

In the Context of Survival:

The Impact of the Political-Economy of Santiago Atitlan On Stove Type Choice

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“Trauma is both the product of an experience of inhumanity and the proof of the humanity of those who have endured it.”

- Didier Fassin and Richard Rechtman, 2007

“Atiteco existence is generally hand-to-mouth, with the accumulation of economic surplus being impossible for most.”

- Robert Carlsen, 1997

“According to the family tradition from many years ago, most people, the fathers of families, made a big house. And there, everyone lived. They had their kitchen, their bedroom, all their children were there, and they had their fire on the ground. But the panorama of life in the town has changed.”

- Nicolas

Santiago Atitlan, July 24, 2009

Santiago Atitlan, located in the western highlands of Guatemala, on the southern shore of Lake Atitlan, is a peri-urban community of approximately 40,000. The population is almost entirely Tz'utujil Maya, and the cultural center to the Tz'utujil people. Between June and August of 2009, Erin Bassett-Novoa and I conducted 41 semi-structured interviews with residents of Santiago Atitlan on the subject of decision making with regards to stove type. We were specifically concerned with the choice between two types of wood-burning stoves: the traditional open fire (*comal*), and an improved stove with a chimney (*plancha*). In the course of our research, we also investigated the perception of gas stoves and loans. Our interest in this issue arose out of concern with the health impact of exposure to smoke from the combustion of biomass fuels (firewood, crop products, dung, etc.), which in turn was based upon the community's own concern with these health issues, as documented in a community health survey conducted in 2005.

Despite the prevailing opinion among our participants that the *plancha* is the most desirable means of cooking, adoption of this method is limited. There are certainly economic barriers to acquiring an improved stove for many Atiteco families. For most of our participants, with stated daily incomes primarily in the range of Q25 to Q40 (\$3.10 to \$5.00 USD), a considerable amount of which is immediately spent on food and firewood, a stove costing Q350 (\$43.00 USD) represents a considerable investment. However, saving a small portion a day is not unimaginable, and several participants mentioned having done this on at least one occasion. There are also certain programs that have focused on making loans to families to aid them in acquiring stoves.

In this paper, I propose that the historical and political-economic situation of Santiago Atitlan is a primary determinant in the formation of decision-making behavior.

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The community's history as a locus of prolonged state-supported acts of terror, the poverty in which so many of its members live, the recent tragedy of Hurricane Stan and its after effects, as well as the continued violent activity of drug traffickers all conspire to create living conditions in which it is unreasonable and illogical to plan for a future which one may not live to see. It is my argument that, due to the unpredictability of the environment and the prevalence of so-called "survival-focused coping" (Goodman et al., 2009), the perceived magnitude of an investment of Q350 is augmented, such that it becomes a practical impossibility.

The Health Hazard: Indoor Air Pollution¹

The public health hazard posed by indoor air pollution from biomass fuels is well-documented. Correlations between exposure to IAP and afflictions such as acute lower respiratory infections (ALRI) especially in young children, chronic obstructive pulmonary disease (COPD) especially in adult women, and chronic bronchitis are well established (Ezzati and Kammen 2001; von Schirnding 2002). Further evidence is emerging linking IAP exposure to conditions such as low birth weight, perinatal mortality, asthma in children and the elderly, and hypertension (Bruce et al., 2000; Boy et al., 2001; Schei et al., 2004; Mishra, 2003; McCracken et al., 2007). The World Health Organization estimates that this stressor is responsible for as many as 1.6 million deaths annually, and ranks it as the eighth most important cause of reduced Disability Adjusted Life Years (DALYs) globally (WHO, 2004).

¹ The following discussion of the health risk posed by indoor air pollution is taken from my senior thesis proposal, completed 5-7-2009, revised 12-16-2009.

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Acute respiratory infections account for 7% of the global disease burden (WHO, 2001), and are among the most important causes of mortality in young children world wide, causing some 2 million deaths annually in this group (Bruce et al., 2000). That is 19% of total deaths in children under the age of 5 (WHO, 2005; Emmelin and Wall, 2007). In both developing and developed countries, incidence of ARI in children is about equal; however it is in developing countries where these infections frequently proceed to severe stages, including pneumonia and death (Desai et al., 2004).

