

SUPPLEMENT ARTICLE

Changing gender roles and relations in food provisioning among matrilineal Khasi and patrilineal Chakhesang Indigenous rural People of North-East India

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Abstract

Women's position in society, gender roles, and gender division of labour affect household food security, dietary diversity, nutritional status, and well-being of all household members, especially children. Building on both primary and secondary data, this study explores gender roles and relations in food provisioning among the North-East India Indigenous matrilineal Khasi and patrilineal Chakhesang Peoples, amid societal transition. With the use of a combination of ethnographic and ethnobotanical research tools, a total number of 200 informants participated in 20 focus group discussions and 28 key informant interviews. The feminist political ecology framework was used to analyse the structural power relations influencing gender food-provisioning labour. Results show that both matrilineal and patrilineal women play equally crucial roles in agrobiodiversity management, subsistence agricultural production, and household food provisioning. However, customary laws shape different gender relations, women's status, and appreciation of women's work in the two societies. Gender roles appeared more flexible in the matrilineal society and more clearly defined in the patrilineal society, and gender relations more egalitarian among the Khasis while more hierarchical among the Chakhesangs. Household food-provisioning work and engagement in agricultural production did not seem to positively contribute to the social status of Chakhesang women, because these were expected as structural elements of the patriarchy. Current socio-cultural and economic changes in both Indigenous societies have altered the traditional food system, traditional livelihoods, and resource management practices, affecting women's role in household food provisioning and leading to the deterioration of women's status, influencing household dietary diversity, food, and nutritional security.

KEYWORDS

changing gender roles and relations, food provisioning, Indigenous women, modernization, North-East India, traditional food systems

"Women are closer to plants, understand the soil and collect the seeds, as it is women who look after the household and take care of cooking." Khasi Elder, 2015

"Women know which plants grow better on which soil and they understand what plants need. Women are more careful and delicate than men." Chakhesang Elder, 2015

1 | INTRODUCTION

The traditional food systems of Indigenous Peoples provide nourishment and hold social and cultural value for communities (Kuhnlein,

Erasmus, & Spigelski, 2009). However, in recent decades, globalization, accompanied by industrialization, has brought packaged and processed foods with little nutritional benefit to rural areas around the globe, contributing to micronutrient deficiencies, overweight, obesity, and related chronic noncommunicable diseases (Popkin, 2001). Moreover, the shift from subsistence to commercial agriculture has resulted in environmental degradation, loss of traditional agricultural practices, and displacement of local varieties by adapted or exotic species (Toledo & Burlingame, 2006). The Global Nutrition Report highlights that Indigenous Peoples are more likely to bear the burden of undernutrition and malnutrition, which disproportionately affects women and children (International Food Policy Research Institute, 2016).

A wide range of studies have shown that agrobiodiversity¹ can potentially enhance nutrition by improving the quality of the diet (Ickowitz, Rowland, Powell, Salim, & Sunderland, 2016; Kuhnlein, Erasmus, Spigeliski, & Burlingame, 2013). For example, studies on wild edible plants and crop varieties found that they make significant contribution to micronutrients in the diet, as they are also rich in minerals, vitamins, sugars, minor protein, and lipids (Johns & Eyzaguirre, 2006). Many North-Eastern wild foods have also been proven to be rich in vitamin C and β -carotene and to contain high levels of minerals such as sodium, potassium, calcium, manganese, iron, zinc, and copper (Jain et al., 2011; Nongrum & Kharkongor 2015; Seal, Pillai, & Chaudhuri, 2015). Preserving and leveraging agrobiodiversity can therefore contribute to Indigenous communities' dietary diversity and well-being, and food and nutritional security, fostering sustainable diets.² (Hunter & Fanzo, 2013; Johns & Sthapit, 2004; Padulosi, Thompson, & Rudebjer, 2013).

Indigenous women in many parts of the world play a crucial role in agrobiodiversity management, conservation, and use. Studies around the world confirm that women are the cornerstone of small-scale agriculture, farm labour force, and day-to-day family subsistence and are key to household food and nutritional security. Women produce between 60 and 80% of the food in most developing countries and comprise an average of almost 50% of the agricultural labour force in Eastern and Southeastern Asia (Food and Agriculture Organization of the United Nations, 2015). Through their roles as wild plant gatherers, cultivators, plant domesticators, seed custodians, and cooks, women are crucial in providing diverse diets to the family table and in transmitting traditional knowledge and the cultural value of plant resources to the next generation (Kuhnlein et al., 2013).

Despite women's pivotal role in family food security and community well-being, their contribution is often overlooked in the political arena. Women are frequently disadvantaged in their access to land and credit and are more vulnerable to the effects of globalization that often impact their traditional role in managing natural resources (Agarwal, 1992; Food and Agricultural Organization of the United Nations, 2013). Adequate nutritional status in the family is also threatened by "unequal power relations between men and women and by the invisibility of the domestic sphere, recognized as women's domain" (Howard, 2003, p. 33). Gender-based discrimination undermines the self-determination and rights of women and negatively impacts their health, nutritional status, and overall well-being, as well as the well-being of their children, households, and

¹The variety and variability of animals, plants, and microorganisms that are used directly or indirectly for food and agriculture, including crops, livestock, forestry, and fisheries. It comprises the diversity of genetic resources (varieties and breeds) and species used for food, fodder, fibre, fuel, and pharmaceuticals. It also includes the diversity of nonharvested species that support production (soil microorganisms, predators, and pollinators), and those in the wider environment that support agro-ecosystems (agricultural, pastoral, forest, and aquatic) as well as the diversity of the agro-ecosystems (FAO, 2013).

²Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources (Burlingame & Dernini 2010).

Key messages

- Policies should build on the largely egalitarian structure of Indigenous communities and challenge current interpretations of customary laws when in contrast with women's empowerment.
- Nutrition research must take into consideration gender roles and relations and how changing socio-cultural, economic, and political contexts affect them.
- Enhancing food and nutritional security and achieving sustainable diets require access to resources and participation in resource management from both women and men.
- Nutrition interventions should build on women's Indigenous knowledge of agrobiodiversity use and promote its use and transmission in all appropriate spheres, including formal and informal education.

communities (Smith, Ramakrishnan, Ndiaye, Haddad, & Martorell, 2003).

