

**A Design Anthropology Approach to Understanding Trust in a Clean Cookstove
Intervention in Retalhuleu and Totonicapán, Guatemala**

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INTRODUCTION

This paper was written with three audiences in mind: the clean cookstove sector, applied anthropologists with an interest in the subfield of Design Anthropology, and researchers who study trust as a unique and complex phenomenon through the lens of Anthropology and adjacent social sciences. I apply a Design Anthropology approach to the study of cultural concepts of trust among two communities served by a clean cookstove program in Guatemala and argue these concepts have influenced the program implementation and development. I suggest stove projects consider the use of culture-centered design as a complement to other design practices to deepen cultural understanding of the communities they serve through focused and structured attention to ethnographic work. I aim to highlight the synergies among the three discussions in their shared focus on future-centered ideas and applied practices as a means of encouraging cross-disciplinary research.

In 2024, as I prepared to go to Guatemala to research trust within the context of a clean cookstove intervention, the clean cookstove sector was rocked by a crisis of confidence. Researchers associated with the UC Berkeley School of Public Policy published an analysis of carbon credits generated by clean cookstove programs that indicated these solutions may be over-credited by as much as eight times their actual carbon savings. The analysis highlighted woodstoves as the cooking solution associated with the most questionable accuracy regarding carbon savings (Gill-Wiehl et al., 2024).

The research called into question the validity of the clean cookstove crediting process and shook confidence in the stove sector, especially among funders. Overnight, many large purchasers of carbon credits pulled their investments from the stove sector and redirected them to other sectors. Thousands of clean cookstove jobs were lost due to lack of funding and stove recipients were left without promised products, leading organizations known as local employers and key service providers to disappoint local communities and clients.

At the annual Ethos meeting in January 2024 in Kirkland, WA, the researchers defended their report as a call to action for carbon verification bodies and clean cookstove projects to improve their field methods. Their goal, they said, was to highlight shortcomings and help the sector improve carbon credit accuracy. The more seasoned author of the study pointed out to the lecture hall of colleagues that the sector had been having these conversations for decades.

In the contentious dialogue that followed, those present in the room and connected through video conference from around the world—engineers, entrepreneurs, producers, implementers, and academics—accused the authors of doing a disservice to the industry by seeding doubt among carbon investors. Major newspapers printed decontextualized headlines, such as The Guardian’s, “Cookstove carbon offsets overstate climate benefit by 1,000%, study finds: Cookstove projects are one of the fastest-growing carbon offset schemes, but research finds carbon benefits are vastly overstated” (Greenfield, 2024).

The crisis of confidence that rattled the industry brought the importance of studying cross-cultural trust development into focus. Superficially, a clean cookstove is a significant home appliance designed to reduce fuel usage, prevent burns, and improve air quality for a single household. But within the carbon market system, cookstoves represent a promise to funders that carbon-reduction estimates based on stove efficiency and in-field usage are reliably measured. The funders who purchase carbon credits as proof of real-world carbon reductions from stove use are the final link in a trust chain that begins with a woman in the Global South accepting and using the stove in her home. Stove recipients must trust the organization or person who introduces the stove as well as continue to build trust throughout the process of stove delivery, on-boarding, and continual service. For the system to work, purchasers in corporate conference rooms must trust a chain of actors that includes the verification body, the organization, and monitoring and evaluation field teams that collect data on usage. Ultimately, the process aims to demonstrate to all involved that individual wood consumption and stove use frequency are accurately measured and can be extrapolated to assess the overall impact of all stoves in use.

While trust is commonly talked about—in this sector and in society at large—as a universally understood concept, recent discussions of trust within Anthropology explore the cultural specificity of the concept of trust and its connection to political, cultural, and social conditions. Multiple types of trust can be seen throughout the chain of trust in the clean cookstove funding system. Trust relationships between funders

and organizations include a shared understanding of contractual trust rooted in modern economics. They also respond to accountability-based trust supported by auditing and reporting practices commonly required in the humanitarian aid sector, and in this case, specifically governed by the carbon credit verification process (cf. Billaud, 2023). However, accurate carbon credit verification is not possible if programs do not function in the field, which in large part hinges on a stove organization’s ability to understand and relate to the concepts of trust held by the communities they seek to serve.

To investigate how concepts of trust within communities engaged in clean cookstove implementations can be better understood, this study draws on Design Anthropology and anthropological perspectives on trust as a diverse social phenomenon (cf. Broch-Due and Ystanes, 2016) and dialogues with researchers and practitioners in the clean cookstove sector. I recommend “culture-centered design”—an approach embedded in the field of Design Anthropology, which examines cultural contexts and their impact on human experience (cf. Miller, 2018, p. 3)—as a potential approach to deepening understanding of the cultural contexts in which stove programs operate. In this study, I show how this approach was used to analyze how trust is understood and experienced in two Guatemalan communities engaged in stove implementations—Nuevo San Carlos, Retalhuleu and Canton Chiyax and Coxjac, Totonicapán—and relate findings to anthropological discussions of trust.

I argue that the concepts of trust in Retalhuleu and Totonicapán¹ are distinct and play a crucial role in shaping the implementation of the clean cookstove project and the experiences of its participants. In Retalhuleu, trust is primarily grounded in personal character traits and reinforced through reciprocity. This manifests in interconnected neighborhoods and social networks where women leaders (*encargadas*) have emerged as “brokers,” leaders who act as crucial intermediaries in helping their networks access resources (cf. Lindquist, 2015, p. 2). The stove program's designed services rely heavily on individual relationships and personal connections built on trust and reciprocity, which have facilitated growth and led to the organic development of peer-to-peer, high-touch services outside of the program's intentionally designed services.

In contrast, trust in Totonicapán is understood as a deferral to the collective, embodied by local authorities perceived as a unified entity that represents the community’s interests and draws authority from

¹ “Retalhuleu” and “Totonicapán” as terms serve as shorthand for Nuevo San Carlos, Retalhuleu and Cantones Chiyax and Coxjac, Totonicapán and are not meant to encompass the larger geographical political areas unless noted.

shared power. The authorities' approval of the stove program earns implicit trust from the people; however, this reliance on collective judgment reduces the need for strong interpersonal relationships, resulting in more passive acceptance and engagement among participants and less support through interconnected relationships compared to Retalhuleu. To conclude each section, I advocate from a Design Anthropology perspective to integrate these cultural findings into the design of program services. The overall intent of this research is to show the contribution of culture-centered design to initiatives such as clean cookstove implementations.

CHAPTER 1

A CLEAN COOKSTOVE INTERVENTION IN RETALHULEU AND TOTONICAPÁN

Over 3 billion people worldwide cook with biomass sources such as wood, dung, or charcoal, which puts them at extreme risk for diseases caused by smoke inhalation (World Health Organization, 2016). Highly efficient biomass or gas cookstoves are promoted as a solution with immediate and long-term benefits to users, such as less wood consumption, time or money saved on firewood collection or purchasing, elimination of smoke from the house, and reduced risk of acute or chronic health issues. However, community interest in stoves can be slow to develop among potential users even for projects that engage in design processes to incorporate user feedback on cooking needs and demands into stove design. Among those who accept the stoves in their homes, some may abandon them or 'stack' them with continued use of an open fire (Cardoso et al., 2022; Dickinson et al., 2019; Osiolo, 2021; Pine et al., 2011).

The fuel-efficient clean cookstove movement, from its inception, has promoted “appropriate technology” designed for specific cultural contexts and has developed solutions alongside local communities (Childers and Stea, 1982). However, the trap of paternalism looms large. Mission-driven international donors and organizations want to distribute as many stoves as possible to the Global South and therefore might assume potential users will want them. Designers who collaborate with potential users to solve their open-fire cooking issue—which they may or may not see as a problem—may constrain design to an improved cookstove instead of giving participants space to express their real needs and desires around cooking. Once stoves are developed alongside potential users, they are promoted to wider populations whose values and priorities may vary from those with whom the design was conceived. Many programs and organizations rely on educational campaigns about the dangers of open fires and the benefits of stoves to concurrently create a need among potential users and provide the solution to fill that need. Cookstove organizations are responsive to potential user feedback and shift design frequently while maintaining a balance with fuel efficiency. The

shift away from object-centered design to user-centered design, where the user drives the design process starting first and foremost with their view of the problem, is necessary for ultimate success but problematic for stove organizations that already have a particular technological solution in mind.

Despite cookstove organizations' efforts to limit their stove promotion efforts to areas of cultural relevance and among similar groups who presumably would respond well to the messages and product, stove programs can fail to gain traction even if produced with a meticulous focus on local cooking needs. Much of the clean cookstove literature authored by stove engineers, project implementers, and researchers focuses on understanding weak dissemination and adoption and searches for solutions to improve these problems through better technical design. The human and cultural element in adoption—especially in terms of social influence and underlying beliefs—is worth studying, and yet the clean cookstove sector is missing a culture-centered design process that focuses squarely on cultural research. While the stove sector literature does include cultural explanations for patterns seen in the field, researchers do not typically explore the basis of cultural beliefs that drive behavior.

This research uses a culture-centered design approach to explore the services of an active stove project. The context of research is a clean cookstove intervention designed by the NGO StoveTeam International and implemented in two different geographic and cultural areas of Guatemala: the *ladino* communities of Nuevo San Carlos, Retalhuleu on the Pacific Slope and the Indigenous communities of Totonicapán in the highlands. *Ladino* and Indigenous are distinct ethnic identities in Guatemala, often defined in contrast to each other, that differentiate those who identify with a biologically-mixed, culturally-homogenous Guatemalan national identity (*ladinos*) from those who are Indigenous, a group identity imagined and manifested in various political and social ways in Guatemala by those within the cultures, but often defined or recognized by outsiders by their practices, such as Indigenous customs, language, and dress (Nelson, 1999, p. 206).

The Department of Retalhuleu is dominated by a flat landscape of sprawling agricultural production with smaller municipalities—such as Nuevo San Carlos—oriented socially and geographically around the larger local urban hub of Retalhuleu. The Department of Totonicapán, located in the mountainous highlands, and its capital, also called Totonicapán, serve as the political center of the Indigenous K'iché Maya. The K'iché communities throughout the region are deeply protective of their culture and natural resources,

including vast expanses of private or community-owned pine forests. The NGO StoveTeam International is a clean cookstove service provider and funding entity with projects in Retalhuleu and Totonicapán that rely on local partners.



Figure 1: Map of Guatemala with Totonicapán and Retalhuleu (Image from: One Stop Map, 2014, Modified by K. Forrest)

The people who live in these areas primarily cook with wood used in open fires, and some may also use gas as a secondary cooking appliance. The simplest kitchens have concrete construction blocks arranged on the floor as the housing for a fire, but more frequently have an elevated *poyetón*, an open-top box made of adobe or block and topped with a *plancha* (Figure 2). As this fieldwork included interacting with women who already received stoves, I only observed one fire built on the floor assembled to cook *Nixtamal*, a limed corn mixture cooked slowly for many hours and then ground into a *maza* used to make *tamalitos* or *tortillas*.

I observed propane gas ranges hooked up to portable gas tanks, though they were frequently stacked with dishes. While I observed a few stoves from previous projects that were no longer in use, by and large abandoned stoves were not found in recipient homes, as any existing open fires or previously built stoves in the household were required to be destroyed before the new stove was installed.



Figure 2: A poyetón in use in Guatemala (Photo by K. Forrest)

Wood is abundant in this region and a preferred fuel source. Because electricity in homes is minimal and gas is expensive, StoveTeam International has prioritized wood-burning improved cookstoves over other technologies such as gas. The *plancha* stove technology used by StoveTeam International—the Justa stove—is built on-site in recipients’ homes using brick, concrete, and steel (Figure 3). In Guatemala, the majority of well-adopted stoves are based on the *plancha* design, whose long rectangular firebox with a large *plancha* accommodates making tortillas (Lambe, 2015). One of the only non-*plancha* stoves credited with good user adoption in Guatemala is a portable model also designed by StoveTeam International known as the *Ecocina*. However, the *Ecocina* does not factor into this study, as it is not used in these communities.



Figure 3: A Justa stove in use in a kitchen in Chiyax, Totonicapán (Photo by K. Forrest)

The physical characteristics of the *plancha* stove require the organization and stove recipient to interact several times throughout the building process. At a minimum, they receive an initial eligibility visit to the household, a visit from a stove builder to build the base for the stove, an additional visit for a stove-building process that lasts about three hours, and a final visit to fill the stove body with ash and train the user. The recipient must also agree to allow additional verification visits for monitoring and evaluation and carbon credit verification purposes over the lifetime of the stove. The number of visits and time required to install the stove is high compared to a factory-built *plancha* that can be delivered, installed, and fired for initial use all during one visit. The necessity of multiple visits because of the Justa design means participants and field staff connect multiple times during just the building phase.

StoveTeam International's operation model also depends on their trust in the local partners with whom they actualize their work and their correct assessment that those partners are trusted by the communities they serve. As a smaller non-profit, StoveTeam International receives small grants and donations to enable projects of one hundred to five hundred stoves. This makes the organization better suited to be a niche provider of stoves to long-term embedded community organizations as opposed to maintaining their own long-term large field presence, which would require more extensive funding.

To partner well, StoveTeam International must trust the partner organization to provide services such as transport of project materials, good communication throughout the project, and recipient selection.

International NGOs might arrive with cultural attitudes towards building trust that include contracts, agreements, and continuous reinforcement of trust through completed negotiated exchanges. Local partner organizations must negotiate the pragmatics of exchanges with their international NGO partners to create positive momentum in the project. Anecdotal evidence abounds in the stove sector about in-country partners who are ultimately unable to understand and meet the basic trust-building expectations of international NGOs.

Established trust with the recipient community is one of the main and most intangible services provided by an in-country community partner. Perhaps one reason the basis and nuance of trust as a cultural construction is not represented in the stove literature is because understanding and navigating the cultural framework of trust is often considered the domain of implementation partners. Community partners use their knowledge of trust formation in the local context to bring along the international NGO as they identify and persuade potential recipients, receive any stove payments (participants often contribute a small portion), and make introductions necessary for builders and international partners to be welcomed in the recipients' homes.

The research in Retalhuleu and Totonicapán demonstrates the organization successfully used local constructions of trust as an organizing force for project implementation. The organization allowed for different ideas about trust in Retalhuleu and Totonicapán to influence the final manifestation of the stove project's services. This study seeks to add perspective on how trust shaped the course and form of the project implementation. It is intended to inform conscious design grounded in observed cultural values in future iterative design.

The differences between the regions of Retalhuleu and Totonicapán—economically, socially, geographically, and historically—serve to further contextualize the ideas about trust that will be discussed in the results. Retalhuleu as a region is hot, humid, and flat and bordered by a steep mountain range to the East and the Pacific Ocean to the West. It is occupied by industrialized agricultural production and processing owned by a few large landowners and processors. In this region, industrial mono-crop sugar cane farming for export takes place on 60-85% of the arable land (Peace Brigades International (PBI), 2023a; 2023b) with rubber, coffee, and cattle and pork also being major yields.

The agricultural products grown in this area require extensive labor and resources for harvest, maintenance, transportation, and processing at facilities. The Guatemalan government developed the region

as a center for mass agriculture, manufacturing, and export during the Industrial Revolution in the nineteenth century and that character remains today (McCreery, 1976). Within the sprawl of the main urban hub in the region, the city of Retalhuleu, is the municipality Nuevo San Carlos, with a regional population of about 40,000 residents as of the 2018 Census. The extended neighborhoods in this region are known as sectors. The sectors visited in this research were Versalles and Montufar. These sectors have populations of 3,687 and 3,088 respectively (Instituto Nacional de Estadística [INE], 2024).

I borrowed a truck to reach the periphery communities of Nuevo San Carlos, Retalhuleu where recipients live. The two communities, Montufar and Versalles, are accessed via one-lane paved winding roads starting on opposite sides of the small municipal square of Nuevo San Carlos. Within a half mile of exiting town, precise maneuvers around other vehicles on the narrow road and honking before blind corners became necessary. The landscape alternates between sunny expanses of scrub grass populated by dusty cows bunched under solitary trees contrasted with shady groves of leggy rubber trees in rows reaching beyond view. Small house clusters or individual houses are interspersed among the large landholdings; stick-built construction with corrugated metal sides and roofs are observed alongside ostentatious structures of multiple levels constructed of poured concrete with dramatic architectural flourishes. You would not know these scattered houses comprised a “sector” if not for the name of the sector announced by a municipal sign or hand-painted sign on a building greeting your arrival.

The first three interviews in Retalhuleu were conducted a 20-minute drive outside of Nuevo San Carlos in Sector Montufar. The only defining features of Sector Montufar are a primary school identifiable by children in blue shorts and collared white shirts running freely across the road as if it were not the main thoroughfare, a one-room evangelical church painted a bright color, a cart at a bend in the road selling coconuts, and a couple of brightly painted roadside stores with bags of chips, cookies, and spices hanging in front of what otherwise would be mistaken for the open air front window of a house. The final interview was conducted in the sector of Versalles, which shares similar superficial features of landscape and density and is located on the other side of Nuevo San Carlos. A large part of this landscape is dominated by *finca* lands, the holdings of large multi-generational agricultural operations owned by a single family, which shows the interconnectedness of these enterprises with the community. These *fincas* serve as organizing economic and social forces in the area.



Figure 4: View from a recipient's house in Montufar, Retalhuleu (Photo by K. Forrest)

The local partner to StoveTeam International is the Retalhuleu Rotary Club with leadership from a Rotarian who is part of a well-known *finca* family business that produces coffee, rubber, beef, and pork, among other products. His *finca* facilitates aspects of StoveTeam International's stove program. Stove building materials are delivered to and stored at his facility. He also dedicates a staff member to the coordination of materials as they arrive at the factory and are delivered to each community. This employee serves as the central contact for *encargadas* who have collected lists, collects payments from groups, and coordinates with StoveTeam International to plan the delivery and building schedule.

I argue that the aid offered by local actors such as the *finca* and others—such as the mayor— within the context of weak social services and high economic need has led to the development of highly interconnected neighborhoods and regional networks organized to access these resources. Within these neighborhood sectors, well-known leaders have become trusted financial and organizational liaisons to services and benefits offered by the Rotary Club, altruistic individual benefactors, the mayor, the municipality, and aid organizations. These leaders are predominantly women who earned trust from their

networks by serving in supportive roles, such as teachers or civil servants. They are referred to by the project participants and leaders as *encargadas*—literally "women in charge."

In classical Anthropological literature, people who participate in the community through this role are often called brokers, defined as "a human actor who gains something from the mediation of valued resources that he or she does not directly control" (Lindquist, 2015, p. 2). Under the classical view of brokers, the women who serve as brokers in Retalhuleu could be said to "earn" several intangibles connected to trust: reinforcement of sense-of-self as trustworthy, social influence and respect among peers, and continued status as a trusted person. Mosse and Lewis (2006) describe brokers as possessing the influence to contextually create meanings and sharpen interactions. As will be discussed in this thesis, the women leaders involved in the stove implementation become relationally involved with the stove recipients and influence the meanings and interpretations participants draw from the experience, especially regarding the development of trust in the project and the technology.



Figure 5: A woman who serves as an encargada photographed with her stove (Photo by K. Forrest)

This was seen in the field as the stove project gained traction through the voluntary engagement of these women leaders. Once it was known that stoves were available, these "known" trusted hard workers and

helpers served as organizers to help women in their networks access the stoves. The trust in the stove project hinges on trust in these women leaders, which lends authority to vouch for the stove, the service, and the result. They are responsible for holding and delivering the money collected from the network for stoves and facilitating interactions between the recipients and the stove service. They are dedicated connectors passionate about supporting their networks, even to the point of feeling overburdened by their sense of duty and associated tasks and responsibilities.

The second field site was in the Department of Totonicapán, which comprises part of the cultural area known as the Western Highlands. The predominantly indigenous population was disproportionately oppressed and starved during the Guatemalan Civil War in the latter half of the 20th century and continues to suffer from high rates of poverty and malnutrition (Cuj, 2020). The city of Totonicapán is the political center of the Indigenous communities of K'iché' Maya with a population of 100,000 people as of 2018 (Wikipedia, 2023, "List of places in Guatemala"). The K'iché' Maya are one of the largest Mayan groups in Guatemala. Oral history and written documentation dating back to the sixteenth century describe traditions of social organization among them (Ochoa García, 2023).