Smoke inhalation was identified as an important health issue to the people of Santiago Atitlan in a community health survey conducted in 2005 by investigators working with the Guatemala Health Initiative (GHI), the organization that sponsored and supported this project. While all of our participants acknowledged that exposure to smoke caused health problems, it became clear a few weeks into our fieldwork that the problems associated with smoke were not very severe. The two most commonly mentioned smoke-related symptoms were burning eyes and sore throat (described as dryness of the throat, or *resequedad de la garganta*). While participants told us that these were important problems, when asked to place them on a scale relative to problems breathing or heart problems, these symptoms were always deemed less crucial. The following exchange took place in an interview toward the end of our fieldwork. Pedro Lucho (PL) was one of the translators with whom we worked extensively, and he translated the questions that I (DS) asked from Spanish into Tz'utujil, and the participants responses back into Spanish. Erin Bassett-Novoa (EBN) and I translated the transcripts from Spanish into English.

DS: In a list of health problems, with heart attack, problems breathing or problems with eyes, or stomach problems, which are most grave, and which are less grave?

PL: I think that the problem of the heart is the most grave. Problems with respiration or eyes are serious problems, but I have not heard ... of someone dying because of smoke.

Results and Analysis

Plancha:

“At seeing the system of cooking of some of our neighbors, this also obliged us to [build a plancha], and allowed us to see that we needed to have an improvement in the kitchen. Because when we would light the fire on the floor, the children were sent away, because the smoke, particularly when there was a lot of wind, there would be a lot of smoke all through the house, and you wouldn’t be able to have the children here at your side. Now, with this type of plancha, we can all be here together, because there is no smoke.” – Eduardo

The plancha was by far the most highly regarded mode of cooking in Santiago. Essentially all of our participants responded that this was the ideal way to cook. The positive attributes associated with it were its fuel economy, its large cooking surface allowing for multiple items to be cooked at once, its enclosed fire, which both protected the user’s hands from being burned and the fire from being blown out, and above all, the removal of smoke. As one of our participants, Eduardo, a farmer with several small children, points out, the lack of smoke allows for the entire family to occupy the same space.

At the same time, other participants complained that the plancha was not a gathering place for the family as the “traditional fire” was. Although only a few participants mentioned them, there were further negative attributes associated with the plancha. They were: its lack of mobility, its requirement for small pieces of wood, the difficulty of repairing it, and its high cost.

The removal of smoke was by far the most important and most frequently cited benefit of using a plancha. This benefit must be understood in the context of the significance of smoke to Atitecos. During our fieldwork, it was important for me to realize that I was approaching the whole issue as someone who had never been exposed to high levels of IAP. To me, the presence of smoke in a room was strange to the point of being a defining characteristic of that room. To Atitecos, smoke is commonplace to the point of being ignored. In Santiago Atitlan, as in the majority of the developing world, smoke is a normal and ubiquitous, if undesirable, aspect of life. Thus, the removal of that smoke would be desirable, but there is little motive force to change the status quo.

The problems most commonly attributed to smoke were burning eyes and sore throat. Less commonly mentioned were coughing, staining walls, and the odor of smoke permeating clothing. No participant mentioned concern about long term problems from exposure to smoke. In the few instances in which we asked pointedly about long term problems, participants were confused about what we were referring to, and denied that such problems occurred. Furthermore, when asked what they did to alleviate problems caused by smoke exposure, most participants responded that the problems ceased when they weren't in the smoke filled area.

Comal:

The construction of the value of the comal is basically the inverse of that for the plancha. The primary benefit of the comal is that it is cheap. The only costs associated with it are that of firewood, and the actual cooking implements, pots and pans, which deteriorate over time and must be replaced. Secondly, several participants stated that it

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heats up more quickly than does the plancha, allowing one to begin cooking immediately.

The primary disadvantage of using the comal is the exposure to smoke. Less commonly mentioned were: the danger of burning oneself while cooking, the danger of children getting burned, and the frequency with which the fire was blown out by the wind.

Loans:

From the outset, one aspect of our project was an assessment of a micro-loan program implemented by Dr. Justin Schram and Chonita Chevajay, one of our translators. This program had funded the purchase of ONIL stoves for nine families, eight of which participated in our research. These participants were some of the only ones who spoke favorably of what can be done with loans, although even they expressed some trepidation. The prevailing opinion expressed by our participants was that loans were dangerous, and should only be sought out as a last resort. The following interchange is between myself (DS) and Chonita Chevajay (CC), who was translating my interview with Concepción, a woman who cooked using a comal. Concepción was the first participant I interviewed who did not have a plancha, and I was struck immediately by the disparity between her economic situation and that of the others I had interviewed up to that point.

