

Received 11 October 2022.

Accepted 13 January 2023.

Published January 2024.

DOI: 10.1344/DIALECTOLOGIA.34.11

MAPPING OF THE REGIONAL VARIETIES OF STANDARD KHASI: A GEOGRAPHICAL INFORMATION SYSTEM (GIS) APPROACH¹

Rymphang K. RYNJAH, Saralin A. LYGDOH & Barika KHYRIEM *

North-Eastern Hill University

rymphangrynjah@gmail.com / saralyngdoh@gmail.com / barikhyriem14@gmail.com

ORCID: 0000-0003-2277-7059

Abstract

This study focuses on describing the variations in the occurrence of vowels in various varieties of Standard Khasi and utilizing Geographical Information Systems (GIS) to illustrate their distribution on a geolinguistic map of Meghalaya in Northeast India. Standard Khasi is used as the standard reference language in this study. Standard Khasi is a member of the Mon Khmer family, a subbranch of the Austro-Asiatic language family spoken in the state of Meghalaya in Northeast India. The vowel variations, which include variations in the front, mid, and back vowels in the nucleus position, are uploaded to a GIS tool for methodically analyzing linguistic data, which generates a geolinguistic map displaying the variants' distribution. The main objective of this study is to compare corresponding forms of these varieties on the basis of the regions, with one variety characteristic present on one side of the isogloss and absent or different on the other.

Keywords: GIS, geolinguistic map, Standard Khasi, varieties, vowel variations

CARTOGRAFIA DE LES VARIETATS REGIONALS DEL KHASI ESTÀNDARD: UN ENFOCAMENT MITJANÇANT SISTEMES D'INFORMACIÓ GEOGRÀFICA (SIG)

Resum

Aquest estudi se centra en la descripció de les variacions en la ocurrència de vocals en diverses varietats del khasi estàndard i en la utilització de sistemes d'informació geogràfica (SIG) per il·lustrar la seva distribució en un mapa geolingüístic de Meghalaya, al nord-est de l'Índia. El Khasi estàndard

¹ This article was formulated under "The Linguistic Mapping of Regional Varieties of Khasi" project, financed by the ICSSR-NERC, Shillong.

* NEHU Permanent Campus, Mawlai-Mawkynroh, Shilong, Meghalaya-793022.

© Author(s)



s'utilitza com a llengua de referència en aquest estudi. El khasi estàndard és membre de la família Mon Khemer, una sub branca de la família de llengües austroasiàtiques parlades a l'estat de Meghalaya, al nord-est de l'Índia. Les variacions vocàliques, que inclouen variacions en les vocals anteriors, mitjanes i posteriors en posició de nucli, s'introdueixen en una eina SIG per analitzar metòdicament les dades lingüístiques, cosa que genera un mapa geolingüístic que mostra la distribució de les variants. L'objectiu principal és comparar les formes corresponents d'aquestes varietats a partir de les regions, amb una varietat característica que es troba present en un costat de la isoglossa i absent o diferent a l'altre.

Paraules clau: SIG, mapa geolingüístic, Khasi estàndard, varietats, variacions vocals

CARTOGRAFÍA DE LAS VARIEDADES REGIONALES DEL KHASI ESTÁNDAR: UN ENFOQUE MEDIANTE SISTEMAS DE INFORMACIÓN GEOGRÁFICA (SIG)

Resumen

Este estudio se centra en la descripción de las variaciones en la ocurrencia de vocales en varias variedades del khasi estándar y en la utilización de sistemas de información geográfica (SIG) para ilustrar su distribución en un mapa geolingüístico de Meghalaya, en el noreste de la India. El khasi estándar se utiliza como lengua de referencia en este estudio. El khasi estándar es miembro de la familia Mon Khemer, una subrama de la familia de lenguas austroasiáticas habladas en el estado de Meghalaya, en el noreste de la India. Las variaciones vocálicas, que incluyen variaciones en las vocales anteriores, medias y posteriores en la posición de núcleo, se introducen en una herramienta SIG para analizar metódicamente los datos lingüísticos, lo que genera un mapa geolingüístico que muestra la distribución de las variantes. El objetivo principal es comparar las formas correspondientes de estas variedades a partir de las regiones, con una variedad característica que se halla presente en un lado de la isoglosa y ausente o diferente en el otro.

Palabras clave: SIG, mapa geolingüístico, khasi estándar, variedades, variaciones vocálicas

1. Introduction

Khasi belongs to the Austro-Asiatic family of the language mostly spoken in the Khasi and Jaintia Hills of the state of Meghalaya. Khasi has significant dialectal diversities which include the Khasi proper or the Standard Khasi which is the standard dialect used as the formal language and for all literary purposes, the Pnar or the Synteng, the Lyngngam and the War dialects (Grierson 1904).

Despite the different classifications of the Khasi varieties, the mapping of these varieties on the basis of the regions in the way of a detailed linguistic analysis has always been a substantial gap in our current knowledge, that is, for instance, the mapping of the different vowel occurrences for the corresponding forms belonging to the different varieties requires in depth research and empirical insight that attempts to

chart these variations which are enabled and constrained by the respective regions. The aim of this study is to construct a linguistic atlas from the data it contains and begin an investigation to demonstrate that there is considerable advantage and benefit in mapping the data.

2. Sample of the study

For this study, seven varieties spoken in different districts of the Khasi Hills and Jaiñtia Hills were selected, along with the Standard Khasi spoken in East-Khasi Hills, which was taken as the standard reference language for the other varieties to be compared and analyzed for mapping purposes.

The varieties include: the Sutnga and Moolamyliang varieties spoken in the East Jaiñtia Hills District; the Sahnsiang variety spoken in the West Jaiñtia Hills District representing the Pnar or the Synteng varieties; the Thangbuli variety spoken in the Southern East Jaiñtia hills representing the War-Jaiñtia varieties; the Umñih variety spoken in the Southern East Khasi hills representing the War-Khasi varieties; and the Pariong representing the Maram varieties and the Shallang representing the Lyngam varieties spoken in the West Khasi Hills district of Meghalaya as shown in figure 1.

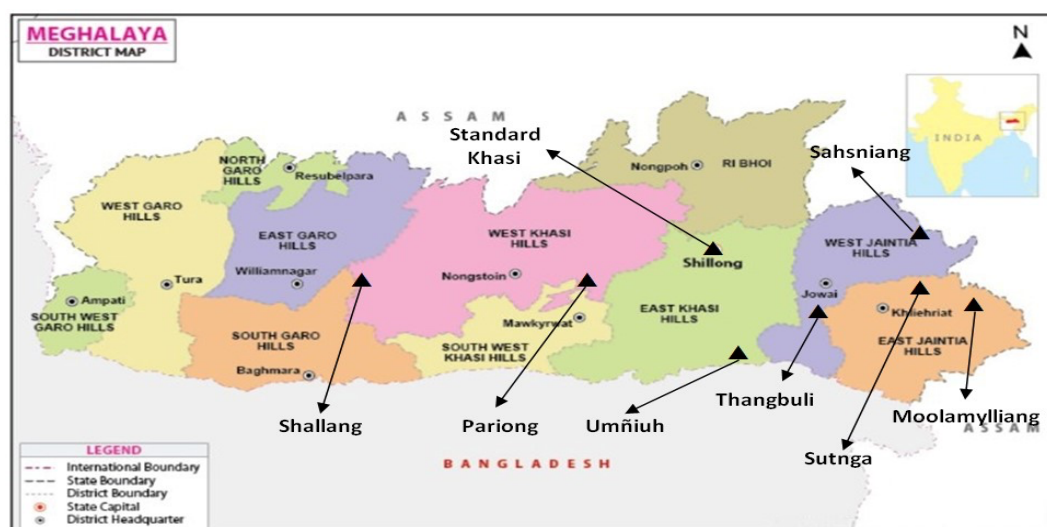


Figure 1. Map displaying the study areas <www.mapsofindia.com>

3. GIS Mapping of the variation of the occurrence of vowels

This section focuses on describing the variations in the occurrence of vowels in various varieties of Standard Khasi and then using a Geographical Information System (GIS) analytical tool to illustrate their distribution on a geolinguistic map.