Figure 6: Offices in Totonicapán feature Mayan surnames “Yax” and “Tzoc” (Photo by K. Forrest)

In most regions of Guatemala outside of the Western Highlands, *ladino* populations predominate in professional fields and Indigenous people are underrepresented. In Totonicapán, Indigenous surnames dominate among the professional offices of doctors and lawyers, stores sell fine *traje tipico* [traditional dress], and billboard advertisements for banks, community cooperatives, and higher education feature distinctly Indigenous models.

Many of the communities of K'iché' Maya in this region are members of a supra-governmental Indigenous authority known as the 48 Cantones. These *autoridades ancestrales* represent and fight for the Indigenous authority of the Pueblo Maya K'iché' of Totonicapán and maintain internal justice and legal systems to mediate conflicts in their communities (Sieder, 2017).

Through the 48 Cantones, the K'iché' Mayan people exercise political power to preserve their cultural identity and protect their resources, such as community-owned pine forests, from pollution and illegal logging and mining (Del Aguila and Speck, 2023). Because of long-engaged efforts in conservation, their Mayan autonomy and identity are articulated through conservation politics and policies (Conz, 2014). The 48 Cantones maintain physical offices and meeting houses in the center of Totonicapán, giving a tangible presence to their political system. This also serves as a symbolic assertion of their power, positioning them on equal footing with the Guatemalan Government.

The 48 Cantones is a highly cooperative government in which each community sends representation to serve on the central decision-making governing body. For this research, I spent time with recipients from two member communities of the 48 Cantones, Canton Chiyax and Canton Coxjac, both of which are adjacent to the town center of Totonicapán. In this thesis, I will argue that the collective authority of the 48 Cantones relieves individuals from the pressure of evaluating the trustworthiness of outside influences. The environmental NGO Ecologic Development Fund (2024) has worked with the 48 Cantones for decades to implement sustainable forestry practices through the Natural Resource Committee. In seeking to provide stoves to the communities with which they already work, they recruited StoveTeam International as a stove service provider. The two organizations partnered to pilot a project of one hundred clean cookstoves as part of an Ecologic initiative on healthy homes. StoveTeam International was able to enter the communities largely due to the decades of trust Ecologic had built with their communities.

The villages of Canton Chiyax and Canton Coxjac are located just a mile or so outside the city center of Tonicapán. The geography limits free access to the communities by forcing all visitors to enter through the same narrow portals: one-lane roads tightly lined on each side with unforgiving concrete walls. Precariously parked motorcycles and weaving pedestrians make the road almost unpassable for anything bigger than a compact car, yet somehow construction trucks materialized miraculously from roads hardly wide enough to accommodate my standard pickup truck. It would be difficult for anyone to enter or leave either community without their arrival being publicly observed, which is an important component of feelings of security for those who live here.

The road to Chiyax weaves in hairpin turns through the tunnel of buildings, which caused my truck engine to roar while straining against extreme gradients only to find a testing ground for brakes on the other side. As the road retreats further from the dense city center, more sunlight filters onto the road as *milpas* of corn, squash, and beans become more frequently interspersed among the concrete buildings (Figure 7).



Figure 7: The central road in Canton Chiyax (Photo by K. Forrest)

The road to Canton Coxjac begins through a similar concrete-shaded labyrinth, but climbing up the hill towards hard-won elevation gains rewards the climber with increasingly impressive vistas. As the road rises above the urban sprawl, the surrounding hills peppered with dense grey concrete clusters are visible. From the high vantage point, it is possible to trace each hillside community as it cascades down to drain into the sunken valley. The center of the valley is where the city of Totonicapán accommodates the meeting of all villages for market day and other necessary goods and services.



Figure 8: View of Totonicapán from Canton Coxjac (Photo by K. Forrest)

Trust in the 48 Cantones relies on a fear-safety dichotomy and trust in the authorities, which draws power from the people and represents their collective will. Due to past experiences of the Civil War and the continued insecurity and violence of Guatemala, the outside world is viewed as threatening. The structure of the 48 Cantones acts as a filter to ensure people and products entering the community are safe and trustworthy. Though “authorities” is a word often conflated with domination, in this case, it is seen as a community force of the people driven by their most noble representatives. This finds synergy with Indigenous

ideas of “leadership through obeying” as observed in Tsotsil communities in southern Mexico (García-Bravo and Parra-Vázquez, 2020). The stove project enjoys a high level of trust from participants because it is sanctioned by the authorities. I argue this trust is not based on interpersonal relationships, but instead based on belief in and deferral to the system to look out for one’s best interests.

These two contexts provided an interesting comparison because they are vastly different yet fall within the same geographic area and are served by a single stove organization. The wood-burning *plancha* stove—the *Justa*—can also be considered a constant, not a variable, as it fits the cooking style and available fuel sources in both contexts. If this were not the case, functionality variables could distract from comparing trust between the two contexts. These constants make it possible to focus on the concepts of trust and how they influence both the design of the stove program and people's experiences with the stove service.

CHAPTER 2

THE NEED FOR CULTURE-CENTERED DESIGN IN THE CLEAN COOKSTOVE SECTOR

Many of the frustrations of the clean cookstove sector can be boiled down to one headline problem: a cooking solution designers believe is perfectly designed for the intended audience fails to catch fire among the intended recipient base. Worse yet, it sparks a blaze of sales or enrollees in a free or discounted stove program, but then once installed, the stoves sit unused and abandoned in a still smoky kitchen. These interrelated challenges—dissemination and sustained user adoption—are shaped by social relationships and cultural attitudes among the various actors. They are also influenced by how effectively the design process defines the problem from the user's perspective and uses their needs and desires as the basis for a solution.

Some consternation over the slow uptake of clean cookstoves might occur if a researcher maintains an underlying belief that individuals should make rational choices when presented with the opportunity to improve their health, fuel use, and indoor environment with a clean cooking solution (Bielecki and Wingenbach, 2014, p. 352). Anthropology has long challenged beliefs about the calculating rationality of individual decision-makers—associated in the modern era with the economic theory known as Rational Choice Theory popularized by the “Chicago School” tradition—by showing how it is value-laden with capitalist perspectives rather than realistically based on observed facts collected by anthropologists working with humans in diverse contexts (Herfeld, 2022).

If anything should pique the interest of the cookstove sector in critically examining the theory, it should be Rational Choice Theory’s implicit imagining of the decision-maker as a free, maximalizing, individualist embodied in male form (Herfeld, 2022). This image of the “decision maker” is very unlike the customer profile of those served by stove projects, which may be better characterized as female, (potentially) disempowered and restricted by opinions of male family members, influenced by gender constraints, and tending toward collectivist values and behaviors. Rational theories are problematic because they do not encompass a diversity of actors influenced by these among other forces (Herfeld, 2022). Especially in the

stove sector, humans have complex economic, cultural, and psychological pressures that influence their decision-making processes.

In seeing the limited applicability of rational theories in explaining stove dissemination, the clean cookstove sector has sought other theories to explain field observations. For example, Rogers' Theory of Dissemination of Innovation has been often used to explain decision-making through collective social thought as seen in many stove implementations (Bielecki and Wingenbach, 2014; Matavel et al., 2023; Rogers, 2003). Rogers (2003) proposes the opinions of early technology adopters influence subsequent diffusion throughout a social group. As seen in the study of the REACCTING intervention in Northern Ghana, the dissatisfaction of early users with stove performance and durability led to declining rates of adoption over time (Dickinson et al., 2019). Trust is an implied factor in peer influence relationships powerful enough to positively or negatively influence stove adoption. Though researchers recognize that cultural and social factors influence attitudes toward acceptance and adoption, deeper study into the beliefs behind habits and preferences is not common in this field. "Trust" is left largely ambiguous. A robust examination of cultural definitions of trust could serve to help stove projects more rapidly achieve dissemination and adoption.

The mental and physical changes to achieve full adoption can be a challenge for new potential users; they must accept the stove in the home, potentially agree to remove other cooking methods such as open fires and traditional stoves like the *poyetón* popular in Guatemala, and actively focus on behavior change. Furthermore, satisfaction with the stove and personal commitment to the process of change is affected by cultural attitudes towards cooking, cooking methods, types of foods cooked, fuel sources available, available energy infrastructure, economic organization, social dynamics, climate, and housing types.

The literature discusses the challenges of dissemination and adoption extensively and could be organized into the following overlapping themes: 1. identifying cultural, social, and practical needs related to cooking from the user's point of view (Abdelnoura et al., 2020; Bielecki and Wingenbach, 2014; Dickinson et al., 2019; Gill-Wiehl et al., 2021; Victor, 2011), 2. behavior change in the process of adoption (Goodwin et al., 2015; Lambe et al., 2020a; Matavel et al., 2023; Pakravan and MacCarty, 2018), 3. monitoring and adjusting marketing strategy, participant selection, or Service Design to improve dissemination, sales or adoption rates (Adrianzén, 2014; Bonan et al., 2017; Lambe et al., 2020b; Pine et al., 2011; Jürisoo et al.,

2018; Kumar et al., 2024; Williams et al., 2020), and 4. understanding and reducing the use of multiple unclean burning solutions alongside the new stove (known as “stove stacking”) (Cardoso et al., 2022; Osiolo, 2021).

Deeply empathizing with the user's perspective is a central aspect of design. A designer who does not empathize with their user risks imposing their priorities or priorities of funders or other stakeholders onto the end user, which may result in the design's failure to gain acceptance. In a critique and call-to-action for stove projects to approach projects from the perspective of the user, Abdelnoura et al. (2020) describe development organizations and donors as too hasty to define the problem according to their values instead of listening to the interests and motivations of their intended recipients and finding synergy in shared objectives. In turn, recipients receive a “magic object” that has solved the problem from the donors' perspective in other contexts, and the opportunity is missed to find a solution that speaks to the users' main concerns while still achieving the mission of the donors.

The authors illustrate the problem through descriptions of proven solutions that failed when applied to new cultural, social, and economic contexts that were mistakenly assumed to be similar enough to previous field situations. The solution proposed by the authors is a slower pace of problem investigation, transition, and gathering of deep insights about user needs and user definition of the problem as well as multiple iterations to solve the problem (Abdelnoura et al., 2020). Projects that examine broader social and cultural contexts that influence user values and decisions are held up as more effective than those that fall victim to “egocentric empathy gap” thinking and impose their values on the user (Abdelnoura et al., 2020, p. 4). Bielecki and Wingenbach's (2014) study of stove diffusion in rural highlands Guatemala is an example of the type of research promoted by Abdelnoura et al. (2020), as they found the energy efficiency of stoves removed a core function of the open fire as a source of light, heat, and location for socialization.

In a different approach, Gill-Wiehl et al.'s (2021, p. 14) comprehensive literature analysis of a stove industry-wide data set identifies commonalities among user needs and proposes a “set of quasi-universal stove qualities” to help clean cookstove initiatives “stop blaming low adoption on culture and prioritize the user.” This statement alone implies culture can be viewed as an obstacle to overcome or an explanation for failure instead of an opportunity for deeper exploration. The category of “social and cultural aspects” is included among the seven recurring themes identified in their literature analysis, which also includes stove

operation, fuel characteristics, stove design or features, kitchen space, household food and taste demands, and household schedule (Gill-Wiehl et al., 2021, p. 4).

The fact that this category contains the smallest number of papers reveals the lack of focus on cultural issues. Many cultural factors in the analysis relate to a user's desire to reflect a higher social status through an aesthetically pleasing or modern stove. The other cultural factors found to influence stove adoption include internal family dynamics between spouses, the inclusion of children in cooking, and specific beliefs about cooking or a stove's place and purpose in the home (Gill-Wiehl et al., 2021, pp. 11-12). As noted by the authors, the examples given were highly local and could not be generalized beyond the immediate context; therefore, the authors encouraged designers to discover cultural attitudes that may affect stove uptake in the local context (Gill-Wiehl et al., 2021, p. 14).

Even a stove aligned with the cook's needs requires effortful behavior change on the part of the person to adapt. Behavior change is a gradual process of daily habit change often accompanied by a mindset shift in which stove users shed learned ways of being and acting in the world through active unmaking of habits based on cultural beliefs. Self-perception shifts as they change habits associated with their current identity and with their peers, which subtly challenges the personal and societal values that underpin behaviors.

In their application of Theory of Planned Behavior—a theory from the field of Psychology—to the study of behavior change outcomes in Honduras and Uganda, Pakravan and MacCarty (2018) examined the relationship between users' initial motivations for obtaining a stove and their intentions of use, both immediately and over time as users experienced the technology. Their analysis includes categories of common motivations connected to cultural influence such as 1. attitudes toward behavior, 2. social norms, and 3. perceived behavior control, through which they demonstrate motivation impacted intention, both immediately and over time of use (Pakravan and MacCarty, 2018, p. 6). Though the results reflect users' personal beliefs impact usage, the exploration of social influences on user beliefs was beyond the scope of the study (Pakravan and MacCarty, 2018, p. 8).

Another topic in the discussion of behavior change within the clean cookstove literature is the use of trusted actors to influence adoption as an intentional behavior change technique (Goodwin et al., 2015; Lambe et al., 2020a). In Goodwin et al. (2015), a sector-wide literature analysis identifies social support as

one of seven effective behavior change techniques used by clean cookstove interventions. To use social support as a tactic, behavior change implementers must identify and recruit a trusted person or group to promote the new behavior (Goodwin et al., 2015, p. 52). The authors do not describe the methods behavior change projects might use to identify who is considered a trustworthy person in the intervention context. The authors leave a significant opportunity to study the basis of that trust as it correlates to effective behavior change programs.

Lambe et al. (2020a) add to Goodwin et al. (2015) by using Service Design to illustrate the appropriate times in the customer journey for each technique to be applied. The authors identify “peer influence of family and friends” as most important before adoption and “social support” of trusted community members as most important after adoption (Lambe et al., 2020a, p. 11). An additional dynamic that could be considered within their framework is that peers and “trusted” community members are likely to be trusted in different ways and therefore influence potential stove users distinctly. Their framework could be enhanced with research into trust as observed in different social relationships within a single community.

An adjacent concept to social influence is social cohesion, which is also studied as influential in the processes of behavior change, dissemination, and adoption (Adrianzén, 2014; Bonan et al., 2017; Goodwin et al., 2015; Jürisoo et al., 2018; Kumar et al., 2024; Matavel et al., 2023; Pine et al., 2011; Williams et al., 2020). The literature analysis conducted by Goodwin et al. (2015) notes that behavior change techniques used in clean stove programs working at scale rely on community change agents or early adopters to share their experiences to inspire and support behavior change (Goodwin et al., 2015, p. 52). In a comparison of adoption results among recipients trained individually or in groups, Matavel et al. (2023, p. 7) found households in Mozambique with network connections to someone who had already adopted a cookstove were positively motivated to adopt one. Similar results were found in Congolese refugee camps in Rwanda, in which recipients with stove users already in their network were more likely to become adopters (Kumar et al., 2024). Bonan et al.’s (2017) study in Mali explored the influence of social networks and found the recommendation of not only peers—but especially respected peers—positively correlated with higher rates of purchase and long-term adoption.

Further research into the unique ways cultural insiders understand trust in their social relationships could add depth to the research results. For example, Matavel et al.’s (cf. 2023) study in Mozambique could

be further contextualized with an understanding of the basis of trust within networks of non-stove user households and households of early adopters. This understanding could better explain how community networking, information sharing, and the weight of recommendations drive stove uptake.

Social cohesion can either help or hinder stove projects, as observed in rural Mexico, where adoption rates among new users in a community were found to follow the adoption rate of the community as a whole (Pine et al., 2011). The authors argue that “‘early adopters’ serve as ‘opinion leaders’ in communities and diffuse ideas about innovations throughout the social system” (Pine et al., 2011, p. 181). However, the spread of information within a community depends on the strength of ties. The researchers found communities comprised of residents with longer-than-average residency had higher adoption rates due to the ease with which new ideas spread among close neighbors (Pine et al., 2011, p. 181).

Adrianzén (2014) used survey questions about trust to measure bonding social capital within communities and the strength of bridging social capital among neighbor communities in the Northern Peruvian Andes. The author found higher levels of bonding social capital correlated with a higher likelihood the stove project would either be accepted or rejected by the community due to “informational spillover” (Adrianzén, 2014, p. 15). Other studies have found peer networks to not be a factor in stove adoption in contexts where women spend most of their time collecting fuel and doing chores alone and not with neighbors (Williams et al., 2020). As identified by these researchers, trusting relationships lead to collective thinking and decision-making. In these cases, researchers asked about the existence of trust among neighbors and communities, but not about the basis of trust, which would add context to how these bonds are strengthened and formed.

Similarly, in a Service Design study of women’s motivations to buy biomass stoves from social businesses in Kenya and Zambia, Jürisoo et al. (2018) found users purchased stoves because the other women at the demonstration also purchased them. They reported comfort with the known women and peers involved in marketing and demonstration as well as trust in the reputation of the financing partner—a membership-based microfinance organization—as influencing factors in their purchase decision. These researchers found trust among the women was rooted in their network’s role as a safe space to share problems and actively take care of each other (Jürisoo et al., 2018, p. 172).

Service Design studies, such as those described by Jürisoo et al. (2018), hold a similar philosophy to Design Anthropology as participants are considered within their cultural context. As a design practice, Service Design creates and re-envisioned “end-to-end” experiences for users from a whole systems viewpoint, as it understands a user’s interactions with products, services, and other humans throughout their journey are culturally, socially, and systemically embedded in larger systems (Hale, 2018, p. 176). Design Anthropology could be said to go a step further, as it centers the design process on the exploration of unfolding cultural phenomena in the context of and in response to design (cf. Miller, 2018, p. 60), rather than treating culture as a mere influence on participants' experiences with a service. While Service Design includes rooting participants in cultural influences, Design Anthropology interprets cultural influences by relating them to broader anthropological theories.

The philosophy behind Service Design can be grasped through the lens of Actor-Network-Theory, a sociological theory posited by Bruno Latour (2005, p. 3-5), which rejects “society” as being a static and ultimately meaningless explanation for the reality of dynamically shifting actors. His theory replaces “society” with the idea of “social assemblages” made from the constant reorganization of connections among people, objects, activities, interactions, and so on that serve as the “glue” that extemporaneously bonds the system together (Latour, 2005, p. 3-5). Service Design seeks to understand the connections within a social system and transform them for the benefit of the participants as interactions unfold over time through intentional design.

Service Design uses participant insights to map system actors, locations, and interactions from the participant's perspective. This approach describes the participant’s experience—feelings, actions, and interactions—as they navigate the system (Hale, 2018, p. 177). The visual tool produced to plot the participant experience is the Customer Journey Map, which shows which key actors, moments, and interactions were reported to be influential by the participants as they journeyed through the system.

As applied to behavior change as a complex problem, the broadened scope used by Service Design may reveal overlooked contextual factors for designers focused on solving a specific problem (Lambe and Osborne, 2019). Previously mentioned studies recognize that participant engagement or needs may change over time or with exposure to the technology (Dickinson et al., 2019; Lambe et al., 2020a; Pakravan and MacCarty, 2018; Rogers, 2003). Service Design studies in the stove sector have identified specific user

motivations that influence the complex behavior change of adoption and suggested forms of support appropriate for users (Jürisoo et al., 2018; Lambe et al., 2020a; Lambe et al., 2020b).

In summary, the clean cookstove sector is aware cultural attitudes and beliefs affect stove acceptance but stops short of embracing nuanced evaluation of those cultural elements. Stove researchers recognize social influence, social thinking, social capital, and social bonding play a significant role in the rapid dissemination of ideas and in facilitating behavior change. However, the basis of trust within these social bonds is often not contextualized in the stove literature. This is a part of a systemic gap in research specifically about cultural issues within this field. Annette Henning (2005, p. 8) attributes the problem to a tendency of the energy sector to cast anthropologists and other social scientists in the role of “helper” to the team of engineers, economists, and other technical roles rather than as an integrated team member in the research and design process.

The authors who specifically mention a role for a “trusted” actor or actors to support stove dissemination or support rarely discuss how trust is understood in the participant culture. While Adrianzén (2014) uses trust levels as indicators of social capital within communities, it is beyond the scope of the author’s work to evaluate how trust is formed among these communities. The more culturally attuned a stove project is to trust within its working context, the more effectively it can identify the most trusted change agents or entities to involve.