The North-East of India is part of both the Eastern Himalaya and Indo-Burma biodiversity hotspots,³ hosting half of the Indian wild food species as well as a large amount of Indian wild relatives of crop plants (Kothari, 1999). Along with the rest of India, the North-East region had been affected by colonialism and, more recently, by the neoliberal reforms that took place in the 1990s and made India far more integrated in the global economy (Li, 2014; Mishra & Upadhyay, 2017). The North-East region is also a kaleidoscope of cultures. The 200 plus different Indigenous groups that inhabit this region have some commonalities, but each also has distinct historical experiences, languages, social organizations, cultural values, religious identities, economic systems, and political structures (Nongkynrih, 2012). Indigenous or tribal peoples⁴ represent 89% and 90% of the population of Meghalaya and Nagaland, respectively (Xaxa, 2014). In the matrilineal Khasi society of Meghalaya and in the patrilineal Chakhesang society of Nagaland, contrasting customary laws⁵ maintain social order,

³Biodiversity hotspots are locations in which an unusually rich concentration of biological diversity is found yet is under threat of habitat loss (Mittermeier, Turner, Larsen, Brooks, & Gascon, 2011).

⁴Indigenous groups in both Meghalaya and Nagaland belong to the Sixth Schedule tribes as per the Constitution, which grants them administrative and political concessions (Xaxa, 2014). The term 'tribal' is most commonly used in India and in this region in particular, whereas the term 'Indigenous' is somewhat contested (Karlsson & Subba, 2006, in Albert, 2016).

⁵In traditional societies that do not have written laws, the customary law provides some formal rules of behaviour, enforcement procedures, and punishment for violation, thus turning it into a guardian of its values and norms. Customary laws can be understood as an established system of immemorial rules, which have evolved from the way of life and natural wants of people, the general context suggesting a common knowledge, coupled with precedents applying to special cases, which are retained in the memories of the chief and his counsellors, their sons, and their sons' sons, until forgotten or until they became part of the immemorial rules. Customary law is part of the Indigenous customs and practices that traditional societies considered as "intrinsic to their identity and culture" (Singh, 1993; Vitso, 2003).

prescribe rules of conduct to individuals, determine gender roles, and regulate land inheritance and resource access to women and men differently (Subba & Ghosh, 2003) (Figure 1).

The current study is part of a larger programme that aims to assess agrobiodiversity use and knowledge, dietary diversity, food security, nutritional status, and the well-being of Khasi adults and children in the West Khasi Hills district in Meghalaya and in the Phek district in Nagaland (Chyne et al, 2017; Longvah et al., 2017). This qualitative research study, which represents a portion of the larger investigation, aims at exploring the differences in gender roles, gender relations, and women's status between the Indigenous matrilineal Khasi and patrilineal Chakhesang societies. Moreover, the study aims to assess how recent socio-cultural, economic, environmental, and political changes affect the traditional food system and link to the position of women in society and women's role in food-provisioning labour.

2 | METHODOLOGY

2.1 | Primary data

2.1.1 | Data collection

The study draws on the conceptual framework of feminist political ecology⁶ to explore how gender plays a role in the way rural families negotiate access to resources, livelihoods, knowledge, and values (Rocheleau, Thomas-Slayter, & Wangari, 1996). Data were collected using both socio-anthropological and ethnobotanical⁷ research tools. The study was carried out in Khasi and Chakhesang languages with the assistance of interpreters. All focus groups and key informant interviews were recorded digitally and then transcribed verbatim; observational notes were also taken during the focus groups and interviews by the leading author (Bernard, 2011). Fieldwork was conducted between May and October 2015 (Figures 1, 2 and 3).

2.1.2 | Sampling and recruitment strategy

A total of 20 rural villages comprised the sampled group: 10 in the West Khasi Hills district in Meghalaya and 10 in the Phek district in Nagaland (Table 1). These villages were selected by adopting a random sampling procedure based on the sample applied for the larger study by the National Institute of Nutrition (see Chyne et al, 2017; Longvah et al., 2017).

Two hundred informants were selected with a gender-sensitive approach, balancing the number of female and male informants (Table 2). From 7 to 10 informants were selected per village, and they took part in either the focus group discussions (FGDs) or in individual interviews as key informants.

⁶Feminist political ecology is the study of how gender relations influence or are influenced by ecological and/or political landscapes, particularly in the context of development. Feminist political ecology argues that access to assets is gendered, as the rights to and responsibilities for resource production and maintenance with women's access being indirect and less independent (Rocheleau et al., 1996).

⁷The study drew upon gastronomic ethnobiology, of which ethnobotany is a part. This is the study of the complex interactions between human societies, food, and their environment and is nowadays considered a crucial pillar for fostering food security and especially food sovereignty (Pieroni 2016).



FIGURE 1 Map of Meghalaya and Nagaland in relation to the rest of India

2.1.3 | Semistructured interviews with key informants

Key informant interviews served as an entry point to gather preliminary in-depth information about the village and the history of each community and were particularly useful in refining our research tools and questions for FGDs. In each of the 20 sampled villages, one to three individual interviews (28 in total) were carried out with key informants in their own household. The key informants were people above the age of 65, with a total of 14 women and 14 men. The first key informant in each village was selected with the help of the headman. In order to reduce the potential bias as a result of this selection, when multiple informants were interviewed in the same village, the other key informants were selected through snowball sampling (Bernard, 2011).

2.1.4 | Focus group discussions

Nineteen FGDs, composed of 7–10 participants each (172 in total), were conducted in order to explore women's status, gender relations, and gender roles at the household level, in agricultural production, and at the community level. Second rounds of questions explored the community's perceptions of changes that occurred in the food system and in dietary patterns in recent decades. FGD informants were purposively selected according to age and gender variables, in order to ensure the participation of an equal number of men and women, ages 30 to 85 years. FGDs were conducted in groups composed of male and female informants, both separately and together (Alexiades & Sheldon, 1996). This allowed for the identification of gender dynamics at play during the interviews, providing further insights into gender relations (Hennink, 2014).

2.1.5 | Preference ranking

Preference ranking is a method used in ethnobotany to understand people's perception of a cultural domain through an observation of how people rank, classify, and group the items of the domain studied