3.1 *Variation in the Front Vowels*

With respect to the Standard Khasi, this section focuses on the changes and correspondence to the front vowels in the nucleus position in comparison with the various varieties. The vowel correspondences between the numerous varieties and the Standard Khasi are examined and analysed.

3.1.1 The correspondence of the vowels [i]~[e]~[ɛ]

The distribution of the lexical 'drink' among the varieties and variations is seen in Figure 2. The varieties Sutnga, Moolamylliang, Sahsniang, and Umñiuh utilise the same form /diʔ/ with the close front vowel [i] in the nucleus position as the Standard Khasi. On the other hand, Thangbuli indicates a vowel change by utilising the close-mid front vowel [e] in /deʔ/, which corresponds to the Standard Khasi front vowel. Pariong and Shallang use the form /dɛc/ with the open-mid-front vowel [ɛ] in the nucleus position, which corresponds to the Standard Khasi vowel.

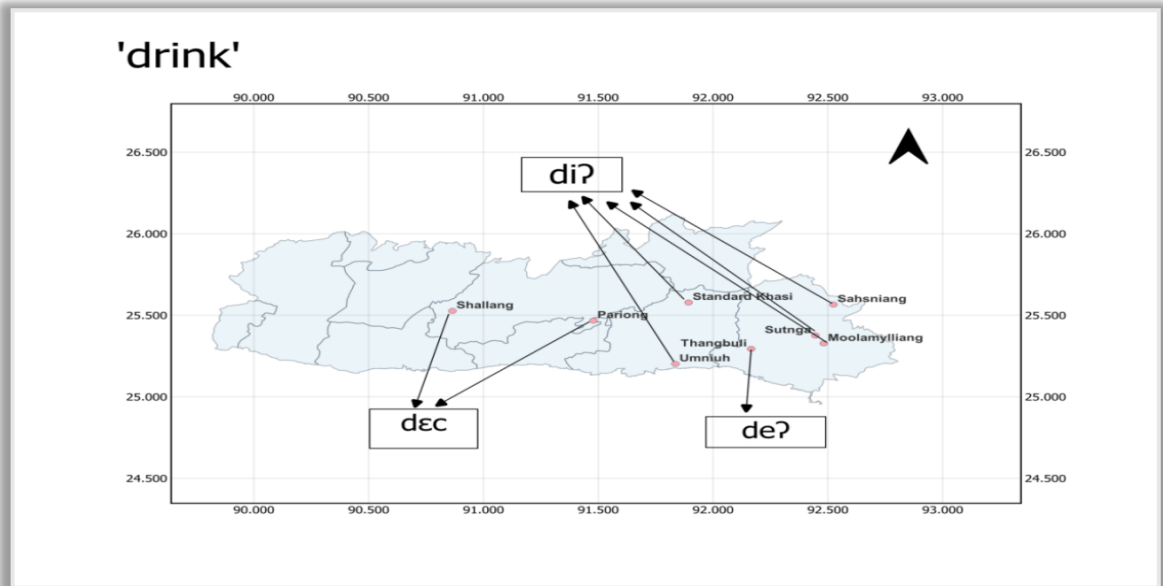


Figure 2. Distribution of the lexical 'drink'

3.1.2 The correspondence of the vowels [i]~[ə]

Figure 3 displays the distribution of the lexical 'one hundred' across the varieties and Standard Khasi. The Umñiuh variety uses the same /jɪspaʔ/ form as the Standard Khasi. The close front vowel [i] is used in the nucleus location of the first syllable in /^hɪspaʔ/ by the varieties Pariong, Sutnga, Moolamyliang, and Sahnsniang. Shallang, on the other hand, can be observed to exhibit a vowel change with the mid-central vowel [ə] in the nucleus position of the first syllable in /^həspaʔ/ corresponding to the close front vowel [i] in the Standard Khasi.

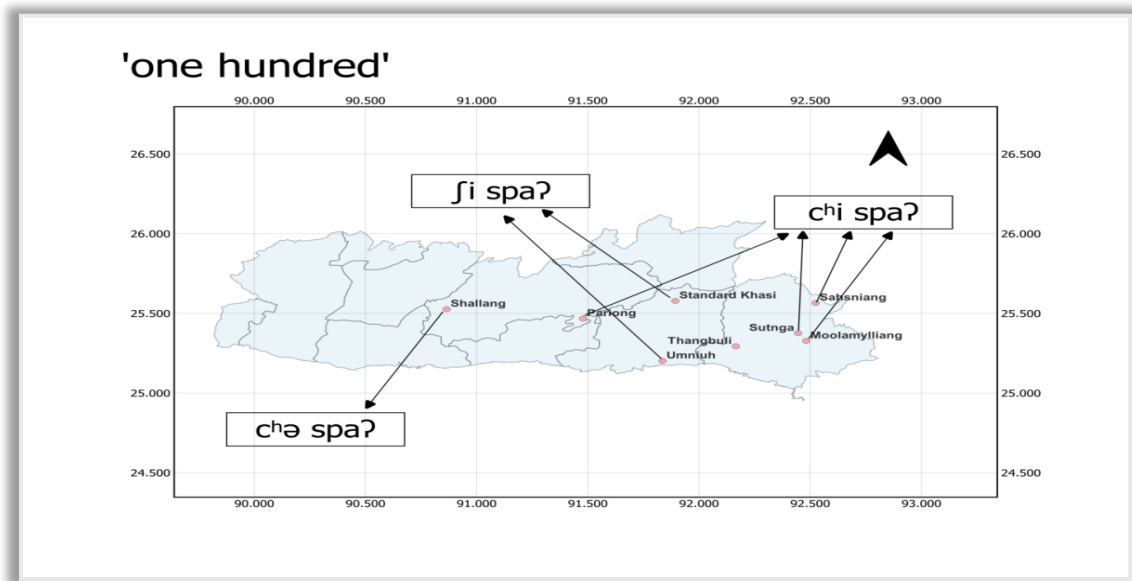


Figure 3. Distribution of the lexical 'one hundred'

3.1.3 The correspondence of the vowels [e:]~[e]~[ɛ]

Figure 4 depicts the distribution of the word 'afraid' throughout the varieties. The Sutnga, Moolamyliang, and Sahnsniang employ the close front vowel [e] in /teŋ/, which corresponds to the Standard Khasi close-long front vowel [e:] in /te:ŋ/. The Umñiuh variety is thought to imply a vowel change [ɛ] in /teŋ/ in the nucleus position, which corresponds to [e:] in the Standard Khasi. The Shallang and Thangbuli, on the other hand, employ the forms /antjaŋ/ and /ktjaŋ/, respectively, with the open-front vowel [a] in the nucleus position, which corresponds to the vowel in Standard Khasi. Pariong, on the other hand, employs /chapti/, which is a separate, unrelated form than the Standard Khasi and the other variations.

