui* | *20* |
| *san-ga-nwi & dui – k$^h$rui* | 40 |
| *san-ga-t$^h$am & t$^h$in – k$^h$rui* | 60 |
| *san-ga-brwi & sari – k$^h$rui* | 80 |
| *san-ga-ba & pas – k$^h$rui* | 100 |
| *san-ga-do & soi – k$^h$rui* | 120 |

The words – *ek, dui, t$^h$in, sari* and *pas* is loan in Bodo language from Assamese language which means one, two, three, four and five. In that time Bodo peoples started to take their education with Assamese and Bengali language so they used some Assamese and Bengali words in their counting system.

The numerals $(21 – 29)$, $(31 – 39)$, $(41 – 49)$, $(51 – 59)$, $(61 – 69)$, $(71 – 79)$, $(81 – 89)$, $(91 – 99)$ and 30, 50, 70 or 90 are created before given classifiers or words like –

| | |
|---|---|
| *san – ga – se –mun – se* | *20 + 1 = 21* |
| *zok$^h$ai – ba – mun – se* | *4 x 5 + 1 = 21* |
| *ak – k$^h$rui –mun – se* | *20 + 1= 21* |
| *san – ga – se –mun –nui* | *20 + 2 = 22* |
| *san –ga –se –zok$^h$ai –nui –mun –nui* | *20 +4 x 2 +2 = 30* |
| *san –ga –se –zok$^h$ai –brui –mun –t$^h$am* | *20 + 4 x 4+ 3 = 39* |
| *san –ga –nui –zok$^h$ai –se –mun –nui* | *20 x 2+ 4+ 2 = 46* |
| *san –ga –nui –zok$^h$ai –t$^h$am –mun –t$^h$am* | *20 x 2 +4 x 3 + 3 = 55* |
| *san –ga –t$^h$am –zok$^h$ai –nui –mun –se* | *20 x 3 +4 x 2 + 1 = 69* |
| *san –ga –t$^h$am – zok$^h$ai –nui –mun –nui* | 20 x 3 + 4 x 2 +2 = 70 |
| *san –ga –t$^h$am–zok$^h$ai –brui –mun –t$^h$am* | 20 x 3 +4 x 4 + 3 = 80 |
| *san –ga –t$^h$am -zok$^h$ai -brui -mun -brui* <br> *or zok$^h$ai -ba or san -ga –brui* | 20 x 3 + 4 x 4 + 4 + 4 x 5 <br> + 20 x 4 =180 |

In Bodo language the number 80th was used as "*ponai se*" which is used in the counting of number of lemon, betel nut, plum, potato and tomato especially with betel nut. For example –

| *ponai –se goi or goi ponai –se* | 80th betel nuts |
| *ponai –nui lebu or lebu ponai –nuwi* | 160th lemons |
| *ponai –t$^h$am aalu or aalu ponai-t$^h$am* | 240th potatos |

And also used like –

25th *ponai =k$^h$auun - se*

| *k$^h$auun - t$^h$am* | 2000 x3 =6000 |
| *k$^h$auun –brui* | 2000 x4 =8000 |
| *k$^h$auun –ba* | 2000 x10 =10,000 |

But in Bodo sometime use as 20th *ponai = k$^h$auwn – se*.

| *k$^h$auun - t$^h$am* | 1600 x3 =4800 |
| *k$^h$auun –brui* | 1600 x4 =6400 |
| *k$^h$auun –ba* | 1600 x10 =16,000 |

## 2.3.1. Causes and reasons of use.

The Bodo people lives in villages and their main source of income are crops and different types of animals or birds. Like different crops –paddy, muster oil, dhal plants, betel nuts, land till, till and different types of fruits. With selling and purchasing of these crops, animals and birds they earn money for their daily life. In that time of sale and purchase they need to count. In ancient time there was no weight lifting machines to lift the weight. So at that time they used different words to count. Like –*ponai*, *k$^h$rui*, *k$^h$auun, gond$^h$a*, *san-ga*, *zok$^h$ai* and many with adding the numeral 1 - 5. Also in that time the maximum people are illiterate, so they need the easy counting systems to use.

With the measurement of volume of liquid like – milk, oil and water they used some utensils and fingers. Taking the liquid in some utensils they used

to measure the things with fingers and also they used to measure with the cover of utensils and bottles.

For example:

| $asi - t^hai$ -nui –$t^hao$. | That means the quantity of oil is two fingers when taken in glass or bottle |
|---|---|
| $sopa$ –mun –se –$t^hao$ | That means the quantity of oil is two numbers of bottles cover |
| $gaik^her$ – gilas –se | that means the one glass is full of milk |

The people face many problems before introduction of numerals in daily life. So the peoples use some words or classifiers to count with adding the numeral 1 to 5. They also created some words to count which they used to their native language, with looking the shape and size of things.

## 2. 4. Numerals of Bodo Language

After introducing the counting numerals in academic purpose the counting numeral from 1 to 10 were created. The numerals 6 to 10 come in Bodo from their cognate language 'Dimasa'. As-

| do | six |
|---|---|
| sni | seven |
| dain | eight |
| gu | nine |
| zi | ten |

These numerals were easily read and written in counting numerals for academic purpose. In Bodo language the numeral used in even and odd numeral in maths, the numerals from $11^{th}$ to $100^{th}$ are given below with separately by *'zora onzima'* (even numeral) and *'bezora onzima'* (odd numeral).