The use of culture-centered design could help the clean cookstove sector move towards better explanations than “society” in describing observed cultural phenomena in the field. Bruno Latour (2005, p. 3) argues that the term 'society' was developed to refer to social phenomena without providing a deeper explanation, and therefore lacks true descriptive power. I argue the same could be said of the frequent use of the word “culture” or “cultural issues” in the cookstove literature; it is often used in conjunction with a brief description of a cultural phenomenon, positioning it as either an obstacle to navigate or a happy pattern seen in user response to technology or programs.

Applied anthropological approaches can disrupt the cyclical thought patterns that often plague insular fields. Batteau and Villegas (2016) examine issues within corporate cultures—issues well recognized and described by Organizational Psychology—through an additional applied anthropological lens. By analyzing these issues from the perspectives of both fields—Organizational Psychology and Applied

Anthropology—the authors show how merging two modes of thinking can bridge descriptive and prescriptive perspectives to arrive at profound cultural explanations for observed patterns. In the clean cookstove sector, Design Anthropology applied throughout the design process—from innovation to testing to launch and redesign—could yield new perspectives on the issues typically discussed and disrupt patterned thinking and routine explanations.

In Design Anthropology, rich descriptions of historical and social contexts and cultural beliefs and values are gathered and weaved into the design process. As Christine Miller (2018, p. 99) describes, Design Anthropology seeks to “hybridize” change-oriented Design and observation-centered Anthropology to produce a new kind of knowledge production. It deepens ethnographic practices and attention to cultural phenomena in Design and enhances the focus on the design process as a means of understanding and influencing culture in Applied Anthropology, thereby contributing to both disciplines.

The primary focus of Design Anthropology is the cultural seating of products and services rather than literal and practical evaluations of participants’ immediate behaviors, habits, and perceived problems (Kilbourn, 2013; Prendiville, 2015). Design Anthropology seeks to understand current beliefs and values and codesign with participants to achieve products or services that resonate and yet transform through use (Gunn and Donovan, 2012; Miller, 2018; Murphy, 2016; Otto and Smith, 2013). Techniques of participant observation, semi-structured interviews, focus groups, and anthropological theory are generally applied in Design Anthropology to gather insights from informants about the culture and suggest improved solutions.

Design Anthropology is a future-focused study of culture as used in and created through the design process. As opposed to traditional Anthropology, which would be most crudely characterized as a discipline that describes culture and generalizes observations into theories, Design Anthropology seeks to do both that and participate in future-focused culture creation through the design of “products, processes and services that transform society” (Otto and Smith, 2013, p. 4). The core tenets of this field will resonate with clean cookstove projects: it is focused on the future, seeks to influence cultural groups, and encourages collaboration among disciplines that bring different perspectives (cf. Otto and Smith, 2013, p. 4).

Caroline Gatt and Tim Ingold (2013, p. 143) contrast Design Anthropology’s intentions with those of traditional ethnography by describing it as a discipline that “seeks to correspond with, rather than to describe, the lives it follows.” Design by correspondence encourages transformation through the

ethnographic process, as conversations and participant observation generate real-time, in-the-field transformations through improvised envisioning of the future (Gatt and Ingold, 2013, p. 147). Design Anthropology recognizes the transformative power of the design process when all stakeholders are invited to participate; much like other design fields, it cautions against the trained designer as a central authority in the design process (Murphy, 2016, p. 440). It also recognizes design processes are often rooted in particular ways of thinking and knowing drawn from the designer's culture and encourages understanding and inclusion of Indigenous or culturally-specific modes of thinking within the design process (Miller 2018, p. 45).

In terms of clean cookstove interventions, stove researchers might reflect on any tendencies to mentally silo the need to include potential stove users within the design process into only certain stages. For instance, users might be central to the design of onboarding and training yet excluded from the process of designing a data collection strategy. How might all interactions with stove users be reimaged to be more aligned with collaborative future envisioning between the user and other actors in the process?

The idea that culture is produced in real-time through collaborative processes as informal as a conversation underlines the unavoidability of recognizing the ethical responsibility of designers to participate in co-creative and community-empowering processes (cf. Agid and Chin, 2019). A criticism of the traditional design field's use of the term "empathy" or ethnographic profiling is its positioning as an extractive step to gain "insights" to be used in design; in contrast, a social design process or Design Anthropology partnership seeks to encourage trust and partnership through co-creative relationship (Gregory, 2018, p. 214).

Trust is a foundational concept of practice in the field of Anthropology, both ethically and practically, due to the intimate nature of asking people to share their experiences, thoughts, and feelings with the researcher and their audience. The researcher is responsible for ethical and accurate interpretation and representation. In Design Anthropology, this value manifests as community inclusion and trust from conception to implementation. To reference Actor-Network Theory, if any aspect of the design process is conducted without considering the network of interactions in which it will ultimately function, the solution may overlook other critical components of the system and consequently struggle to integrate effectively upon its introduction (cf. Latour, 2005). Therefore, design should be co-emergent with shifts in the network rather than designed and inserted into a social or cultural system.

Trust is a central object of study within Design Anthropology because it is a future-anticipative concept. Trust is a means of anticipating one's experience with other people, services, and objects in the future and is continually being used, made, or unmade throughout the design process and the participant's experience of the designed services. For example, Sarah Pink et al.'s (2018, p. 3) inquiry into trust in digital data systems characterizes trust as an ability to act based on previous knowledge and intuition despite the impossible predictability of future outcomes. Broch-Due and Ystanes (2016) define trust similarly in terms of future expectation as "social orientation towards the future nurtured by the gradual accumulation of positive experience and sometimes revealed in a leap of faith" (Broch-Due and Ystanes, 2016, p. 3). To trust is to gamble on future outcomes with information gained through experience.

Otto and Smith (2013) advance Design Anthropology as a distinct style of knowing due to its experimental melding of anthropological and design methods: for example, using participant observation as a method to inform iterative design processes (Otto and Smith, 2013, p. 11). Design Anthropology has produced ethnographic research into human behavior and cultural attitudes towards emerging technologies or practices in fields such as Human-Computer Interaction and software development, industrial design and product development (Otto and Smith, 2013, p. 8), urban design (Gregory, 2018), learning interventions and international development (Agid and Chin, 2019), community-based services (Prendiville, 2015), health care working conditions (Pink et al., 2014), and digital data security (Pink et al., 2018).

The conceived application of Design Anthropology builds on previous clean cookstove work that has identified social networks and social influence as effective tools for dissemination and behavior change, particularly in the initial acceptance and long-term adoption of stoves. It advocates for a deeper analysis of why these social patterns are seen within the context. Design Anthropology is presented as a method of deeper analysis; participants were interviewed about their concepts of trust in general rather than only the degree to which they trusted another actor (neighbor, outsider, or organization) (cf. Adrianzén, 2014).

From a design perspective, unique understandings of trust and trustworthy persons as formed by social, cultural, and historical context should be understood as part of the process of harnessing trust as a means of successful implementation and behavior change. The concept of trust held by the community limits the range of manifestations the stove project could potentially take. Rather than "building trust with the community" as many stove projects suggest they do, the observed reality is that a stove project can be

successful through understanding and forming projects around relationships of trust inherent within the community.

This research accepts the premise of anthropological discussions that trust is a diverse social phenomenon (Barbalet, 2019; Broch-Due and Ystanes, 2016). One common way to think of trust may be based on contracts and rational exchanges between two parties, where expectations of reciprocity and reliability are built through working together (Broch-Due and Ystanes, 2016). However, researchers who study cultures assumed to focus exclusively on this type of trust—such as Patrick Lencioni (2002), a prominent organizational researcher who studies corporate culture—acknowledge that actors also navigate these value systems from a human-first perspective. This perspective includes personally held values like intuition, caring for others, and emotions, which can influence behavior in the workplace. These underlying “human values” with which systems are navigated—be they personal, business, political, or otherwise—are culturally specific. Trust could be considered a cumulative experience of another’s values in action and prediction of their future behavior. This should serve as a reminder that the way trust is discussed in academia is not intended to suggest people and cultures are limited to just one type of trust.

Academia conceptualizes trust in focused ways to aid in analysis. On the highest order, the overall divide is falsely dichotomized as “those coming from a rational-choice perspective (e.g., economics, business, or political science) and those coming from an emphasis on social constructions and shared values (e.g., sociology, psychology)” (Wilke et al., 2011, p. 190). The social construction and shared values approach may define types of trust by their function. For example, Julie Billaud’s (2023) creates terms to describe different types of trust as “technologies” used in aid interventions (accountability-based, organizational-based, and mandate-based) and John Aguilar (1984, p. 15) distinguishes trust types by use, describing “reliance” trust and “confidentiality” trust. These categorizations describe types of trust that are recognizable—though in different forms—in various cultures and contexts.

Some use an anthropological perspective to describe deeper cultural nuances around trust. Broch-Due and Ystanes (2016, p. 33) challenge the assumption that trust is “produced in the same way everywhere” through their work to bring together examples of trust manifesting in a “multitude of ways” from the complexity of unique social relationships. Margit Ystanes (2016) explores “blood” and trust in Guatemala as a symbolic boundary and mediator of trust between insiders and outsiders within and among kin groups.

Paula Haas (2016) describes unexpected types of trust among Mongolian farmers, one example being the act of trusting someone bestows them with trustworthiness, rather than trustworthiness being a quality of their character.

Broch-Due and Ystanes (2016, p. 24) argue for the use of trust as a verb that describes relational interchange as “saturated with sentiment, motivation and meaning which goes far beyond any pure, cool calculation by individuals.” Trust has also been described as a personal “feeling” that culminates from taught beliefs, tangible sensory experiences, and intangible modes of knowing, which come together to create an anticipatory experience through which an actual experience is perceived (Pink, 2021). Therefore, they encourage thinking of trust as not a singular “thing” but instead “a composite social phenomenon arising in the interplay between bodies, minds and intersubjectivity” (Broch-Due and Ystanes, 2016, p. 3). These definitions suggest that when trust is used as a tool to measure social cohesion—for example—it should be contextualized in participants’ understandings of the role of trust in their relationships (cf. Adrianzén, 2014). As stove projects often rely on key actors rooted in the community—such as organizational or governmental leaders, health workers, or peers—to navigate, nurture, and perpetuate social relationships with users on their behalf, they would be well served to understand the bases of trust in these relationships.

CHAPTER 3

CULTURE-CENTERED DESIGN IN PRACTICE

This section discusses a Design Anthropology approach to understanding trust in the two contexts. I will discuss Design Anthropology thinking and tools used to explore beliefs about trust and the influence of those beliefs on stove program design and participant experience. The culture-centered design method described here is a potential way stove projects could approach cultural research.

The methods used in this research produce small-scale and statistically insignificant qualitative data, which is not a research style commonly embraced by the clean cookstove sector. The majority of the clean cookstove literature analyzes user satisfaction, adoption rates, reasons for non-adoption, and other issues quantitatively. As a public health issue, researchers seek to establish the extent of a problem within the population; quantitative statistical analysis serves this goal well, as it is designed to produce results representative of the entire population (Sangaramoorthy and Kroeger, 2020). The topic researched here is explored through a few focused interviews aimed at uncovering views and beliefs shared among participants in the stove program but does not measure how pervasive these views and beliefs are within the social system. The research analyzes concepts of trust and views their influence on stove project acceptance. Other conceptions of trust may exist concurrently in the same context but remain uncovered by this limited scope of research.

A Design Anthropology framework is used to explore participants' experiences of the stove project's service through the lens of trust. This section describes several ways I reflected on my position as a consulting cultural designer to the organization in the way I chose to apply Design Anthropology thinking and tools. As an approach, Design Anthropology discourages essentializing a recipient as a "stove user" and encourages understanding the person within their cultural context rather than as a role or identity the designer hopes they will adopt (cf. Hale, 2018). Ethnography is the practice of giving focused analytical attention to

understanding another's experiences from their perspective and interpreting their social world (Harvey, 2011). Jay Hasbrouck's (2018) design-focused introduction to ethnographic thinking—*Ethnographic Thinking: From Method to Mindset*—offers designers examples of robust ethnographic fieldwork as an antidote to reductionist thinking about ethnography as a tool to “solve” a design challenge (Hasbrouck, 2018, p. 2). The misuse of ethnography to narrowly focus on troubleshooting a particular problem parallels Abdelnoura et al.'s (cf. 2020) criticism of research flawed by a lack of consideration of the full list of priorities from the participant perspective.

Hasbrouck's (2018) *Ethnographic Thinking* delivers practical advice for researchers and frames ethnography as a mindset or approach, not a technical tool. He encourages researchers to engage their powers of curiosity, observation, deferred judgment, and flexibility while immersed in fieldwork, writing, and analysis. As opposed to quantitative survey styles that require conformity of questions to produce results and therefore generate a certain type of focused interaction, ethnographic research allows for researcher and participant to improvise a free-flowing conversation that takes the necessary path of discovery. To draw a link between Hasbrouck's (2018) work and Gatt and Ingold (cf. 2013), such free-flowing practice accommodates “correspondence” or co-creative processes of future envisioning to occur.

Specific methods used in this research included semi-structured interviews, participant observation, and sensory ethnography within the homes of stove recipients. The findings were used to describe trust in the two contexts as conveyed by individuals and as observed while participating with the actors in the system. An ethnographic profile such as this may interpret a cultural system through a specific aspect of culture, such as social relationships and trust, without being considered reductive, provided the whole system is considered.

The collected perspectives were visualized using a Customer Journey Map. A Customer Journey Map is used in design fields to display temporal aspects of customer experiences with a service. Throughout their journey, a person interacts with people, places, objects, and services that evoke responsive thoughts, feelings, or behaviors likely to positively or negatively influence their experience. In the design process, several people who have been through the process are asked to share their experiences of the journey. Listening carefully and being open to hearing about influences on the customer's journey that seem “outside” of the system (as imagined by the designer) provides a better understanding of the influences on the customer journey from the participant's perspective.

The moments in the journey incorporated into the Customer Journey Map are determined by those who have experienced the process. To emphasize, these key landmarks are defined by the participants, not by the designer, and are inferred by the researcher through attentive listening to their experiences. The amalgamated experience of the “participant” is shown on the Customer Journey Map as they travel through the landmarks. Multiple participant profiles and Customer Journey Maps may be used if it is necessary to segment the participant experience based on groupings of participants that share characteristics or distinct observed patterns in their experiences. The mapped journey tells the stories of all the actions, reactions, emotions, or thoughts experienced, which can be categorized as positive or negative, and encouraging or discouraging to the customer in continuing their journey (cf. Lambe et al., 2020a, p. 6).

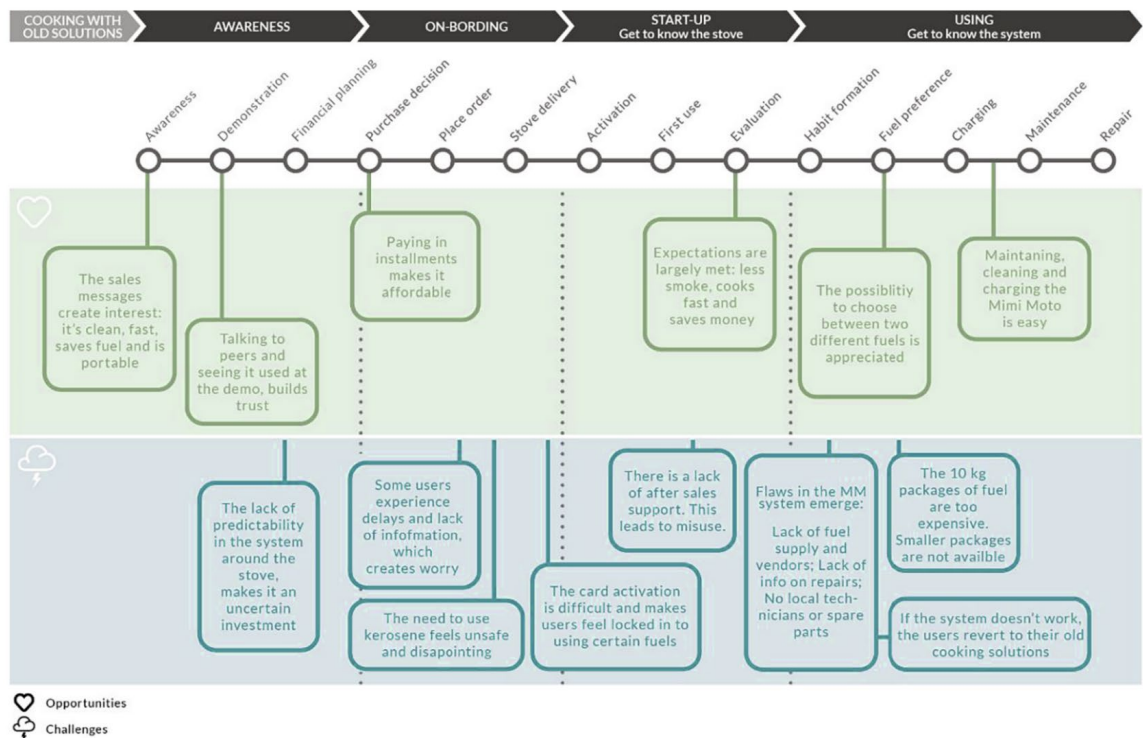


Fig. 4. Main challenges and opportunities throughout the user journey.

Figure 9: Customer Journey Map from a Service Design study of clean cookstoves reproduced without modification (Lambe et al., 2020b, “Figure 4,” p. 5)

The Customer Journey Map was created with a focus on trust throughout the process and promoted as an illustrative tool for use during reflection in the co-design process with various groupings of actors, such as the *encargadas* or the stove organization. In other design interventions in the stove sector, focus groups have been used to bring stove recipients together to discuss their expectations and experiences of receiving

and using the stove. In Lambe et. al.'s (2020b) Service Design-driven study of clean cookstove usage in Kenya, users were segmented into focus groups based on initial motivation to adopt the technology and researchers found the customer journey differed among the groups. A Customer Journey Map that shows participant experience of the stove over time is reproduced here below to illustrate the concept. The Customer Journey Maps from this study are found in the results.

A focus group intended to allow space for group feedback and conversation about the experience throughout the stove-receiving process was planned as part of this research. The plan was to gather the women interviewed throughout the week for a final lunch. I planned to use the Customer Journey Map to spur group conversation about the landmarks identified as high points or low points of trust. The intention was to spark memories of more experiences or feelings through group sharing. However, the focus group was not properly designed for the context in Retalhuleu, and Totonicapán did not have the right field conditions for a group meeting. Not holding a successful focus group of participants was a missed opportunity to create the dynamic of several participants responding to each other's thoughts, feelings, and ideas about the experience, which would generate different results than questioning by a researcher.

A focus group of *encargadas* in Retalhuleu was planned as their key role in the process was revealed through research. The focus group explored the various roles the *encargadas* played in the process, as some were known and others unknown by the organizational leadership. The *encargadas* were asked about their feelings about playing a pivotal role in the project, invited to suggest improvements to the flow of services, and helped envision their future role in the project.

This research was conducted over two weeks in April 2024 using a research philosophy known as “patchwork ethnography,” which supports the idea that shorter spurts of research conducted by embedded actors is a valid approach to research (Günel and Watanabe, 2024). This contrasts with the assumption that anthropological ethnographic fieldwork must involve long periods of immersive research. This assumption is based in the reality that the researcher needs time to become trusted by the community and individuals, which is the cornerstone of anthropological discovery methods. They also need to be present long enough to witness daily and periodic aspects of life and recognize recurrent patterns. I chose to use “patchwork ethnography” to describe my approach because it more realistically mimics the limited time stove researchers

or implementers may have to spend in the field of a specific context as well as their complex identities as both research and actors in the system.

“Patchwork ethnography” encourages fieldwork over several punctuated months or years in which the researcher may come and go from the context. This flexibility makes it naturally more inclusive of researchers who cannot spend one long continuous block of time in the community due to other obligations. It also accommodates researchers entrenched in the community of study, even those who serve in embedded roles. Günel and Watanabe (2024, p. 135) argue modern anthropological research and travel make the antiquated ideal of separate work and home lives—or separate field and non-field lives—and neutrality towards a community unrealistic. An inclusive philosophy allows for more researchers to participate and adds to the diversity of voices in the field (Günel and Watanabe, 2024, p. 131). The philosophy allows program staff or related partners to contribute to anthropological work.