DS: I don't understand, why don't you want to have debt?

CC: Because she has never taken out a loan before. And so she is afraid of having a loan.

DS: Why? What could happen to you?

CC: She thinks that, if she can't pay, they'll take me to jail, and I don't want that, she says. Yes, because, she says, she earns little. If one month, I don't pay, they can take me to jail, she says. She's afraid of taking a loan. She doesn't want to have 1 Quetzal of debt.

DS: Not even 1 Quetzal?

CC: Yes, not even 1 Quetzal, because she's afraid.

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There was a slightly different reaction when we asked about making payments in installments (*por abono*) or little by little (*poco a poco*). The following is excerpted from an interview with one of the women who had participated in the loan program with Dr. Schram and Chonita Chevajay.

DS: Before you took out the loan with Justin and Chonita, how did loans seem to you?

CC: It seemed good to her, because it allows you to pay little by little. It's not like going to buy something, and giving all the money, she says. She felt very good about paying little by little.

DS: And you didn't have to pay interest, did you?

CC: No.

DS: And how do you feel about loans with interest?

CC: It's very difficult to have a loan with interest, she says, because sometimes a payment is due, and if you can't pay, the amount you owe goes up.

DS: But with the loan that you had, what would have happened if there were a month when you couldn't pay?

CC: More than anything, with us, where she took the loan to get the plancha, two times she said that she couldn't pay. I understood, and I had seen that she couldn't pay, because I'm always around here with these people. Sometimes she tells me that she can't pay, because she has to take care of her child, and I say it's alright. But sometimes, when she has sold one of her embroideries, two times she sold her embroidery, and she gave all the money from this to me.

When we asked in later interviews if people who had not participated in this loan program would be interested in that type of arrangement, responses were generally quite positive. The responses generally followed the theme expressed most succinctly in Concepción's answer: "If there were an opportunity to pay little by little, I would take it. But there is not that opportunity, and there is no possibility (*no hay posibilidades*).” This phrase, *no hay posibilidades*, came to represent the general view of the participants who used the comal. They saw no possibility to change the way they cooked.

Many participants who commented on their own unease at dealing with loans and debts, when probed, qualified their responses by saying that a loan should only be sought in the context of a business, with a specific plan in place to repay the loan.

Fieldnotes, interview 26

Ana said that she was afraid of taking a loan because she doesn't know how to do business. Like others, she said that people should take loans only if they have a specific plan for how they will use the money, and how they will pay it back. She said that her brother-in-law had taken a loan in order to buy a cow, fatten it up, and then sell it. This went well for him, but she said that she was still afraid of taking a loan, particularly a loan with interest. She said that she knew of a man who had taken a loan, and when he was unable to pay, the bank took his land. We asked if she would consider taking a loan to buy a plancha, and she said that she would like to get a plancha, but she wouldn't take a loan to do it.

This woman also complained to us of the problems that cooking on an open fire caused her and her children, which at times were so severe that she had to keep her children home from school because they were too sick. Even so, the prospect of taking a loan was judged to be more dangerous than continued exposure to smoke. When asked about the consequences of failure to pay, participants mentioned a variety of frightening possibilities, ranging from social stigma to seizure of property and incarceration.

DS: The only other question we have is about loans: what do you think of loans?

PL: I think that to give a point of view on this is very personal. Because I think a loan is not something that can help a person. First, because it's difficult to earn money, and if one can't pay the loan, that is something very difficult for the family. It carries risks because they could come to a person with an arrest order for taking a loan.

This last threat should be placed in the context of the memories that participants have of the Army occupation of the area. During this time, soldiers regularly committed acts of robbery, and kidnapped numerous people, many of whom never came home. In any context, the exertion of Foucauldian biopower in the form of an arrest is a frightening

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and potentially traumatizing experience, capable of eliciting strong emotions and compliance. What does it mean to a population with personal memories of neighbors, friends, and family being “disappeared” by authority figures under the auspices of arrest?