The '*zora onzima*' (even numerals) from $2^{nd}$ to $50^{th}$ are given below -

| nui (2) | zi-nui ($12^{nd}$) | nui-zi-nwi ($22^{nd}$) | $t^ham$-zi-nui ($32^{nd}$) | brwi-nui ($42^{nd}$) |
|---|---|---|---|---|
| brui (4) | zi-brui ($14^{th}$) | nwi-zi-brui ($24^{th}$) | $t^ham$-zi-brui ($34^{th}$) | brwi-zi-brui ($44^{th}$) |

| | | | | |
|---|---|---|---|---|
| *do* (6<sup>th</sup>) | *zi-do* (16<sup>th</sup>) | *nwi-zi-do* (26<sup>th</sup>) | *t<sup>h</sup>am-zi-do* (36<sup>th</sup>) | *brwi-zi-do* (46<sup>th</sup>) |
| *dain* (8<sup>th</sup>) | *zi-dain* (18<sup>th</sup>) | *nu-zi-dain* (28<sup>th</sup>) | *t<sup>h</sup>am-nu-zi-dain* (38<sup>th</sup>) | *brwi-zi-dain* (48<sup>th</sup>) |
| *zi* (10<sup>th</sup>) | *nui-zi* (20<sup>th</sup>) | *t<sup>h</sup>am-zi* (30<sup>th</sup>) | *brwi-zi* (40<sup>th</sup>) | *ba-zi* (50<sup>th</sup>) |

The '*zora onzima*' (even numerals) from $52^{nd}$ to $100^{th}$ are given below -

| *ba-zi-nui* ($52^{nd}$) | *do-zi-nui* ($62^{nd}$) | *sni-zi-nui* ($72^{nd}$) | *dain-zi-nui* ($82^{nd}$) | *gu-zi-nui* ($92^{nd}$) |
|---|---|---|---|---|
| *ba-zi-brui* ($54^{th}$) | *do-zi-brui* ($64^{th}$) | *sni-zi-brui* ($74^{th}$) | *dain-zi-brui* ($84^{th}$) | *gu-zi-brui* ($94^{th}$) |
| *ba-zi-do* ($56^{th}$) | *do-zi-do* ($66^{th}$) | *sni-zi-do* ($76^{th}$) | *dain-zi-do* ($86^{th}$) | *gu-zi-do* ($96^{th}$) |
| *ba-zidain* ($58^{th}$) | *do-zi-dain* ($68^{th}$) | *sni-zi- dain* ($78^{th}$) | *dain-zi-dain* ($88^{th}$) | *gu-zi-dain* ($98^{th}$) |
| *do-zi* ($60^{th}$) | *sni-zi-t$^h$i* ($70^{th}$) | *dain-zi* ($80^{th}$) | *gu-zi* ($90^{th}$) | *zwu-se* ($100^{th}$) |

*The 'bezora onzima'* (odd numerals) from $1^{st}$ to $49^{th}$ are given below -

| *se* (1) | *zi-se* (11) | *nwi-sei* (21) | *t$^h$am-se* (31) | *brwi-se* (41) |
|---|---|---|---|---|
| *t$^h$am* (3) | *zi-t$^h$am* (13) | *nwi-t$^h$am* (23) | *t$^h$am-t$^h$ami* (33) | *brwi-t$^h$am* (43) |
| *ba* (5) | *zi-ba* (15) | *nwi-bai* (25) | *t$^h$am-ba* (35) | *brwi-bai* (45) |
| *sni* (7) | *zi-sni* (17) | *nwi-sni* (27) | *t$^h$am-sni* (37) | *brwi-sni* (47) |
| *gu* (9) | *zi-gu* (19) | *nwi-gu* (29) | *t$^h$am-gui* (39) | *brwi-gu* (49) |

*The 'bezora onzima'* (odd numerals) from $51^{st}$ to $99^{th}$ are given below

| *ba-zi-sei* (51) | *do-zi-se* (61) | *sni-zi-se* (71) | *dain-zi-se* (81) | *gu-zi-se* (91) |
|---|---|---|---|---|
| *ba-zi-t$^h$am* (53) | *do-zi-t$^h$am* (63) | *sni-zi-t$^h$am* (73) | *dain-zit$^h$am* (83) | *gu-zi-t$^h$am* (93) |
| *ba-zi-ba* (55) | *do-zi-bai* (65) | *sni-zi-ba-* (75) | *dain-zi-ba* (85) | *gu-zi-ba* (95) |
| *ba-zi-sni* (57) | *do-zi-sni* (67) | *sni-zi-sni* ($77^{th}$) | *dain-zi-sni* (87) | *gu-zi-snii* (97) |
| *ba-zi-gu* (59) | *do-zi-gui* (69) | *sni-zi-gu* (79) | *dain-zi-gu* (89) | *gu-zi-gui* (99) |