This philosophy also matches the approach of many working design anthropologists, who tend to work in short-focused studies rather than long fieldwork engagements, as they are applying a specific toolset to study and influence emergent cultural patterns (cf. Otto and Smith, 2013, p. 14). Another approach to short-term ethnography forwarded by Pink and Morgan (2013) also emphasizes limited time frames for studies that require private engagement within people’s homes. The authors argue shorter duration studies reduce the time burden and social stress experienced by informants asked to host a researcher in their home and kitchen. In the study of clean cookstoves, shortening the duration of time requested and spreading out the frequency of visits can help ease this anxiety.

As a researcher, I also am a good example of someone who has engaged in “patchwork research” within this field for about a decade and who brings a complex identity to the study. I was employed by StoveTeam International from 2014 to 2016 in a field role and have served in a leadership role as a volunteer on the Board of Directors since 2018, which has also brought me to the field to interact with program staff and stove recipients twice in the past two years. I am already aware of issues surrounding clean cookstoves, especially in Guatemala. I already know about the inner workings of StoveTeam International and have been privileged to hear staff perspectives on conditions in the field and program successes and challenges.

Why should stove projects rooted in the community be bothered to employ ethnographic approaches? For example, StoveTeam International has been working in Retalhuleu for over a year and a

half and Totonicapán for over a year. Could a field-based team have more to learn through focused cultural inquiry? Through long-term engagement with the community, stove projects know a great deal about the cultures in which they work, but ethnographic work designed to focus on specific cultural questions could be used to explore outside of the usual themes using a focused process for investigation and interpretation. Focused fieldwork can also be designed to be done by a research team of staff, leadership, consulting experts, or volunteers. The professionalism of cultural results improves with focused ethnographic research attention to a theme, as it adds structure to the process of exploration and allows multiple team members to collaborate on interpretation, resulting in cultural information that can be communicated better than anecdotal or haphazard individual opinions or experiences.

The patchwork ethnography approach may embolden stove projects to be ethnographers within their projects; it could be useful to engage in focused cultural discovery during specific stages, such as when the organization is grasping the lay of the land, learning about the potential recipients, and planning the services while funding develops. Before beginning an implementation, projects may assume they will encounter similar challenges to those they have experienced in nearby areas. As we will see in this thesis, unique social and cultural configurations lead communities to differ greatly despite proximity to each other and surface-level similarities. These disparate underlying beliefs may be the reason seemingly similar user groups receive the stove or service differently.

This field plan to explore these issues was developed in collaboration with the Guatemalan Field Director for StoveTeam International. The goal of selecting the two distinct cultural and social areas was to show how the stove program had developed differently due to the power of local influences and cultural values—namely trust—despite the organizational structure, stove building, and services provided by the organization being constants across the two areas. The comparison of the two communities was designed to explicitly identify the role of community values in governing the social relationships harnessed to realize the project plan. To clarify, “cultural forces” and “social relationships” do not shape the program any more than the stoves can light themselves, instead I mean to say they set the boundaries of what is possible; the astute staff of the stove organization, program partners, community members, and other “actors” work together to shape the program around what “works” in the field.

The two areas offered several communities as potential study locations. Several hundred stoves had been built in the Retalhuleu area. The sectors of Versailles and Montufar were selected because they were highly accessible peri-urban locations just outside the municipality of Nuevo San Carlos. Both are small communities of about 3,000 people spread out on the cusp of the rural-urban interface (Instituto Nacional de Estadística [INE], 2024). They are representative of the type of communities—from various sectors—that are involved in the project.

Another reason for selecting these communities was their geographical closeness to the municipal center of Nuevo San Carlos via one-lane roads departing directly from town. Residents report roads had been crudely paved as recently as the last ten years. Collective shuttles, motorcycles, and private cars made frequent travel to the three-block square city center of Nuevo San Carlos, the surrounding *fincas*, and church, school, work, or shopping accessible. Even so, sectors were distant enough from the city center that they had their own character and local neighborhood community. These recipients also received their stoves in the last six months and offered perspective on the current services. These two sectors had similar geographic and social characteristics and were connected socially in similar ways to the main town; this made it possible to gather more diverse opinions than from one community but without many variables. It was also assumed that social cohesion and self-reliance in these sectors due to their slight remoteness may reveal more about social ties and trust than city dwellers who may have less geographically-defined social networks.

In Totonicapán, the communities selected to conduct interviews were Canton Chiyax and Canton Coxjac, both of which are members of the supra-governmental organization of the 48 Cantones in the Department of Totonicapán. The regional population of Totonicapán was approximately 100,000 residents as of the 2018 census, which included the population of all cantones such as Chiyax and Coxjac, whose populations were 4,974 and 3,660 people respectively (Instituto Nacional de Estadística [INE], 2024). These were dense communities just outside the city center of Totonicapán. As of the date of research, the project in Totonicapán was still relatively new and only one hundred stoves had been installed. The two communities studied had been some of the earliest to receive their stoves as this project had just begun.

The selection included four households from each area—for a total of eight—who had received their stoves in the past six to twelve months and were asked by the StoveTeam International field supervisors if they would be available for an interview with a visiting researcher. A semi-structured interview conducted

over a shared experience of cooking lunch was planned with each of the eight households. The semi-structured interview questions related directly to thoughts and feelings about cooking over the stove as a replacement for their previous method of cooking. Participants were also asked about their thoughts and feelings about how they decide to trust and how trust is built. A segue into questions about the stove receiving process and their assessment of the trustworthiness of certain actors or moments revealed the strength of trust in the people and process, as well as how the stove project has led to new trusting relationships.



Figure 10: Preparing Chicken (Retalhuleu)(K. Forrest) Figure 11: Fried Chicken (Retalhuleu)(K.Forrest)

The practice of cooking with the women created the opportunity to share an embodied experience with them. Sarah Pink and Jennifer Morgan (2013) have proposed short-term ethnography based on intense and focused visits that center around a particular activity like cooking can be effective. These authors and other researchers suggest researchers who share embodied and sensory experiences with informants have more visceral empathy and understanding of their experience (cf. Stoller, 1989). I asked myself and the women I spent time with how the effects of sensory experiences such as smoke, heat, stove height, and the internal sensory experience of stress caused by the speed of the appliance and the safety of children around the appliance might be relevant to their motivations to risk involvement with the stove receiving process. Participation in the full sensory experience alongside the women was designed to help me understand the

sensory costs or benefits of using the stove firsthand (cf. Pérez, 2014; cf. Pink, 2021; cf. Pink et al., 2014; cf. Victor 2011).

The social experience of engaging in the interview was also a sensory experience of trust for both the researcher and interviewee, as trust is not only an intellectual decision but also a felt in the body response (cf. Pink, 2021). For myself as a researcher, entering a stranger's private space made me highly attentive to my actions and words and self-consciousness as each was received, while the interviewee experienced their own embodied response to the interaction.



Figure 12: Tamalitos in Totonicapán (K. Forrest) *Figure 13: Chicken soup in Totonicapán (K. Forrest)*

Each woman was asked to choose a dish to teach me how to cook and provide an ingredients list for me to go shopping. Many chose Guatemalan staple dishes customary for greeting a guest such as *caldo de gallina* (chicken soup) or *caldo de res* (beef soup). I arrived with ingredients for the dish and occasionally with a bonus ingredient to include or an unexpected side dish or dessert. The interviews were recorded with the permission of the cooks and transcribed for review. Each cook was asked the same questions while also allowing for the conversation to develop naturally. The format allowed for free-flowing discussion with the main cook as well as other members of the household who may have been periodically present. When other

household members or visitors from adjacent houses (usually immediate relatives) visited, it spurred group discussions. At the end of the lunch, each cook was also asked to describe each step in the stove receiving process, which was used to create Customer Journey Maps for each location.

The methods of participant selection and the context of introductions are relevant to the results. The supervisors were instructed to choose people who would be receptive and talkative. These users may have been easier to interview than more taciturn or aloof women but also may have biased the study with an over-representation of personalities more open to outsiders. There was no other information about how the specific women had been selected for interview apart from having a friendly rapport with the supervisors. Though field managers may have been inclined to select active stove users, a few extra household visits were also conducted in Retalhuleu with women who used their stoves less frequently than would be hoped for by the organization. Interviews were also conducted with leaders from the organizational partners and in the case of Retalhuleu with volunteer community leaders (*encargadas* and the *finca* program liaison).

The general process through which introductions extend trust from known people to unknown people in Guatemala—and in both research locations—is discussed here because it gives context to my reception as a researcher. At the start of the stove-receiving process, field managers from StoveTeam International rely on the partner organization to identify appropriate stove recipients and make introductions. In both Retalhuleu and Totonicapán, a field organizer from the partner group (Totonicapán) or a well-known community member (Retalhuleu) would lead the StoveTeam International field manager to the recipient household and make an in-home introduction. This first meeting occurs even if a potential recipient has been to a public meeting with StoveTeam International, as an in-home meeting is a more intimate space.

Introduction by a known person who knows the home layout and location is also a practical necessity in these areas of Guatemala. Homes are not marked or arranged on an intuitive grid. The entryway of many homes is not easy to identify nor oriented towards the public-facing street, even if the home is the closest home to the street within the house compound. Entryways may be on the side of the home or on the back side of the building, which requires visitors to pass through narrow passageways and private spaces before reaching the main entry. In many cases, visitors may have to take paths that cross neighbors' properties to arrive at the household of interest. It may be difficult to identify a house or its point of entry from the public road and would be uncomfortable to enter unless one is a person known by the neighbors. Margit Ystanes

(2016, p. 44) describes the Guatemalan value of “closedness” as being built into architecture “constructed so as to shield domestic life from the intruding gazes of neighbors and passers-by.”

Social custom dictates one verbally identifies oneself upon entering another’s property by saying “*permiso*,” as there is often no physical barrier such as a door or a gate that separates private and public space. Instead, visitors announce themselves when they arrive at the imagined threshold between public and private space. This is the first signal of politeness a visitor can give. Along with arriving with a known person, a verbal call of “*permiso*” to enter as soon as arriving on a property universally signals in Guatemala that one is a trustworthy person with good intentions.

After the initial meeting with an already-known person, field managers are free to develop a direct relationship with recipients through frequent interaction during the stove-building process. At the first visit with the introducing partner, the supervisors evaluate the house to determine if it is “qualified,” according to the organizational standards for a receiving a stove. Example metrics for qualification include an area with a roof to house the stove and a pledge from the family to destroy the *poyetón* or open fire before the stove is built. Supervisors are potentially present for material delivery and introduction of the stove builders. They are always present to light the stove for the first time with the user and train them on stove use. They then revisit the house after several months to check on usage for carbon credit purposes. Therefore, the field managers I relied on were very familiar with the households in the community. Field supervisors were frequently referred to with the honorific of “*Don*” regardless of their age, especially in Retalhuleu where it will be shown that individual character traits were more central to the basis of trust and more scrutinized than in Totonicapán.

Field managers always wear branded red shirts and red hats intended to identify them as representatives of StoveTeam International. Stove builders also wear the uniform of the red hat and shirt, which extends the trust built between the supervisor and household to the stove builder when they arrive to build the stove. The identification of both the field manager and stove builder with the organization of StoveTeam International was an important part of the trust building in Totonicapán, but in Retalhuleu the identification of the stove builder with the previously met field manager who was vouched for by a well-known community representative was more important than association with the organization.

I arrived in this context as a researcher and visitor. I was introduced by a StoveTeam International supervisor who had become a known person in each household. Access in Totonicapán also required notification of the community leadership by the partner group so that the unknown car could be identified. I chose not to wear any red shirts or StoveTeam logos during my research in both places, as a way of distancing myself from any association with the organization and in hopes of eliciting more frank responses. Still, there existed an inherent conflict of interest between my role as a researcher and my role on the Board of the organization. I could not represent myself as an entirely neutral party due to my leadership in the organization. I also played naïve about all aspects of stoves, the delivery service, and Guatemalan cooking so I could be received as a learner seeking knowledge instead of an expert. I intentionally approached conversations with participants as a novice, which Hasbrouck (2018, p. 12) describes as a practice of curiosity that elicits openness with informants and keeps one's mind open to notice unseen aspects in familiar things.

Naturally, anyone revisiting these households to discuss the stove would be assumed to be associated with those who provided the stove rather than an independent researcher. This would especially hold if the visitor were a foreigner, as I am. In terms of trust, I was granted an immediate trustworthy status based on the recipient's previous interactions with people associated with the stove installation process. Many recipients also expressed immediate and performative, formal gratitude. Participants would stand tall as if making a speech and use flowery language to thank me and everyone who gave the stove. The behaviors were similar to how Thomas Hylland Eriksen (2015, p. 33) describes problems field researchers encounter when they are cast by locals as the "expert," and then are "treated with great deference and respect by their hosts, and spoken to in exaggerated polite ways and so on, and thus can run the risk of never seeing aspects of society of which the locals are ashamed of showing to high ranking strangers." I responded to direct questions or assumptions about my role by presenting myself as a "friend" who wanted to learn and help the organization improve, while emphasizing I was not an employee, responsible for the giving of the stove, or there to determine if they would be able to keep the stove or receive more benefits from the organization.

It would not have been possible to quickly and effectively access households without an introduction from the organization nor would it be desirable in a Design Anthropology framework. Early in the introduction, stove users were asked for their help in improving the stove receiving process for future stove users in their community. They were invited to engage in a co-design process with me by sharing honest

feedback and reflections. I implied a partnership between myself as a researcher and them as a person with knowledge of the stove-receiving process. I hoped this message of collaboration would allay any fears I might be there to scrutinize their stove use and make them feel freer to express criticism.

Part of the methodology also included interviewing individuals who have helped in facilitating stove dissemination either as part of partner groups or as volunteers. In these impromptu interviews, similar questions about trust were posed as well as questions about their role in the stove-receiving process. The results of these conversations are also included in the results discussion, but the conversations emerged organically rather than being as planned as the semi-structured interviews.

As mentioned, two focus groups were originally planned for each area, but only participants in Retalhuleu were enthusiastic about attending. The focus group in Retalhuleu was held at one of the participant's houses in Montufar and transportation was provided for participants from Versalles. I told the women I would cook American bacon cheeseburgers for them in a nod to cultural exchange and as an expression of gratitude for their help.

The participants were invited to bring children in hopes it would lessen the burden of finding childcare. However, the timing of the lunchtime focus group was poorly planned. Women's absence from home during lunch did not relieve them from the obligation of providing lunch. Participants from Montufar were close to home, but distracted by the concern of ensuring their children, male family members, StoveTeam International stove builders who happen to be close by, and other people from the neighborhood were fed. Participants who had been transported the 30 minutes from Versalles were anxious to finish cooking and return home and take food for their husbands and older children to eat. Despite having bought double the amount of food that would be necessary to feed the women and the family members they regularly cooked for; many women went without eating lunch in the end because they had sent notice to so many neighbors to come to eat.

While a fun and hectic experience, the distraction of many children in the household and the food preparation prohibited any meaningful focus group activity. The women invited everyone in the neighborhood who could be included; at one moment, I noticed some kids I did not recognize eating cheeseburgers, and when I asked about them, my co-host explained, "they are orphans, and we help them." This "failed" focus group was a lesson for me in open-minded participant observation, as their inclusion of

those in need in the community revealed more about trust in social networks and gift-giving in this place—as will be discussed in the results—than a focus group conversation was likely to reveal. It also revealed women’s inescapable obligation to always be the caregiver and the source of food.

In Totonicapán, women were not open to the idea of a Saturday focus group, as many had other Saturday obligations to go to the market to either work or shop. They were also not enthusiastic about meeting or sharing their experience with other women. In this situation as well, the inability to motivate the women to participate in a focus group re-emphasized some perspectives on trust in Totonicapán. It especially resonated with insights about the importance of discretion and keeping a small circle of confidants. The difference in these focus group outcomes revealed major differences in the social organization and ideas about trust between Totonicapán and Retalhuleu.

A final focus group was conceptualized in the field once I recognized the *encargadas* as crucial trusted community connectors. These women were brought together for a focus group over cake and coffee following lunch to eliminate the distraction of cooking and feeding others. StoveTeam International’s Guatemala Field Director was also present to participate in a conversation about their experiences and frustrations as *encargadas*. I attempted to use a Customer Journey Map to guide the discussion, but the women were unfamiliar and uncomfortable with a workshop format of writing down thoughts or thinking about process flow. Instead, they requested to change the format and “share their experience” with each other. The conversation produced several shared opinions about the stove project’s services and their roles as volunteer organizers. The focus group time frame was limited by other obligations of the women such as needing to fetch children or go to work.

For a third time, I struggled with bringing together the focus group I had envisioned but learned more about the way trust worked in these places through how the focus group unfolded. Through these experiences, I was reminded by my co-designers to abandon thinking like “a designer” and instead respond to and incorporate the needs of my co-designers. In all three situations with the focus groups, I learned how social networks, cultural beliefs and preferences define the scope of what is possible in a design intervention.

CHAPTER 4

TRUST IN NUEVO SAN CARLOS, RETALHULEU

This chapter discusses the field results from Retalhuleu and interprets them using theories and comparisons drawn from anthropological literature. Attention is given to rich descriptions of trust as uniquely understood in these two contexts. It is intended to show the value of culture-centered design in understanding cookstove programs in the field. The findings are not contextualized with quantitative data such as adoption rates produced by other research methods in these contexts, as the case for cultural research is intended to stand on its own without complementary quantitative data sets.

This ethnographic profile describes the views on trust shared by a dozen women interviewed across six households who received stoves. Three of these women were the “*encargadas*” who collected the names and money for groups of twelve or more stove recipients. “*Encargada*” translates to “woman in charge” and was a term used by all actors in the process: the stove recipients, the stove organization’s staff, and the representatives from the partner group of the *finca* and the Rotary Club of Retalhuleu. In the early stages of the stove project, these *encargadas* were recruited through presentations given at churches, schools, and community groups to attract interest in the stoves. At these presentations, potential participants were told one woman needed to volunteer to be the contact person for the community to request the stoves.

The concept of trust prominent in this context is tied to individuality and personal character traits. All the women believed in their ability to assess trustworthiness using clues from a person’s behavior or reputation. The women were asked, “What does trust mean?” and “How do you know you can trust someone?” They responded with similar words to describe the character traits of a trustworthy person, including amiability, openness, humility instead of pride, good work ethic, helpfulness and reciprocity, and clear communication. Being a known person—“*conocido*”—in the community also made one trustworthy. Some women held reservations about people outside the community, but the pathway to acceptance was

quick should one be friendly and behave appropriately. They said two people could quickly progress to a relationship of “having trust” through conversation, which was framed as a resource worthy of cultivation and maintenance. This consistent use of individual traits as the most crucial measure of trust in interpersonal relationships, community-level relationships, and the willingness to be involved in the stove project is the focus of this analysis.

Following a general discussion of trust in Retalhuleu, the trust between the stove recipient and those who serve in roles in the stove project will be examined. The most influential actors in this process were identified as the *encargada* and the StoveTeam International supervisor, who interacted with the stove recipient at several key moments, including evaluating their house for stove appropriateness and training on stove use. Participants said the *encargadas* were known individuals with good character traits, which formed a basis of trust even if they were not personally connected to the individual socially. Participants said supervisor manners, way of arriving, humility, honesty, and patience in explaining the cookstove before asking for commitment earned their trust. The trust built with the supervisor is emergent—the quality of “having trust” with someone—built through interactions and lasting over time.

The four field days of interviews were spent in homes in Montufar and Versalles, two communities a 20-minute drive from the central municipality of Nuevo San Carlos on a landscape of home clusters interspersed among agricultural lands of cows, rubber, and other crops. On the first day, I was led to Montufar by a StoveTeam International supervisor and introduced to the women with whom I would be cooking who were neighbors and all part of one family. After the first day in Montufar, I was able to arrive on my own and the women would direct me to what they joked was my parking spot for the truck. On the last day, I was led again by a StoveTeam International supervisor to the other community of Versalles.

