

## Nepali Bhutanese refugee gardeners and their seed systems: Placemaking and foodways in Vermont

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### Abstract

As the world grapples with how to support the millions fleeing the ongoing war in Ukraine, attention must be extended to how these individuals, and the many others who are forcibly displaced in other parts of the world, can be welcomed to new lands. Research indicates that creating foodways through gardening can provide cultural connections for diasporic communities. However, few studies have addressed how necessary inputs, such as seeds, affect refugees' abilities

to reconstruct culturally significant foodways. Drawing on placemaking theory, this article explores if and how access to seeds and seed systems enables refugee gardeners to grow essential crops, which might be otherwise difficult to obtain, to produce foods reminiscent of their homelands. Focusing on Nepali Bhutanese refugee gardeners in Chittenden County, Vermont, we present findings from 30 semi-structured interviews demonstrating how refugee gardeners draw upon known practices and preferences to make a new land less foreign. Seed systems offer refugee gardeners the opportunity to access, plant, and save familiar crops and experiment with new planting techniques and crop

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varieties. This study indicates that seed systems are an important way through which people make place, both physically and symbolically.

## Keywords

Seed Systems, Placemaking, Refugee Gardeners

## Introduction

The unfolding crisis in Ukraine has thrown into stark relief the tragedy and plight of individuals who are displaced from their homes. As the world grapples with how to support the millions fleeing the ongoing war in Ukraine, attention must be dedicated to how these individuals, and the many others who are forcibly displaced in other parts of the world, can be welcomed in new lands. The situation in Ukraine has already caused over 4 million individuals to flee their country, more than triple the 1.4 million individuals the United Nations High Commissioner for Refugees (2021) estimated would be in need of resettlement in 2022 due to threats which include violence, political unrest, and human rights violations. When a home country is no longer an option for return, resettlement in a second country is meant to provide refugees<sup>1</sup> permanent homes with safety and dignity. However, differences in language, food, religion, and climate can contribute to challenges such as food security and mental health struggles for resettled refugees (Brown et al., 2019; Moffat et al., 2017). The foodways—the cultural, social, and economic dimensions of food cultivation, production, and consumption—of a new country often present challenges as well for newly settled refugees (Oyangen, 2009). Studies have found that refugees can rebuild some of their disrupted foodways through growing desired and culturally relevant crops (Beavers et al., 2015; Oyangen, 2009). Gardening produces not only nutritional sustenance, such as fruits and vegetables, but also cultural sustenance through the connections it provides to familiar foodways (Strunk & Richardson, 2019). Through the labor of

growing culturally meaningful crops, refugee gardeners incorporate skills, knowledge, and preferences familiar in their cultures of origin into their new foodways (Hughes, 2019; Jean, 2015). Many refugees were farmers in their home<sup>2</sup> country or came from a farming family, equipped with knowledge and skills to apply in new lands.

In this paper, we apply placemaking theory to describe how refugees use the act of gardening generally and their engagement with seed systems specifically to create cultural meaning in the new places they inhabit (Flagg & Painter, 2019). Growing culturally relevant crops allows refugees to ‘correct’ their new environments to serve as sources of familiar foods that can help foster feelings of belonging, comfort, and hope in a new land (Brook, 2003; Hughes, 2019). While previous research has documented how gardening provides opportunities to create place and restore disrupted foodways (Jean, 2015; Peña, 2006), research on how the access to and management of crucial inputs, like seeds, contributes to placemaking is limited. This study seeks to advance understanding of how refugee communities make place through seed systems. These systems include transactions like sales, trades, and gifts, and the social relations, customs, and practices surrounding them. Materially, seeds are essential to growing and preserving culturally appropriate foods with desired taste and cooking qualities (Beavers et al., 2019). Symbolically, seeds can facilitate connections to meaning, access, and opportunity that tie a person to a place even in a foreign physical space (Carolan, 2007).

To examine the seed practices and values that people of refugee backgrounds bring to the U.S. and adopt once they settle there, this study explores the seed systems of Nepali Bhutanese refugees, the largest ethnic group of refugees who have resettled in Vermont. The displacements that resettled refugees have undergone make their seed systems particularly interesting as they move from their homelands and their social networks. Guided

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<sup>1</sup> In this study, the term refugee is used to refer to the participants’ legal status with which they immigrated to the U.S. We recognize that legal statuses such as ‘refugee’ do not capture the intersectionality and complexity of identity. While the term ‘people from refugee backgrounds’ highlights that a refugee status is but one portion of one’s identity, for succinctness we use the term ‘refugee.’

<sup>2</sup> The idea of home is complex; it is tied to identity, kinship, beliefs, and memories as much as it is connected to geography, land, and physical structures. Concepts of home can be created and recreated, continuously negotiated over a lifetime (Black, 2002).

by the following objectives, this study seeks to understand: a) how gardeners bring and adapt seed system practices to Vermont, and b) if and how people from refugee backgrounds engage in seed systems in ways that make place and create familiar foodways.