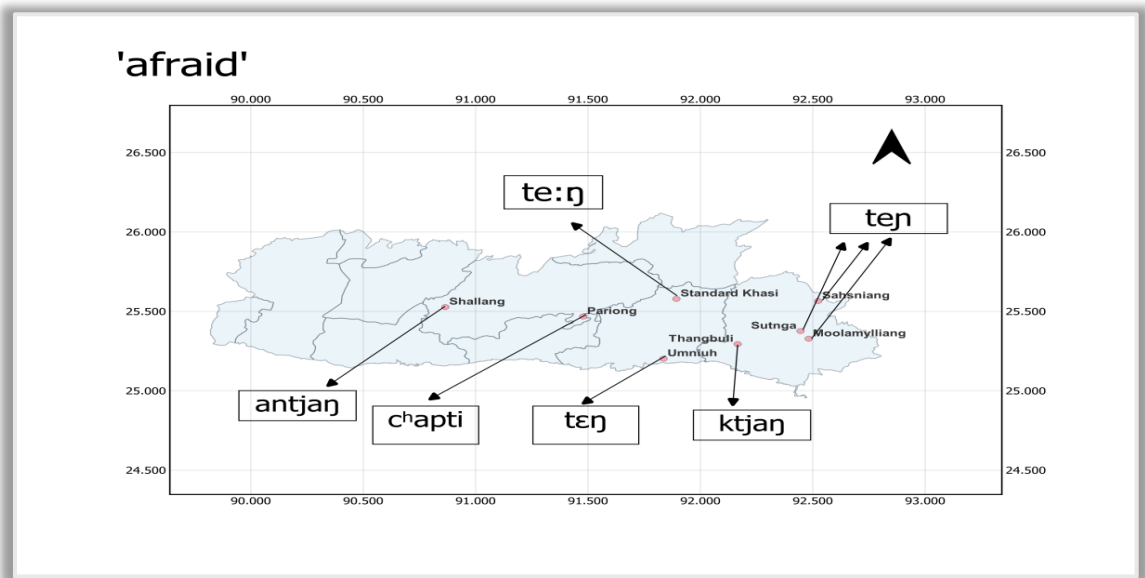


Figure 4. Distribution of the lexical 'afraid'

3.1.4 The correspondence of the vowels [e]~[ɔ]

The distribution of the lexical 'mother' across the varieties is shown in Figure 5. Standard Khasi and Thangbuli use the same form, /kme/ 'mother', whereas Umñih uses the form /kmej/, while Sutnga and Moolamyliang use /be/, and Sahsniang and Shallang use /bej/ with the close front vowel [e] in the nucleus position, respectively. However, Pariong uses a different vowel, the open-mid back vowel [ɔ] in /mɔj/ corresponding to the close front vowel in Standard Khasi.

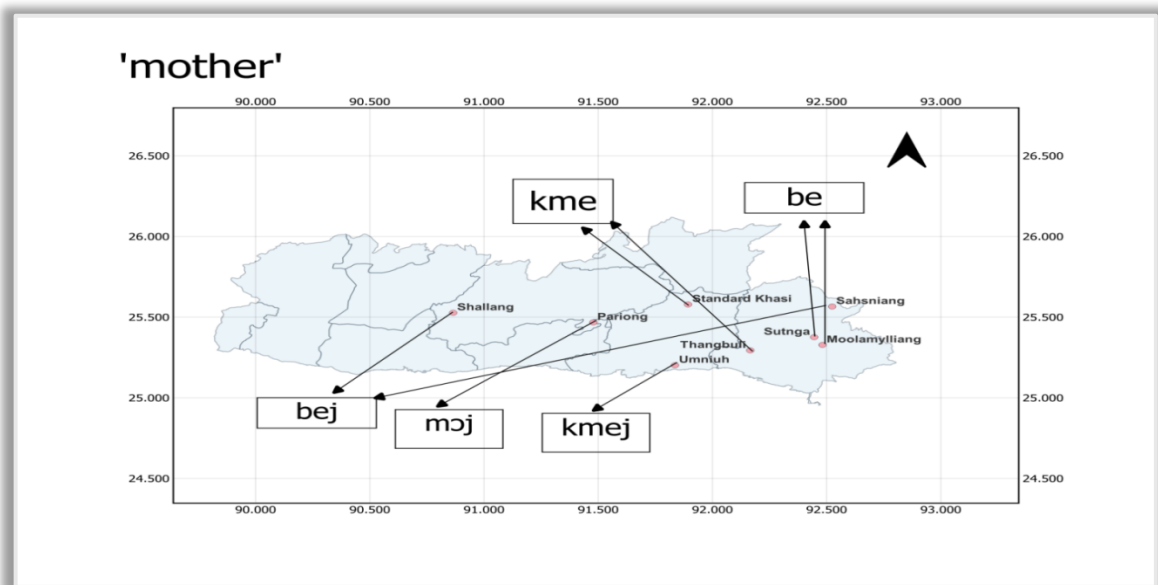


Figure 5. Distribution of the lexical 'mother'

3.1.5 The correspondence of the vowels [e]~[ɛ]~[a]~[ɔ]~[e]

The distribution of the lexical 'laugh' across the varieties and Standard Khasi is depicted in Figure 6. The vowel in the nucleus position in Pariong's form /rk^hej/ corresponds directly to the Standard Khasi form /rk^he/. The Sutnga and Moolamyliang varieties use the form /rk^hɛ/ with the open-mid front vowel [ɛ] corresponding to the close front vowel [e] in the nucleus position of the Standard Khasi form /rk^he/. In their respective nucleus positions corresponding to the Standard Khasi vowel, Sahnsiang employs the open front vowel [a] in /rk^haj/, and Umñih employs the open-mid back vowel [ɔ] in /rk^hɔ/. However, Shallang and Thangbuli use completely unrelated forms /illɔm/ 'laugh' and /trarwa/, suggesting a lexical variation in comparison with the Standard Khasi as well as the other varieties.

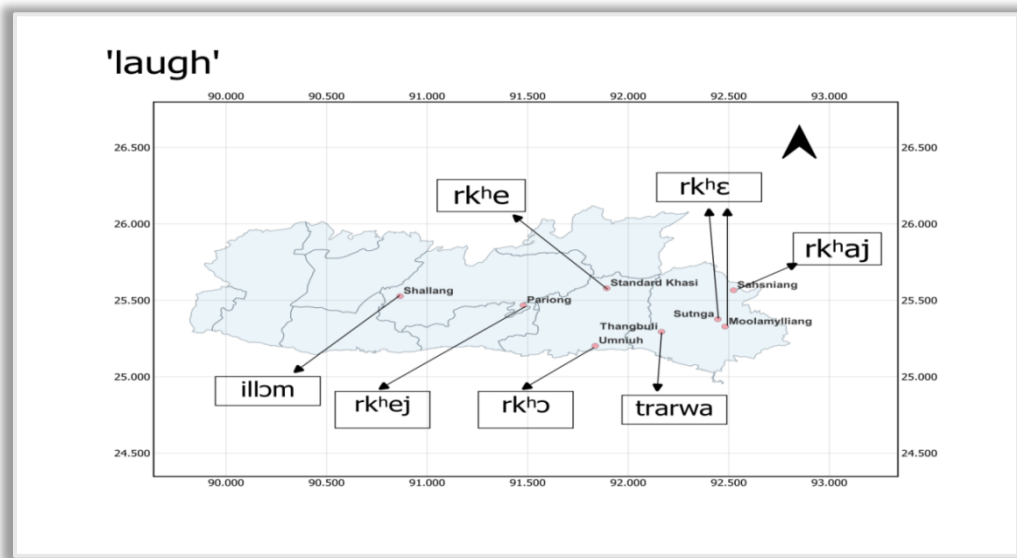


Figure 6. Distribution of the lexical 'laugh'

3.1.6 The correspondence of the vowels [e]~[i]~[ɔ]~[ə]

Figure 7 depicts the distribution of the lexical 'one' across the varieties. It is seen that the Sutnga, Moolamylliang, and Sahnsiang varieties exhibit vowel change in their nucleus position with the close front vowel [i] in /vi/ and /wi/ corresponding to [e] in /wej/ in Standard Khasi. Pariong uses [ɔ] in /wɔj/, whereas Shallang uses [ə] in /wəw/ in their respective nucleus positions, corresponding to Standard Khasi. Umñiuh, on the other hand, uses the same form /wej/ as Standard Khasi.