There are also counting rules like –

| | |
|---|---|
| *muŋse* | One/unit |
| '*muŋ – zi*' | ten |
| '*muŋ- zwu* | hundred |
| *ruza*' | thousand |
| *azur* | ten thousand |
| *lak$^h$*' | one lakh |
| *nizur*' or *nizut$^h$* | ten lakh |
| *k$^h$ʉʉti* | one crore |

The counting numerals above from 100 are given below:

In the family of Hundred

| | |
|---|---|
| *se –zʉʉ –se* | 101 |
| *gu – zʉʉ –gu* | 909 |
| *se –ruza or ruza – se* | 1000 |

In the family of thousand:

| | |
|---|---|
| *t$^h$am –ruza –brʉi –zʉʉ –ba –zi –nʉi* | *3452* |
| *brʉi –ruza* | *4000* |
| *gu –ruza –ba* | *9005* |
| *gu – ruza –gu –zʉʉ –gu –zi – gu* | *9999* |

In the family of ten thousand:

| | |
|---|---|
| *se – ozur –nʉi* | *10002* |
| *se – ozur –ba –ruza –sni –zʉʉ –nʉi –zi –nʉi* | *15722* |
| *gu – ozur –dain –ruza –se* | *98001* |
| *se – lak$^h$* | *100000* |

In the family of one lakh:

| | |
|---|---|
| *se – lak$^h$ –se* | *100001* |
| *d$^h$o –lak$^h$ –d$^h$o –ozur –t$^h$am –ruza –sni –zʉʉ –brʉi –zi* | 663740 |
| *gu –lak$^h$ –gu –ozur – dain –ruza –nʉi –zʉʉ –t$^h$am –zi –nʉi* | 998232 |
| *zi –lak$^h$ or se –nizur* | 1000000 |

In the family of ten lakh;

| | |
|---|---|
| *se – nizur – se* | *1000001* |
| *dʰo –nizur –ba- lakʰ –tʰam –ozur* | 6530000 |
| *se –kʰuuti* | one crore |

In the family of one crore:

| | |
|---|---|
| *se – kʰuutʰi –ba – ruza -nui* | 10005002 |
| *dʰo –kʰutʰi –sni –nizur –dain –lakʰ – gu –ozur –ba –rwza –nui –zuu –nui – zi –nui* | 67895222 |
| *zi –kʰutʰi* | 100000000 |

In this way the counting has increased to 10, 11, 20, 22, 30, 32, 40, 42, 55, 59, 60, 64………crore and when the one tent is finished than come hundred, thousand, lakh, crore in these way the counting are count.

In Bodo language it is used as:

| | |
|---|---|
| *zi – kʰautʰi* | ten crore |
| *zuu – se –kʰautʰi* | Arab |
| *se – ruza – kʰautʰi* | ten Arab |
| *se – ozur – kʰautʰi* | Kʰarab |

In Bodo the numerals are use mostly with Assamese language as –

| Numeral | Bodo | Assamese |
|---|---|---|
| 10 | zi | dos |
| 20 | nwi-zi | bis |
| 25 | nwi-zi-ba | posis |
| 50 | ba-zi | ponsas |
| 90 | gu-zi | noboi |
| 100 | zwu-se | ek-so |
| 200 | nwi-zwu | dui-so |
| 1000 | se-rwza | ek-hazar |
| 2000 | nwi-rwza | dui-hazar |

The Mathematical symbols with Bodo names are -

| + | *dazab* |
|---|---|
| _ | *dankʰo* |
| X | *sanjab* |
| :- | *rankʰo* |
| ( ) | *okʰapʰur bendɯŋ/gibi beŋkʰon* |
| { } | *hebre bendɯŋ/nuitʰi beŋkʰon* |
| [ ] | *geder bendɯŋ/tʰamtʰi beŋkʰon* |
| = | *soman sin* |

By taking all these symbol their addition, subtraction, multiplication and division table were read as:

| 1 + 2 = 3 | *se dazab nui soman sin tʰam* |
|---|---|
| 5 – 4 = 1 | *ba dankʰo brui soman sin se* |
| 3 x 3 = 9 | *tʰam sanzab tʰam soman sin gu* |
| 4:- 2 = 2 | *brui rankʰo nui soman sin nui* |

With the influenced of neighboring languages, some numerals are also used in Bodo like:

| *dozon* | group of 12th |
|---|---|
| *rim* | group of 20th |
| *se – dozon – asan* | one dozon bangles or 12th bangles |
| *rim–mun–se–kʰatʰa* | 20th number of copies |

## 2.5. Sub-divisions of Bodo numerals

In Bodo the numeral is found in two types. According to S.P. Chainay "*In Bodo Language the numeral is divided in to two parts.*"[9]

like –

1. Cardinal numeral (*gubwi bisan*) and
2. Ordinal numeral (*pʰari bisan*)

The word cardinal numeral means the numeral which is mentioned direct and single figure. In Bodo language some even cardinal numerals are used in cardinal numeral for counting with using the word *'zora gubwi onzima'* and for odd cardinal numerals they used *'bezora gubwi onzima'*.

| | |
|---|---|
| *zora gubwi onzima -nwi, brwi, do, dain, zi.* | **even cardinal numerals –** two, four, six, eight, ten |
| *bezora gubwi onzima–se, t^ham, ba, sni, gu* | **odd cardinal numerals –** one, three, five, seven , nine |

Again she is divided the cardinal numeral in her book as "*the cardinal numeral is two types''*.