To address our objectives, we first discuss the theoretical framework of placemaking and foodways. Then we describe the background of the Nepali Bhutanese refugee crisis and the seed systems prominent in Bhutan, Nepal, and the U.S. We then describe the methods of this study, before presenting the findings from 30 semi-structured interviews with Nepali Bhutanese refugee gardeners that explored crop production, seed access, and seed sharing. Our findings suggest that rather than assimilating into existing seed systems in the U.S., refugees enact agency and choice to build seed systems that embed meaning in their new environments.

### *Placemaking Through Foodways and Seed Systems*

While refugees suffer from forced displacement and involuntary resettlement, previous research suggests that refugees also actively shape their surroundings through actions, experiences, knowledge, and values (Jean, 2015). These practices of placemaking can include social, political, and environmental (re)actions. Derrien and Stokowski (2014) emphasize that placemaking is neither an outcome nor a goal: “Senses of place should be seen as a learning process, developed over time within an array of social and cultural contexts” (p. 119). These processes are not unidirectional towards goals or endpoints but are a series of negotiations between people and their surroundings. This study uses the placemaking framework to understand how Nepali Bhutanese refugees bridge memories of home and sites of relocation through their seed systems (Jean, 2015; Strunk & Richardson, 2019).

Resettled refugees in the U.S. often encounter vastly different foodways, such as signs and labels in a different language, unfamiliar foods in grocery stores, and new payment processes like the EBT system of the Supplementary Nutritional Nutrition Program (SNAP). Thus, refugees interacting with

foreign foodways necessitates placemaking—navigating the new by importing the known (Bridle et al., 2020; Pierce et al., 2011). For example, in a study of Vietnamese gardeners in the U.S. South, Rhoades (2013) found that the ability to garden and the social networks of sharing seeds facilitate access to fresh herbs, fruits, and vegetables needed for Vietnamese cuisine. Gardening provides a way for refugees to connect back to their known foodways through growing fresh, organic produce for home consumption (Rhoades, 2013).

Additionally, the act of gardening draws upon expertise and traditions that form the backbone of many refugees’ lives and livelihoods (Jean, 2015). In a narrative analysis of Bosnian immigrants in Vermont, Derrien and Stokowski (2014) found that gardening reconstructs and reinforces poignant past experiences. For example, describing gardening in Vermont’s climate, Bosnian immigrants draw upon memories of planting potatoes with family members in Croatia. Similarly, interviews that Harris, Miniss, and Somerset (2014) conducted with refugees from Congo, Burundi, Somalia, and Sudan in Queensland, Australia indicated that farmers apply skills and traditions from their backgrounds to develop and maintain belonging and identity. While incorporating accustomed habits, refugees also confront new environments and therefore may be required to modify traditional agricultural practices (Oyangen, 2009). For example, Jean (2015) found that refugee farmers with farming backgrounds adapt to new climates and seasons in Utah through new methods such as row measuring and irrigation. Thus, placemaking is a complex process, combining memories of homelands with new knowledge and practices.

Socially, gardening and engaging in seed systems also provide opportunities for refugees to maintain existing networks and form new ones to exchange information, share propagative material, and build relationships. Sharing seeds, produce, knowledge, and labor can provide opportunities for refugees to build trust, reciprocity, and social connections in new communities (Harris et al., 2014). These networks are not only local but can also reach long distances; for example, in the U.S. South, Vietnamese gardeners share plants, seeds, and cuttings locally and across states (Rhoades,

2013). Furthermore, these social networks can enhance community formation, attachment, and support, providing connections to knowledge, materials, and decision-making centers (Hughes, 2019). In Vermont, Nepali Bhutanese refugee gardeners have reported feeling significantly more social support compared to other refugees who did not garden (Gerber et al., 2017).

Rhoades (2013) described how access by Vietnamese gardeners in the South to culturally meaningful crops provides a material and symbolic connection to their homelands. This study seeks to build upon Rhoades' work to investigate how refugee Nepali Bhutanese gardeners in Chittenden County, Vermont, utilize seed systems, leveraging traditional seed-saving techniques to mix home and host cultures in their foodways. For people who have had their livelihoods disrupted, felt compelled to physically relocate, and experienced uncertain and shifting statuses of citizenship, seed saving may present an important means to import cultural meaning into new, foreign places of residence. The following section provides a brief background on the displacement of Nepali Bhutanese refugees, with special emphasis on disrupted foodways and seed systems.