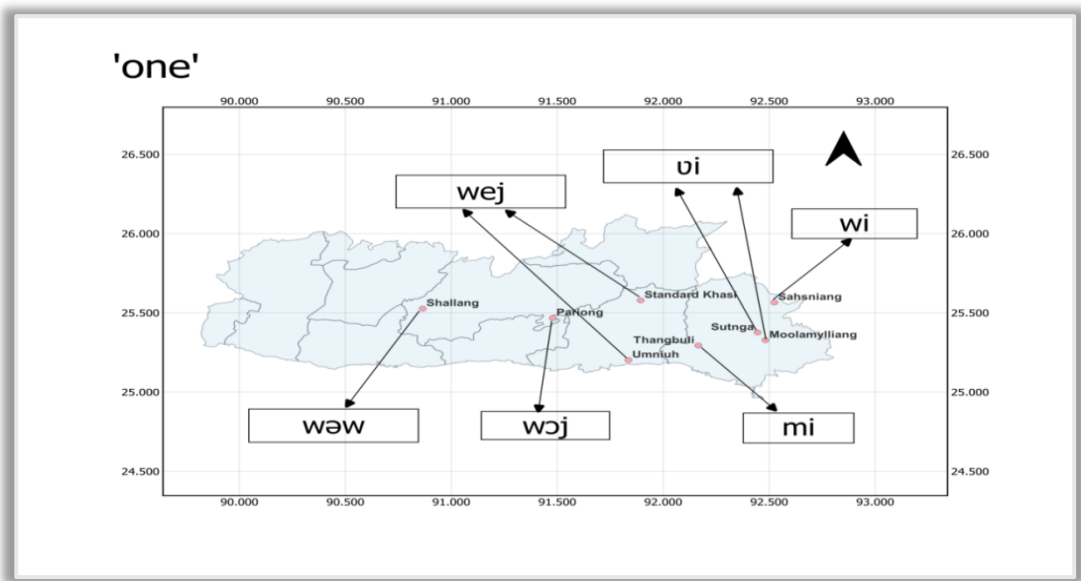


Figure 7. Distribution of the lexical 'one'

3.1.7 The correspondence of the vowels [e:]~[u]~[ɛ]~[ə]

The distribution of the lexical term 'grandchild' across the varieties is seen in Figure 8. Sahnsiang, like the Standard Khasi, has the same form of /kse: w/. The Sutnga and Moolamyliang variants use the form /ksu/, suggesting a vowel change [u] in the nucleus position, which corresponds to Standard Khasi's long close-mid front vowel [e:]. The open mid-front vowel [ɛ] is used in the varieties Pariong /ksew/, Umñih /kɛw/ and Thangbuli /hɛnw/, which corresponds to the vowel in Standard Khasi. Shallang, on the other hand, employs the central mid-vowel [ə] in /ksəw/, which corresponds to [e:] in Standard Khasi.

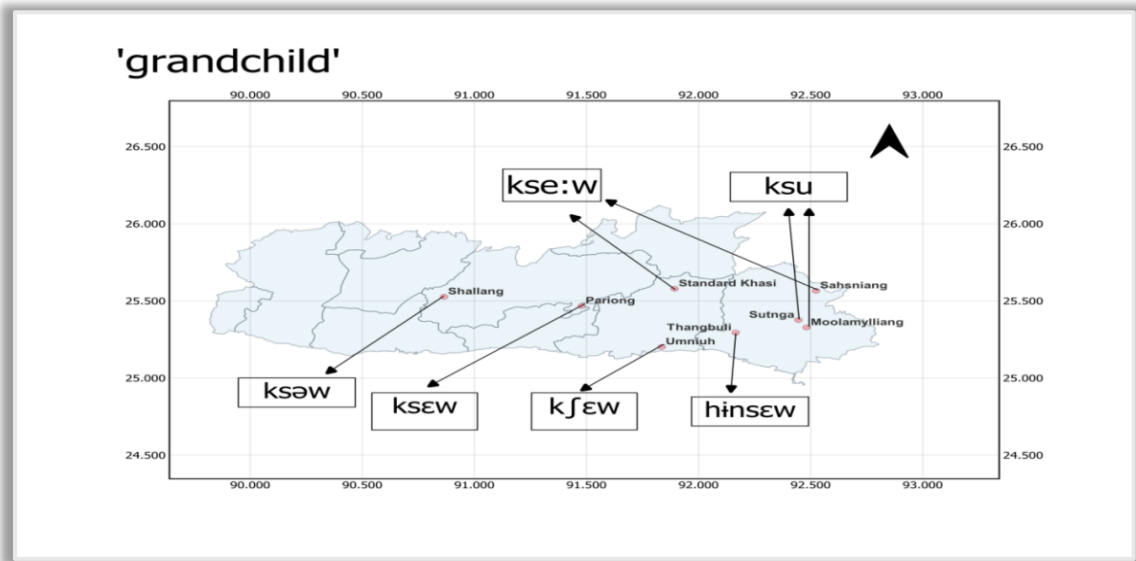


Figure 8. Distribution of the lexical 'grandchild'

3.1.8 The correspondence of the vowels [e]~[u]~[ɔ]~[a]~[ɛ]~[i]

Figure 9 displays the distribution of the lexical 'six' across the varieties. It can be seen that Shallang uses the same close-mid front vowel [e] in the nucleus position of the second syllable in /hərew/, corresponding directly to the vowel in the second syllable in Standard Khasi /hinrew/. The close back vowel [u] in their nucleus position of the second syllable in /hinru/ in the varieties Sutnga, Moolamyliang, and Sahnsiang corresponds to the Standard Khasi vowel [e]. Umñiuh uses the close front vowel [i] in the second syllable of /hinriw/, and Pariong uses the open-mid front vowel [ɛ] in /hinrɛw/ both corresponding to the vowel in the second syllable in Standard Khasi. On the other hand, Thangbuli suggests a lexical variant, adopting a distinct unrelated form /p^hrɔw/ as contrasted to the Standard Khasi.