The three households interviewed in Montufar were within a 2-minute walk of each other and related. The women said their great-grandfather had bought a large amount of land when it was cheap, and it had been continuously divided among his descendants. I first visited a woman of about 30 years of age whose mother and sister were also present for part of the cooking and interview as they lived next door. Her kitchen stood apart from other buildings and was about 3 meters by 4 meters with a dirt floor and corrugated metal walls. The cookstove was centered on one of the shorter walls opposite an open-air window. Before the cookstove, she cooked on the ground with an open fire.

The second woman interviewed was her mother, who was about 60 years of age. Her 3-bedroom house was poured-concrete construction and had two kitchens: an inside kitchen with refrigerator, a gas stove and other appliances, and a semi-outdoor, open-air covered kitchen patio with the cookstove and *pila* for washing. The third woman was her sister and the aunt of the first woman. She had persuaded the stove supervisor to allow her stove on the front patio of her house so she could see the front gate while cooking, as she ran a poultry and egg business from her house and needed to attend to customers all day. In general, the stove supervisors are directed to restrict stoves outside of the usual kitchen area, as the stove organization believes it might indicate stove recipients want to use them as an occasional appliance. Her large dark indoor kitchen had two refrigerators for poultry storage. The house compound had two other 2-room poured structures and multiple chicken coops. About 30 various breeds of chicken and ducks ran free on her property, two of which we caught and killed for lunch. Her adult daughter, around 30 years old, and her 8-year-old granddaughter lived with her and were present for much of the interview.

In Versalles—the sector located an equal distance from the center of Nuevo San Carlos but in the opposite direction—I met with a woman, about 30 years old, and her older sister who lived up the road and came out of curiosity. The older sister was still undecided about purchasing the stove, as she cooked with a combination of gas and an open fire (*poyetón*). The 2-bedroom house was on a small plot next to her parents' house and was made of concrete with poured floors. Her kitchen was an open-air back patio with a dirt floor and a metal roof.

The women all identified themselves as *castellano*, a term often interchanged with *ladino*, which means literally a “Spanish-speaker” and historically has been defined only through the negative as “not-Indigenous” (cf. Nelson, 1999, p. 4). Though the genetic biology of many people who live in Guatemala is tied to pre-Columbian peoples, whether a Guatemalan person considers themselves to be ethnically Indigenous is rooted in historical process and the political construction of personal identity. The term *ladino* is laden with the history of *ladinoization* in Guatemala, an ideal with colonial origins promoted on a national scale intended to unify national identity through an imagined biologically mixed and culturally unified “*ladino*” populace. In her analysis of body politics in modern Guatemala, Diane M. Nelson (1999, p. 206) explains “Five hundred years of the interpenetration of boundaries means that all bodies are the same (that's why the clothes make the man, not the hair, nose, or skin color)—take off that colorful *traje* and the body

will prove a national sameness.” Therefore, self-identification as *ladino* or Indigenous in modern Guatemala has little to do with genetic heritage and much to do with group belonging, language, and dress.

While *ladino* and *castellano* are used interchangeably, when asked the difference, one woman distinguished between them by raising her hand to make the “fat wallet” sign, twisting her palm open flat in front of her chest and showing a wide gap between her upturned thumb and index finger. She explained the gesture too, saying “*los ladinos son los que tienen* [the *ladinos* are those that have (money)].” This sign is used silently to avoid crassness when mentioning wealth, a frequent topic in Retalhuleu.

Because Montufar is too far from Nuevo San Carlos for quick trips, the sector is actively connected through home-based businesses that serve daily needs such as selling staple food items or fresh tortillas, small churches and schools, and extended family relationships. All the women I spoke with in Montufar operated home businesses. The younger woman had spent six years working at the nearby *fincas* harvesting coffee, as had her sister. She mentioned many from this neighborhood worked there as the *finca* sent cars to transport contract workers. She transitioned to making and selling tortillas from her home and bringing clothing from the local urban city of Retalhuleu to resell to neighbors. Her sister also had stopped working the *fincas* and performed maintenance at the small school. The mother aided her husband in working farmland rented from a reputable connection, the man from the neighborhood who drove the collective shuttle to the center of Nuevo San Carlos. The aunt’s in-home poultry business seemed to thrive as she attended to customers about every 20 minutes and fetched chicken from one of her two fridges. We also delivered lunch to her husband who had been hired to add an addition to a neighbor’s house down the street, which she said was his main source of income. On one occasion, I had mistakenly brought the wrong ingredient, and a child was sent to a convenient home-based store. The mother and daughter also had a building on their property used as a satellite for the Evangelical church in Nuevo San Carlos to which they belonged.

Within the interconnected neighborhood, individuals face the daily choice to engage with others or to avoid them. Their behavior patterns are noted and judged. General affability or chattiness were traits often mentioned as to how they decided to trust. Several women responded to the question “How do you know who to trust?” with variations of the following response provided by one woman, “A person who talks, a person who says, ‘Good morning, how are you?’ and doesn’t just walk by.” The women talked harshly about

those who avoided social pleasantries such as smiling and saying hello, using terms like, “*orgullosa* [prideful]” as opposed to being “*humilde* [humble]” or approaching someone with “humility.”

Though being friendly seems an obvious character trait of a trustworthy person, it may be less valued in an urban environment where social and economic networks are not as bounded by neighborhoods and daily reliance on neighbors is less necessary. In these rural neighborhoods, those who lack friendliness may be judged so harshly because reliance on neighbors for help is a core value and also a motivation for building trust. One participant said, “When you have neighbors, you need to say good morning. You have to be a little more open so that if something bad happens, they can help.”

Another woman mentioned a neighbor might lend money to help with illness costs or even just be called on for a missing ingredient like a tomato. This deeper function of chattiness by probing in a conversation with the question: can you have trust with someone who is not a chatterbox? The woman responded that even if a neighbor or a family member was shy or less talkative, if they helped when needed, they could be considered a person with whom one could have trust. When asked what might damage trust with a neighbor, one interviewee said lack of reciprocity, which is a serious offense.

Larissa Lomnitz’s (1978, p. 188) definition of *confianza* (trust) as understood among the shantytown settlers in Mexico City is useful here to understand this response. She describes *confianza* as, “a trust between two individuals which implies a mutual desire and disposition toward initiating or maintaining a relationship of reciprocal exchange.” The communities she studied share an interesting parallel to those in Retalhuleu, as they were comprised of immigrants who had arrived for economic opportunity but experienced economic exclusion from formal unions and other work. Therefore, they bootstrapped small-scale personal businesses or worked as unaffiliated workers (day laborers) (Lomnitz, 1978, p. 186). Both of these work types are also dominant in Retalhuleu; people work as day laborers with the *fincas* or build small-scale hustles with other community members. Due to economic insecurity and informal social services, networks develop to pursue joint action towards a goal—such as securing and distributing aid—and require neighbors to reciprocate with each other and to trust a central broker to coordinate action (cf. Lomnitz, 1978, p. 190).

The element of reciprocity in these relationships is connected to gift exchange, a commonly studied theme in Anthropology. Reciprocity in gift exchange is understood as symbolically essential for the development and perpetuation of relationships, as first popularized by the theories of Marcel Mauss

(2016[1924]) in his publication *The Gift*. He described the role of gift exchange and reciprocity in relationship building among “archaic societies” as a practice that is “strictly compulsory, on pain of private or public war (Mauss, 2016[1924], p. 61).”

Symbolic reciprocity is more complex when the gifts of reciprocity interact with economic systems, as Marshall Sahlins (1972) explored through his work *Stone Age Economies*. He categorized the gifting exchange as based on relationships that are generalized (altruistic), balanced (equal), or negative (self-serving). John Aguilar’s (1984) study of mistrust among *campesinos* in Chiapas further contextualizes gift exchange for communities with few social services and high economic needs, a description that also fits Retalhuleu. He argues participants in the network who have few resources to share are burdened by reciprocal exchange. Therefore, hoarding one’s resources and suspecting others are hoarding can lead to mistrust of others and the development of closedness as a self-protective measure. This includes using avoidance strategies to maintain distance when engaged in interpersonal relationships, strategies such as formalized pleasantries in conversation that could mask mistrust and avoid showing disrespect (Aguilar, 1984, p. 9). Aguilar’s theory could be used to explain why people in Retalhuleu so often valued neighbors’ chattiness beyond “good morning” and willingness to help when needed. Because people have limited resources, they signal which personal networks they are open to investing in through social behaviors such as communication and reciprocity. Those who act closed excuse themselves—but also secure their exclusion—from certain networks of *confianza* and obligated exchange.

Beyond daily interactions, reputation is used to determine trust. Being “*conocido*”—a known person or from a known family—is enough for trust in some cases. One woman said nearly everyone in the sector was “*conocido*,” and explained, “even if not personally known to you, you have seen them in the community so they can be trusted.” Another woman reflected that if she knows someone’s family, they are “*conocido*,” even if she hasn’t met them before. A few families were discussed as having good reputations, though they did not discuss any families with bad reputations. I did not ever hear the word *conocido* used to describe someone negatively. It translated more to how we may use, “a well-known person in the community,” which always has a positive connotation, rather than the literal translation of to know who a person is or even to know their character, be it good or bad. Therefore, *conocido* implies belonging or acceptance in terms of a safe person to interact within the community.

A different type of trust is necessary for matters of money. It is useful to distinguish between the type of trust one has with someone *conocido*—described as “confidence” trust, or the belief a person poses no threat physically or socially—and “reliance” trust, which is given to someone you believe will follow through on their promises to you. These terms were used to classify trust in John Aguilar’s work among rural farming communities in Chiapas (Aguilar, 1984, p. 15). The “reliance” trust required for the relationships involving money in Retalhuleu led people to talk about the character traits of a good work ethic, helpfulness, and generosity. Knowing how to work hard was described as a virtue, often framed as the noble struggle to advance oneself and one’s family. These *ladino* families—whose ancestors had recently migrated to the industrial agricultural area and who were deeply Evangelical—may exemplify the phenomenon Max Weber (cf. 2001[1904]) described in his 1904 work about the symbiotic rise of Protestantism alongside capitalist ideals.

Those who have suffered working hard are esteemed as trustworthy. The aunt said of trusting her niece, “She knows how to work hard, even in the fields.” Jobs in this region can be oppressive and self-sacrificing; people said the sun exposure from working in the cane fields causes kidney failure, and women under the age of 30 showed me varicose veins caused by carrying full coffee *costales* [bags] on their backs. They described the meticulousness and pride one should have in one’s work. The woman who met her husband at the banana processing factory described how she quickly graded export-quality bananas as they passed by the truckload through running water troughs. She said her husband, who now works in construction in the midwestern United States, was excited the first time he saw the bananas at the grocery store because he could see how their hard work was presented in the grocery store. About half of the women mentioned a partner, a child, or a sibling who had needed to “go to work,” which meant immigrating to the United States, though it was not expressly said. Even the animals were described as having to work; when the woman with the poultry business hung a chicken upside down by the talons to kill for lunch, she said, “Now, she has to work, because if not, there is nothing.”

Work ethic was mentioned along with generosity when talking about trust in leaders—both those known personally and those “*conocido*” in the community. The mayor for instance was talked about kindly for having facilitated several improvement projects in the community, including the road that had been recently built, a project to bring piped water, and a bridge project that addressed a flooding issue in a nearby

community. He was praised for giving small amounts of flour, food, produce, or other staples to the community. Through the interpretive lens of Marshall Sahlins (cf. 1972, p. 193), these exchanges could be viewed as a balanced exchange, if one chooses to believe the mayor exchanges tangible goods for continued reputation and political power, but the beneficiaries experience them as altruistic exchanges (generalized) because they are not asked to reciprocate. Several people said the mayor gives gifts even to those who do not support him. Two recounted personal stories of moments of need in which they petitioned the mayor to cover unexpected personal financial costs of funeral expenses or materials for house repair.

The mayor could be petitioned directly or through the *cocode*, a council of elected members of the community with a direct link to the municipality. The representatives of the *cocode* were also described as educated and hardworking people with helping hearts. Affability was still essential even if one had these qualifications. One person said that the people would not elect someone to the *cocode* “who does not smile. The people elect those who say hi, those who like to talk with the people.” The *cocode* is an example of a collective institution that derives power from obeying and serving those whom it represents; people elect people to the *cocode* who demonstrate their motivations are to serve the will of the people, not their ambitions (cf. García-Bravo and Parra-Vázquez, 2020). The representatives must be one of the people, hence why friendliness and relatability are important.

People assess the trustworthiness of others in their community through their experiences with long-sustained interaction with them or through their reputations, but how do they make decisions about the trustworthiness of strangers? An unknown person’s association with a known person is a typical way to determine trustworthiness. Everyone said that it was essential someone they knew, such as a friend or family member, be the first to approach them about the stove or introduce them to the *encargada*. Identity factors, such as being a woman or also being from the Retalhuleu area, did not give strangers any implicit amount of trustworthiness. One might assume a woman would be more trusted by other women than a man. However, many respondents said that what truly mattered was whether the woman was known or had connections to someone who was.

Regardless of how the connection is made, it is essential the *encargada* and other members of the stove organization such as the supervisor demonstrate the character traits of a trustworthy person to build initial trust. The performance individuals craft to establish an intended social identity is discussed by Erving

Goffman (2021[1959]) in *The Presentation of Self in Everyday Life*, which delves into how two parties form impressions of each other through an interaction. The women were highly confident in their ability to evaluate the trustworthiness of a stranger at a first meeting.

The language they used to describe this trust reflected the embodied sensory experience of responding to a stranger. For example, a few women mentioned they knew I was a person of trust immediately upon my arrival because of my manner, which was smiling, relaxed, and happy. They said they felt immediately I was the type of person with whom one could feel trust, as opposed to someone who arrived closed or dour. One woman mentioned that in meeting a stranger, one “notices and feels a sense of trust with the person,” and another similarly emphasized conversation to get a sense and start building trust. Another said a person could be trusted if they were “calm, peaceful, and acted predictably;” she said people who could not be trusted sometimes came to the village for the annual celebration, but it was best to stay clear of them if they were drinking because they could act in unpredictable ways.

Trust was also described as an active process between two people rather than an objective observance of each other’s character traits. Two women described trust emerging through the sharing of a conversation and “even” a meal. One woman used the word “*convivio*” to describe the meal she shared with the stove supervisor and worker, which is a word typically used for celebrations. The conversations and meals could be considered “social gifts” given reciprocally to bond the two people (cf. Aguilar, 1984, p. 23). The trust relationship formed through these interactions was described as taking on a perpetual force of its own that calls the participants back to each other. The idea a trust relationship could call people back together is reminiscent of the concept of *hau*, described by Mauss (cf. 2016[1924], p. 74) and used widely in Anthropology, which describes the life force of a gift drawing it back home and therefore linking the giver and receiver. One woman said, “When you come back, you’ll be well received here again in this place because we’ve already talked. We’ve already communicated. That’s trust.” Another echoed this sentiment: “The doors are open to you when you come. You know that we have spent time together with you. We have built trust with each other.”

If one is invited to connect through conversation but does not accept, it could be considered a refusal of a social gift. One woman said: “There are people who don’t like to talk and are more closed off. And with that person, you can’t build trust because they don’t open up.” It is interesting to interpret refusals to

communicate through the lens of Aguilar's (1984) application of Goffman's (cf. 2021[1959]) term "Face-Work," which describes language and behavior used to decline a request. Aguilar (1984) recognizes people use language and behavior to express their earnest values and feelings while refusing a social gift. This tactful denial can be considered a "social gift" and reciprocation (Aguilar, 1984, p. 21). In the situations described by the women, where people are closed off, they recognize that these individuals are unwilling to offer a 'social gift' to decline engagement.

The women did not fear of outsiders coming to their community, but a few did caution about the danger of the wider world. The community was described as calm and unaffected by issues like gangs and assaults. The women said everyone was "known," in the community and therefore safe. As long as visitors exhibited strong personal character traits, they could earn trust over time, even if they lacked associations. However, people said traveling to the "city," especially Guatemala City, but even one as close as Retalhuleu, could bring you into contact with thieves and those who are simply "unknown." The unknown person entering the community could be evaluated with cautious openness, whereas the unknown person in a different context should be considered with much skepticism.

Notably absent were discussions of organizations as trustworthy. People rarely talked about something the "municipality" did but instead credited the mayor. When two women talked about their church, they discussed only the pastor and his hard work and kindness towards the community, rather than the church as a community entity. The women were hardly concerned with the organizational reputation of StoveTeam International. Instead of referring to the organization, they referred to the "young men" (the workers) and the "Don" (the supervisor). The women said they did not know much if anything about the stove organization or its reputation when they decided to get the stove. They instead trusted the *encargada* to vouch for the safety of the project.

When asked who they would call if anything went wrong with the stove, rarely did they say they would call the number on the plaque on the stove. They said they would call the woman who had helped with the process to buy and install the stove. It was interesting that even after the stove process was complete, the women had formed strong opinions about the *encargada* and the individuals from StoveTeam International such as the supervisor and builders, but still had little knowledge, opinion, or curiosity about the organization as an entity.

To summarize the above discussion on trust in general, those in Retalhuleu have a strong tendency to trust based on personal character traits such as friendliness, helpfulness, and a good work ethic and strengthen deeper bonds through reciprocity within a network of shared exchange. It should be recognized that stove organizations such as StoveTeam International adeptly ask partner groups, “How do we work here successfully?” The subtext of this question might be, “Who are the most influential people and structures we can use to start this program?” In Retalhuleu, individual personal relationships based on reciprocity were transformed into the foundational structure of the program services because StoveTeam International effectively asked these questions.

This exercise in Design Anthropology provides insight into why certain individuals and systems are influential and trusted in this context. Underlying beliefs about trustworthiness are fundamental to personal relationships and social dynamics. Women with certain traits and habits of reciprocity became leaders and community connectors through reliable and repeated patterns of action over time. The stove project tapped into the resource of trusted women—known in the process as *encargadas*—and harnessed their willingness to be list makers for the project, leading them to become highly influential in the services and the participant experience in unanticipated ways.

StoveTeam International activated reciprocity networks with the organizational decision that stoves would only be available to groups capable of self-organization and group application. The group must collectively submit their share of the cost for the partially subsidized stoves. The stove project could only use this market approach because trust relationships of reciprocity existed in the context. The women who became the *encargadas* for the project already held positions of esteem within their communities. The organizational developers O’Connor and Dornfeld (2014) produced a guide to self-reflective internal ethnographic studies of a system or organization that might be useful to other organizations that aim to intentionally identify preexisting actors and structures. The authors suggest the practice of identifying those “people, places, and projects where the desired cultural practices are already happening” and empowering them to be drivers for change (O’Connor and Dornfeld, 2014, p. 11).

Because the *encargadas* have become central to the stove organization’s services, they are recognized in the mapping of the organization’s services even though they do not play an internally managed or paid role. The organization did not design these roles for them nor ask them to help in these ways, but the

encargadas—driven by reciprocity and helpfulness—contribute high-touch services that add value to the participant experience.

The local partner group—the Rotary Club of Retalhuleu—is another pre-existing trusted actor essential to the project’s success, as is the Rotarian most active in the project, the owner of the large *finca* in Nuevo San Carlos. The project is better known for its association with him than with the Rotary Club, which further reinforces trust as primarily based on individuals. His well-known family is a major employer in Nuevo San Carlos, and his brother is a past mayor. Everyone interviewed knew of his family. His enthusiasm and offer of partnership catalyzed StoveTeam International’s work in this region. He receives and stores the bulk materials and stove kits, collects lists and money from the women, and coordinates deliveries to the community. Many of the first recipients and some of the stove builders were people associated with the *finca*.