### *Disrupted Seed Systems*

Following the Anglo-Bhutanese war of 1865, and encouraged by the British Indian government, Nepali peasant farmers and contract workers emigrated to southern Bhutan for agricultural opportunities, a flow that subsequently grew to about 200,000 by 1958 when citizenship was granted by the Bhutanese government (Giri, 2005; Hutt, 1996; Mitra, 1995). In late 20<sup>th</sup> century Bhutan, most ethnic Nepali families owned and practiced subsistence farming on about one hectare of land with livestock and draught power (Young, 1991). Their foodways were sustained by the food that they grew themselves and traded in local markets (Hutt, 2005). Nepali Bhutanese farmers, like many other smallholders in the Global South, saved, shared, and managed seeds themselves (Gill et al., 2013; Kobayashi et al., 2017). Accessing seeds via farmer networks as well as agricultural extension agents who distributed government-produced improved (by human selection) open-pollinated

varieties (Kobayashi et al., 2017), Bhutanese farmers maintained an impressive genetic diversity of rice, maize, cereals, grains, vegetables, and fruits (Young, 1991). To date, most seeds used in Bhutan are still sourced from informal seed systems (Kobayashi et al., 2017), typically farmer-managed, local, and involving flexible and undocumented exchanges, in contrast with formal seed systems, which involve intensive breeding and commercial enterprises (Gill et al., 2013). In informal seed systems in the Global South, traditional knowledge about seeds is developed through family and community knowledge, experimentation, and social endorsement (Buck & Hamilton, 2011; Richards et al., 2009).

A campaign of ethnic nationalism, legislatively marked by the Bhutan Citizenship Acts of 1977 and 1985, aimed to assimilate minority ethnic groups (Giri, 2005; Hutt, 1996). As Ngalung culture, the Dzongkha language, and Mahayana Buddhism became central pillars of Bhutanese national identity, the Lhotshampa (the Bhutanese population of Nepali descent) were persecuted for their Nepali language and Hindu religion (Giri, 2005; Hutt, 1996). In 1988, a Bhutanese government census classified over 100,000 residents of the southern Lhotshampa region as non-nationals, an act of official exclusion that led to over 107,000 Nepali Bhutanese refugees fleeing violent persecution to UN refugee camps in Nepal during the 1990s (Hutt, 2005; Shrestha, 2011). As Nepali Bhutanese families took refuge, their previous foodways were significantly disrupted. Without farmland to cultivate, people relied on UN food rations, although some refugees had opportunities to grow crops in camp gardens and nearby lands (Blanck et al., 2002). Relocation to Nepal meant that well-established networks, including those revolving around seeds, were disrupted; access to seeds in Nepal depended on relationships with people who were integrated into informal seed systems, as those systems have long been the predominant source of seeds for the vast majority of Nepal's food crops (Joshi, 2000).

Since 2007, over 100,000 Nepali Bhutanese refugees have resettled to other countries, including the U.S., as neither Bhutan nor Nepal granted civil rights to Nepali Bhutanese refugees (Shrestha, 2011). Many could not legally bring seeds across

international borders; the U.S., like other countries, has strict policies regarding propagative materials entering and exiting its borders. Arriving in the U.S., Nepali Bhutanese refugees find a different dominant seed system than what they were used to in Bhutan and Nepal. The seeds that are sold in most U.S. grocery, garden, and specialty stores come from formal seed systems that commercially distribute uniform seeds bred and selected for desired physical, physiological, and sanitary traits (Aguilar et al., 2015; Almekinders et al., 1994). However, since the U.S. seed market for gardeners is relatively small, many seed companies focus on developing seeds for large-scale producers who are likely to buy large amounts every year (Deppe, 2000). The formal seed system of the U.S. presents a distinctly foreign experience for refugees accustomed to an informal seed system oriented towards South Asian ingredients and tastes—and, at least in the case of Bhutan, a policy orientation around organic production (Feuerbacher et al., 2018)—encountering one governed by business transactions and lacking diversity in culturally meaningful cultivars such as the hundreds of rice varieties circulating in informal seed systems in Nepal (Joshi, 2000). This study seeks to depict how refugee gardeners navigate their new circumstances to access and grow familiar crops.

### Research Setting

The study was conducted in Chittenden County, home to more than 163,000 residents and 25% of Vermont's population (U.S. Census Bureau, 2021). Vermont is founded on traditional lands of the Abenaki Nation and was 94.2% White in 2021 (U.S. Census Bureau, 2021). Chittenden County, with the highest percentage of foreign-born individuals (9.0%) among Vermont counties, is where most of the state's 2,500 Nepali Bhutanese refugees have resettled (Sari, 2018; U.S. Census Bureau, 2021). Burlington, the largest city in Vermont (population 40,000), and Winooski (population 7,000), a bordering small city, are the first relocation sites for many refugees. In each town, one community gardening organization was chosen: New Farms for New Americans (NFNA) in Burlington and Winooski Community Garden Network in Winooski.

Started in 2008, NFNA operates five acres at the Ethan Allen Homestead, a historic house and park in Burlington. NFNA provides subsidized garden plots and greenhouse tables to an average of 250 farmers yearly (of whom about 86% are Nepali Bhutanese), provides supplies and informal farmer support, and also hosts educational workshops. NFNA is housed within the Association of Africans Living in Vermont (AALV), a nonprofit refugee service that provides social services, interpreter and translator services, legal services, and health and behavior programs. The second garden organization, the Winooski Community Garden Network, is located about four miles east of the NFNA gardens. The sites are managed by the Parks and Recreation Department of Winooski and are open to any city resident. Within the Winooski garden network, five garden sites totaling about 160 plots offer garden beds ranging from 40 to 225 square feet each (City of Winooski, 2020). Although no official data are collected on the race/ethnicity of gardeners in Winooski, program managers estimate that about half the garden plots are managed by immigrants, the majority of whom are Nepali Bhutanese. These five sites are within one mile of each other.