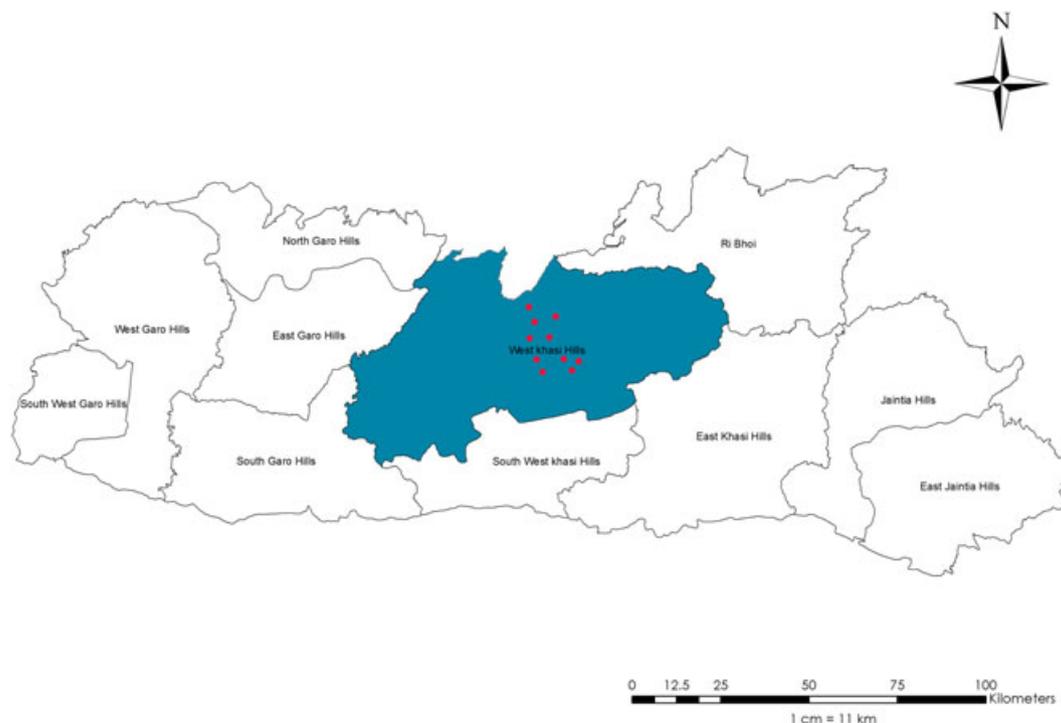


FIGURE 2 Administrative map of Meghalaya and sampled villages

(Martin, 1995). In this research study, FGD participants were asked to write their favourite crops on sticky notes and then to rank them according to any criteria they wanted. The preference-ranking exercise was conducted with female and male informants separately, in order to understand variation of cultural values and crop categorization in different gender groups.

2.1.6 | Daily activity clocks

The daily activity clocks illustrate relative workloads and responsibilities by gender on a daily basis. In this study, female and male FGD participants were asked to sketch their daily activity clocks separately, in groups of three to four. This exercise was conducted with female and male informants during focus groups and served to

determine the women's and men's time management, the tasks each group performed, and the sequence in which they did them (Narayan & Srinivasan, 1994).

2.1.7 | Data analysis

The content of the FGDs and key informant interviews was coded and analysed according to the study's objectives. Comparison of data

TABLE 1 List of the sampled villages in West Khasi Hills and Phek districts

| West Khasi Hills district | | Phek district | |
|---------------------------|-----------------|---------------|-----------------|
| 1. | Laitskeh | 11. | Chizami Town |
| 2. | Mawlum | 12. | Zapomi |
| 3. | Nongriat | 13. | Musulumi |
| 4. | Peinlang | 14. | Zuketsa |
| 5. | Kshekohmoit | 15. | Lashemi |
| 6. | Lyngdoh Nongrim | 16. | Chizami Village |
| 7. | Lyngdoh Masi | 17. | Suthozu |
| 8. | Mawnai | 18. | Thenizu |
| 9. | Domkseh | 19. | Riinguzu |
| 10. | Mawlaisyiem | 20. | Lozaphuhu |

TABLE 2 Overview of the researched population

| Pop. stratification | Type of interviews | Nagaland | Meghalaya |
|---------------------|---------------------------|-------------|-----------|
| Female informants | Focus group discussions | 28 | 28 |
| | Key informant interviews | 7 | 7 |
| Male informants | Focus group discussions | 28 | 28 |
| | Key informants interviews | 7 | 7 |
| Mix female and male | Focus group discussions | 30 | 30 |
| Total informants | | 100 | 100 |
| | | Total = 200 | |

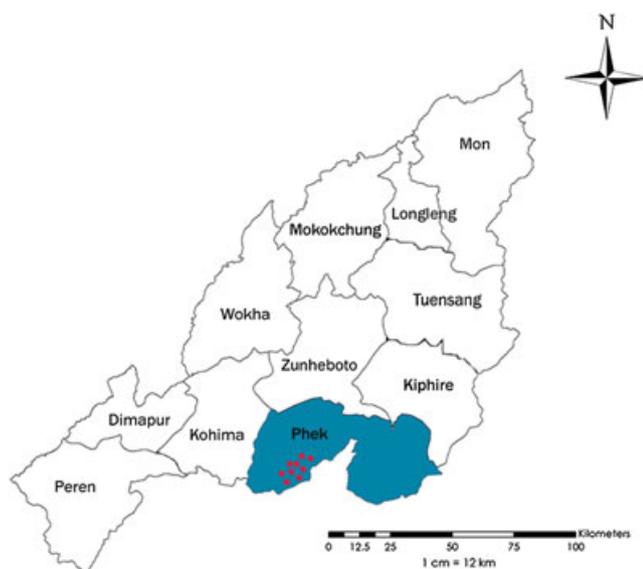


FIGURE 3 Administrative map of Nagaland and sampled villages

between the two societies was made according to the main themes that emerged from FGDs and interviews. The study's initial findings were synthesized and circulated in the form of a report among the research team, the North East Slow Food & Agrobiodiversity Society team, and the research partners and community members of one of the sampled villages, in order to get feedback on the interpretation of results. The authors of this chapter met multiple times to discuss findings.

2.2 | Secondary data

The study's literature review started two months previous to fieldwork and continued throughout the research project. It consisted of journal articles, books, dissertations and theses, research reports, websites, and documents available at municipal and governmental levels for a total number of 74 sources. Data source triangulation was carried out in order to compliment and validate primary data. The chapter's sections, "Societal and institutional structures of the Khasi People" and "Societal and institutional structures of the Chakhesang People" and part of the "Traditional Khasi and Chakhesang food system and dietary habits in transition," are based on the literature review.

2.3 | Ethical considerations

This research study followed the code of ethics established by the International Society of Ethnobiology (2006) and the code of ethics of The Indigenous Partnership for Agrobiodiversity and Food Sovereignty (2011). The purpose of the research was explained to all village headmen as well as to individual informants. Free, prior, and informed consent was obtained from the village headmen and from all participants, orally, prior to the interviews, and the permission to record their responses was obtained before the interviews took place. All the informants' responses are presented in ways that respect anonymity.