Like:

(a) Basic cardinal numeral. (*gubui arw gahai bisan*)

(b) Derived cardinal numeral. (*mohor swlainai gubui bisan*)."[10]

### 2.5.1. (a) Basic Cardinal Numeral –

In Bodo, from one to ten (1 – 10) have an independent form. Each of them is called basic cardinal numeral and other numerals are formed with this.

From *se* (one) to *gu*(nine) is the basic cardinal numerals of Bodo language which are one figure.but *zi*(ten) is also a basic cardinal numeral in two figure.

### 2.5.2: (b) Derived cardinal numeral

In Bodo the numeral 1–9 are singles figure and 10 is double figure, after eleven all the numerals are formed with adding and multiplication with taking from 1 – 10 numerals.

Derived cardinal numerals are form with three processes as said by S.P. Chainary *"The derived cardinal numeral of Bodo is form with three methods.*

 Like –

*(i)      By Addition (dazabnai)*

*(ii)       By Multiplication (sanzabnai)*

*(iii)      By Multiplication and Addition (sanzabnai arw dazabnai)"[11]*

**(i) By addition (dazabnai):** In this process numerals are form by addition of basic numeral 1 - 9 with numeral 10, 100, 1000 and more. Here the 1$^{st}$ numeral is even numeral and 2$^{nd}$ numeral are both even and odd numeral. The examples are given after number of 100 or 1000.

100 + 1 = 101
(*zuu-se + se = se-zuu-se*)

100 + 5 = 105
(*zuu-se + ba = se-zuu-ba*)

100 + 7 = 107
(*zuu-se + sni = se-zuu – sni*)

1000 + 6 = 1006
(*se-ruza + do = se-ruza – do*)

**(ii) By Multiplication (sanzabnai):** In these process numerals is form with multiplication the basic numeral 2 – 9 with numeral 10, 100, 1000 and more here in this process only those numerals are form which last digit is zero.

Like -

*t$^{h}$am x zwuse  =t$^{h}$am-zwu*
(3 x 100 = 300)

*ba x zwuse = bazwu*
(5 x 100 = 500)

*sni x se-rwza = sni – rwza*
(7 x 1000 = 7000)

*gu x se- rwza = gu – rwza.*
(9 x 1000 = 9000)

And the numeral 100, 1000 and more are also form in this process.

Like –

10 x 10 = 100
(*zi x zi = zwu – se*)

10 x 100 = 1000
(*zi x zwu-se  = se – rwza*)

**(iii) By Multiplication plus Addition:** In this process the numerals are form with multiplication plus addition, the numerals 10, 100, 1000 are added and multiplied with numeral 1 – 9.

For example:

10 x 10 + 1 = 101
(*zi x zi + se = se-zwu-se*)

2 x 100 + 7 = 207
(*nwi x zwu-se + sni = nwi-zwu sni*)

8 x 1000 + 8 = 8008
(*dain x se-rwza + dain = dain-zwu dain*)

20 x 20 + 20 = 420
(*nwizi x nwizi + nwizi = brwi zwu nwizi.*)

The numerals before the hundred are also form in this process.

Like –

6 x 2 + 1 = 13
(*do x nwi + se = zi-t$^h$am*)

5 x 4 + 5 = 25
(*ba x brwi + ba = nwi-zi-ba*)

4 x 4 + 2 = 18
(*brwi x brwi + nwi = zi-dain*)

7 x 6 + 9 = 51
(*sni x do + gu = ba-zi-se*)

9 x 9 + 9 = 90
(*gu x gu + gu = gu-zi*)

In this way with multiplication plus addition the numeral are forms in Bodo language.

And also they can be added in more numeral in the family of hundred, thousand, ten thousand, one lakh, ten lakh and crore.

As –

| | |
|---|---|
| *se x zuu –se +se x zi =zuu-se-zi* | (1 x 100 + 1 x 10 =110) |
| *ba x se-ruza + t$^h$am x zuu-se + do x zi = ba-ruza-t$^h$am-zuu-do-zi* | (5 x 1000 + 3 x 100 + 6 x 10 = 5360) |
| *sni x se-ozur + ba x se-ruza + sni x zuu-se +se x zi +ba += sni-ozur-ba-ruza-sni-zuu-zi-ba* | (7 x 10000 + 5 x 1000 + 7 x 100 + 1 x10 + 5 = 75715) |
| *dain x se-lak$^h$ +nui x se-ozur + brui x se-ruza + ba x zuu-se +do x zi + do = dain-lak$^h$-nui-ozur-brui-ruza-ba-zuu-do-zi-do* | (8 x 100000 +2 x 10000 +4 x 1000 +5 x 100 + 6 x10 + 6 = 824566) |
| *gu x se-nizur + sni x se-lak$^h$ +t$^h$am x se-ozur +brui x se-ruza + nui x se-zuu +do x zi + gu = gu-nizur-sni-lak$^h$-t$^h$am-ozur-brui-ruza-nui-zuu-do-zi-gu* | (9x1000000 +7 x 100000 +3 x 10000 + 4 x 1000 +2 x 100 +6 x 10 + 9 =9734269) |
| *t$^h$am x se-k$^h$auti + se-ruza +ba x zi = t$^h$am-k$^h$auti-se-ruza-ba-zi* | (3 x 10000000 + 1000 +5 x10 =30001050) |

## 2.5.3: Ordinal numeral –

In Bodo language the ordinal numeral is that numeral where the suffix *{t$^h$i}* is use after the numeral. Like st, nd, th, and rd in English language. Here the examples are given separately by '*zora pari onzima*' (even ordinal numerals) and '*bezora pari onzima*' (odd ordinal numerals).