### Research Methods

This study is based on 30 in-depth interviews with Nepali Bhutanese gardeners. With the help of interpreters with excellent knowledge of the Nepali Bhutanese gardening community, the first author conducted convenience sampling, making interview appointments with interested gardeners. The sample for this study includes 15 Nepali Bhutanese farmers from NFNA and 15 Nepali Bhutanese farmers from Winooski community gardens. Participants fulfilled the following criteria: Nepali Bhutanese refugee gardeners, over 18 years old, and U.S. citizens or permanent residents. The semi-structured interviews were guided by a set of 15 open-ended main questions, ten sub-questions, and multiple prompts. The interview guide sought to understand if and how gardeners access seeds in the U.S., adapt to new growing conditions, and either accept or reject certain crops through the seed-saving process. Questions focused on identifying similarities and differences in growing, saving,

and accessing seeds in Bhutan/Nepal and the United States. Demographic questions were asked at the end of the interview; this information is displayed in Table 1. A panel of experts (a rural sociologist, anthropologist, applied economist, plant geneticist, and NFNA program director) helped shape the interview questions for academic rigor and community cultural competence. The Office for Research Protections at the University of Vermont approved the study on March 22, 2019.

Interviews were conducted at the gardens and in participants' and interpreters' homes in Winoochi and Burlington. Interpreters affiliated with NFNA provided simultaneous interpretation in English and Nepali. As occurs in translation, data can be lost or transformed due to untranslatability: the lack of a suitable translation for a word or feeling in another language, summarized descriptions, distorted meanings, and other issues of miscommunication (Cui, 2012; Temple & Young, 2004). We mitigated these challenges by reviewing the interview guide with the interpreters and piloting the interview guide. Sampling proceeded until saturation was achieved and interview data started to become repetitive with limited new information (Creswell, 2006).

The English dialogue of the recorded interviews was transcribed verbatim through the Speech Pad transcription service. Open codes were developed, combined, and organized in NVivo

v. 12. The codes were labeled with descriptions beginning with gerunds focused on seed system activities and placemaking (e.g., seed saving, selecting, sharing, and experimenting). Codes were then grouped into themes by noting similar patterns (Miles et al., 1994) and identifying patterned regularities. The following section presents the findings that emerged from analysis, focusing on differences in growing conditions, seed saving as a cultural practice, and adapting to the Vermont environment.

## Results

### *Growing Conditions*

Our findings suggest that gardeners merge their traditions and skills with new approaches to adjust their foodways, thereby performing placemaking. With existing knowledge and new techniques, gardeners plant and harvest various cultivars of crops. Our fieldwork observations noted the following crops in the gardens, though this list is likely not exhaustive: amaranth (globe), beans (multiple varieties), bitter melon, broccoli, cabbage, carrots, cauliflower, cilantro, corn (multiple varieties), cucumber, dill, eggplant (multiple varieties), garlic, green onion, lettuce, marigold, mustard greens, okra, onion, pepper (multiple varieties), potato, radish (multiple varieties), snake gourd, spinach, squash (multiple varieties), tomato (multiple varieties), and tukuruke.

In Vermont, refugees confront a climate unlike either southern Bhutan or southeastern Nepal, where refugee camps are primarily located (Hutt, 2005) and where the subtropical climate remains steadily above 60°F but divides the year into a wet and dry season. The short growing season in Vermont and harsh winters present distinct growing conditions, a comparison that interviewees commonly noted. One gardener observed: "So there, you know, in southern part of Bhutan, we don't have snow and frost. Here, because of snow, frost come early and then they kill the plants here." The climates of Bhutan and Nepal were favorable for agriculture as a primary livelihood activity: "You basically grow for, like throughout the year. For example, if you grow rice, then you ... also eat that rice, like every morning and evening throughout

**Table 1. Interview Demographics (n=30)**

Variable	Frequency	Percent
<b>Age</b>		
18–34 years old	5	16.7%
35–54 years old	20	66.6%
55+ years old	5	16.7%
<b>Gender</b>		
Women	15	50.0%
Men	15	50.0%
<b>Year moved to the U.S.</b>		
2008–2011	14	46.7%
2012–2015	15	50.0%
2016–2019	1	3.3%

the year, and also you have, like not unlimited, but a lot to save, so that there's no reason to buy." In contrast, the vast majority of refugee gardeners, even those who relied on farming for their livelihoods in Bhutan, now grow crops as a hobby and must seek alternative income sources.