3 | RESULTS

3.1 | Societal and institutional structures of the Khasi People

Khasi⁸ People are the most populous Indigenous group in Meghalaya and are the only North-Eastern tribe that linguistically belongs to the Proto Australoid Mon-Khmer group (Nongkynrih, 2002). The Khasi society recognizes its lineage through the female line and thus follows a unilineal principle of matrilineal descent. The traditionally complementary roles of men and women in the family, in particular the role of the mother's eldest brother or maternal uncle (*u kñi*) and of the youngest daughter (*ka khadduh*), are central to the Khasi matrilineal social structure, whose basic unit is the *kur*, or clan. At the foundation of a *kur* is the belief that its members have all descended from a common ancestress. In the Khasi society, the youngest daughter is the sole receiver and custodian of the ancestral property; the son

is not entailed to inherit the ancestral property, but he may receive a share of the acquired property.

A Khasi man, traditionally, has two major roles to play in his mother's and wife's houses: *u kñi* (maternal uncle) and *u kpa* (father), respectively: As the eldest son in his mother's family, a man becomes the uncle and adviser of the children of his sister. A Khasi man leaves the house of his mother to move in with his wife (matrilocal residence) as soon as he marries, or after the birth of his first child. In spite of this shift in residence, the husband continues to spend most of his time with his matrikin, working on his mother's land (Nongkynrih, 2002). Traditionally, he would pool his earnings with his mother's and sister's family and not with his own. In his wife's family, he occupies an important role, subordinate only to that of his wife's maternal uncle. As a father, he is the executive head of the house where he lives with his own family (Roy, 1936).

In the Khasi society, the social and political sphere is considered a man's domain. Khasi villages, traditionally, have enjoyed autonomy in the organization and management of their own affairs and have exercised collective control over their natural and human resources. This collective control is customarily exercised by a council of male elders of the village called the village council, or *dorbar shnong*, presided by the village headman. The headmen of each individual village in the region take part in the state council, *dorbar hima*, and the *syiem*, or chief, acts as the council's chairman. The matrilineal man is invested in the role of representing both the house of his mother and the house of his wife in the *dorbar shnong*. Traditionally, Khasi women are not allowed to participate in the *dorbar shnong*, and, as such, they are considered passive participants (Nongkynrih, 2002).

3.2 | Changes in the matrilineal society of the Khasi

It is the modernity and civilization that came with Christianity that is dragging us to conform to the same system that is prevailing all over the world [patriarchy]. In this changing society, it is hard to know how long we will last. (Khasi elderly male informant)

Although the matrilineal system and its structural gender roles are still in use, women's and men's duties, rights, and privileges need to be redefined in the present socio-cultural, economic, political, and religious contexts. Colonization, modernity, and change in faith from animistic to Christian beliefs have resulted in new cultural practices, in the reconceptualization of the roles and duties of the individual, and in the declining function of the clan in the society (Lyngdoh & Nongkynrih, 2015). The advent of Christianity among the Khasi people also marked a change in religious practices and rituals, while also introducing a cultural model on the basis of individual families and patriarchal values (Snaitang, 1993).

Migration from rural to urban areas or from one village to another in search of livelihood has compromised the kinship ties of the *kur*. In the current socio-religious and socio-economic arena, the clan and its council have fewer functions to perform. Meanwhile, individual families have increasingly more roles to play and more decision-making power (Nongkynrih, 2002). In this new context,

⁸Khasi means a person belonging to the Khasi Tribe who may be a Khasi, Jaintia, Pnar, Synteng, War, Bhoi, or Lyngngam or who is recognized or deemed as such under prevailing Khasi custom or this act (KHADC, 1997).

the role of the father is gaining increasing authority. The idea of husband as “bread winner” is relatively new to this society, yet diversified economic opportunities reinforce this position for men in the family, both socially and economically. The widening means of livelihood arising from modernization and urbanization, in fact, free men from relying on agricultural activities associated with the cultivation of land belonging to their mother or their wife and her family (Lyngdoh & Nongkynrih, 2015).

The current privatization trend occurring in many Indigenous societies in North-East India further minimizes the role of the clan in controlling and managing community resources. Although community ownership of land is recognized in the Sixth Schedule tribal areas of India, the administrative systems dealing with it are based on the individual ethos, creating a contradiction between the two systems (Pereira, 2004). It has been argued that by giving subsidies and loans only to individual land owning heads of families, usually interpreted as men, the state and financial institution are encouraging land fragmentation and privatization. This process strengthens the role of men in society while weakening the role of women in agricultural production, impacting both household food provisioning and food security (Fernandes & Pereira, 2005, pp. 14–15).

Although there is little doubt that women in the Khasi society enjoy more privileges than do women in patrilineal societies, it is argued that they enjoy very little actual power (Fernandes, Pereira, & Khatso, 2007; Gurdon, 1914; Zehol, 2013). In the Khasi society, the maternal uncle is considered the effective manager of the property and the traditional head of the family (Nongbri, 1996). In the words of a female elderly informant:

Inheriting land, Khasi women are more secure and autonomous than women living in patrilineal societies, but traditionally, Khasi women were under the thumb of their father, maternal uncle and brothers. It is only through education that women have learned to stand up for their rights, three to four decades ago.

Women's access to education has enabled them to raise their voice and strive for gender equality (Fernandes & Barbora, 2002). As a result, in recent times, an increasing number of villages have allowed women to take part in the village council (Nongkynrih, 2002).

3.3 | Societal and institutional structures of the Chakhesang People

Chakhesang⁹ People represent one of the 32 Naga tribes and linguistically belong to the Indo-Mongoloid group. The Chakhesang society is a patrilineal system where descent is traced through the paternal line; the oldest son inherits the ancestral property, and in the absence of a male child in the family, the property goes to the deceased's brother's family, to the clan, or to the adopted son.

⁹The word Chakhesang is an acronym formed by the names of three subtribes that now merged into one: “Cha” for Chokri, “Khe” for Khezha, and “Sang” for Sangtam (or Pochuri). The Naga tribes have a strong warrior tradition. They practised headhunting as a way to overpower enemies and preserved their heads as trophies through the 19th century and as late as 1969 (Government of Nagaland, Department of Planning and Coordination, 2011).

Exogamy is traditionally practised, and it is considered taboo to marry within the same clan. The social organization of the Chakhesang People is patrilocal; thus, married women customarily move to their husband's house and work on their husbands' land (Barooah, 2011; Vitso, 2003).

Chakhesang's customary laws favour men, and the position of women in society is considered subordinate to that of men (Zehol, 2013). A man is considered the upholder of the family's tradition, whereas a woman is considered a temporary member of her natal family and will only establish her permanent status after marriage (Nongbri, 2000; Zehol, 2015). Traditionally, women have no right to share clan land, and they cannot claim ancestral property. However, women have user rights to their husband's property and can sometimes receive a share (*lüna*) of the family property, as a gift (Zehol, 2013). Chakhesang women's access to resources is thus mediated through their husbands or their fathers. In the case of divorce due to a wife's infidelity, she must leave the husband's house with only a skirt and a shawl, losing her access to the land (Zehol, 2003).