Comparison:

Given this model of understanding the different modes of cooking, I would suggest that any perceived threat from smoke inhalation is viewed (realistically) as less severe than the threat posed by undernutrition, or infectious disease. Even in the instance that the long-term health benefits are recognized, they cannot possibly outweigh the importance of survival in the here and now. As such, investment in a plancha is both untenably large and non-essential. A stove with a chimney is seen as a luxury item, comparable to a television or article of nice clothing. A plancha has a hard time competing with other luxury items, particularly since its primary impact is felt by women, while men are generally in control of spending.

The following is from an interview with Nicolas, a fairly well-off Atiteco who uses a plancha. This interview was conducted at the end of our fieldwork.

N: Personally, I think the most important is health. If health is important, we can put in a plancha instead of investing in buying [expensive clothing]. Health is better than that.

DS: But do you think that everyone thinks that way, or are there people who value luxurious things more than health?

N: I think we see a huge error in this. If people thought the same, put our priorities in health in the first place, we would have an enviable health. Sadly, in our town a lot of people opt to look good. Instead of having a plancha or a stove, they would rather have gold chains, expensive watches, or to have a television, or an expensive sound system that will make a lot of noise, even if the house is full of smoke. They prefer the smoke than change it for something good. They would rather dress themselves than improve their life in the house. They could definitely do it, they have the

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posibilidades to do it... But they prefer to live like their ancestors. Suffering, but with a little luxury.

This last statement is the crucial point: when forced to choose between escaping from exposure to smoke, exposure that has been endured in this community for generations without complaint, on the one hand, and having some enjoyable item on the other, Atitecos frequently choose the latter.

Traumata

Trauma is a concept and a phenomenon that has gained increasing prominence and currency in both biomedicine and in common parlance over the last century and a half, and particularly over the last 25 years (Fassin and Rechtman, 2009). In their ethnography of trauma, Didier Fassin and Richard Rechtman trace the origins of this concept/disease category from its beginnings as “railway spine” in the 1870s, through to what trauma has become in the present day, both a scar and an access point to the role of victim, which, along with trauma, has come to be a commonsense and legitimized role to enact (Fassin and Rechtman, 2009; Dillenburger et al., 2007).

I foreground my discussion of decision-making with regard to health among the citizens of Santiago Atitlan, Guatemala in this critical view of trauma because I do not want to use this concept as an unquestioned truth. Various examinations of the aftermath of violent political struggles use this terminology casually and uncritically (cf. DiNardo et al., 2010; Dillenburger et al., 2008; Goodman et al., 2009). Rather than claiming to have a grasp on the truth of the phenomena we observed during our fieldwork, I would like to outline a certain logic that can be applied to the choices made in Santiago, and to that end, the notion of trauma provides a useful and compelling framework.

This framework is not devoid of problems, however. While potentially helpful, this construction of a logic of decision-making based in trauma casts Atitecos as essentially damaged individuals acting out a pathology imposed on them by their environment. In this light, they are denied the agency of free, rational actors, and subjectified as “traumatized victims”. I can personally attest to the fallacy of this interpretation. Although small, Atiteco society is fantastically intricate, and resists any kind of totalizing characterizations. Even something as small as deciding which stove to use is a complex process that cannot be reduced to distinct, identifiable elements. As such, all I can hope to do is make a sketch of the broadest, most obvious forces at work in that process.

Santiago Atitlan is a town that has been shaped by experiences of violence and tragedy. The town was a site of extensive military control during Guatemala’s decades-long civil war, and regularly suffered inhuman brutality at the hands of both the Army and the insurgent forces. Like most of Latin America, Guatemala’s history in general and the history and context of the area around Lake Atitlan specifically is one defined by profound inequity of resource distribution. As Carlsen put it, “Atiteco existence is generally hand to mouth,” (1997). The poverty in conjunction with the recent civil war make public health highly problematic (Ghoborah et al., 2003). Finally, on October 4, 2005, unusual rains caused by Hurricane Stan caused a mudslide that killed and displaced thousands of Atitecos. For such a small, close-knit community, this was a tragedy on a level beyond my capacity to understand.

These are the traumata to which the residents of Santiago Atitlán have been subjected, and these are the experiences which continue to influence the world view of Atitecos.