In addition to contrasting climates, the interviewees also identified other less apparent differences. The gardeners commonly drew a distinction between experiencing sufficient access to land in Bhutan and feeling constrained in Vermont. One female gardener explained that land constraints in Vermont are a barrier to effective seed saving, an activity that often requires large tracts of land to assure sufficient plant population sizes and isolation from other varieties, if maintaining genetic purity is of concern: "So the difference is we have a lot of land there and we have to save [seeds] for those lands. And here, we have small land and then I don't have enough plant available." Cultivating on small plots in Vermont is more akin to land access in the refugee camps of Nepal than in Bhutan: "So the difference is Bhutan, we have big land, different. And then in Nepal, small land, different."

Gardeners maximize the space they are able to access in Vermont but still feel restricted by the small plots or backyard spaces. Limitations of land also mean limitations in what can be produced. The livestock common in agricultural production in Bhutan provided households multiple benefits, including generation of manure compost: "So, in Bhutan, we don't have to buy the compost, you know. It's from the cow and then from the goat. From here, we have to buy from the store. So there is some difference. ..." There were also observations about differences in soil. The loamy clay soil of the garden plots in Chittenden County contrasts with the leached and weathered soils common in southern Bhutan: "So back home country, our place has a red mud, red soil. So we have vegetables and fruits for six months and then the plants or the soil is dry, soil dry after that." While Vermont's climate, soils, and landscapes differ drastically from those of Bhutan and Nepal, Nepali Bhutanese gardeners nevertheless make their new surroundings more familiar by growing culturally meaningful crops, which often requires learning new farming skills and experimenting with

different varieties of crops. Through actions that revolve around seed systems, gardeners create foodways that connect their cultural history from Bhutan and Nepal to their new homes in the U.S.

### *Seed-Saving Practices of Nepali Bhutanese Gardeners in Vermont*

All 30 gardeners reported that they save seeds, obtaining them non-commercially through networks of friends, family, and acquaintances or through store purchases. When asked why they saved seeds, gardeners discussed how their previous experiences with seed saving influenced them. Older interviewees were taught seed saving in their childhoods in Bhutan. A gardener in her forties recalled:

When I see that something grows really healthy and big, my automatic thought is to save the seed. That is what my parents taught me in Bhutan, so that is now in my brain. The first one, like with okra and peppers, I will keep on the plant to save for next year. All these seeds are the ones that I saved from before - some seeds I get from people in these gardens. In Bhutan, back then, there were no stores for seeds, you have to save your own or ask from other people.

Another gardener in her fifties emphasized the importance of saving seeds both as a smallholder farmer in Bhutan and a gardener in Vermont: "So we keep the seeds in Bhutan like corn, [rice] paddy, wheat—because that's how we survive. And then we have to keep the seeds, just keep on keeping ... That's what I learned there, that's what I'm using here. ... I don't know the system here. I am bringing my knowledge from there." With limited English skills and physical mobility, this gardener, like several others, confronts challenges to accessing seeds through formal outlets such as grocery, gardening, and home improvement stores, which she addresses by asking her daughter to purchase whatever seeds mostly closely match what she wants, chickpeas being the most recent pursuit. Social networks maintained among and between the older and younger generations in the Nepali Bhutanese community also facilitate the transfer of seed and

gardening knowledge. Even though some interviewees were too young to farm while in Bhutan, they learn from elders. To save Asian mustard green seeds, a woman in her twenties explained: “That process is still the same in Nepal and here. Back in Nepal, I didn’t save seed[s] but my mom did.” For those who require additional information to what they picked up from family when younger, the ability to interact with older generations is crucial for cultural traditions to continue in Vermont. A man in his forties asked older people in the community for advice: “So, if I have some doubt I talk to older people. They know it. For sure they know it, because they have gone through all their lives, they have done that all their lives because they were brought up on the farm and they left Bhutan when they were 40, or 45, or 50. . . . I left my country when I was 18. I still know a lot, but they know much more. So, I trust their wisdom. They teach me a lot.” The meaning of saving seeds is enriched by local relationships based in shared culture.

### *The Taste of Home and Other Benefits*

Gardeners try various cultivars in search of flavors and textures, and ultimately, the taste of home. For example, gardeners reported looking for very spicy chilies, beans with tender pods, waxy or glutinous corn with low sugar content, and pumpkins that stir-fry well. When they find varieties that suit their palates and cooking needs, they save the seeds to plant them in the future. For many interviewees, these desired crops also provide prolonged access to culturally relevant food, even in the winter. One woman explained the consumption benefits of growing and storing part of her harvest: “So, to eat, to consume in the house. And I’ve frozen chili, hot pepper, and then tomatoes for the winter season.” Engaging in agriculture in Vermont thus enhances household food security through enabling access to culturally relevant foods, and also enhances stability in terms of having access to those foods beyond just the growing season. Still, only a portion of their consumption comes from their garden plots, which supplement food purchases from stores and markets that many of the gardeners find unsatisfactory because they are either not organic or inordinately expensive if they are. Beyond consumption, gardeners explained that their gardening provided

wellness and social benefits: “Like, my mother, you know, she goes to the farm to chat, and then to exercise, and then to reduce the blood pressure, and then to reduce the stress, that’s what she said.”