The '*zora pari onzima*' (even ordinal numerals) from 2$^{nd}$ to 50$^{th}$ are given below -

| | | | | |
|---|---|---|---|---|
| *nui-t$^h$i* (2$^{nd}$) | *zi-nui-t$^h$i* (12$^{nd}$) | *nui-zi-nwi-t$^h$i* (22$^{nd}$) | *t$^h$am-zi-nui-t$^h$i* (32$^{nd}$) | *brui-nui-t$^h$i* (42$^{nd}$) |
| *brui-t$^h$i* (4$^{th}$) | *zi-brui-t$^h$i* (14$^{th}$) | *nui-zi-brui-t$^h$i* (24$^{th}$) | *t$^h$am-zi-brui-t$^h$i* (34$^{th}$) | *brui-zi-brui-t$^h$i* (44$^{th}$) |
| *do-t$^h$i* (6$^{th}$) | *zi-do-t$^h$i* (16$^{th}$) | *nui-zi-do-t$^h$i* (26$^{th}$) | *t$^h$am-zi-do-t$^h$i* (36$^{th}$) | *brui-zi-do-t$^h$i* (46$^{th}$) |
| *dain-t$^h$i* (8$^{th}$) | *zi-dain-t$^h$i* (18$^{th}$) | *nu-zi-dain-t$^h$i* (28$^{th}$) | *t$^h$am-nu-zi-dain-t$^h$i*(38$^{th}$) | *brui-zi-dain-t$^h$i*(48$^{th}$) |
| *zi-t$^h$i* (10$^{th}$) | *nui-zi-t$^h$i* (20$^{th}$) | *t$^h$am-zi-t$^h$i* (30$^{th}$) | *brui-zi-t$^h$i* (40$^{th}$) | *ba-zi-t$^h$i* (50$^{th}$) |

The '*zora onzima*' (even numerals) from 52$^{nd}$ to 100$^{th}$ are given below -

| | | | | |
|---|---|---|---|---|
| *ba-zi-nui-t$^h$i* (52$^{nd}$) | *do-zi-nui-t$^h$i* (62$^{nd}$) | *sni-zi-nui-t$^h$i* (72$^{nd}$) | *dain-zi-nui-t$^h$i* (82$^{nd}$) | *gu-zi-nui-t$^h$i* (92$^{nd}$) |
| *ba-zi-brui-t$^h$i* (54$^{th}$) | *do-zi-brui-t$^h$i* (64$^{th}$) | *sni-zi-brui-t$^h$i* (74$^{th}$) | *dain-zi-brui-t$^h$i*(84$^{th}$) | *gu-zi-brui-t$^h$i* (94$^{th}$) |
| *ba-zi-do-t$^h$i* (56$^{th}$) | *do-zi-do-t$^h$i* (66$^{th}$) | *sni-zi-do-t$^h$i* (76$^{th}$) | *dain-zi-do-t$^h$i* (86$^{th}$) | *gu-zi-do-t$^h$i* (96$^{th}$) |
| *ba-zi-dain-t$^h$i* (58$^{th}$) | *do-zi-dain-t$^h$i* (68$^{th}$) | *sni-zi-dain-t$^h$i* (78$^{th}$) | *dain-zi-dain-t$^h$i* (88$^{th}$) | *gu-zi-dain-t$^h$i* (98$^{th}$) |
| *do-zi-t$^h$i* (60$^{th}$) | *sni-zi-t$^h$i* (70$^{th}$) | *dain-zi-t$^h$i* (80$^{th}$) | *gu-zi-t$^h$i* (90$^{th}$) | *zwu-se-t$^h$i* (100$^{th}$) |

*The 'bezora onzima'* (odd numerals) from 1$^{st}$ to 49$^{th}$ are given below -