Retalhuleu – Basic Relationship Chart

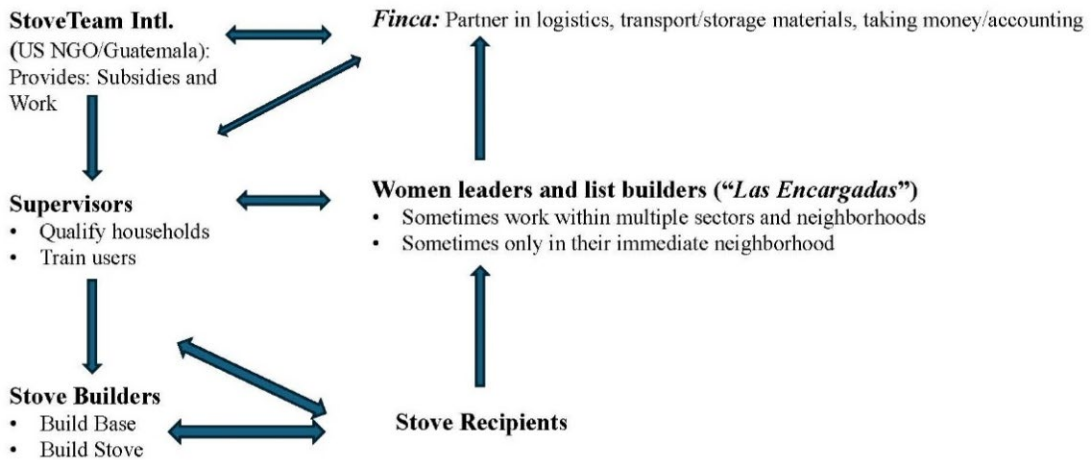


Figure 14: Chart of relationships (Retalhuleu) (K. Forrest)

The family associated with the *finca* is described as trustworthy due to their reputation for being generous, hard workers, and good employers. Nearly all interviewees reflected these views of the family and the past mayor, regardless of whether they knew them personally. The manager responsible for the *finca* coordination with the stove project said he thought the credibility came from the fact the family served publicly and helped the community. A StoveTeam International staff member also relayed a conversation about leading shared with the *finca* owner who helped with this project. He said a leader “cannot lead if

always in the office. A leader needs to be in the field with the people doing the work, that way, the leader demonstrates that they too know what needs to be done.”

This Rotarian and *finca* owner’s public reputation as a hard worker helped with the early recruiting phase of the stove project. One of the key *encargadas* said of first learning about the stove project, “When they called us here to San Carlos to a first meeting, they said the engineer is coming. Everyone was curious, right? We were all seated, waiting for the engineer to arrive. And when he did, we realized it was Mr. Francisco, the engineer, of the Fernández family.” She said she does not know him personally, but he is “*conocido*” by those who have worked at the *finca* and in the community in general.

Because it would be impractical to sell a single stove due to labor requirements and the need to bulk purchase and deliver material, stoves are sold in an order of one or two dozen to be built within a single community. No one can request a single stove. In the initial promotional meetings held at churches and schools, women were told to select one person to oversee the collection of names and money for the stoves. The women who volunteered for this role became known in the project as the *encargadas*.

The project requires a complete list of recipients and money for the group of stoves to add the community to the building schedule. The process tests the recipient group’s trust in the *encargada* as she holds the money and drives the project forward. At times, the *encargadas* extend their reputations beyond their immediate communities and gain the trust of adjacent communities as well. When women call the factory to inquire, the manager puts them in touch with the closest *encargada*. If the person trusts the *encargada*, they might join her list; however, sometimes the *encargada* instead informs them of the process and supports them in making a list for their neighborhood. This work on the part of the *encargada* is not orchestrated by the organization but has organically developed and aided stove diffusion throughout neighborhoods and sectors.

Communities or individuals that lack connection to an *encargada* might not be able to access a stove. As described, an individual who does not engage in reciprocity is left outside the network of social exchange that aids its participants. The factory manager said people often call to ask about stoves, and he gives them the information about collecting a list, but they never call back. He offered the explanation that people want something for free or that building a list is too much work. Another possible explanation could be people that people lack a connection to a strong network of social exchange or that they do not play a

powerful role within it. The sister of a stove recipient I met in Versailles asked me about purchasing a stove. When I explained making a list, she said she would prefer to ask the woman who did the list for her sister to do another list. When I asked, “Why not you?” She said, “We all [in the community] know Dona Londi and trust her, not everyone knows me.”

The majority of *encargadas* were already known as trusted leaders. The *encargadas* were asked to reflect on why they had the trust of others. One *encargada* mentioned she had worked in leadership on the school board for 8 years, and so knew many of the families in her sector and beyond. She believed people trusted her because they would do activities to help the families. She also mentioned her family reputation; she said her mother had done projects as well—including a stove project that took place over 20 years ago—and she had inherited the gene. When people see the work she does for the community, she said they often tell her, “How good of you to do this like your mother did.” To build trust, she said, one must “make oneself liked by thinking of others.”

Another *encargada* said that the community trusted her family for their reputation as hard workers, which originated with her father who was known as a humble farmer. The woman’s daughter had also used their house as a distribution hub for a role she had held with an aid organization. When her daughter left for the US, the *encargada* continued to serve as a coordinator and distributed goods from various aid sources, including the municipality, the mayor, and private groups. Prompted by her father’s need for a new wheelchair, this woman took the initiative to contact the municipality and became the coordinator for others in the community who also needed wheelchairs. She said people were calling having heard she was the woman who could connect them to this kind of aid, further demonstrating the importance of these women as brokers who fill a need of helping those in their network of gift exchange take advantage of informal opportunities. These *encargadas* referred to themselves as “knowing how to work a project,” which has made them known as people of trust and high value connections to aid.

Though altruistic, the *encargadas* represent the development of an asymmetrical relationship within the network of social exchange, which results from a group of people succeeding in a joint action taken towards an economic goal and then repeating the action. A central figure emerges to manage group participation and distribute the resources that result from the group action. Though not an exploitative

asymmetrical relationship, as is usually the case, the *encargada* is the central figure who mobilizes the group to act and then distributes the resources (cf. Lomnitz, 1978, p. 190).

Though being helpful to the community is important to these *encargadas*, they reluctantly admitted the stove project list management was burdensome to their difficult lives. Though eager to uphold their identities as helpers, hard workers, and trusted neighbors, they also had other responsibilities to families and informal and formal work. One woman was caring for her disabled father and two young children left behind by a daughter who “went to work” in the US. The stove list collection work was uncompensated, as these women had already received their stoves. She said of the obligation, “We don’t like to be selfish or refuse when someone asks us for a favor. We like to help.”

The *encargadas* may feel increasingly over-burdened overtime as their role shifts from a relationship of “balanced reciprocity” within their first group—they both give through helping others receive stoves and receive their own stove—to a relationship of altruistic “generalized reciprocity” with future groups (cf. Sahlins, 1972). When they first volunteer as *encargada*, they receive their stove as compensation for the work, which could be considered a “balanced reciprocity,” in which their gift is the organization of the list (cf. Sahlins, 1972). When the process is complete, they are known as the *encargada* and asked by individuals to make another list. To decline this request would be to say no to an invitation to participate in the network of social exchange (cf. Aguilar, 1984, p. 21). Therefore, the *encargada* enters a new relationship of “generalized reciprocity” with those seeking stoves, they give their services and receive no immediate benefit—though to say no would be to deny an invitation to enter into a reciprocal exchange (cf. Sahlins, 1972).

To engage Design Anthropology thinking, the organization might reflect on its role in the network of gift exchange. The organization has given a gift of a highly subsidized stove. Richard G. Jones (2024, p. 6) in his article about reciprocity in international aid and development in Timor-Leste notes the development of an ambiguous and unequal relationship through gifts given by aid organizations; those who received aid might not know how to reciprocate appropriately. In this situation, the *encargadas* may feel compelled to continue reciprocity without knowing the limits of their obligation to return the gift given by the organization.

Another possible explanation for their continued involvement could be the influence and pressure of a gender-based conception of trust. In Mintz-Roth and Heyer's (2016, p. 132) study of gendered dimensions of perspectives on trust in Kenya, women viewed trust with more "feminized expressions of responsibility and care" than their male counterparts and used newly available mobile payment technology to send money to close friends and family. As the authors explain, the women's ability to communicate privately through mobile payment technology also undermined patriarchal control; women became more reliant on other women and bypassed male gatekeepers in financial communication and transactions.

Similar feminized expressions of trust as tied to responsibility to care might activate the *encargadas*' sense of responsibility to care for others' access and enjoyment of the same benefits they have received. The *encargadas* travel to meet new women considering the stove, share their personal experiences of the benefits, and offer to nurture them through the process. Women refer to their cookstoves as "my stove" and relate ownership of the kitchen as their space, which excludes men from much of the conversation about cookstoves except for the question of money. Women may find refuge from male opinions and control by building a network strengthened around cooking that lies largely outside their purview.

Encargadas sometimes train new women to become *encargadas* in their neighborhoods and support them by being an intermediary to the *finca* manager. Because of this distinction, I describe these women who work under the *encargada* as *encargaditas* [little women in charge]. For example, the younger woman in Montufar had initially connected with one of these well-known women from another sector through her sister-in-law and trusted her because she knew her from the school program. The *encargadita* relied on the *encargada* for advice and logistical support as she organized the stoves for her family and neighborhood and learned the process. However, in some cases, when an *encargada* attempts to mentor her close friends and neighbors in selecting another *encargadita* to lead the process, they lack a central connecting person trusted by all. One *encargada* said that in many cases it "has to be her because no one else wanted anyone else to handle things." A potential explanation might be that some networks only exist in relationship to the *encargada* who mobilized the group as its broker; if the network was created through a repeated group process of joint action facilitated by the *encargada*, the joint action process cannot repeat in the same way without her involvement (cf. Lomnitz, 1978, p. 190).

Though these women were already trusted, they continued to build trust throughout the process. Both recipients and *encargadas* themselves recounted promises the *encargadas* made that if anything happened with the project they would “give the money back from their own pocket.” Some leaders also mentioned anxiety about holding the money until the list could be completed. When one project was not filling up quickly enough, an *encargada* suggested to those who already paid that she could return their investment. She said she was encouraged to keep the money, as the community said they would “wait until the project becomes visible.” The manager at the *finca* also said transparency was built into the process to avoid accusations of corruption. Each woman receives a receipt that shows no portion of their investment stayed with the *encargada*, the factory, or the Rotary Club. Below in Figure 15 is a chart of roles involved in the stove program and the level of trust recipients must have to feel comfortable in the stove purchase and installation process.

Retalhuleu Design Hinges on Trust in Individuals

ACTOR	WHO THEY ARE	WHAT THEY DO	BASIS FOR TRUST	Importance of trust to Stove Recipients	Level of Trust Necessary
“La Finca” owner and manager	-known family -known employer	-receive/ transport materials -receive money/give receipts	-family reputation as helpers hard workers -community entrenchment -employ many	Low for recipients High for “las <i>encargadas</i> ”	Low
Las <i>Encargadas</i>	-trusted women in the community -some served at schools, govt, helped as liaisons to resources before	-collect money/lists -have worked several lists -guide las “ <i>encargitas</i> ” in list collection	-worked projects previously -are known as “workers” -high accountability for the money	High – take responsibility for money, communication	High
Las <i>Encargitas</i>	-trusted women in their neighborhoods -got involved because want stoves	-learn from “ <i>encargadas</i> ” -make list, take money, give to <i>encargada</i> or <i>finca</i> manager	-Are known as responsible by their neighbors	High – take responsibility for money, communication	
StoveTeam Supervisors	-in field managers of StoveTeam	-qualify houses, supervise building, final training	-arrive with the <i>Encargada</i>	Medium – trust given easily, recommended by <i>encargada/ita</i>	
StoveTeam Builders	-in field builders	-spend 1-2 days in house building base and stove	-given freely: “there to work”	Low – people not concerned	
StoveTeam Organization	-the organization	-funds all stoves and runs whole operation of install	-by association with past work and recommended by <i>encargadas</i>	Low – name recognition low	

Figure 15: Clean cookstove roles in implementation chart (Retalhuleu) (K. Forrest)

Several themes about trust surfaced when talking about the StoveTeam International supervisors, who were identified by the participants as the StoveTeam International staff members most critical in the trust chain. They often arrive with the woman leader to assess household fitness for the stove, which grants them trustworthiness by association. Many women shared positive adjectives to describe the supervisor who visited their home, such as nice, polite, and having a gentle style. One woman said the supervisor said during

his visit, “Wherever I go, I go with humble spirit,” which matched a character trait associated with trustworthiness.

Clear communication throughout the process with the supervisors and the *encargadas* built trust. Many women said the supervisors explained the stove beautifully and taught them well how it worked. At the outset, the supervisor took on the uncomfortable responsibility of telling women if they qualified or did not qualify for the stove. An *encargada* mentioned she was grateful to not have to say to a neighbor that they did not qualify, which helped build trust in their teamwork relationship with the supervisor. She said he also reinforced his trustworthiness through his good work ethic in these conversations. He explained that the uncomfortable conversations he had to have with potential recipients—if the stove wouldn’t work for their house or if he believed they wouldn’t use it—were necessary to maintain his reputation. He said, “If I can say, ‘Look at my work, I will recommend myself based on it.’ Because if I were to just give it to everyone, I wouldn’t be respecting my work. I depend on my job, and I have to maintain my credibility. If I don’t follow through, then I’m not doing my job properly. If they give me orders and I don’t obey, then I won’t be able to recommend myself or be trusted in my work.”

Both the supervisor and the *encargada* set clear expectations for the pace of the project. As the supervisor visited one home to measure the space for the stove, he told them: “I would be lying if I told you it would be here tomorrow,” and emphasized having patience throughout the process. They also cautioned them against not waiting to be trained and lighting the stove early. One woman said the supervisor told her, “We don’t want it to be the case that you do not learn, and then say the thing does not work.”

The workers played a lesser role in trust development as most people had superficial perceptions of their trustworthiness. They were described as polite and well-mannered but were mostly regarded as trustworthy because they were there to work. Two women told me those hired to do a job are trusted in the home. When discussing my work of interviewing them, they said I too was there to work, and therefore, I was allowed in the home. The low level of trust recipients required to grant a stove builder access to their home challenged my assumption that worker trustworthiness would influence stove acceptance and adoption. Because these workers had little to do with deciding if a household was fit for a stove, holding the money, or training, their level of trustworthiness was not a source of anxiety or concern for those interviewed. They

said they appreciated the worker friendliness and would still wave at the workers when they saw them in town. The *encargada* and the supervisor were essential actors in establishing trust (Figure 15).

The Customer Journey Map in Figure 16 relates trust to the key moments in the experience as described by the recipient. If the service had been designed using a Service Design approach from the beginning, all the stakeholders would have been included in shaping the service delivery. As it is, the service was primarily designed by StoveTeam International field leadership in concert with the Rotary Club without the significant involvement of end participants in the design. The services strike a compromise between accessibility for the participant and feasibility for the organization by providing the stoves in groups to neighborhoods. The organizational focus has been on training potential participants to engage in the service as designed rather than adjusting or redesigning the service to participant needs or desires.

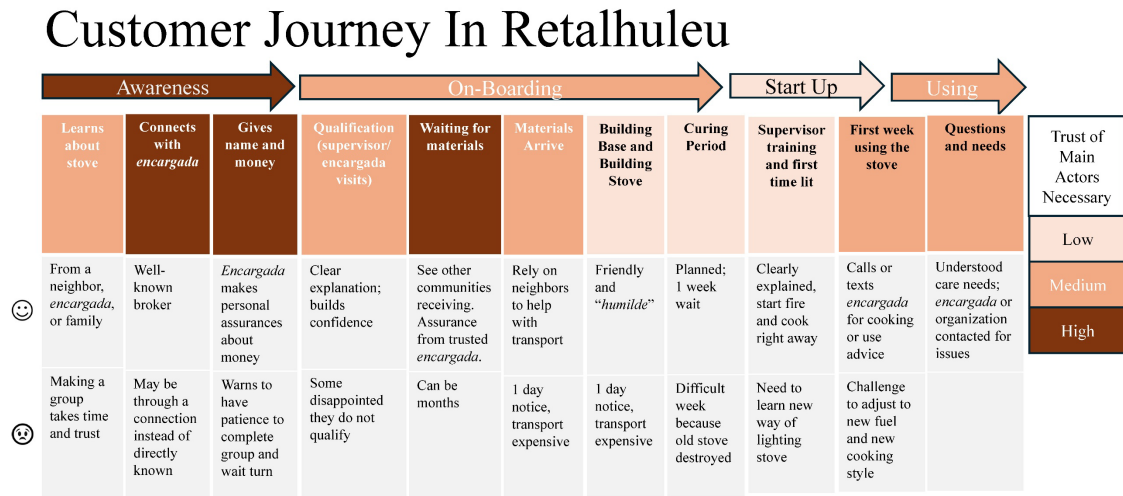


Figure 16: Customer Journey Map (Retalhuleu) (K. Forrest)

Service redesign efforts have focused on increasing interest, improving house qualification for greater adoption success, and enhancing education and training for stove recipients to promote higher adoption rates and behavior change. Outside of these themes, participants are asked to “bear with” the process of receiving their stoves and are rarely asked how this process of receipt impacts their overall confidence in the program and their stoves.

This Customer Journey Map examines the entire process and asks participants about moments in which trust with particular individuals reassured their trust in the stove and the services. The services the *encargadas* provide to the participants were shown to be essential to creating trust in the process. Many of

these services have developed organically as the *encargadas* help the women in their network fully adopt the stove, rather than being part of the services supported by the organization. Trust in the supervisor was secondarily important as he relayed important information about the process and the stoves. Participants had lower demands on the organization and the stove builders for proof of trustworthiness.

In the Awareness phase, a woman learns about the stove from a neighbor, friend, or relative who might already have one, or she might see a stove in the community. This stage requires a moderate amount of trust, as they must trust the person who introduced them to the stove. This process happens organically in the community rather than being designed by StoveTeam International. The person who introduces a potential new recipient to the stove connects them with an *encargada*. A high amount of trust in the *encargada* is necessary to inquire, sign up, and pay. The women must trust the *encargada* to explain the stove, provide pictures, and be a reliable contact. The *encargada* makes personal assurances and promises as well as tells her story about how the stove has helped her. The stove recipient signs up and gives money to the *encargada* with no clear timeline of when they will receive the stove. There is a possibility that if not enough people sign up, the stove project may not happen in their community. This step requires the most trust as they pay and are asked to trust that the stove will come in time. There is some anxiety on the part of *encargada* as they take on the responsibility of delivering the project, but the stove recipient's trust in the *encargada* is strong.

During On-Boarding, the *encargadas* and the supervisors reinforce trust and confidence during the home visit. The *encargadas* confidently answer questions about the stove, according to the stove recipients, and the stove supervisor sketches where the stove will be built. Seeing tangible progress makes the recipient feel the project is moving forward and increases trust.

Waiting for materials is considered part of the On-Boarding phase. It is the most anxiety-producing part of the process and requires the most trust because the women must wait with little information about when the next steps will occur. The *encargada* has functionally indebted herself through receiving money for the stove and cannot yet reciprocate with the service. This raises an interesting anthropological question about delayed reciprocity and trust that could be further explored. Waiting for the project materials to arrive tests the trust between the *encargada* and the recipients. The *encargadas* ask the women for patience and comfort the group with news of materials that have been delivered to other communities; the group comforts the *encargada* with assurances of their trust in her. One *encargada* said, "Thank God, I didn't have any

doubts. Neither did the others; they didn't ask me anything since I was the one who arranged everything.” Another leader made a similar comment in saying she always says when receiving the money, “you just need to be patient. At any moment, they'll call about the material.”

Receiving the materials for the stove is stressful because the women must arrange for transport of the materials from a central delivery point. After waiting several weeks, the group receives a call to pick up the materials the next day. However, the recipients express any tension held is gone once the materials arrive, even before the workers come to build the stove. Very little trust is required in the relationships with the stove builders during the rest of the building process. The builders are perceived as nice and friendly, but also automatically trustworthy. In general, recipients enjoy having these young men in their homes but do not need to develop much trust in them, as the results of their work are obvious and immediate. The stove builders are not guardians of the money or gatekeepers of the process and interact with the women after these factors have been resolved.

The supervisor's return visit to add the ash and light the stove for the first time made a strong impression on most women. The return visit is one week after building the stove and includes the first lesson on lighting the stove. The women interviewed trusted the supervisor's expertise and advice about the stove. They did not express any uncomfortableness or need for reassurance during this stage, and thus, the importance of trust in this step is considered low.

Trust during the first week of using the stove is of medium importance, as the women need help adjusting to cooking on the stove, which is provided by the *encargada*. Despite a StoveTeam International phone number and plaque on each stove, the women said they would contact the *encargada* in the first week for help. Furthermore, *encargadas* described continuous interactions with recipients about how to cook certain dishes on the stove. This demonstrates continued reliance on the *encargada* after the stove installation rather than transfer of trust to the organization, which is likely due to the strength of these interpersonal relationships and general lack of experience in relying on organizations.