When asked why she wanted to plant specific vegetables like daikon, mustard greens, and potatoes, a gardener in her fifties responded, “We were born in Bhutan, we grew up in Bhutan and [are] used to the vegetables of the taste of Bhutan. That’s why.” For her and many of the Nepali Bhutanese gardeners, the taste of Bhutan represents the taste of home. A father in his thirties described how his family chooses among different varieties of tomatoes that they plant: “Some are very sour. And some are very big, and like it’s too much [for one recipe]. And we didn’t save the stuff with [no taste]. The good ones, we save the one that looks and tastes good. We decide, ‘Hey, let’s save this for next time and grow more of this one.’” To find the taste, texture, and size they are looking for, farmers experiment with different varieties, and save the seed of the ones that best suit their palates and culinary uses.

In search of certain cultivars, several interviewees asked relatives and friends for seeds and information. A man in his forties described his mission to grow specific types of pumpkins and cucumbers. He asked his relatives for a specific variety of cucumber from the hills of Nepal because,

That’s the best variety we have there. We have always loved them. We have always liked them and we want to experiment. But we have tried and they have worked to some extent. We have not been able to make them as big as they used to be because . . . [Vermont’s] slower season and the nutrients, or I don’t know, for some reason even though they were smaller they still have the same taste.

Social networks and communities were thus critical for the refugee gardeners to access culturally meaningful food, a step in the production process that precedes actually growing the particular cultivar to see if it will perform in Vermont growing conditions.

The example of tukruke is particularly instructive for understanding how Nepali Bhutanese gar-



deners experiment to grow South Asian vegetables in Vermont. Tukruke, a small gourd-like vegetable that grows on vines, started appearing in NFNA and Winooski gardens eight years ago. One middle-aged woman was gifted seeds from her son and took a chance on whether tukruke would grow in Vermont: “So, when I arrived and resettled here, and then I wanted to try whether it will grow here or not. And then my son sent it here and then I tried, and it grows.” She then shared seeds with her neighbors, including an older Nepali Bhutanese gardener who then started growing and selling tukruke seedlings in the Winooski greenhouse, seeking to enhance access to a plant appreciated in Bhutan and Nepal but uncommon in grocery stores in Vermont. As other gardeners purchased seedlings from the elder gardener, tukruke spread quickly. According to the woman, tukruke became so popular in Nepali Bhutanese garden plots because “all the communities love tukruke. So they buy one seedling. And then they put it, they take care of it, they grow it. And then others grow it. That’s why they spread everywhere.”

The case of tukruke is not atypical. Nepali Bhutanese gardeners often experiment with growing the plants of Bhutan and Nepal in Vermont. Sometimes it works; sometimes it doesn’t. What is critical are the social relationships through which information flows. Sometimes resources travel distances through networks, such as when tukruke was first obtained, but (mostly non-commercial) exchange commonly occurs directly in the garden plots. As one woman described, “I will take you or someone to my garden and show them, ‘Here is my garden, so I’m cultivating this.’ So that person will see what is good at that plot. So here she will say that, ‘Oh, that’s good. You’ll just keep that. I don’t have that,’ or, ‘Next year, can you give me that? I don’t have this year as well.’ So, ‘Okay.’ I will save for him or her and share that.” This trialing is part of how Nepali Bhutanese refugees navigate their place in a new land. As one man in his forties put it, “there is a dignity of risk.” For him, the confidence to try new things without fear of failing is a lesson that started in Bhutan when his parents encouraged him to experiment in nature. He brings the same mindset to his garden, testing alternative methods and crops.

### *Adapting to a New Place*

Given the distinct growing conditions, willingness to take risks and experiment is critical for refugee gardeners seeking to integrate agricultural and consumption preferences into a foreign environment. While refugee gardeners draw on previous experiences or familial knowledge as they construct new seed systems, they also try novel strategies to respond to new difficulties that arise in seed saving. Early frosts often prevent farmers from saving seeds that they were used to saving in Bhutan or Nepal. For example, an older man reported, “so, there are a lot of seeds that we save in Bhutan that we cannot save here because of the weather and there’s frost.” Another gardener reflected on the different methods he uses in Vermont: “It’s a little bit different because some plants, some seeds need to grow inside before putting in the ground. That’s the difference I saw.” This gardener learned that he could not directly sow seeds into the ground and thus started seedlings inside before transferring to his garden plot. By starting seedlings in the greenhouse or inside their homes, gardeners make the short growing season of Vermont work for them. They plant the long-season vegetables they want early and watch them mature in time to harvest seeds.