In Chakhesang society, the village administration is exclusively the responsibility of men. Traditionally, the *krii* (clan representative) and *mawo* (the priest), assisted by a council of elders, were considered responsible for framing secular as well as religious laws and to execute them. Strict observance of these rules, mostly in the form of *gennas* (restrictions) or *menyi* (taboos), has been absolutely necessary for health, wealth, and the progress of the individual and the community. In the present society, the village chairman, who is also the head of the village council (the apex body of administration in the village), leads the village; Chakhesang women are not allowed to take part in the village administration, which is the prerogative of the Chakhesang men (Ao, 1993; Zehol, 2003).

3.3.1 | Changes in the patrilineal society of the Chakhesang

The arrival of the British and the advent of Christianity, formal education, and modernization had far reaching socio-political, administrative, and economic impacts on the Chakhesang society (Government of Nagaland, Department of Planning and Coordination, 2011). Christianity reinforced the idea of men as heads of the household, upholding the subordinate role of women in the family. The arrival of the British marked a shift from a barter to a monetary system, from a subsistence economy to a trading and market economy, and from extensive to intensive agriculture (Ao, 1993). It is argued that modern changes in the agrarian structure and especially the trend to private ownership affected Chakhesang women and their very identity (Amer, 2013). Land went from a means of livelihood where women did most of the agricultural work to a commodity of the market system controlled by mostly male business contractors and government officials. Some argue that although Chakhesang women were not the owners of property, their traditional role in managing it granted them a higher status in society, a privilege currently threatened as women lose control over their agricultural livelihood and increasingly focus on work in the household (Fernandes & Barbora, 2009; Shimray, 2004).

The entrance of the missionaries in the Naga Hills in the 19th century has marked the slow disappearance of the *morung*,¹⁰ the traditional Chakhesang educational institution. In its place, a formal education system has been laid down, establishing an institution accused of no longer imparting traditional values to the new generations (Barooh, 2011; Vitso, 2003). The advent of Christianity did promote more equal access to education for boys and girls; however, for a long time after the spread of formal education in the region, only boys were allowed to go to school, whereas girls had to help families at home. It was not considered worthwhile for the family to invest in daughters, as they would marry and leave the family to move to their husbands' households (Vitso, 2003; Zehol, 2003). In recent decades, owing to the involvement of men in the Naga nationalist struggle, women have gained access to education; as a result, the Chakhesang women today are better educated than the men (Pereira, 2004).

Over the past couple of decades, Chakhesang women, and Naga women in general, have been struggling to create space for women in the decision-making process. Unfortunately, Chakhesang men, as well as other Naga tribal men, see these women's efforts as a threat to what they believe to be their sole prerogative to acquire and retain political power. A recent attempt of Chakhesang and other Naga women to advocate for the reservation of 33% of the seats in the Nagaland Municipal Councils was fiercely opposed by male-dominated tribal bodies in the name of protecting their tradition and customary practices that bar women from participating in decision-making bodies (Vaiphei, 2017).

3.4 | Traditional Khasi and Chakhesang food systems and dietary habits in transition

The states of Meghalaya and Nagaland are covered in dense forests, and the tribes inhabiting these regions have traditionally depended upon a large variety of forest foods for their subsistence and livelihoods (Seal et al., 2015). Both the West Khasi Hills and Phek districts are predominantly rural, with approximately 90% of their population depending on small-scale agricultural activities and animal husbandry, with limited commercial orientation (Government of Meghalaya, Department of Planning, 2009; Government of Nagaland, Department of Planning and Coordination, 2011). Results derived from this study revealed that despite the bounty of foods available and known, many local wild species and crop varieties are increasingly being used less, and some have been abandoned. Meanwhile, people are increasingly adopting high commercial yielding varieties and depending on imported and exotic foods from the market, with negative consequences on dietary diversity, food, and nutritional security. The reasons behind the nutritional transition are complex and interrelated and are to be found in the socio-cultural, economic, and political transformations. These changes, which have affected traditional resource management and agricultural practices in recent decades, have created a shift in foodways, traditional food acquisition practices, and gender relations (Karlsson, 2011).

¹⁰The function of the *morung* (dormitory) was to impart training and skills to the next generations in the village. Socialization was in the form of discourse between the elders and the younger generation.

For the rural Indigenous Peoples of North-East India, land and forest resources have been central to their cultural identity, religious ethos, economy, and social system (Fernandes & Pereira, 2005; Nongkynrih, 2012). They developed customary laws around them that ensured a sustainable management of these resources, to be used according to current needs and preserved for posterity. Inherent to this tradition of treating resources as renewable was community ownership (also known as collective management, co-ownership, or common property resources).¹¹ These principles are visible in swidden cultivation, locally called *jhum*,¹² a method in which 90% of the population in India's North-East traditionally sustain themselves (Cairns, 2015). For them, *jhum* represents a way of life, an integral part of cultural identity and community well-being; the mechanisms associated with this type of landholding access and use involves collective management, mutual exchange, sharing of voluntary labour, and reciprocity (Nongkynrih, 2005). The swidden agroforestry system harbours astounding levels of biodiversity and provides people with a large diversity of crops, wild edibles, and medicinal plants; it also allows for preservation of seeds and supports food security (Bernhart, 2015; Ickowitz et al., 2016; Vinceti et al., 2013). Despite its presence for millennia, due to a multitude of factors including privatization of land, forest erosion, increased availability of high yielding varieties, and lack of manpower, swiddening has considerably decreased in recent decades, leading to the abandonment of culturally and nutritionally important local crops and edible forest resources (Padoch & Pinedo-Vasquez, 2010).

Clan land under *jhum* is traditionally used on a seasonal basis, with no permanent use or crops. Despite a large body of knowledge that demonstrates otherwise, this practice has long been considered backwards and destructive to the environment by the government, who has hence promoted more permanent forms of agriculture that have partially replaced this traditional method of cultivation (Padoch & Pinedo-Vasquez, 2010). The shift to settled forms of crop cultivation has led to households occupying the plot of clan land for many years or generations resulting in fragmentation of the clan land and emergence of individual land ownership on the one hand and landless households on the other (Nongkynrih, 2009). Landlessness was addressed by a large majority of FGD informants (81% = 140) as the reason behind the decreased quantity of food produced at village level and increase dependency on the market, with consequences for food security and nutritional status. The decreased amount of land available to the community to practise *jhum* cultivation also resulted in a shortened *jhum* cycle, which has compromised the sustainability of this agricultural practice (Government of Meghalaya, Department of Planning, 2009).