| | | | | |
|---|---|---|---|---|
| *se-t$^h$i* (1$^{st}$ ) | *zi-se-t$^h$i* (11$^{st}$) | *nui-se-t$^h$i* (21$^{st}$) | *t$^h$am-se-t$^h$i* (31$^{st}$) | *brui-se-t$^h$i* (41$^{st}$) |
| *t$^h$am-t$^h$i* (3$^{rd}$) | *zi-t$^h$am-t$^h$i* (13$^{rd}$) | *nui- t$^h$am-t$^h$i* (23$^{rd}$) | *t$^h$am-t$^h$am-t$^h$i* (33$^{rd}$) | *brui-t$^h$am-t$^h$i* (43$^{rd}$) |
| *ba-t$^h$i* (5$^{th}$) | *zi-ba-t$^h$i* (15$^{th}$) | *nui-ba-t$^h$i* (25$^{th}$) | *t$^h$am-ba-t$^h$i* (35$^{th}$) | *brui-ba-t$^h$i* (45$^{th}$) |
| *sni-t$^h$i* (7$^{th}$) | *zi-sni-t$^h$i* (17$^{th}$) | *nui-sni-t$^h$i* (27$^{th}$) | *t$^h$am-sni-t$^h$i* (37$^{th}$) | *brui-sni-t$^h$i* (47$^{th}$) |
| *gu-t$^h$i* (9$^{th}$) | *zi-gu-t$^h$i* (19$^{th}$) | *nui-gu-t$^h$i* (29$^{th}$) | *t$^h$am-gu-t$^h$i* (39$^{th}$) | *brui-gu-t$^h$i* (49$^{th}$) |

*The 'bezora onzima'* (odd numerals) from 51$^{st}$ to 99$^{th}$ are given below

| | | | | |
|---|---|---|---|---|
| *ba-zi-se-t$^h$i* (51$^{st}$) | *do-zi-se-t$^h$i* (61$^{st}$) | *sni-zi-se-t$^h$i* (71$^{st}$) | *dain-zi-se-t$^h$i* (81$^{st}$) | *gu-zi-se-t$^h$i* (91$^{st}$) |
| *ba-zi-t$^h$am-t$^h$i* (53$^{rd}$) | *do-zi-t$^h$am-t$^h$i* (63$^{rd}$) | *sni-zi-t$^h$am-t$^h$i* (73$^{rd}$) | *dain-zi-t$^h$am-t$^h$i* (83$^{rd}$) | *gu-zi-t$^h$am-t$^h$i* (93$^{rd}$) |
| *ba-zi-ba-t$^h$i* (55$^{th}$) | *do-zi-ba-t$^h$i* (65$^{th}$) | *sni-zi-ba-t$^h$i* (75$^{th}$) | *dain-zi-ba-t$^h$i* (85$^{th}$) | *gu-zi-ba-t$^h$i* (95$^{th}$) |
| *ba-zi-sni-t$^h$i* (57$^{th}$) | *do-zi-sni-t$^h$i* (67$^{th}$) | *sni-zi-sni-t$^h$i* (77$^{th}$) | *dain-zi-sni-t$^h$i* (87$^{th}$) | *gu-zi-sni-t$^h$i* (97$^{th}$) |
| *ba-zi-gu-t$^h$i* (59$^{th}$) | *do-zi-gu-t$^h$i* (69$^{th}$) | *sni-zi-gu-t$^h$i* (79$^{th}$) | *dain-zi-gu-t$^h$i* (89$^{th}$) | *gu-zi-gu-t$^h$i* (99$^{th}$) |

After 100 the ordinal numerals are also form with adding the suffix {*t$^h$i*}. But it is often use in Bodo language.

As -

| | |
|---|---|
| *zwu-se-se-t$^h$i* | 101$^{st}$ |
| *nwi-zwu-nwi-zi-t$^h$i* | 220$^{th}$ |
| *tham-zwu-brwi-t$^h$i* | 304$^{th}$ |
| *brwi-zwu-ba-t$^h$i* | 450$^{th}$ |
| *ba-zwu-dain-t$^h$i* | 508$^{th}$ |
| *do-zwu-do-zi-nwi-t$^h$i* | 662$^{nd}$ |
| *sni-zwu-nwi-zi-se-t$^h$i* | 721st |
| *dain-zwu-zi-t$^h$am-t$^h$i* | 813$^{th}$ |
| *gu-zwu-nwi-zi-t$^h$i* | 920$^{th}$ |
| *se-rwza-t$^h$i* | 1000$^{th}$ |

## 2.6. Multiplicatve numeral.

The multiplicative numerals are formed in Bodo with adding prefix and suffix */bar/*, */k$^h$on/* and */k$^h$eb/* in cardinal numeral. Like –

*se – bar*. (once)
*nwi – bar*. (twice)
*t$^h$am – bar*. (thrice)
*brui – bar*. (four times)
*zi – bar*. (ten times)

The suffix */k$^h$on/* is used like –

*k$^h$on – dain*.(eight times)
*k$^h$on – gu*. (nine times)
*k$^h$on  – zise*. (eleven times)

The suffix */k$^h$eb/* is used like –

*k$^h$eb - dain* (one time)
*k$^h$eb – gu.* (nine times)
*k$^h$eb –* zise. (eleven times)

The suffix /kʰeb/ is use in Bodo without numeral and adding with some numeral indicating words as - /gibi/ and /zwbtʰa/.

For example –

   *gibi – kʰeb.* (1ˢᵗ time)
   *zwbtʰa – kʰeb.*(last time)

In Bodo sometime the multiplicative numeral indicating suffix /bar/ is use reduplicating without using numerals for plural numeral and for times of verb.

As –

   *bar bar pwi.*
   (SU SU V)
   (come to more times)

   *bar bar za.*
   (SU  SU V)
   (eat to more times)

In Bodo some words such as - /gole/, /kʰonle/ are reduplicating without using numerals for plural numeral and for times of verb.