History of Violence:

On the 2nd of every month, there is a memorial held in Santiago for the victims of the December 2nd, 1990 Massacre. The Massacre was the result of tensions that had built between the community of Santiago Atitlán and the occupying and oppressive Guatemalan Army, which had been present in force since 1980 (Carlsen, 1997). The Army had established its garrison in Santiago in response to growing support for ORPA (Organization of People at Arms), one of several guerilla organizations that had been mobilizing in Guatemala in the late 1970s (Carmack, 1988). These organizations sought support from the considerable indigenous population of Guatemala. In so doing, they established these populations as targets for the Guatemalan Army's retaliation, a counterinsurgency program (based on CIA training) that operated through the use of terror tactics that had become all too common in Central America during this period (Carmack 1988; Jonas, 2000; Taussig, 1992).

A cascade of events conspired to construct the setting of the December 2nd Massacre. According to Carlsen, the commander of the Army garrison and several of his subordinates had been drinking heavily on December 1st in a local cantina. After leaving this establishment, they evidently began harassing various citizens that they encountered, leaving several people wounded. Finally, they turned to a private home, purportedly to rape the daughter of the owner. At this point, a group of Atiteco men stepped in and beat them severely with rocks. Knowing the likely response to this kind of action, a

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community wide rage ensued. From Carlsen's account and stories I heard while in Santiago, I imagine a feeling of the inevitability of the Army's violent reaction, coupled with outrage that a community acting in its own self-defense should be subject to such a retaliation. In this atmosphere of desperation and anger, between 2000 and 4000 Atitecos collectively descended on the Army garrison to protest their presence in the community. The encounter began with shouts thrown from one side to the other, but at some point a soldier fired his gun in the air. Upon hearing this, several soldiers began firing directly into the gathered crowd. The confusion and chaos were brief, but lethal. Thirteen Atitecos died early on the morning of December 2nd.

This massacre was a watershed moment, both for Santiago and for Guatemala. It led, ultimately, to the withdrawal of all Army presence from the South Lake Atitlan area, as well as the withdrawal of overt support from the United States for the Guatemalan Army (Carlsen, 1997). Despite the positive outcomes, those thirteen deaths and the dozens that preceded them remain a psychic scar on the community of Santiago, a reminder of the decade of torture and murder and terror. While the community's courageous actions are a point of pride for Atitecos, December 2nd did not mark the end of violence in the area.

Since the Army's departure, groups of drug traffickers have periodically attacked Atitecos in and around Santiago (Kilaru, personal communication). Indeed, one of our colleagues was a victim of this violence a short time into our stay in Santiago, when he and a group of tourists and Atitecos were robbed by a group of bandits carrying shotguns and machetes in the mountains outside of town. A recent survey conducted in Santiago and Guatemala City found that as many as a third of respondents classified as "probable

PTSD” had experienced no traumatic events before the peace accords were signed (DiNardo, et. al., unpublished).

Fieldnotes from interview 22, Aldea Chacaya

They started telling us about the “proyectos de las organizaciones,” which I understood at the time to be social programs that NGOs have put in place in the area. Evidently, these programs have given stoves to some people in Chacaya. Rosa and her family displayed considerable mistrust of these organizations and the people involved with them. They said that they didn’t know about those people. “No sabemos si son de dios.” We don’t know if they are of God... I was very curious about this phrase, “no son de dios”, because of something that [a colleague also working in Santiago] had mentioned last month in regards to a description of violent criminals. I tried to probe more, but had some difficulty. Rosa said that people from these projects had come to visit them. These people hadn’t introduced themselves. They asked for the names of the family, and other information. They said that they were there to help the children. And later, they apparently came back, and said that they wanted to give out stoves. The change in their stated purpose was very troubling to Rosa and her family. This, along with the fact that they didn’t give their own names, was the primary source of their suspicions about these people.

Later, when we were speaking with Chonita about this interview, she told us that guerillas had been in the area, and had attempted to gain information about the people living there by presenting themselves as working for “proyectos”. Chonita thought that this was why the first few people we asked to interview had refused.

The threat of violence is a current and very real factor in the lives of Atitecos. It determines the places where they go, the people with whom they choose to interact, and to a large extent the rhythm of their lives. During the period of our fieldwork, one of our colleagues, Austin Kilaru, was investigating the phenomenon of the *rondas*, a system of volunteer night patrols which enforce a curfew in the town and attempt to identify and report any criminal activity that occurs after 10 PM every night. The rondas were formed in response to the high levels of crime (particularly drug trafficking) perceived to have been occurring in town. In many ways, they are an expression of a communal fear of

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violence; simultaneously, they represent a surrender of control, of autonomy, in favor of security. As an outsider, I am still surprised by the positive attitude that Atitecos have with regards to this abdication of liberties; to me, it speaks powerfully of how differently I conceive of safety and security, a conception that cannot be divorced from my experiences of a world in which safety is as normal as smoke is to Atitecos.