¹¹Common property resources are resources in which a community sustains itself through equal usufruct rights conferred by its membership. They include common grazing ground; *jhum* (shifting) cultivation land; forests for nontimber forest products such as edible fruit, leaves, and vegetables; small timber and medicinal herbs; watershed, including rivulets, rivers and ponds; and other community assets (Fernandes & Barбора, 2009).

¹²Swidden cultivation, also known as shifting cultivation and slash and burn agriculture, consists of clearing and burning a patch of forest to grow annual or semi-annual crops for about 4 years before leaving the patch fallow for 10–15 years so that it can regenerate into forest before the process is repeated. This is practised on hilly terrain following mixed crop patterns during the monsoon season (May–August).

In Meghalaya, especially, the diversity cultivated in *jhum* fields has largely been replaced by cash crop cultivation, such as broom grass (*Thysanolaena maxima*). This type of monoculture cash crop threatens the environment, soil fertility, and the survival of traditional food plants, with negative consequences for dietary diversity and community food and nutritional security (Behera, Nayak, Andersen, & Måren, 2016). Deforestation, land privatization, and decreased soil fertility are pushing people away from the villages in search of more productive lands, or employment with cash benefits. The need for a cash income to send children to school and to cope with a changing society and new life expectations further pushes an increasing number of men to temporarily leave the household to find employment outside the village. Some common forms of wage labour include intensive exploitation of natural resources such as coal mining, stone quarrying, and the cutting of trees for timber. The forest cover and the local biodiversity in these districts have been severely affected by intensive timber extraction and the mining of coal and limestone between the years 1980 and 1989. Although the National Green Tribunal of India has banned these activities since 1996, they are still largely practised illegally (Cairns, 2015).

Focus group discussions in this study revealed that wage labour and increased purchasing power have pushed families to increasingly depend on the market to source their foods. When asked whether it is easier or harder to feed children healthy and nutritious food, about half of Khasi and Chakhesang female informants (53% = 30) said that as food options expand, it is easier to feed their children than in the past, provided one has the economic resources to afford market foods. Poorer mothers, however, felt that it is more difficult to feed their babies today, as many forest foods they used to rely on for both subsistence and livelihood are disappearing, owing to deforestation and unsustainable use of forest resources. As a young Chakhesang mother explained: “[In order to find wild vegetables] we have to walk further deep into the forest now as some plants are rarer to find. I have to coordinate with other women to go and collect wild food, it takes me the whole day only to come back with a full basket of foods that my kids won't even want to eat.”

As rural families' purchasing power rises and marketed food options expand, wild “free” forest food is increasingly thought of as poor people's food. During FGDs, community elders raised concerns about the young generations' shift in food preferences from “forest foods” to “market foods.” According to them, young people's food preferences are influenced by media, urban lifestyles, and decreased exposure to forest foods. “Our children don't like wild plants because we don't feed them those anymore,” reported a Khasi female key informant. New lifestyles impose time constraints and are not compatible with the time-intensive processing and lengthy preparations that many local crops require. Millet, for example, used to be mixed with rice but is increasingly less cultivated and consumed in Meghalaya due to the lengthy and arduous processing it requires. Despite the sampled communities' reports of largely depending on market foods, especially in the winter season, a large number of participants in the focus groups (69% = 120) shared their concerns about market foods containing chemicals (*dawai*), perceived as a threat for the health of the whole community. Speaking about health in the community, one informant said: “We used to be stronger and today

our children are constantly sick, cancer has entered the village and who knows what's coming. Maybe it's God punishing us.”

Government policies have unintentionally contributed to the displacement of local varieties by providing farmers with seeds of exotic or adapted varieties aimed at increasing productivity. By providing imported and refined rice varieties at subsidized rates to poor families in Meghalaya, government programmes such as the Targeted Public Distribution System¹³ further contribute to the neglect and replacement of Indigenous crop varieties, with negative consequences on dietary diversity and nutritional security.

A high percentage of FGDs informants (78% = 135) felt that education and alternative economic opportunities, along with new life expectations, resulted in less people being involved in agriculture now than in the past, and, in general, there was a decrease in food production at the village level. Moreover, the process of urbanization and education was indicated as having altered foodways and having compromised the intergenerational transmission of traditional knowledge. For example, formal education was considered by nearly all female informants as important in creating new life opportunities. Conversely, it was also criticized for promoting a dominant cultural model that devalues traditional livelihoods, foods, and lifestyles by teaching young Indigenous rural girls to abandon their agricultural and culinary customs, knowledge, and practices. As a young Chakhesang female informant said: “My mother taught me all I know. And she learned from her mother. My children, they come back to the village only a few months per year, there is not much time to show them and they easily forget.”

3.5 | Gender roles and relations among patrilineal Chakhesang and matrilineal Khasi Peoples

3.5.1 | Gender division of labour in the community and in the household

Agriculture is traditionally the main occupation of both women and men in West Khasi Hills and Phek districts. Despite their involvement in agricultural activities, Khasi and Chakhesang men are also increasingly engaged in nonagricultural income-generating activities and in wage labour, such as construction, mining, stone quarrying, coal and firewood collection, basketry, and furniture making. In villages with road access, a larger portion of male informants was found to work as government employees. Both matrilineal Khasi and patrilineal Chakhesang men are responsible for decision-making about community administration, management, planning, and development. In both the matrilineal Khasi and patrilineal Chakhesang societies, the domestic sphere is considered a woman's domain in which she is primarily responsible for childcare, household management, and subsistence farming. The daily activity clocks exercise conducted in this study showed that, in comparison with men, both Khasi and Chakhesang women spend longer hours in the agricultural fields and work longer hours per day. As a Chakhesang woman reported: “Women wake up at 4, make fire, make tea for the whole family, feed livestock, fetch water and firewood, cook for the family, eat, send children to school,

¹³Targeted public distribution system is a food security programme of the Indian government that distributes subsidized food and nonfood items to India's poor.

shop, clean the house, wash utensils and clothes, bring rice to the mill. At 8.30 we go to the field until 4–5. We come back, cook, clean the house, feed livestock, sometimes we need to work after dinner, cleaning garlic or beans or weaving for the family or for selling.”

3.5.2 | Gender division of labour in agricultural production

Similarities between the two societies were also found in the gender division of labour in agricultural production. Khasi and Chakhesang male informants both remarked that men tended to work the jobs requiring strength whereas the women performed what male informants referred to as “lighter activities.” For example, in the *jhum* field, men are in charge of cutting the trees and burning jungle patches, whereas in the rice field, men are in charge of building terraces and canals and cutting rice for harvest. Women, on the other hand, are responsible for managing the fields, sowing, weeding, and collecting seeds. Women, along with children, are also primarily responsible for wild edible plant and insect gathering. Women and men of both societies engage in fishing, whereas hunting is exclusively the task of men.