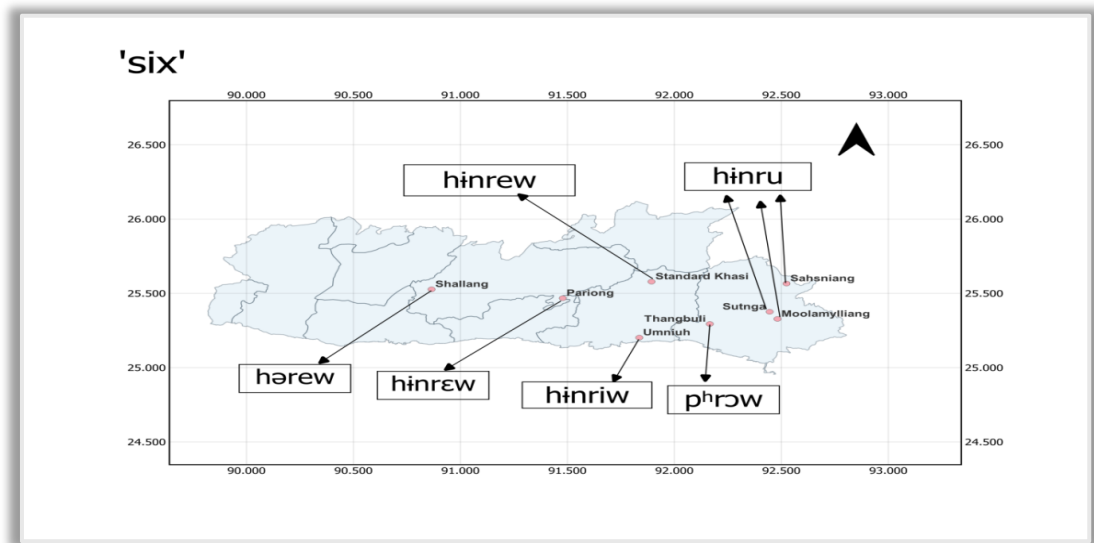


Figure 9. Distribution of the lexical 'six'

3.1.9 The correspondence of the vowels [ɛ]~[a]~[u]~[ɔ]

The distribution of the lexical 'seven' across the varieties is shown in Figure 10. It's clear that Pariong uses the same form /hɪnɲɛw/ as the Standard Khasi. While Sutnga and Moolamyliang use the open-mid back vowel [ɔ] in the nucleus position of the second syllable in /hɪnɲɔ/, corresponding to the open-mid front vowel [ɛ] in the Standard Khasi. To correspond to the [ɛ] in the second syllable of Standard Khasi, Umñiuh and Shallang employ the close back vowel [u] in the second syllable of /hɪnɲu/, whereas Sahnsiang employs the open front vowel [a] in the second syllable of /hɪnɲjaw/. However, Thangbuli suggests a lexical variation using a different unrelated form, /ũk^hle/, compared to Standard Khasi.

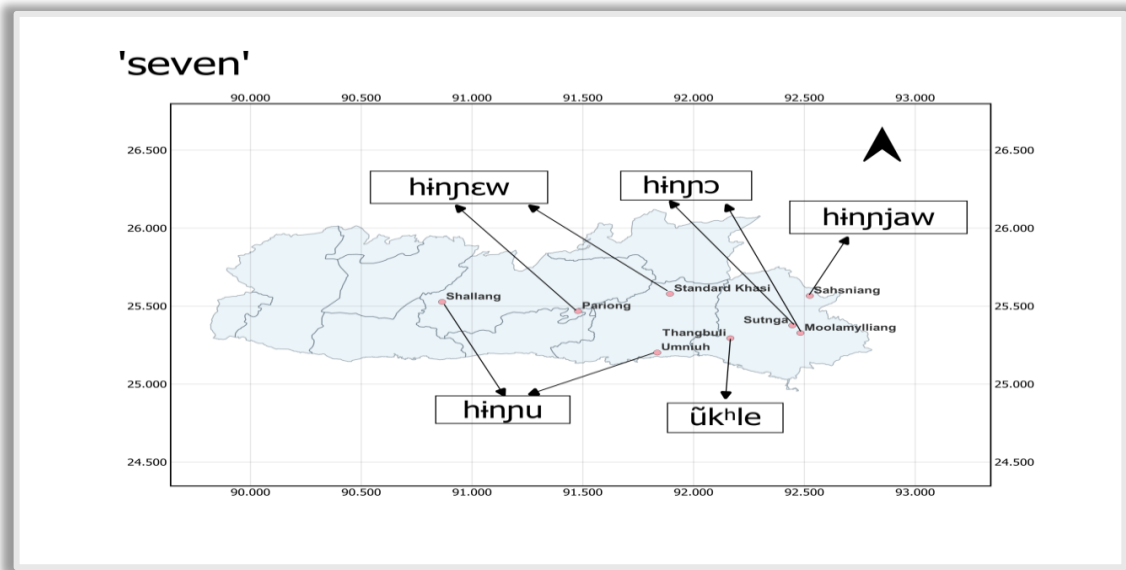


Figure 10. Distribution of the lexical 'seven'

3.1.10 The correspondence of the vowels [a]~[i]~[u]

The distribution of the lexical term 'hailstone' throughout the varieties is seen in Figure 11. The variants of Pariong, Umñiuh, Sutnga, and Moolamyliang all have the same /p^hrja/ form as the Standard Khasi. In /p^hri/, Sahnsniang uses the close front vowel [i] but Thangbuli uses the close back vowel [u] in /p^hruwa/, which corresponds to the Standard Khasi open front vowel [a] in /p^hrja/. However, in /p^hraj/, Shallang uses the vowel [a], but it occurs before the /j/ phoneme, but in Standard Khasi, it occurs before the "palatal approximant" (/j/) in /p^hrja/.

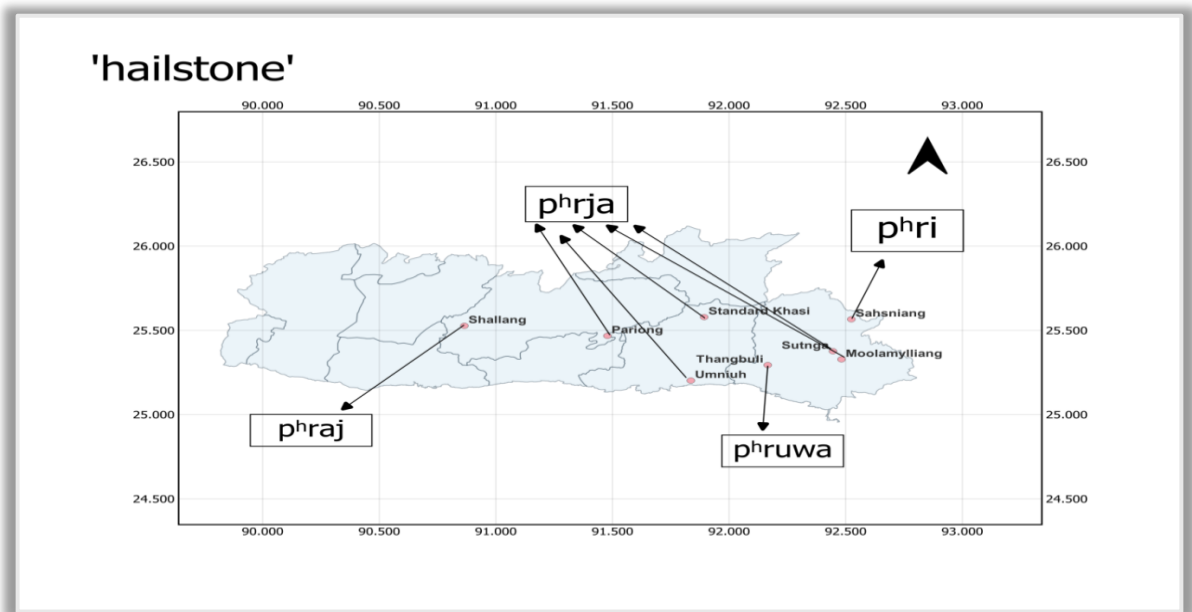


Figure 11. Distribution of the lexical 'hailstone'

3.1.11 The correspondence of the vowels [a]~[ə]~[ɔ]~[i]

The distribution of the lexical 'moon' across the varieties is depicted in Figure 12. Standard Khasi has the same form of /bnaj/ as Sutnga, Moolamyliang, Sahnsiang, and Umñiuh. Shallang uses the close front vowel [i] in /bni/, while Pariong uses the open-mid back vowel [ɔ] in /bnɔj/, which corresponds to the open front vowel [a] in the nucleus position of /bnaj/, in Standard Khasi. On the other hand, Thangbuli uses the mid-central vowel [ə] to correspond to the Standard Khasi vowel in /pnə/.