As –

   *gole gole pwi.*
   (W    W  V)
   (come to again and again)

   *gole gole za.*
   (W    W   V)
   (eat to again and again)

   *kʰonle kʰonle porai.*
   (W     W     V)
   (read again and again)

   *kʰonle kʰonle lir.*
   (W     W     V)
   (write again and again)

The suffixes of multiplicative numeral indicating /kʰon/ and /kʰeb/ are used reduplicating with numerals for distribution of verb.

As –

kʰon – se kʰon – se za.
(PR   - NU PR – NU V)
(eats by one time)

kʰon –nwi kʰon – nwi la.
(PR   - NU PR – NU V)
(takes by two times)

kʰeb – se kʰeb – se tʰaŋ.
(PR   - NU PR – NU V)
(go by one time)

kʰeb – nwi kʰeb – nwi zirai.
(PR   - NU PR – NU V)
(sits by two times)

## 2.7. Distributive numeral –

In Bodo the numerals are use to distribute something and the numeral are read with reduplicating and these are used in Bodo with adding the suffix /tʰa/.

Like –

se   -tʰa   se-tʰa  zagra muwa.
(NU- SU NU- SU   NO)
(once  food)

nui – tʰa nui-tʰa pitʰai.
(NU -SU NU- SU NO)
(two two fruits)

$t^ham$-$t^ha$ $t^ham$-$t^ha$ gon.

(NU -SU NU -SU NO)

(three three stick)

In Bodo sometime the suffix {$t^ha$} is added after reduplicating the numeral.

Like –    se – se $t^ha$ $pit^hai$.

(NU- NU SU NO)

(One of two fruits to each people)


nui – nui $t^ha$ begor.

(NU- NU SU NO)

(Seeds divided among two or three members)


## 2.8.  Word numeral

Word numerals are those numerals which are used instead of numerals like – 1, 2, 3 …..and more. In Bodo language there are some words which are used for numeral, but these are not for single numeral and singular numbers but for plural numbers. These are Like word, noun, affixes, for classifier, quantifier and some reduplicating the noun word.

For example –

$pat^hwi$ zora.

(NO    NU)

(a pair of  betel  nut leaf)


daodwi hali.

(NO     NU)

(Four eggs)


asan dozon.

(NO    NU)

(Twelve bangles)

*k$^h$rui komla.*

(NO   NU)

(Twenty oranges)


In Bodo some plural indicating words are used with noun which function is plural number. It is show a quantity of number but not exact numbers, it may be countable and uncountable numeral's noun.

As –

| | |
|---|---|
| *damwl* | hard |
| *zot$^h$um* | group |
| *lari/p$^h$ari/sari* | Lines |
| *t$^h$uba* | cluster |
| *t$^h$ok$^h$a* | Flock (used for flowers and insects) |
| *p$^h$alw* | herd |
| *t$^h$ubur* | Flock (use for human being and non human being) |


*mansi damwl.*

(NO   Pl W)

(hard of people)


*mansi zot$^h$um.*

(NO   Pl W)

(group of people)


*zwgwnar lari/p$^h$ari/sari.*

(NO   Pl W)

(lines of pumpkin plants)


*wa t$^h$uba.*

(NO   Pl W)

(Cluster of Bamboo)

*mwider pʰalw.*

(NO    PL W)

(herd of elephants)

## 2.9. Reduplicate noun word.

In Bodo the noun is also use with reduplicating to show the plural numbers of things.

As

*dwikʰwu mansi mansi hw.*

(NO     NO   NO    V)

(give the water to people)


*bedor bedor za.*

(NO   NO    V)

(serve meats)


*no no tʰaŋ.*

(NO NO V)

(go house to house)


*gari gari pwi.*

(NO  NO  V)

(come in cars)

These are showing the two, three or more numerals of peoples in term of meats, homes and cars.

## 2.10.  Numeral and Number –

The Morphological terms numeral and number are related to each other. Both are stands for counting of figure and digit. According to Daniel L. *"Number is expressed with digits, while a Numeral is a word describing a number.For example – Four is an example of a numeral and its digit representation: 4 is a number."*[12] The numeral word is only the name of number as in Bodo – *se* (one),

*nwi* (two), *t<sup>h</sup>am* (three)….. and also it can be said that number is the idea of digits and numeral is the represenrtation of digits name. The numeral is only a symbol or names which notify a number.

The difference between numeral and number as said by *Merriam Webster* – "*a conventional symbol that represents a number.*"[13]

The number has two sub divisions as – singular and plural number. The singular number stand for one (1) numeral and the plural number is 2, 3, 4…etc and also some plural indicating suffixes and words are used.

In Bodo with adding suffix /t<sup>h</sup>a/ the numerals are read both as singular and plural number.