From a Design Anthropology perspective, the organization might use these findings to workshop various ways trust could be used to further support services with participants and *encargadas*. For example, this study was done amid discussions of developing a women's network to support stove adoption. It was suggested the women's network would aid in follow-up, continued support, and enthusiasm about stove use.

The women may do community presentations or go to cook with women struggling to adopt their stoves. The research emphasized the women's network must be comprised of these particular *encargadas* who had the trust of their network and were already providing many of these support services. However, to truly adhere to design principles, any workshop including the women should begin by asking them "What do you see as the issues that need to be resolved" rather than presenting pre-formed solutions. This would allow the women to drive the design process with their needs, perceived problems, and imagined solutions.

In the spirit of co-design, a focus group was held to discuss the idea of the women's network with the main *encargadas*, myself, and the StoveTeam International Guatemalan Field Director. The meeting allowed them to speak about their role in facilitating the customer journey for others. The conversation allowed the *encargadas* to share information with the organization about the support they provide to stove recipients. The *encargadas* actively reach out and offer support to those who have bought stoves through their lists with calls, visits, or WhatsApp messages. Women most frequently ask for instructions on how to cook different dishes using the stove. They provide continued support to their stove recipients, education of other potential *encargadas* about the process, active management of stove lists, education about the stove to potential recipients, and act as a liaison to the *finca* and StoveTeam International supervisors.

If the organization is willing to engage in potentially paradigm-challenging and self-critical exploration, they could engage the women's network to ask more fundamental design questions, such as, "Are we addressing the issue as perceived by the participants?" Cultural insiders such as the women's network can be used as change and promotional agents but also might provide greater insights into the applicability of their solution to certain people and groups. Are woodburning stoves the ultimate solution to the problem for those who are purchasing them? Are there other cooking solutions these women would prefer if available? As a wood-burning cookstove service provider, the organization promotes a particular technology with limited flexibility; a primary reason StoveTeam International relies on community partners to seek them out, having explored first internally and determined wood is the most appropriate fuel source in their region. The women's network could be used to either shift their technology and tactics or to hyperfocus their marketing efforts on people whose needs overlap best with the solution.

To summarize, a deeper understanding of the social world of the *encargadas* was made possible by remaining "curious" throughout the ethnographic research process and having flexibility within

conversations (cf. Hasbrouck, 2018, p. 11). Strong evidence for networks of social exchange based on reciprocity was found among the women in Retalhuleu with high pressure on participants to be seen as a reciprocal player in that system (cf. Mauss, 2016[1924]). Through repeated group action to access “projects” or “distribute goods” from aid organizations or the mayor, networks had experienced success with a particular *encargada* who emerged as the central figure of the group (cf. Lomnitz, 1978). Both she and the group may believe to some extent that their repeated success is due to her as an individual. Furthermore, her sense of self may include gendered concepts of trust that make her feel responsible for nurturing (cf. Mintz-Roth and Heyer, 2016, p. 132).

This cultural interpretation provides context for understanding the *encargadas*' social worlds and the pressures; this knowledge can increase StoveTeam International's organizational mindfulness when engaging with *encargadas*. Would being asked to take on more responsibilities burden *encargadas*—not only in terms of time and responsibility—but in social obligation as a key broker within the network of social exchange (cf. Lundquist, 2015)? If she engaged in 'face-work' and reciprocated with a 'social gift' of a gracious personal explanation while declining the extra responsibilities would the stove organization understand and accept her response (cf. Aguilar, 1984, p. 21)? The stove organization might reflect on their relationship of reciprocity with the *encargadas* and how it shifts over time (cf. Sahlins, 1972). While these women enjoy volunteering, their networks of social reciprocity and roles as brokers compel their continued participation (cf. Lundquist, 2015).

The research also made it clear that working through the *encargadas* would be the most effective approach to building a women's network, as not all women are empowered as brokers for the networks to which they belong. Another key realization was that the *encargadas* would not be as effective outside their networks of influence. Their personal identities—such as being a woman or a stove expert—were less critical to establishing trust than their position in their network. While it may be tempting to send an experienced *encargada* to a community she doesn't know to provide training or support, the most effective strategy would be to identify and empower leaders within their networks, even if they are less experienced with stoves or are not as dynamic.

Another insight was the limited importance of organizational brand building. Few recipients were concerned with the brand or reputation of the organization but depended on the advice of the *encargada*.

Therefore, the organization might limit spending on advertising and community brand building and instead invest in efforts that invest in capacity building for the *encargadas* and supervisors.

Beyond the scope of trust, some aspects revealed by this research may inspire the organization to return to a design thinking perspective in considering their technology's application in this area, at least in terms of continuing to narrowly identify and define the audience for which the technology is appropriate if unwilling to change offerings. The central question of design is, "What is the problem from the participant's perspective," and ideally leaves room for people to describe the issue in their own words and dream of their ideal solution. Might cooking over gas or with other methods be participants' true desire? There is an inherent risk of paternalism in promoting only wood-burning technology, as the solution solves the problem of open-fire cooking in a predetermined way using the technology the organization has available to promote.

When women were asked, "Why do you think some people might not use the stove after it is installed," some responded, "Maybe they already have gas." This suggests that gas and other cooking solutions may be preferable, although the availability and cost of these options were not explored in this research. Some of the observed abandoned stoves were installed before more stringent rules for house qualification were established. Currently, only houses without another stove and willing to put the stove in the kitchen and not outside qualify. Several had been installed outside on a patio a distance from the house. In these cases, the stoves were treated more like occasional cooking appliances for outdoor parties, instead of daily cooking appliances. It raises the question of organizational openness to respond to "How do participants want to cook?" as opposed to "How do we promote our technology in this area?"

These are just a few examples of how the organization could apply knowledge of the cultural context of trust to improve services from a culture-centered design perspective. Instead of relying on trust-building tactics that may work in other contexts or seem universal, the stove organization can use these findings to align services and plans with how trust is constructed locally.

CHAPTER 5

TRUST IN CANTON CHIYAX AND CANTON COXJAC, TOTONICAPÁN

To arrive in Totonicapán, one must leave the sea-level, balmy, and palm-lined avenues of Retalhuleu and drive a two-lane highway that climbs in steep switchbacks for three hours up into the volcanos and pines of the Guatemalan highlands. Totonicapán is known for independent Indigenous cultural groups that have survived and remained powerful despite centuries of colonization and the Civil War (1954-1996), which was brutally focused on this region (PBS News, 2024; Cuj, 2020). These groups are unified under a united Indigenous government to protect their natural resources and cultural customs while navigating modern globalized political and economic systems, including involvement with international NGOs (Del Aguila and Speck, 2023).

In Totonicapán, trust is negotiated through community-run, highly structured institutions, which ensure only trustworthy people are granted access to the community. While an official Guatemalan municipal government exists in this area, people's lives are most affected by the unified Indigenous authorities of the 48 Cantones and community-level vigilance. All community members serve in community service roles at several points in their lives and vote to elect officers; participants interviewed expressed faith in the trustworthiness of individuals in leadership. This type of Indigenous leadership structure authority is similar to others seen in Indigenous Movements in Latin America, in which the leader acts as a delegate for the people. In their study of Indigenous leadership in Chiapas, García-Bravo and Parra-Vázquez (2020) describe this confidence in leaders as being based on a sense of shared power.

In Totonicapán, the authorities know everyone who belongs to the community. They respond to community members engaged in internal conflicts, poor behavior, and general untrustworthiness with mediation and sometimes harsh consequences. If unknown outsiders are spotted in the community, they interrogate them swiftly and require a high burden of proof of trustworthiness and legitimate motivation.

Those who lack proof of their trustworthiness are dealt with through exclusions, extreme punitive measures, and even violence. The authorities are highly recognizable as they carry a black staff as a symbol of their power to represent the community.



Figure 17: A representative of the community authorities with identifying staff (Photo by K. Forrest)

Because the community has a defensive, protective mechanism, people defer to the authorities to assess the trustworthiness of individuals. Assessing the character traits of acquaintances, unknown people, or organizations is not a priority, as the authorities vet any individual or organization that seeks admittance to the community. Participants reported they are hyperaware of any unknown and unaffiliated people in the neighborhood, which they said they would report promptly. I heard several rumors about bad people who had entered the community or lurked near the community to hurt or abduct others. Individuals are highly alert to outsiders in their community and become nervous when they venture outside of the community, as they believe there could be people of malintent in the mountains or town.

These discussions of negotiated trust and its relationship to safety as mediated through the authorities are pertinent to the stove program because people implicitly trust the evaluation process. They did not question the trustworthiness of an organization approved by the authorities. However, when asked how they negotiated trust in their relationships, participants expressed another concept of trust reserved for close family members or long-term friendships based on discretion, confidentiality, and loyalty throughout difficult times. People do not extend this kind of trust to outsiders or acquaintances. This concept of trust is reserved for private, interpersonal relationships, which are outside the context of negotiating trust with outside entities, such as the stove project. As compared to Retalhuleu, interpersonal relationships do not drive or greatly influence the stove implementation. The details of these findings and their influence on and applicability to the Customer Journey through the stove project are discussed in this section.

The first interviews were conducted in Canton Chiyax, a member of the Natural Resources Committee of the 48 Cantones. Ecologic works through the Natural Resource Committee to provide education about natural resources and support the 48 Canton-run tree nursery, which provides tree starts to land-holding communities and individuals. Ecologic approached StoveTeam International to be a service provider of stoves. Ecologic's process to determine community need and want of stoves is unknown. StoveTeam International did not engage in a design process to discover the desires and needs of potential recipients. The final interview was in Canton Coxjac with a woman selected as a stove recipient through a Catholic-run school that Ecologic also worked with to identify recipients.

The first woman interviewed was in her late 20s and the mother of two young children, one of whom required much of the woman's constant attention as she was affected by an extreme disability caused by a traumatic head injury as a toddler. She said her husband had a spice shop in the center of Totonicapán. She made beautifully detailed hand-embroidered *huipiles* at home. Her newly built concrete home had a breezy vented kitchen with tall ceilings, a large glass window that could be opened, tile floors, and fresh white paint. The kitchen door opened to rows of corn cascading down the steep hillside, as the new house had replaced a small portion of the shared family *milpa*. Her sister's house loomed just above separated by a narrow strip occupied by rabbit cages and a pit toilet with half a ragged faded blue tarp for a door. Above her sister's house and bordering the road was the home of her recently passed-away mother, where her father weaved in a dark room on an 8-foot-wide foot-powered loom. He does not speak any Spanish, she told me.

The next household interviewed was just next door and accessed by the same dirt path from the main road to the first woman's house. The family said they were on good terms with the neighbor, but did not know each other much. The small courtyard of the house was just behind the solid, metal gate and enclosed by the exterior walls of the two rooms and the kitchen. The adobe walls of the kitchen were coated in creosote, its density increasing as the walls rose toward the low-hanging corrugated metal ceiling. I interviewed two sisters, one in her late teens and the other in her early twenties, who were left to attend to me while their mother was at a meeting. The younger one was single and had recently left her work in a shoemaking shop in a nearby town. The older one said she had also worked in the shoemaking shop before having her son, who was about two years old. The mother arrived at the end of the interview and was asked some questions about the stove process.

The final household in Chiyax was about a mile away from these two houses at the entry to the town from Tonicapán. It was reached by a dirt path that snaked around the walls of several other houses on the left and *milpas* being actively plundered by skinny dogs and chickens to the right. The courtyard was entered through a solid metal gate. There was only one room for sleeping and one room for the kitchen plus an outdoor bathroom. Inside the concrete box of a kitchen, the corner occupied by the previous adobe *poyetón* was stained dark black. The shy woman who lived there was 30 years old and the mother of two little boys. Her husband was making ponchos to sell in a room across the small courtyard.

The final house in Coxjac was the simplest. It was located down a steep set of steps and seemed to fit between the more established houses of the neighborhood. It was accessed via adobe wall-lined steps for privacy but did not have a closing gate or portal. The kitchen was open-air with a corrugated roof on a patio wide enough only for the stove and the body of one cook to either side. The woman said her husband worked as a day laborer for neighbors with small parcels of land. She did laundry for others to make a few "coins". She met her husband while day laboring. She had a teenage daughter and a young son.

All four households self-identified as K'iche' and wore *traje típico* [Indigenous dress]. However, it was notable that the two young women did not speak the K'iche' language, as their parents had not taught them. Another younger K'iche' man who worked for Ecologic also mentioned he spoke K'iche' about "90%," as he also did not learn as a child. When asked for an explanation, he said some people do not teach their children K'iche' because of discrimination.

Strong interpersonal connections within the community are either limited or were not disclosed to me. The two younger sisters said they did not know many people beyond their street, except those they knew from school. The younger one mentioned trouble finding work because she did not have someone trusted to introduce her to employers. When asked about “trust” with those in their lives, neighbors did not come to mind. The woman in Coxjac was asked if there were many individuals she trusted in the neighborhood. She replied, “Honestly, no, not really.” She said about neighbors, “We greet each other; sometimes we see each other or chat, but I don’t know them well.” However, in two conversations, I heard it mentioned that neighbors could be depended on to bring food if there was a death in the family or to help if there was a crisis such as a missing person. Regardless, there was no effusive enthusiasm for the role of neighbors in one’s life.

“Confidence” trust is high in this context due to the faith in the system to regulate behavior and protect individuals (cf. Aguilar, 1984, p. 15). People used the word “*conocido*” to refer to known persons recognizable by face and registered with the government. *Conocido* is used to say someone is a safe person who belongs in the community. This differs from “*conocido*” as used in Retalhuleu to describe an individual or their family as having a reputation of known quality.

I observed openness to forming superficial trust in casual relationships among some participants. The woman’s husband who sold spice in the market traveled to different parts of Guatemala to purchase the spices and relied on frequent customers. She said, “My husband says ‘being friendly is important. Because having a business like he does, he’s nice to the customers. That way, he can sell. Because if he’s angry, he can’t sell, he says. You have to be friendly and have a lot of kindness.’” The sisters also said their mother taught them to be kind because “with this attitude, you can have a more complete life experience and meet many people.”

The younger women talked of creating trust with new friends. One mentioned the importance of sharing and communicating who one is, citing the example of a young man who would not talk at the shoe workshop where she previously worked. She said it was not possible to trust him because he was not open to conversation. She said everyone “just looks at him out of the corner of their eye, and that’s it.” Both these women and the younger sister of the shy woman at the final house in Chiyax described trust building as a slow process of witnessing a person’s character traits unfold over time. The younger sister of the shy woman remarked about herself, “I am quiet, don’t talk much, and don’t criticize, people view me as someone they

can trust. Over time, I can see another person is a person to trust by how they act, and they can see I am trustworthy too.”

Her comment implied close relationships are built on confidentiality and discretion. When asked directly about who they trusted, most people said family members but not all family members. The younger woman in the second household said she only trusted one aunt. She said of the extended family, “We say that we should keep something between us and that we shouldn't comment on it to others. But no, they don't respect that; they just go ahead and talk about it.”

Another concern voiced about close family relationships was the potential for danger or betrayal. Domestic violence arose in two of only four conducted interviews. The shy woman interviewed mentioned she and her sisters grew up in an abusive home. Another woman said the municipal police is a better option for people who need help with domestic violence because the local authorities only use mediation and a period of separation to solve the issue rather than legal action.

The concept of interpersonal trust as limited to select family members and based on secretiveness and discretion is a concept found within the trust literature of Guatemala. In her look at the “unfixed nature of trust and mistrust in intimate relationships among *ladino* Guatemalans,” Margit Ystanes (2016, p. 37) describes families as holding the potential for “both deception and disappointment” because trust and mistrust are concurrently present in the home. She also describes closing oneself off and concealing information as something that “establishes a person as socially intelligent and a reliable friend” (Ystanes, 2016, p. 45). Even among family members, discretion and lying preserve family members’ opinions of each other and may be considered social respect (Ystanes, 2016, p. 45).

Though many women said only their immediate family was included in their closest trust circle, two women were told about the stoves by cousins who held current posts with the authorities. Perhaps these cousins were not inside a circle of trust as conceived by the women but were still close enough to consider their needs. The last two interviews mentioned many cousins lived nearby because the land had been parceled as generations expanded.

Similar to Retalhuleu, reciprocation in close relationships is valued and builds trust. The shy woman was asked if she trusted family such as aunts and uncles. She said, “It depends if they truly support you. If they are with you in your worst moments.” She was asked a follow-up question about how trust is nurtured

between two people. She explained that a person might give her something at a time of need and trust that she will save a few coins each day to repay them. She said, “If I support you today, tomorrow you will support me. And this is how trust grows.” This reflects the concept of social gifts and reciprocation described by Mauss (cf. 2016[1924]). It also relates to the discussion raised by John Aguilar (1984) about scarce economic resources among these communities; strong trust is built by incorporating someone into your network of social exchanges involving items of economic value. However, reciprocation was discussed primarily in the context of strengthening trust in established relationships, rather than as a starting point for building trust.

The women’s sources of income hinted at a dispersed economy. One woman said there were “no big businesses in Totonicapán, just work for neighbors.” Though only a few interviews were conducted, they revealed some people survive through small-scale production of clothing sold through distribution networks managed by others—such as making shoes in a small workshop, sewing ponchos at home, or weaving textiles. Two of these families mentioned a brother or husband in the United States who would send money home, which reduced economic pressure. The home-based businesses I observed did not sell directly to neighbors (as opposed to businesses observed in Retalhuleu that sold chickens, clothes, or tortillas to neighbors). Perhaps this fostered or reflected more insular lifestyles among the participants. This pattern of difference between the recipients in the two locations may be due to the fact beneficiaries of the project in Retalhuleu need social connections to the *encargada* to take advantage of the project, whereas in Totonicapán people are selected by the authorities.

Though interpersonal relationships outside of the family appear weak, trust in the societal mechanisms that ensure safety is strong. People do not need to know a community member personally to trust that they are a safe person. The authorities became the focus of nearly all conversations about trust, as people rarely wanted to discuss interfamily dynamics, nor did they have much to say about trusting individuals. Reticence to talk of individuals contrasted with the interviews in Retalhuleu, in which people frequently referenced individuals and their character traits.

The authorities and the neighbors monitor everyone who comes into the community. To access this community for fieldwork, StoveTeam International contacted the community partner Ecologic who then contacted the local authorities to tell them about my visit. Unfortunately, a miscommunication occurred, and the on-duty authorities were unaware of my visit or my unknown vehicle. Not knowing the local rules about

where to park, I parked on a wider section of the road in front of the first house I planned to visit. Less than an hour into my first visit, the woman's sister arrived to tell me I should come up to the street to talk to the authorities and that they were preparing to boot my car, which means to say put a lock on the wheel so I would not be able to drive until I was cleared. A neighbor had reported an unknown vehicle illegally parked.

On the walk up to the street, the sister asked me why I had not worn identifying clothing to show I was with the organization. While I intended to appear less formally connected to the organization and more neutral by avoiding the recognizable red hat and shirt, I inadvertently undermined my trustworthiness. An outsider's connection to an approved organization designates them as a "safe" person who can be granted access to the community.

As an unassuming woman of short stature, I often rely on my social ability to present myself as a smiling, good-natured foreigner with no bad intentions and even less capacity to do any real harm. However, because people did not personally assess trustworthiness, I realized early in the interaction that it was useless to appeal one-on-one to the authority representatives' sense and feeling of trust. The two women encouraged me to tell the authorities that I was with the organization, to name the organization, and to say that it was a project approved by the 48 Cantones.

When we reached the street to talk to the authorities, who were dressed well and carried black staffs with tassels on the end, they received me skeptically. They asked about my business in the community and asked if I had been approved. The woman spoke for me and said I was there with an organization approved by the council. She said, "the stove project was started last year by the previous administration (of authorities), and the project is not over yet because they need to come back and check." She appealed to the fact these authorities were unaware of the project because they transitioned into their roles after project approval. She also adroitly asserted my implicit right to be there as the project was not yet officially closed. I noted the limited time frame of access to outsiders implied by her comment.