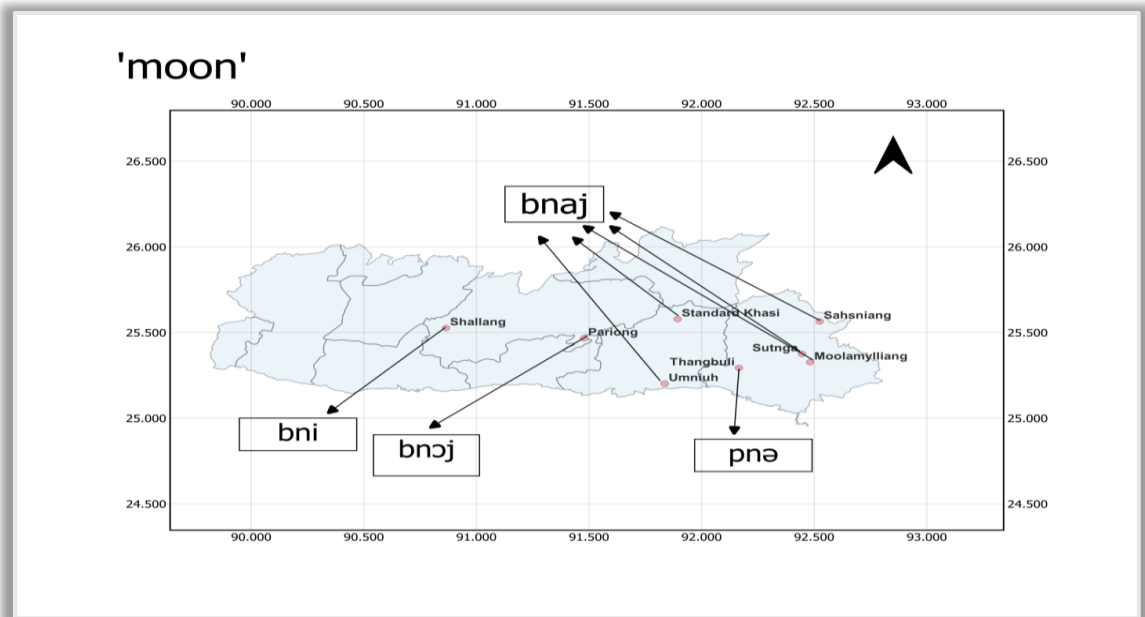


Figure 12. Distribution of the lexical 'moon'

3.1.12 The correspondence of the vowels [a]~[ɛ]~[ɔ]~[i]

Figure 13 shows the distribution of the lexical 'sing' across the varieties. It is seen that Thangbuli and Sahnsiang share the same /rwaj/ form as the Standard Khasi. The open-mid front vowel [ɛ] at the nucleus position in /rwe/ in Umñiuh, Sutnga, and Moolamyliang corresponds to the open front vowel [a] in /rwaj/ in Standard Khasi. Pariong, on the other hand, uses the open-mid back vowel [ɔ] in the second syllable in /riwɔj/, whereas Shallang uses the close front vowel [i] in the second syllable occurring after the "labio-velar approximant" (/w/) in /riŋwi/, corresponding to the vowel [a] in Standard Khasi.

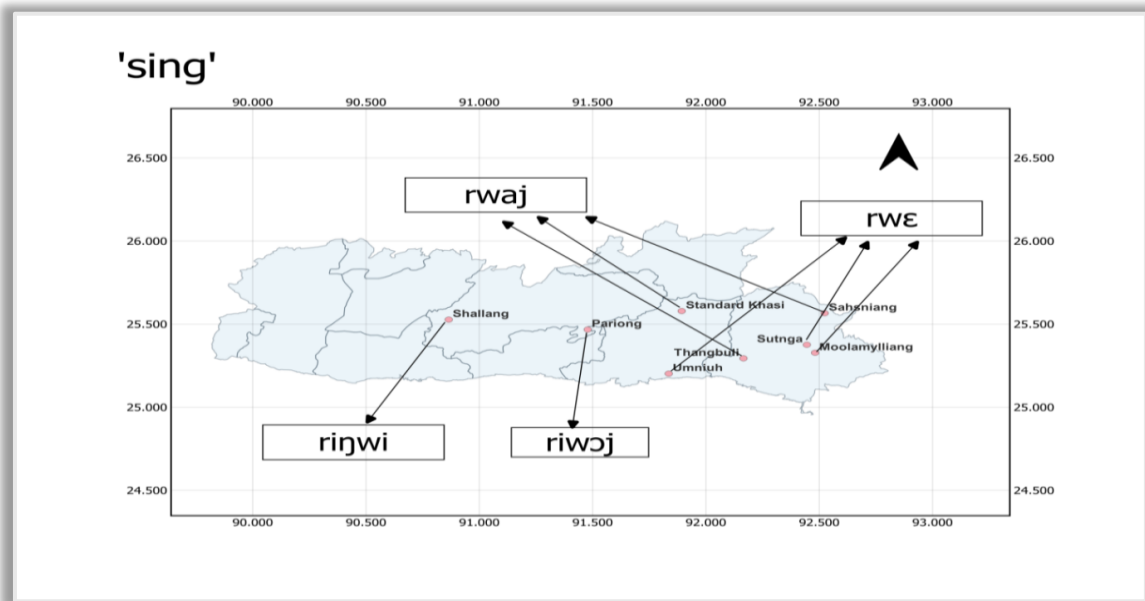


Figure 13. Distribution of the lexical 'sing'

3.1.13 The correspondence of the vowels [a]~[ɔ]~[o]

The distribution of the lexical 'sibling' throughout the varieties is seen in Figure 14. It's clear that Umñiuh uses the same /para/ form as Standard Khasi. The open front vowel [a] in the second syllable of /para/ in Standard Khasi corresponds to the close back vowel [u] in the nucleus position of the second syllable in /paju/ in Sahsniang and Moolamyliang. While the close-mid back vowel [o] in /paro/ of Sutnga and the open-mid back vowel [ɔ] in /parɔ/ of Thangbuli correspond to the vowel [a] of Standard Khasi, whereas Pariong and Shallang use lexical variants that are completely unrelated to the Standard Khasi but somehow related to each other. The open-mid back vowel [ɔ] in the second syllable of /kinbɔw/ in Pariong corresponds to the close back vowel [u] in the second syllable of /himbɔ/ in Shallang.