As –

## Singular number

se   t<sup>h</sup>a   na.
(NU SU NO)
 (one fish)


se t<sup>h</sup>a mwswu.
(NU SU NO)
(one cow)


se t<sup>h</sup>a  dao.
(NU SU NO)
(one bird)


se t<sup>h</sup>a bere.
(NU SU NO)
(one bee)

## Plural Number

> *ba tʰa gari.*
> (NU SU NO)
> (five cars)

> *do tʰa bwrma.*
> (NU SU NO)
> (six goats)

> *sni tʰa gibwu.*
> (NU SU NO)
> (seven snakes)

> *gu tʰa natʰur.*
> (NU SU NO)
> (nine prawns)

In Bodo some plural indicating words are use to indicate plural form of living and non living things. It may be two, three, and four… and more people (countable and uncountable). The plural indicating affixes and words are also used with noun, verb ad adjectives to show the numeral.

## Plural indicating word

> *zwŋ.* (we)
> |
> (1ˢᵗ P Pl)

> *Nwŋ*              *swr.*
> |                  |
> (2ⁿᵈ P PRO         Pl SU)
> (you all)

> *bi*               *swr.*
> |                  |
> (3ʳᵈ P PRO         Pl SU)
> (they)

## Plural suffixes with noun

/pʰwr/, /mwn/

*tʰampwi-pʰwr.*

(NO - Pl SU)

(mosquitos)

*samu-pʰwr.*

(NO- Pl SU)

(snails)

*apʰa-mwn.*

(NO - Pl SU)

(father and others)

*anwi-mwn.*

 (NO- Pl SU)

(aunties)

With adding plural suffixes these are show plural numbers of noun and an approximate quantity.

## 2.11. Findings

In this chapter 'Numeral' the Bodo Morphology and the parts of Nominal groups of Numeral is discussed and the findings are -

1.  Without numeral, people can't find out the exact number of anything.
2.  In earlier time, the Bodo community used very limited numerals.
3.  Before 1952, in Bibar, Alongbar age of Bodo literature people used Assamese and Bengali numerals to count the numerals.
4.  Some words use in real life such as – *zokʰai, gonda, ponai, sangase* have also been found out by comparing with the things.
5.  Mathematical symbol's name in Bodo, words of numeral's figure greater than unit or one digit are found out.

6. At present there are unlimited counting system in Bodo language and people now a days not only use the Bodo numeral, they also sometimes use the Hindi and English counting system in Bodo Language.

7. In early days, most of the people from Bodo Community were educated in Assamese and Bengali background, so the use of the numeral of these backgrounds are such as – *aik$^h$, dui, tin, sari, pas* (one, two, three, four, five).

8. The Bodo also uses the numerals of Bodo only 1 to 5 and after that they also use Assamese or Bengali numerals for counting like – *mun -se, mun-nui, mun-t$^h$am, mun-brui, mun-ba, soi-t$^h$a, sat$^h$-t$^h$a, at$^h$-t$^h$a, noi-t$^h$a, dos-t$^h$a* and more.

9. But in Bodo language instead of Asamese consonant {t}, {h} they use stop alveolar voice less {$t^h$} and fricative alveolar voice less {$s$} .

10. Parts of Numeral, method of formation of numerals are found out.

11. The even and odd numerals, multiplicative numerals, reduplication the numerals, distributive numerals, word numeral, reduplicating noun word have been found out.

12. The Numeral is not only used in figure but also few words which describe two or more numerals.

As -

    *hali* (pairs/two numerals)
    *zora* (pairs/two numerals)
    *ponai* (80 numerals)
    *zok$^h$ai* (4 numerals)
    *k$^h$auwn* (1600 & 2000 numerals)

13. People reduplicate some words to describe numerals or counting the two or more numbers.

As –

    *gami gami.*(two or three villages)
    *poraisali poraisali*. (two or three schools)
    siyar siyar. (two or three chairs)
    *begor begor*. (two or more seeds)

14.	In Bodo language reduplication of numeral is used in distribute the things with counting.

As –

$t^h am - t^h am\ t^h a$.
(NU  - NU  SU)
(three three)


$ba - ba\ t^h a$.
(NU -NU SU)
(five five)

## End notes and references:

[1]Dhar, Prabhas Chandra (1983) *Kok Borok Swrwngma* (a Grammar of Spoken Kakbarak), Tribal Research Institute, Govt. of Tripura, Tripura, P. 31

[2]Deka, Anup (2014) *A Brief introduction to Linguistics and Sociolinguistics*, Ashok Publication, Panbazar, Guwahati – 1, P. 88

[3]Varshney, R.L. (2008-09) *An introductory text book of Linguistics & phonetics*, Student Store, 35 A – 1, Civil Lines, Rampur Bagh, Bareilly – 243001,  P. 129

[4]Ibid, p: 129.

[5]Chainary, Swarna Prabha (2006) *Boro Raokhanthi*, Gumur Publication, Dhirenpara(tilla), Ghy-25, p. 45.

[6]Endle, Rev. Sidney (2007) - *The Kacharis*, Bina Library, Guwahati, Assam, P. 73.

[7]Ibid, p: 73.

[8]Bhattacharya, P.C. (1976), *A Descriptive Analysis of the Bodo Language,* Gauhati University Departmental Publication, P. 134.

[9]Chainary, swarna prabha (2006), *Boro raok$^h$ant$^h$i*, gumur publication, dhirenpara (tilla), ghy – 25, p.  44.

[10]Ibid, p.  45.

[11]Ibid, p.  46.

[12]https:// socratic.org

[13]https:// english.stackexchange.com