A common trend was found between the matrilineal Khasis and the patrilineal Chakhesangs; women appeared to be more often involved in growing food crops for family sustenance, whereas men were more often engaged in growing cash crops. The preference-ranking exercise highlighted that women tended to prefer food crops that are used in the kitchen, are considered nutritious, and are good for children's health. By contrast, men listed food crops with good market value as their favourites, such as squash (*Sechium edule*), cabbage (*Brassica oleracea*), tree bean (*Parkia timoriana*), and different types of exotic fruits such as kiwis (*Actinidia chinensis*) and Kashmir apples (*Malus* sp.). Male informants of both the patrilineal Chakhesang and matrilineal Khasi societies are responsible for managing the fruit orchard, the products of which are promoted by the government. These exotic fruits are intended for sale, and men decide what fruit to plant according to market demand. In contrast, women would more often be involved in the *jhum*, and they would be almost exclusively responsible for the homegarden, considered an extension of their work in the kitchen.

Women of both societies are considered to be more familiar with plants and more knowledgeable about plant uses than are men. As the main holders of this information, it is women who are primarily involved in transferring knowledge of wild edible plants and minor crops—their cultivation, uses, cooking, and processing—to the next generation. Both Khasi and Chakhesang women are also primarily responsible for seed selection and were said to have a broader set of selection criteria in comparison with men. Due to their role in the kitchen, the women's criteria are related to the plant's yield, production, storage, preservation, and culinary qualities, such as taste and texture.

Women of both groups are also responsible for postharvest activities such as drying, pounding, and bringing grains to the mill. Other tasks involve storing and processing foods to increase their nutritional value and to preserve them. For example, it was common among female informants in the sampled villages to make home preserves such as pickled bamboo shoots and a traditional fermented soybean paste called *tungrymbai*, among the Khasi, and *aakhone*, among the

Chakhesang. Fermented fruit juice from *sohphie* (*Myrica esculenta*) was commonly found in the sampled Khasi households to be used for digestive problems. Similarly, *zooti*, a fermented juice from cucumber, was used in some Chakhesang households for minor ailments.

3.5.3 | Gender relations in matrilineal Khasi and patrilineal Chakhesang societies

A common narrative shared by female and male informants in both societies considered men as having greater responsibilities and, therefore, holding most decision-making power and higher status in the family and in the village. Although the study found that men of both societies hold decision-making power in the community, focus groups revealed that both matrilineal and patrilineal women hold significant decision-making power in the family. A Chakhesang male informant put it simply: “Men are the head, but women lead.” A Khasi male informant, laughing with his peers, stated: “Women are the real head in the household.”

Similarities were found between the two societies as related to household financial resources management. In both societies, it is largely considered a man's role to provide the household with cash income. However, women contribute to the household economy by selling livestock, homegarden surplus, and products they have woven. In the matrilineal Khasi and patrilineal Chakhesang sampled communities, women are considered the traditional “treasurers” of the household, better at managing the household financial resources. Although a large number of female informants in individual interviews reported that women and men often shared control over monetary resources and consult over expenditures, a minority of female key informants (17% = 15) revealed that increasingly, men tended to not share their income with the family and used it instead for buying alcohol.¹⁴

Despite these similarities, important differences were recorded between the two societies. Gender division of labour appeared more flexible and decision-making more equally shared among the matrilineal Khasi people than among the patrilineal Chakhesang people. For example, in the Khasi society, both girls and boys are socialized into household chores. In regard to agricultural production, Khasi female and male informants often reported sharing responsibilities in the same agricultural fields, while supporting each other's work; they also assumed the responsibility of working on specific fields. For example, Khasi men were noted to be mostly involved in the rice field and in the *bun*¹⁵ field, further from the household, whereas women were almost exclusively responsible for the homegarden. A few Khasi male informants said: “women and men respect each other,” “women and men have equal power,” “women and man work hand in hand in household's activities,” and “women and men consult in every situation and have equal power in the household.”

¹⁴Fermented beverages have been part of the cultural tradition of North-Eastern Indigenous societies. Millet and rice beer are commonly homebrewed across the North-East. However, the advent of Christianity stopped this practice and marked a shift from homebrew alcohol produced with local Indigenous crops to poor-quality imported marketed alcohol. Nowadays, alcoholism has spread and is a serious economic and health burden, resulting in chronic liver disease (Snaitang, 1993).

¹⁵*Bun* is a form of swidden agriculture practised in grassland areas. In large areas, the grass is turned upside down, and once roots are dried, they are burnt.

In the patrilineal Chakhesang society, gender division of labour appeared to be more clearly defined. The household is the domain of women, and only girls are socialized in household chores. Women made major decisions by themselves about what to grow in the homegarden, in the rice field, and in the *jhum* field; however, men would decide which plot of land to cultivate on. A Chakhesang male informant, talking about women's greater role in subsistence agricultural production, said: "It is traditional like that. Women are more careful, better in taking care of details, in the jobs that require more precision. They know plants better." Chakhesang men felt they are better suited for their traditional civic obligations, a reason they cited for their absence in agriculture. Gender relations among the Chakhesang appeared less egalitarian and more hierarchical. As a few male informants explained: "We don't discriminate against women but men have more prestige as we bear responsibilities in the community and we do all the heavy work. We are braver and more self-confident, better at taking decisions. Women, they may think high but they have no confidence, they lack courage and are weaker" and "women are humble, patient and give weight to men thus they become the head. If a woman is more brilliant, she contributes to elevate her husband to higher position." During focus groups, Chakhesang female informants shared their feelings about their hard work in the household, childcare, and agricultural production not being acknowledged by Chakhesang men or by society at large, but being acknowledged only by other women.

4 | DISCUSSION

The study revealed that despite different customary laws determining different land inheritance patterns in the matrilineal Khasi and patrilineal Chakhesang, women of both societies are the principal knowledge holders, users, and managers of agrobiodiversity and equally play a crucial role in childcare, household food provisioning, dietary diversity, food, and nutritional security. Men are increasingly engaged in nonagricultural income-generating activities and are primarily responsible for community administration. Because of the restricted and largely invisible role that women in the North-East play in the public affairs of their communities, special steps need to be taken so that their needs and requirements are taken into consideration. Agrobiodiversity management, food, and nutritional security require knowledge, participation in decision-making, management, and commitment from both women and men (FAO, 2013).