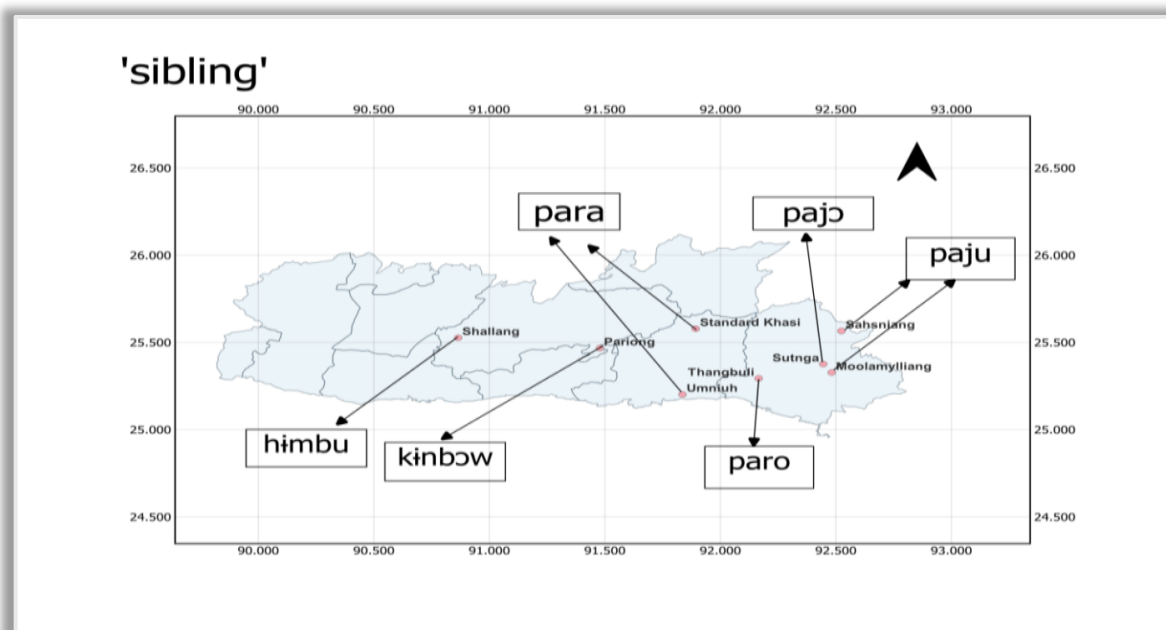


Figure 14. Distribution of the lexical 'sibling'

3.2 Variation in the central vowels

This section investigates the variation in the occurrence of the vowels in the nucleus position of the different varieties corresponding to the Standard Khasi central vowel.

3.2.1 The correspondence of the vowels [ɨ]~[u]

The distribution of the lexical 'new' across the varieties is seen in Figure 15. It can be seen that Shallang uses the same form of /t^hɨmmaj/ as the Standard Khasi. Sutnga, Moolamyliang, and Sahsnjang use the form /t^hɨmme/, whereas Pariong uses the form /t^hɨmmej/, each with the close central vowel [ɨ] in their nucleus position of the first syllable corresponding directly to the Standard Khasi. On the other hand, Umñih employs the close back vowel [u] in the first syllable of /t^hummaj/ to correspond to Standard Khasi close central vowel [ɨ]. Thangbuli, however, do not employ a vowel after the 'aspirated voiceless stop' [t^h] in /t^hmɛ/ to correspond to the central vowel in Standard Khasi.

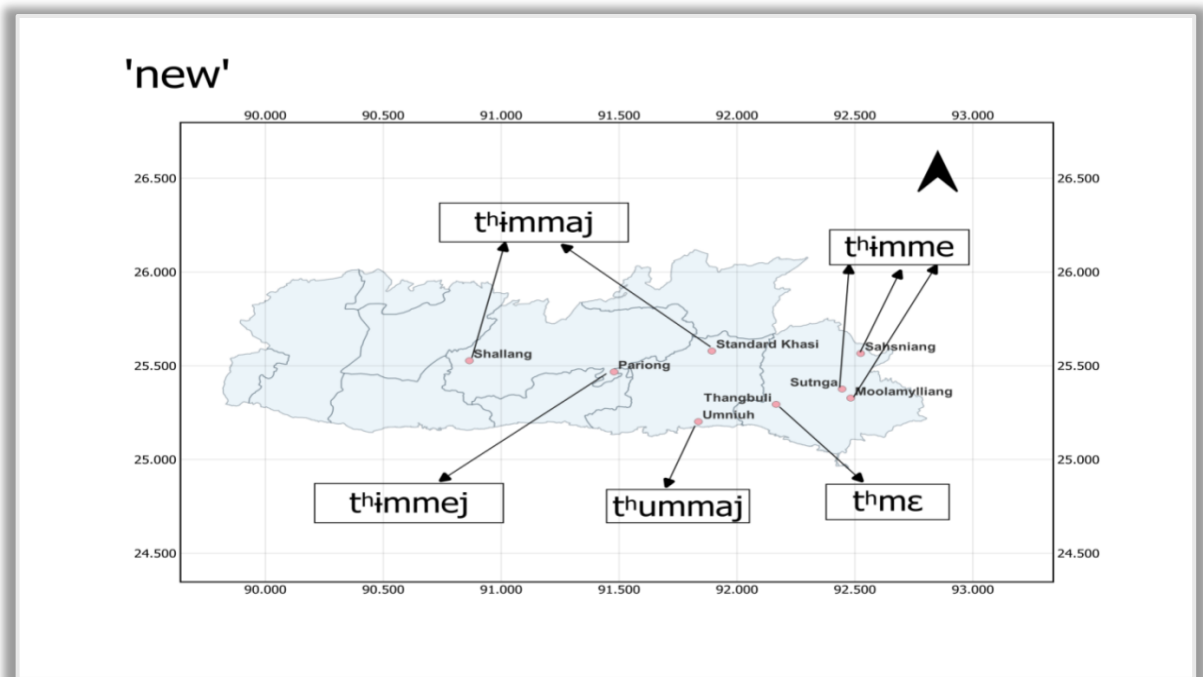


Figure 15. Distribution of the lexical 'new'

3.2.2 The correspondence of the vowels [i]~[ə]

Figure 16 depicts the distribution of the lexical 'six' across the varieties. The close central vowel [i] in the first syllables of /hinru/ in Sutnga, Moolamyllyang, and Sahnsiang, /hinriw/ in Umñih, and /hinrew/ in Pariong corresponds directly to the close central vowel [i] in the first syllable of /hinrew/ in Standard Khasi. Shallang, on the other hand, uses the mid central vowel [ə] in the nucleus of the first syllable in /hərew/, corresponding to the central vowel in Standard Khasi.

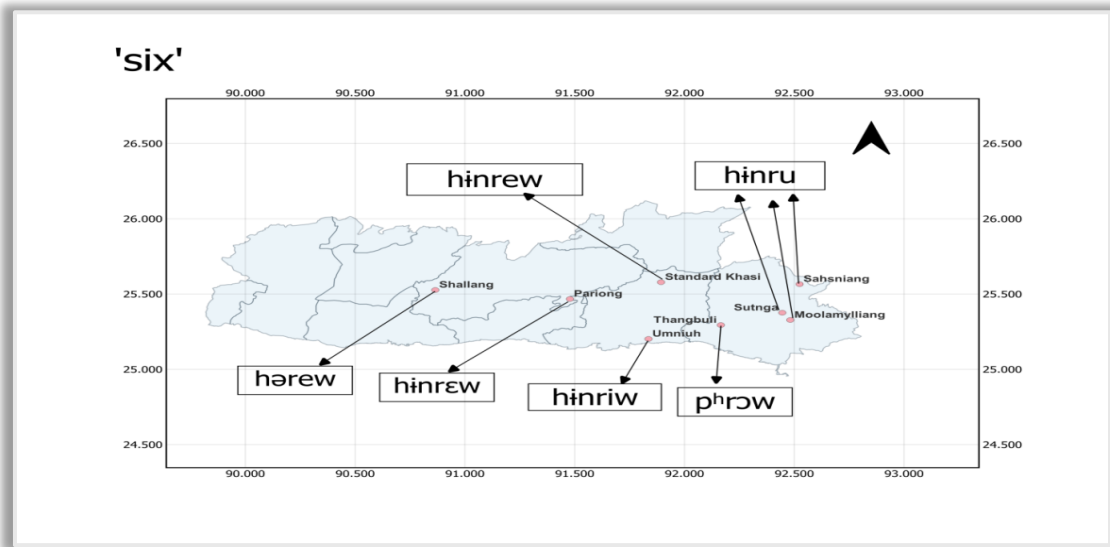


Figure 16. Distribution of the lexical 'six'

3.3 Variation in the back vowels

This section investigates the variation in the occurrence of the vowels in the nucleus position of the different varieties corresponding to the Standard Khasi back vowel.