Some gardeners use the greenhouses—a useful but entirely new approach to agricultural production—offered by NFNA and Winooski Community Gardens. A NFNA gardener exclaimed: “All of this would not be possible without the greenhouse. I start everything in the greenhouse: eggplant, tukruke, beans.” Other farmers strategically buy starts from local stores to ensure that the plants reach maturation to harvest fruit for eating and seeds for saving. A middle-aged woman stated, “So, next year, I learned from the friend. . . . So quickly, weather changes here. The fall season comes, so if we buy plants and put it, it’s easy, quicker to grow, and give produce. [I did it] this year also.” To prepare for the frost and snow that can come in early October in Vermont, farmers will harvest fruits early for preservation, transfer plants indoors, and reserve the earliest ripened fruits for seed saving.

Growing crops in the short Vermont summers that take a long time to mature is a challenge for all

gardeners in the state. Nepali Bhutanese gardeners have adapted by planting familiar crops but sometimes consuming different parts of the crop than what was traditionally consumed in Bhutan and Nepal, as in the cases of onions and pumpkins. For example, a man in his fifties said that in the climate of Bhutan and Nepal, green onions can be grown and eaten year-round, but in Vermont, the greens of the onions could only be eaten during the spring, while the onion bulbs are stored for winter: “[We] can have the green part only for springtime, not for long . . . two to three months. But for other months we have to eat the bottom part.” In other efforts to navigate shorter growing seasons, gardeners eat the shoots and leaves of the pumpkin plants they would have grown to maturity back home, even if there is not time for the pumpkin itself to mature.

At the tail end of the season, some gardeners bring plants inside in late fall. A man in his fifties keeps his pepper plants growing in his house, harvesting peppers during winter:

We call it Dalle Khursani. It’s a round chili. It’s like a ghost [pepper]. Really, really, really hot pepper. I have that at home. I save the seeds also, but I save the plant because when I put a plant in the ground . . . the cold comes fast, and then the plant will die without giving fruit. . . . So, keeping the plant inside the house all the time, every year the plant will produce more and more. I have two or three plants and that is enough.

By extending the growing season in Vermont through new gardening techniques, Nepali Bhutanese gardeners navigate the constraints of their new environment in order to meet their needs.

Although growing crops in Vermont helps recreate aspects of their home foodways, gardeners still face challenges and tradeoffs in accessing and growing crops similar to those in Bhutan and Nepal. Not all gardeners are successful in their efforts to find the taste of home in the crops they plant and harvest. A young woman stated that she plants vegetables that “remind me of my childhood and things that I ate in childhood. I [grow] mustard greens here but not the type . . . that I had in my childhood. So, I feel like going back to Nepal . . .

and have that flavor, that taste.” This gardener had not been able to find in stores or grow in her garden the kind of Asian mustard greens that she recalled from her childhood. She described her homesickness through the lens of taste and of memory, lamenting that she could not replicate the taste remembered from her childhood in Nepal.

Material concerns accompanied the yearning for authenticity of tastes from home. The gardening organizations, NFNA and Winooski Community Gardens, assign plots to gardeners yearly. When asked if they wanted to use the same garden plot in continuous seasons, all but one gardener (who wanted a garden plot closer to her daughter) replied that they wanted the same land. Usually, gardeners are able to keep the same plot, but they also understand that no guarantee exists. A middle-aged woman explained: “[Gardeners] put a lot of effort, a lot of minerals, compost, and then it’s in the mindset that next year maybe I need to do less work in that. . . . Like put less money in that farm, in that land, because I work so much this . . . to put so many things this year.” Compost in particular is a prominent concern among the gardeners. Despite the cost and added burden to transport manure and compost, many interviewees nonetheless prefer growing their fruits and vegetables without chemical inputs: “So, in the farm, you know, in the garden, we put the cow manure and only the compost. Not the chemical to grow faster.” Thus, in addition to access to specific cultivars, how these crops are produced constitutes an added demand to food production and consumption embedded with cultural meaning.

## Discussion

This study discusses how the seed systems of Nepali Bhutanese gardeners contribute to the continuation of culturally significant foodways and thereby make meaning in new places. First, gardeners bring existing farming knowledge, practices, and tastes to their seed systems in Vermont. By reestablishing their seed-saving traditions in Vermont, Nepali Bhutanese gardeners connect to their agricultural backgrounds and past foodways. Second, to adapt to a different climate, gardeners create new seed systems and experiment with crop varieties and techniques. By adapting growing

methods and developing new seed networks, gardeners construct senses of place and culturally significant foodways. For some of the gardeners in this study, the taste of home could not be wholly replicated by the crops grown in Vermont gardens; agricultural livelihoods in Bhutan could not be replaced with renting yearly garden plots in Vermont, yet connections to countries of origin, both through specific cultivars and social relationships, were nonetheless central to the pursuit of cultural meaning.

Although most Nepali Bhutanese refugees did not bring seeds from Bhutan or Nepal to the U.S., they still found ways to incorporate familiar crops and techniques in order to (re)connect to accustomed foodways and make place in lands far away from home (Brook, 2003; Jean, 2015). Consistent with Jean (2015), our findings indicate that Nepali Bhutanese gardeners learn new techniques while adapting seed-saving practices for the Vermont climate. Starting seedlings in the greenhouse or in their homes, gardeners can grow long-season vegetables like snake gourd and tukruke, even in the short growing season of Vermont. Gardeners also confront the short growing season by extending their access to culturally relevant food through freezing some of their harvest and sometimes modifying their consumption practices by eating parts of the plant not commonly eaten in their home countries. As gardeners plant, select, and save culturally meaningful seeds, they introduce new crop varieties to the garden landscape of Chittenden County.