Despite similarities in gender roles and gender division of labour, differences in gender relations were noticed between the two communities. Overall, the matrilineal Khasi society appeared to be more egalitarian with gender roles being more flexible and equally shared, and men openly recognized the value of women in the community. Among the patrilineal Chakhesang people, gender roles appeared more clearly defined and gender relations more hierarchical. Similarly to what was found in another study on gender in a patriarchal society in Bangladesh, the hard work of Chakhesang women in managing the household and their engagement in agricultural tasks "did not seem to positively contribute to their social status, exactly because it is expected, and indeed desired, as a structural element of

the patriarchy" (Wilson, 2003, p. 223). The role played by Chakhesang men in the community as members of the village council appeared to bestow on them a higher status by virtue of their visibility in the public sphere, as opposed to the hidden engagement of women in household and agricultural production. Research has demonstrated that women's low social status often affects women's diets, impacting on their children and families' health and well-being. It has been argued that if men and women had equal status, and all factors remained the same, there would be 13.4 million less malnourished children in South Asia (IFPRI, 2016; Smith et al., 2003).

In North-East India, similar to what is happening in other Indigenous societies around the world, complex interrelated socio-cultural, economic, environmental, and agricultural transformations in the last decades are impacting traditional food systems and traditional resource management practices, affecting women's status and their traditional role in food provisioning (Agarwal, 1992; Li, 2010). The higher status of North-Eastern women has been linked with North-Eastern community-based resource management and their greater responsibilities and participation in management and decision-making in the family and in agricultural production (Fernandes et al., 2007). Today, this largely egalitarian and democratic system is confronted with the state administrative apparatus and financial institutions that support individual property. Fernandes and Pereira (2005) argue that this has changed the society from an egalitarian society to one of class formation and from a system with a relatively high status of women to a growing patriarchy, even in matrilineal tribes. As a result of this process, 76% of families in Meghalaya and 43% of families in Nagaland today are landless (Nongkynrih, 2009). These figures raise important questions about food and nutritional security in India's North-East.

Colonization and expansion of global markets introduced new cropping patterns and crop commercialization, resulting in the deterioration of natural resources and loss of traditional livelihoods. Women's traditional role in subsistence agriculture, including tending diverse food crops, has been partly compromised by the commodification of resources. This often results in shifting control over land and plant-based resources to men, as these resources become more economically valuable (Fernandes & Barbora, 2002). Research has shown that women's control over finances translates into better health and nutrition for children (Guarascio et al., 2013). Moreover, it has been shown that women's income is closely related to indigenous crops and vegetables, whereas men's income is more often linked to exotic crop varieties (Howard, 2003). In other parts of India, promoting the value of indigenous crops such as little millets enhanced women farmers' income and status (Vijayalakshmi et al., 2010). Adding value to indigenous crops can therefore leverage women's income and social status while contributing to household food and nutritional security, children's health, and sustainable diets (Frison et al., 2006; Padulosi et al., 2013).

The effects of urbanization, globalization, and access to education have permeated traditional societies of the region, contributing to the abandonment of cultural practices and the adoption of Western lifestyles and values. Village outmigration for formal education threatens traditional cultural transmission patterns and subsistence practices. Moreover, men's outmigration for wage labour contributes

to the process of the “feminization of agriculture” and consequently increases pressure on women farmers' labour, which has been linked to loss of cultivar diversity (Zimmerer, 1991). Women's access to education is directly linked to improved levels of nutrition and child health (FAO, 2013). In Meghalaya, for example, mothers with no formal education were 9.3 times more likely to have a child with vitamin A deficiency (Nongrum & Kharkongor, 2015). However, formal education is often criticized for having promoted a dominant cultural model that devalues traditional practices and lifestyles of Indigenous Peoples by advertising a modern urban lifestyle and Western values (Kuhnlein et al., 2009). In order to contrast the challenges posed by the current nutrition transition, it is crucial to recognize and document the value of women's Indigenous technical knowledge of plant resources and promote its use and transmission in all appropriate spheres, including formal and informal education (Howard, 2003).

As traditional nurturers of the family, women play an important role in shaping children's dietary patterns, and culinary and Indigenous identities, which in turn have been reported to influence child nutritional status (Kuhnlein et al., 2013). Studies on children's valuation of wild food plants in Meghalaya and other parts of India have found that mothers were the primary means of cultural values transmission pertaining to food plant consumption and their health benefits to the next generation (Ellena, 2013; García, 2006). However, a contrasting value was also transmitted: Although wild food plants are “good healthy food,” they are also a symbol of low status and poverty, thus leading to feelings of shame and inferiority (García, 2006). The stigma that modernity often associates with Indigenous food plants precludes the use of local agrobiodiversity, affecting women's role in household food provisioning and their children's nutritional status. Providing women and communities with information on the nutritional value of Indigenous crop resources has been shown to contribute to enhancing their cultural value and consumption, contributing to dietary diversity and food and nutritional security (Kuhnlein et al., 2013).

5 | CONCLUSION

The above discussion raises important questions about women's status in India's North-East and the effects of socio-cultural and political changes on their food-provisioning role. More research is needed on how women's social status and the differing attitudes towards women and their work affect the way women themselves think about their work and how this affects intergenerational transmission of traditional knowledge, skills, and values. Further research should also investigate how local narratives of gender egalitarianism and hierarchy translates into practice and how these affect food security. Are the values that women embody across traditional societies stronger and more likely to be preserved if recognized, respected, and socially valued? What impact does this have on women's decision-making, especially when external forces such as market economy threaten traditional food systems and traditional diets? Future research needs to explore what measures must be taken to build upon the largely egalitarian structure of Indigenous communities and extend it to include gender equality so that

socio-economic transformations can be negotiated without deprivation.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

CONTRIBUTIONS

This article was written by RE, with extensive feedback from AKN.

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GLOSSARY

Khasi words, terms, and phrases

| | |
|------------------|-------------------------------------|
| ĩing | domestic group |
| Ka dorbar shnong | the village council |
| Ka dorbar hima | the council of the Hima |
| Ka hima | the traditional Khasi state |
| Ka iawbei tynrai | the founding ancestress of the clan |
| Ka khadduh | the youngest daughter |
| Kur | clan |
| Syem | chief of the Hima |
| U kñi | the mother's eldest brother |
| U kpa | the father |

Chakhesang words, terms, and phrases

| | |
|-----------------|---|
| Gennas or menyì | restrictions and taboos |
| Krii | clan representative |
| Lüna | share of the family property |
| Mawo | the priest |
| Morong | dormitory or traditional Naga educational institution |

PHOTOGRAPHIC SECTION

See Photographic section – Khasi and Chakhesang

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