3.3.1 The correspondence of the vowels [ʊ]~[ɔ]~[u]

Figure 17 shows the distribution of the lexical 'child' across the varieties. In Sutnga, Moolamyllyang, Sahnsniang, Umñiuh, Pariong, and Shallang, the open-mid back vowel [ɔ] in the nucleus position of /kʰɔn/ corresponds to the close-mid back vowel [ʊ] in /kʰʊn/ in Standard Khasi. On the other hand, Thangbuli uses the close back vowel [u] in /hun/ corresponding to the Standard Khasi back vowel.

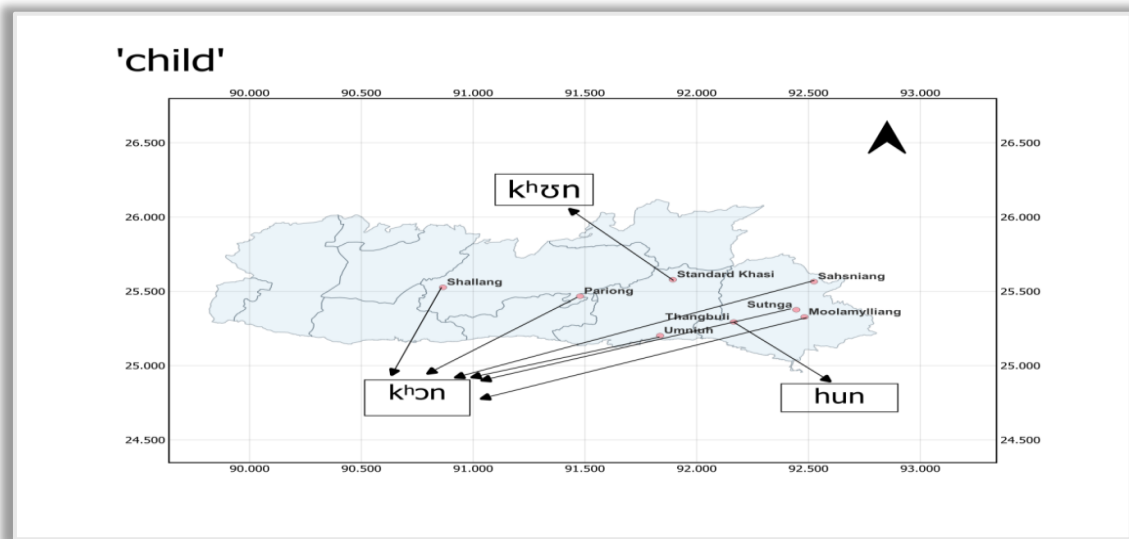


Figure 17. Distribution of the lexical 'child'

3.3.2 The correspondence of the vowels [ɔ]~[u]~[u:]

The distribution of the lexical 'ear' across the varieties is seen in Figure 18. It is observed that Umāñih uses the same form of /ʃkɔr/ as the Standard Khasi. In Sutnga, the open-mid vowel [ɔ] in the nucleus position of /c^hkɔr/ corresponds directly to the vowel in /ʃkɔr/ in Standard Khasi. The close back vowel [u] in /c^hkur/ in Moolamyliang and Sahsnlang, and /ʃkur/ in Pariong is used to correspond to the central vowel in Standard Khasi. On the other hand, Shallang uses the long-close back vowel [u:] in the nucleus of second syllable of /leku:r/ corresponding to the central vowel in Standard Khasi. Thangbuli, however, uses a distinct form /tarəŋ/, indicating lexical variation compared to the Standard Khasi.

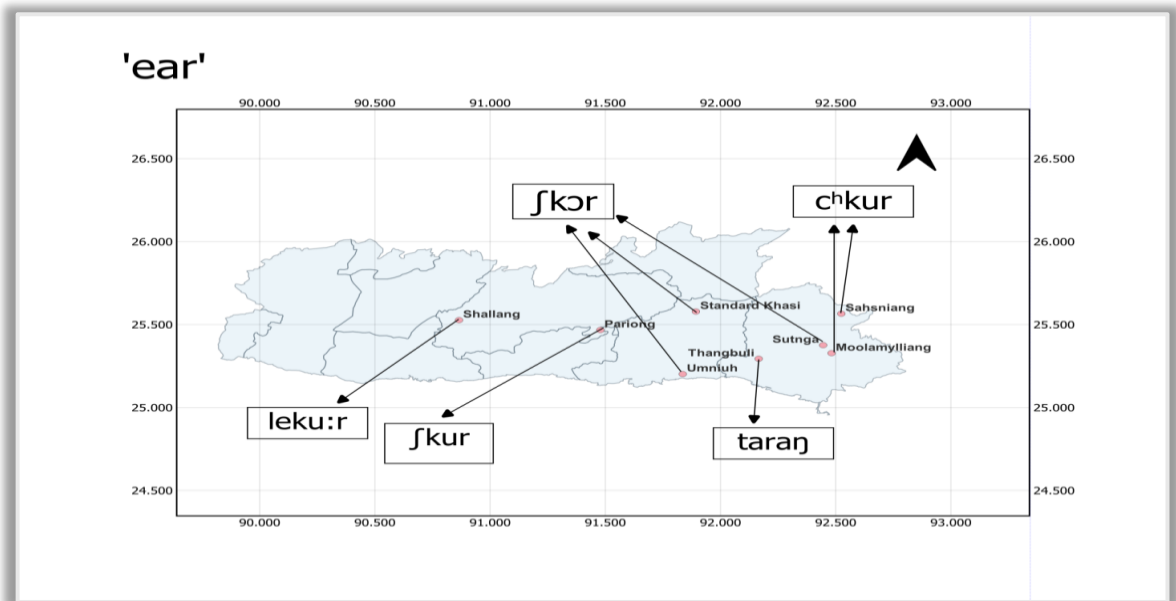


Figure 18. Distribution of the lexical 'ear'

4. Conclusion

The corresponding forms belonging to the various varieties, whose variations are enabled and constrained by the respective regions, have been charted in an attempt to map these varieties on the basis of the regions through a thorough linguistic analysis. This research has had a significant impact on the way we perceive language changes and variations that occur in the various Khasi varieties. Eventually, the accounts of the analyses will help researchers to understand how the various languages are structured. With these realizations and observations, the study poses several queries that suggest new directions for dialectological study of the Khasi language and its varieties and, to historically look into the proto form of the language.

References

- GRIERSON, G. A. (1904) *Linguistic Survey of India Vol. 2: Mon-Khmer and Siamese-Chinese Families*, Delhi: Motilal Banarsidass.
- QGIS.org (2022). QGIS Geographic Information System. Open Source Geospatial Foundation Project. <http://qgis.org>.

Internet Source(s)

- Meghalaya District Map <<https://www.mapsofindia.com/maps/meghalaya/meghalaya.htm>> (accessed 10 June 2022).