Seed practices allow Nepali Bhutanese gardeners to construct a material and symbolic blend of their old and new homes, layering in meaningful aspects of their traditional foodways in the context of Vermont and its conditions of climate, land access, soil quality, and seed systems. Integrating culturally important crops often requires experimenting with new technologies, as in the case of greenhouses, a resource that the gardeners appreciate. Access to land can provide refugees myriad benefits: enhanced food security, health, social connection, and maintenance of cultural (food) traditions. As food is a key part of cultural disruption for refugees, the ability to grow crops that are important in Bhutanese and Nepali cuisine but uncommon in American grocery stores, such as mus-

tard greens, tukruke, and snake gourd, allows refugees to re-create similar food culture in new places. Respondents, young and old, those with previous gardening experience and those without, reported that seed saving was a part of their culture that they wanted to continue in Vermont. Similar to Sampson and Gifford (2010), our findings indicate that meaningful activities—seed saving, in this case—help form connections between past and present, old and new.


Consistent with past research, our study finds that refugee gardeners exchange gardening information, materials, and support through family and community (Jean, 2015). The gardeners in this study shared seeds and knowledge surrounding seeds with their families and the larger Nepali Bhutanese community. For instance, without the practice of sharing seeds and other propagative materials, the much-loved tukruke would not have spread across the Nepali Bhutanese community in Chittenden County. Paying careful attention to how seed and information flow through networks is important, as access can depend on demographic characteristics and social identities. While Tadesse et al. (2016) found that gender and religious identity mediated access to roots and tubers in Ethiopia, age played a prominent role in our study, as younger individuals sought advice and information from those who were older. Regardless of age difference, though, a commitment to enhancing access to culturally relevant plants was common among the gardeners in our study. Although some gardeners preferred to buy seeds from stores if they needed a large quantity, all indicated that they would willingly share seeds with others provided they had sufficient supply. Indeed, gifting seeds was much more common than selling seeds. Sharing information and planting material helped foster social relationships (Gerber et al., 2017), and helped refugees make place in foreign lands (Hughes, 2019). Similar to the depiction of Vietnamese gardeners in the Southern U.S. (Rhoades, 2013), we found that social relations connecting Nepali Bhutanese gardeners to one another—in the garden, through family and friend networks, and across distances—facilitate access to different varieties of crops and advice about gardening in new climates. Social relationships can both predate gardening activities in Vermont, as

with family members, but can also emerge from the seed systems in Vermont, as in the case of tukruke when new connections were formed due to its cultural desirability. In building new and adapting existing seed systems, Nepali Bhutanese gardeners construct place in Vermont, integrating the familiar into the foreign. Through these choices and acts of agency, refugee gardeners access culturally significant foodways, preserving memories of home and continuing cultural practices.

In this study, we limited our focus to the Nepali Bhutanese refugee community. Future research should investigate whether these findings are relevant to other ethnic groups of refugee gardeners, focusing on specific cultivars of cultural interest and how social relations facilitate (or perhaps exclude) access to these cultivars, with specific emphasis on the role of types of informal seed systems important to the gardeners in this study. In addition, research should look across different agroecological zones to investigate how gardeners navigate different growing conditions, which is particularly useful to provide insight into if and how the kinds of connection that refugees feel to their new residences shift across geographic and ecological contexts. Future analysis should also strive to capture if and how acts of placemaking among refugee gardeners, such as incorporating new cultivars, generates broader effects through the experiences of other local residents (both other refugees and non-refugees) and the structure and function of the local food system (e.g., the extent to which informal seed systems can be accessed by others, the availability of new foods for retail, etc.).

### Conclusion

This study has demonstrated how seed systems are a path for the Nepali Bhutanese gardening commu-

nity to infuse cultural meanings and foodways in new places. Despite disrupted foodways, resettled refugees reclaim traditional ways and knowledge of seed saving and experiment with new practices (e.g., greenhouses and transplants) in the hope of re-creating and having more consistent access to the taste of home in a new land. This study highlights actions in seed systems and gardening to show how the processes involved in placemaking and foodways are intricately connected. Through the actions that people take to ensure they have access to culturally significant foods, placemaking happens. By deepening understanding of the different pathways displaced peoples use to create a sense of home in new lands, this study provides crucial starting points for further research focused on the agricultural activities of refugees: the importance of informal seed systems as a means to access culturally important resources, the openness to experiment with new approaches and technologies to import the familiar, the ways that information and seeds flow through specific social relationships, and the myriad benefits of accessing meaningful cultivars. Through these considerations, seed—and food—systems that facilitate culturally meaningful food security for people who have experienced displacement and have been welcomed to a foreign land can be pursued. 

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