Poverty:

The powerlessness of so many Atitecos is exemplified in the story of Juan Ignacio and his family. We interviewed Juan in his home, a single room with concrete walls and floor, about five meters to a side, where Juan, his wife, and their seven children all lived together. Last year, two of the children became sick in a short period of time, and both required hospitalization and treatment at the Hospitalito, all of which came with a price tag of Q5300. Unable to pay this vast sum on a daily income of about Q30 (less than \$4 USD), Juan was forced to sell a plot of land that his father had left him. However, he was only able to garner Q3000 for this, leaving him with Q2300 that he owed to the Hospitalito, so he had to borrow money. At this point, he owes Q800 to the man from whom he borrowed money, and the same amount to the Hospitalito. And still, his income is Q30/day. There is no way for him to reduce the amount of these debts. He can allocate essentially nothing to paying off debts, an issue compounded by the fact that his children continue to get sick, and so the amount he owes to the Hospitalito continues to increase.

Juan's situation, like those of so many of our participants, is poignantly described by the response repeatedly offered to explain why they did not own a plancha: "No hay posibilidades" (There is no possibility).

Hurricane Stan:

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The mudslide in Panabaj was a big problem. Furthermore, when uncommon rains on the peripheries of Hurricane Stan caused a mudslide on October 4, 2005, more than 1,000 Atitecos were killed, and 5,000 more left homeless (Smith-Spark, 2005). The newly constructed Hospitalito Atitlan was destroyed, meaning that the injured and sick were tended to in make-shift facilities set up in a vacation home on the other side of town. Today, when Atitecos speak about Stan, they use the same tone of voice that New Yorkers use to speak about the attacks of September 11, 2001.

Discussion:

These two separate factors, a history of political violence and the current situation of poverty, are environmental stressors that impact the lives of all Atitecos. Goodman et al. (2009) describe the impact that the psychosocial stressors of Intimate Partner Violence (IPV) and poverty when found in conjunction have on women. The creation of a sense of anxiety and powerlessness identified among victims of IPV is certainly present also among Atitecos, due to the stressors involved in their daily lives. In the presence of these kinds of influences, Goodman and colleagues discuss the observation of “survival-focused coping” behavior, in which battered women focus their efforts, not on resolving their problems or on escaping them, but simply on ensuring survival through the immediate future.

This same type of thinking is common among Atitecos. In order to get an idea of what people would do if they had more resources, Erin and I asked participants how they would spend Q500 if they were to find it unexpectedly. In framing the question, we were hoping to gain an understanding of what kinds of things were on the “wish lists” of participants, the items that they would buy if money weren’t an issue.

The responses given were unexpected. The first thing that everyone said was that they would save the money. To prompt further consideration, participants were then asked what they would do if they had to spend the money in a short period of time. This question was neatly sidestepped; several participants responded that they would buy food that would not go bad. Upon adding further limitations on spending, that the entire sum be spent on one item, several participants responded that they would buy a stove, though I suspect that this was for our benefit.

Due to difficulties in eliciting the types of responses we were looking for, we spent some time varying the question in the hopes of hitting upon the “right” line of questioning. What I failed to see then was that the responses given spoke to an unseen dynamic in the Atiteco decision making process. Like battered women in the United States, these families were presented with an unpredictable environment over which they exerted very little control, an environment in which the death of one or more family members is a very real and very constant possibility. As such, resources are allocated to areas that will enhance survivability; food, medication, savings. It would be illogical in such an environment to invest in anything beyond the immediate future, when survival is far from certain.

Implications for Future Intervention

Judging from our first interviews, all of which were with families who had acquired their ONIL stoves through participation in the loan program implemented by Justin Schram, that program was a great success, and if it can be continued and expanded, it is my prediction that it will continue to help people. As stated above, loans are widely

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perceived to be highly problematic, and potentially damaging, both economically and socially. However, paying for items “in installments” or “little by little” (“por abonos” or “poco a poco”) is regarded both as desirable and respectable. It is my recommendation that, if possible, programs seeking to aid in acquisition of improved stoves should refer to that aid in these terms, and avoid the negative connotations associated with the word loan (prestamo).