The authorities made a few calls to confirm and agreed to not boot my vehicle on the condition that I move immediately to a proper parking spot. One of them said, "people call, and they expect us to do something. We cannot just do nothing." With the help of the authorities and a neighborhood representative, I connected with a woman a few doors down who rented me a parking spot. I moved my car and went on

with my work after being confirmed as an appropriately safe person allowed in the community. I asked the woman I was interviewing if this was rare, and she said no, whenever there is an unknown car, people call.

My experience illustrates the key takeaway about challenging one's assumptions about the basis of trust. While I understood the chain of trust originated with the authorities and must flow through the proper channels for an individual to access the community, I still arrived at the conversation with the authorities with illusions they would immediately accept me as an affable, non-threatening, trustworthy person. I subconsciously held onto the belief that a person's assessment of trustworthiness played the most important role in a one-on-one confrontation, but it only helped my case in that I was calm as they investigated my case.

This could apply more broadly to any stove program whose organizers might be tempted to return to trust-building strategies not specific to the context once they gain initial access. In Totoncapán, friendliness and talkativeness do not form the basis of trust between the participant and the organization. For example, one woman said one of the supervisors talked a lot, but the stove builder who arrived for construction hardly said anything. I asked her if she felt uncomfortable with the one who did not talk, and she said, "I felt confident having him in my house, even though he wasn't very friendly." Regardless, she found him trustworthy and excused him by saying, "everyone has a different attitude."

The story of the truck also demonstrates the link between trust and surveillance in this context. The community does not have a police force, but the authorities act as surveillance, resolve conflicts, punish wrong-doers, and if necessary, call for police support from the municipality of Totoncapán. Every member of the community is registered with the authorities and unknown cars and people are investigated. When one woman was asked, "How do you know someone is trustworthy if they are unfamiliar," she responded not from her personal point of view, but by talking about what the authorities would do. "They usually investigate a bit; they watch how the person acts. They observe them." She also said, "They just watch how they walk or where they're going. If they don't talk to anyone, that's a red flag." Another woman said, "If they stop you, they may ask, 'Who are you there to visit?'" When asked what happens if there is no explanation for a person's presence in the community, a respondent said, "The community gets organized and puts out an alert; everyone stays vigilant for any unknown person."

People see it as their responsibility to alert the authorities if someone unknown in the street acts out of place. They do not see the authorities as outside or dominant over them, but as an extension of their power (cf. García-Bravo and Parra-Vázquez, 2020). Because the response to a threat is seen as a community effort, vague boundaries exist between describing individual and community action. One respondent implied an active role for the neighbors saying, “If a stranger passes through the area, people will get up and ask where they’re going. They ask for their ID and why they’re there. If they say they have relatives there, they have to show proof of that. And if they can’t, they’ll be asked to leave.” This ambiguity of language as to who is taking action may be due to the authorities being considered an extension of the people (cf. García-Bravo and Parra-Vázquez, 2020).

I suspected there may be lingering fears about child snatching in this area due to the history of illegal adoptions and child trafficking in Guatemala’s highlands (cf. Honeyman, 1999). Surveillance includes cameras to monitor the community. One of the younger women mentioned the cameras help because “there’s always someone watching the cameras all day. They can also call the authorities if they see an unknown person.” The reason cameras were installed is rumored to be connected to an incident of a man from outside the community being caught giving candy to children at the school, presumably to steal them. I heard other rumors about people having disappeared, both children and adults. A woman interviewed said her father-in-law disappeared in the middle of the day 20 years prior and was never found. A general distrust exists of people from the outside, the center of Totonicapán, and the woods, which two women mentioned as a place with ill-intentioned people and dangerous dogs. When asked about the ultimate outsiders—tourists who walk around the town to take pictures or visit the waterfall—I thought they might be perceived as less of a threat due to their clearer motivations. One woman agreed tourists are not bothered as much because “many have come here, but there’s usually a guide with them. I don’t know if you have noticed, but there’s a guide with them.”

People trust the monitoring system because extreme measures are taken when someone is determined to be untrustworthy. In a country beset with robberies, violence, and insecurity, people take great comfort in the village being calm, the cost of which is extreme retribution for outsiders who do wrong. The stories of retribution were difficult to believe. Including tales of people being forced to leave town without

their clothes due to petty crimes. When asking about consequences for wrongdoers—only in referral to outsiders that I noticed—people calmly responded, “They burn them.”

While some may prefer to talk about the most dramatic instances of bad actors from outside, the authorities most frequently watch and resolve the behavior of community members. “There are people who seek out problems. For example, here in the community, there are many people who get involved in various issues,” the first woman interviewed said while talking about the common problem of public inebriation. The retribution required for a crime like inebriation and disturbance might be “a full month, and then they impose a fine, though I don't know how much. It's a punishment meant to help them understand and not do it again.” They use this public reprimanding to allow people a pathway back to good standing with the community.

However, bad behavior creates a reputation of untrustworthiness, which affects the roles people are allowed to play in the community. The system is dependent on a *cargo* system in which each community member serves in assigned one-year roles several times over their adult lives. One woman described the responsibility as a right: “Everyone has the right to watch over the community. That’s why we all have that benefit, and we all have to work like this.” García-Bravo and Parra-Vázquez’s (2020) analysis of another Indigenous *cargo* system in Chiapas describes the roles as increasing in responsibility based on observed character traits and capabilities during their last term of service. People only advance in leadership if they have the self-less approach of leaders who “lead by obeying.”

This is true in Totoncapán as well, where people who are regarded as law-abiding and intelligent are more likely to be trusted and promoted to community leadership. A person’s historical trustworthiness, education, connections, and willingness to serve all dictate the role the community allows them to fill. If a person has past transgressions, the consequences of their bad behavior are that “they can't take on a big responsibility. We only give them simple jobs, because there's no trust. It's due to how they've behaved in the community; they haven't acted well and have done many things that aren't good” (cf. García-Bravo and Parra-Vázquez, 2020).

The highest post is to serve on an elected governing council that manages all community access, resolves internal conflicts and conflicts with other communities, and participates in the central governing organization of 48 Cantones. The highest internally focused position on the council that serves within the community is the role of *alguacil*. Two *alguaciles* are elected in each community to handle internal conflicts,

support the mayor, and participate in a committee that includes the *alguaciles* of all 48 Cantones, who meet in the *Casa de los Alguaciles* and are partially responsible for vetting organizations like StoveTeam International and Ecologic who want to work in the communities. The perceived trustworthiness of this council directly influences the degree to which the people trust the decisions they make on behalf of the community.

People stress the importance of trust in their council members since they rely on the council to safeguard the community. One woman said, “It’s important to choose intelligent and responsible people because if you choose incorrectly, there are individuals who act in ways that undermine trust.” When asked what type of person would serve as an *alguacil*, she said “someone who is hardworking and hasn’t been accused.” Another woman said to be on the council you must be “kind, not violent, and participate.” When asked if there is inherent trust the leaders, one woman responded yes, but with reservations: “They are the ones who look out for our community, and we have to trust them. But if they do something wrong, the entire community can rise up in the assembly and say that they can’t do certain things, that it shouldn’t be done.” Her comment reinforces the shared power of leadership and the pressure to make sound and educated decisions (cf. García-Bravo and Parra-Vázquez, 2020).



Figure 18: The Meeting House of the Alguaciles in Totonicapán (Photo by K. Forrest)

I talked with two *alguaciles* who served in a public information role at the House of the *Alguaciles* in the center of Totonicapán. When asked about evaluating organizations for entry, they described how organizations must appear before the council of the 48 Cantones to get approval. I do not know about the approval process for StoveTeam International beyond its enablement by association with Ecologic, which has been a proven partner to the 48 Cantones for decades.

In summary, the basis of trust in Totonicapán is influenced by a mature social system engineered to identify and exclude untrustworthy outsiders and ensure the proper behavior of insiders. Inside the village, they feel secure, as neighbors, other members of the community, and organizations are all known by the authorities and approved to be there. The system allows individuals to live peacefully and reduces their burden of personally evaluating the trustworthiness of others. However, they view places not monitored by authorities, such as the city or the woods, as potentially dangerous hiding grounds for people with bad intentions. As evidenced by people's thoughts about their roles in the *cargo* system and the authorities, the system is not seen as something separate from the people but as an extension of their power (cf. García-Bravo and Parra-Vázquez, 2020), and therefore, the way this deferral of trust to the authorities to evaluate outside organizations impacts the stove implementation will be discussed in the next section.

As in Retalhuleu, a Customer Journey Map was developed from conversations with the women who had received stoves, with particular attention paid to the moments in their experience that required the most trust. As opposed to Retalhuleu, participants in Totonicapán did not talk as often about individual actors involved in the process. The centralized decision-making power of the community as represented by the 48 Cantones served as the main source of trust.

Participants trusted StoveTeam International because the authorities approved the project. They deferred the evaluation of trustworthiness to this communal body. They also trusted the authorities to determine their eligibility, weigh their need for the stove against the needs of the rest of the community, and recommend the stove for its benefits. Recipients were more passive in the process than in Retalhuleu; participants did not need to proactively network to receive their stoves because the project arrived on their doorsteps. They described their experiences with less detail and required leading questions to recall the steps, which made mapping the steps of the stove process from the participant point of view more difficult.

Customer Journey In Totonicapán

Journey of A Stove Recipient

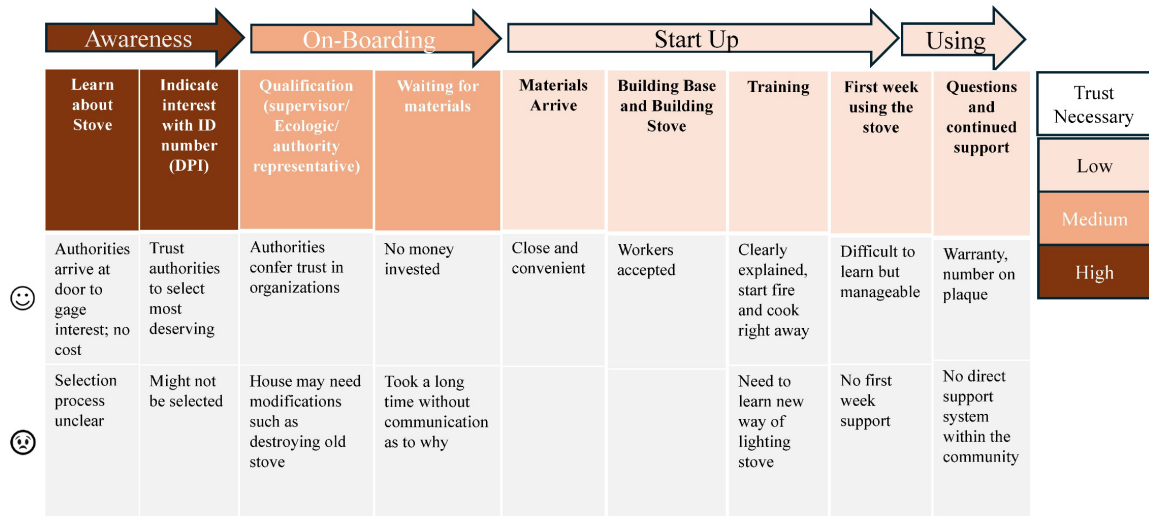


Figure 19: Customer Journey Map (Totonicapán) (K. Forrest)

One woman said, “I really don't know how they (the authorities) got connected with this institution,” but added that she trusted the organization because the authorities had authorized it. She said about the organization’s approved role in the community, “They cannot do things that are not authorized. Everything they do is authorized.” Participants required no further proof. For this reason, the Customer Journey Map shows the highest need for trust is in the Awareness phase. As soon as the women became aware of the approval by the authorities, they trusted the organization.

In one case, a person from the authorities who was also a neighbor came to the door of the beneficiary to offer the stove. In two other cases, the participants said a cousin who worked for the authorities came to tell them about the stove. This hinted at potential but unproved and unclaimed nepotism or favoritism of neighbors in the selection process. However, the cousins and neighbors simply informed the recipient of the possibility of receiving a stove but said the authorities would decide on the beneficiaries according to need.

Therefore, the women did not say anything about the character of their cousins or neighbors nor mention appealing to them to get the stove. Because neither the women nor their cousins would undermine the decision-making power of the collective, an appeal to the personal goodwill or generosity of the neighbor or cousin would be irrelevant and unproductive. One woman said her cousin told her that she was on the list

of people who still had an earthen stove but conveyed the anonymity and absoluteness of the decision made by the authorities: “Like my cousin says, if you win, you win; if not, there’s no more.” She summarized their next meeting succinctly without revealing the mechanism of the selection process. She said, “Then he came to tell me that I was selected, that’s why I won it.”

One woman was connected to the stove project through the Catholic school, and she mentioned she believed the project was good because a representative from the school was promoting it. The Catholic school was run by a long-term administrator Sister Irma. The woman selected for a stove said, “She recommended them. We felt secure that yes, it was fine, so we weren’t scared because she said it was safe.” The person also assumed that Sister Irma had assessed the organization in the same way the authorities would. She said, “We trusted that it was already checked.”

Participants did not proactively seek the stove because they could not buy or demand one. Naturally, this led to more passive engagement in the stove process. This contrasted with Retalhuleu where women said passionately, “I told him I needed my stove!” and recalled how beautifully the supervisor and the *encargada* had explained the health and lifestyle benefits. When asked if they had been shown a photograph or design of the stove, the women in Totonicapán responded that they had been told it was a good design or had seen a picture. Their reaction to the question recalled little enthusiasm.

Their passivity was a symptom of a lack of control and also a sign that they trusted the authorities—and the collective community the authorities represent—to make decisions in their best interest. They did not express any personal questions or feelings about the stove before its installation. In her look at problematic cultural issues in stove projects, Britta Victor (2011) discusses the accepted oppression of women in patriarchal contexts as a major barrier to them exercising decision-making power or feeling they have a voice. In Totonicapán, practiced compliance and deferral of judgment might be tied to fewer feelings of personal power. The trust in the authorities’ abilities to know what is best for individuals shows extremely centralized collective social. In a community-wide project, centralized collective thought may speed dissemination but make adoption less successful if people are not committed to personal behavior change (cf. Rogers, 2003).

During the Awareness phase, the women said a person from Ecologic and the supervisor for StoveTeam International arrived with the authorities. It was unclear if the authorities had already visited previously to offer the stove and collect their identification. Perceptions about the individuals—either from

the organizations or the authorities—were rarely talked about as important. At this meeting, the participants received news of any factors that may prevent them from qualifying for a stove. For instance, two families already had stoves that were advised would need to be destroyed to qualify; one family had an adobe stove, and the other family had an outdated, non-efficient stove from a previous project. Both families destroyed the old stoves, which shows they were enthusiastic to receive the new technology. All participants said they were told the authorities would decide if they would receive a stove based on their need relative to others in the community. They expressed trust in the authorities to determine if they were most deserving of the stove.

The women in Totonicapán did not pay for the stoves. This was a decision made by Ecologic with the consent of StoveTeam International, though the families were responsible for building the base. Because they had not paid, they did not express the same anxiousness for the process to start as in Retalhuleu. The waiting period between when they were promised the stoves and when the stoves arrived was not tinged with anxiety. One woman did mention the gap between when she was offered the stove and when the project began, but she said she was not concerned. As people did not make an investment in the stove, they did not feel like they had already paid for a benefit that had not yet arrived. Therefore, the gap between agreeing to the stove and receiving the materials did not require as much trust as in Retalhuleu.

When the materials arrived, the stove-building process was described as easy. Materials were delivered close enough by for some that they could pick them up with a cart. What went unsaid about the builders revealed more than what was said. When asked about the stove builders, short responses such as, “They came and worked,” or “We made them lunch,” demonstrated less meaning in the interaction between the family and the builders than in Retalhuleu. Similarly to Retalhuleu, workers received inherent trust because they were in the house to work. They did not share details about the stove builders’ character traits nor concerns about their presence in their homes.

Participants had little to say about the process of being trained but were able to deliver the lighting, cleaning, and maintenance instructions. The process of learning to use the stove was recounted with less detail and less focus on the individual than in Retalhuleu. They did not mention an individual supervisor or trainer. In terms of continued support, participants referenced the plaque on the stove and the warranty. They said if they had any issues, they would contact the organization. This differed from Retalhuleu, as they did not have a key individual to serve as their contact for continued stove support. The trust in the “using” stage

of the first week and beyond was noted as low because they learned to cook with the stove on their own after the training, rather than receiving direct support.

The trust in the authorities among people in these two Cantones in Totonicapán greatly influenced the stove program's service delivery. By working through the authorities, the stove organization did not need to rely on charismatic and trustworthy individuals to spread the word about the program and garner interest. As participants did not pay for the stoves, participants required less information about the stove and the timing to feel secure. Participants did not proactively navigate the process; it was delivered to them through the administration by the authorities, Ecologic, and StoveTeam. From awareness to selection to installation, the process arrived at their doorstep. This led to a hazy recall of the steps.

A Design Anthropology approach revealed the basis of trust and power inherent within the Indigenous cargo system with more depth than a simple understanding of political and administrative mechanics. It revealed the embodiment of the will of the people in the authorities, due to the shared power between the communal and leaders who lead through obeying (cf. García-Bravo and Parra-Vázquez, 2020). People experience the authorities as an extension of their own will because they all participate in the cargo system; in this sense, they are all the authorities. A design team might explore how individuals deferring decisions about what is 'best' for themselves to the communal authority could influence individual motivation for behavior change. The stove organization might recognize the low effort required for recipients to say "yes" to the stove and consider additional adoption support. Especially because participants are not charged for the stove, the stove organization might focus training on the authorities to ensure their selection criteria reflect not only the neediest in their community but also those most likely to use the stove.

Another observation about trust moderated through the authorities is its potential to reduce the organization's ability to directly and continuously access households with stoves. Because interpersonal connection is not a given among those from the authorities who offer the stove and the women, women might lack continued personal support for stove training and use. Therefore, the stove organization might consider a higher volume of follow-up visits during the first month to provide more opportunity for the women to ask questions and receive support.

CONCLUSION

I invite the reader to envision themselves as a stove project implementer or designer. Having read these ethnographies of trust, should a stove organization apply “best practices” and “lessons learned” from another context to a new community? It has been shown that a trust-building strategy should be designed with knowledge and consideration of underlying cultural beliefs. Successful stove organizations excel in recognizing influential actors within a community and involving them as key players in their projects. Intentionally identifying the cultural values and systems that empower these actors adds context to their roles within the systems. A Design Anthropology approach applied in this spirit revealed cultural perspectives of trust useful for the continuous improvement of a specific field program.

What is typically seen as “how things work here” deserves deeper analysis to reveal the cultural values and motivations driving various actors in the system. To summarize the contrast between Retalhuleu and Totonicapán, one context relies heavily on reciprocity and individual networks to encourage diffusion and organic peer-to-peer support services. In the other context, the authorities enact the collective will of the people and enable frictionless acceptance of the stove program once approved by the communal decision-making body. However, this passivity in individual decision-making in the context of weak social networks might leave participants without sufficient motivation and social support for behavior change and adoption.

As well as providing cultural context for the stove organization, this research adds to the body of literature on trust in Anthropology. While the Indigenous highlands of Totonicapán and the agro-industrial and *ladino* communities in Retalhuleu are only two hours apart, they differ significantly in their political, economic, and social makeup and perspectives on trust. This research proposed a culture-centered design process useful for understanding these contextual complexities in depth and made the argument for the applicability of this knowledge to clean cookstove programs.

Anthropological approaches frame cultural “issues” related to stove programs as central themes for exploration, rather than obstacles to be overcome. Using anthropological approaches, stove projects can

better evaluate strategies within their service area's unique context. A culture-centered design approach can reveal cultural themes—trust being a prime example—to help stove organizations understand the bases of relationships in their context and adapt strategies effectively.

I hope this introduction to Design Anthropology encourages clean cookstove organizations to embrace structured cultural study as a core aspect of program design. Through focused attention, surface-level explanations of culture can be replaced with deeper understandings of the values and beliefs that drive the behaviors and needs of the people they aim to serve. By design, stove interventions aim to transform the way people interact with their kitchens, families, communities, and environment. Design Anthropology approaches encourage program implementers and designers to correspond with participants about their values, beliefs, and vision of the future and nurture cultural shifts that are aligned and welcomed.

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