Another potential line of action would be attempting to modify the understanding of smoke among Atitecos. It is my hope to participate in producing a film, in both Spanish and Tz’utujil, that would illustrate the severity of the negative health consequences of smoke exposure. If the understanding of the value of the different cooking methods is adjusted in favor of the plancha, then the required investment might seem less out of reach, and more practical.

Works cited

Alden, Morgen. Personal interview. 31 March 2010

Bassett-Novoa, Erin. Personal interview. 10 December 2009

Boy, Erick, Nigel Bruce, Kirk R. Smith, and Ruben Hernandez, "Fuel efficiency of an improved stove in rural Guatemala: implications for health, environment and development." *Energy for Sustainable Development* 4, no. 2 (2000): 23-31.

Bruce, Nigel, Rogelio Perez-Padilla, and Rachel Albalak, "Indoor air pollution in developing countries: a major environmental and public health challenge." Theme issue, "Environmental Health," *Bulletin of the World Health Organization* 78, (2000): 1078-1092.

Carlsen, Robert S. The War For The Heart and Soul of a Highland Maya Town. Austin: University of Texas Press, 1997.

Carmack, Robert M., ed. Harvest of Terror: The Maya Indians and the Guatemalan Crisis. Norman: University of Oklahoma Press, 1988.

Desai, Manish A., Sumi Mehta, and Kirk R. Smith, *Indoor smoke from solid fuels: assessing the environmental burden of disease at national and local levels*, WHO Environmental Burden of Disease Series, no. 4. Geneva: World Health Organization, 2004.

Dillenburg, Karola, Monteserrat Fargas, and Rym Akhonzada, "Psychological impact of long-term political violence: an exploration of community service users." *Traumatology* 13, no. 2 (2007): 15-25.

Dillenburg, Karola, Monteserrat Fargas, and Rym Akhonzada, "Long-term effects of political violence: narrative inquiry across a 20-year period." *Quality Health Research* 18, no. 10 (2008): 1312-1322.

DiNardo, Andrew R., Michael J. Harvey, Jason L. Vassy, and Charles C. Branas, "Violence and stress during peacetime in post-conflict Guatemala." *Journal of the American Medical Association*, in press.

Ezzati, Majid and Daniel M. Kammen, "Quantifying the effects of indoor air pollution from biomass combustion on acute respiratory infections in developing countries." *Environmental Health Perspectives* 109 (2001): 481-488.

Fassin, Didier and Richard Rechtman. The Empire of Trauma: An Inquiry into the Condition of Victimhood. Princeton: Princeton University Press, 2009.

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Ghobarah, Hazeem Adam, Paul Huth, and Bruce Russett, "Civil wars kill and maim people--long after the shooting stops." *American Political Science Review* 97, no. 2 (2003): 189-202.

Goodman, Lisa A., Katya F. Smyth, Angela M. Borges, and Rachel Singer, "When crises collide: how intimate partner violence and poverty intersect to shape women's mental health and coping?" *Trauma, Violence, and Abuse* 10 (2009): 306-329.

Jonas, Susanne. Of Centaurs and Doves: Guatemala's Peace Process. Boulder: Westview Press, 2000.

Kilaru, Austin. Personal interview. 14 December 2009

McClintock, Michael. The American Connection, Volume II: State Terror and Popular Resistance in Guatemala. London: Zed Books, 1985.

McCracken, John P., Kirk R. Smith, Anaité Díaz, Murray A. Mittleman, and Joel Schwartz, "Chimney stove intervention to reduce long-term wood smoke exposure lowers blood pressure among Guatemalan women." *Environmental Health Perspectives* 15 (2007) 996-1001.

Schei, Morten A., Jens O. Hessen, Kirk R. Smith, Nigel Bruce, John McCracken, and Victoria Lopez, "Childhood asthma and indoor woodsmoke from cooking in Guatemala." *Journal of Exposure Analysis and Environmental Epidemiology* 14, (2004): S110-S117.

von Schirnding, Y., Nigel Bruce, Kirk R. Smith, Grant Ballard-Tremeer, Majid Ezzati, and K. Lvovsky, "Addressing the impact of household energy and indoor air pollution on the health of the poor: implications for policy action and intervention measures." Paper presented at the World Summit on Sustainable Development, Johannesburg, 2002.

Taussig, Michael P. The Nervous System. London: Routledge, 1992.