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### **Abstract**

In 2010, as a master’s student at the University of California, Berkeley, I undertook field work in rural Peru to explore the relationships among three stakeholders in a transnational sustainability partnership: representatives of a U.S.-based development NGO, community members in a remote Andean village, and nursing researchers from a U.S. university. I analyzed sustainability and public health discourses to address the following questions: Were NGO members, researchers, and village residents deploying commensurate sustainability and health discourses? Were diverse stakeholders actually communicating with one another, and were speaking and listening mutual exchanges? How were knowledge and power negotiated in these relationships, and how were these dynamics changing (if at all) over time? Simply put: in such partnerships, what is to be “sustained”, who gets to decide, and on what terms? To that end, I conducted ethnographic research, including direct and participant observation of NGO meetings, town hall gatherings, and nurse-villager interactions, as well as thirty in-depth interviews with female community members. I found that despite efforts by NGO members and researchers to be culturally competent and engage in participatory research, the perspectives and goals of the target population were largely overlooked. Discursive analysis grounded in feminist, postcolonial, and indigenous STS and political ecology frameworks revealed that mutual communication among individuals with diverging life experiences and knowledge systems evaded the partnerships in question. Recommendations for future work include active listening, “technologies of humility” (Jasanoff 2003), and careful examination of the well-meaning but often uncritical assumptions underlying “sustainability”.

**Keywords:** sustainability, science and technology studies, Peru

### **Introduction**

In recent decades, experts in a variety of fields have hailed “sustainability” as a potential panacea for what ails modern societies. As an abstract noun, it implies a kind of transcendence of the socio-political and ecological strife that results from unequal power relations negotiating unequal economic growth. As an adjective, the term is often invoked to neutralize words that are otherwise highly contested, such as development, agriculture, and energy. Whereas “development”, for example, is entangled with histories of imperialism and correspondingly fraught narratives of modernization and cultural (de)legitimation, “sustainable development” apparently escapes such historical contingency by focusing on the future rather than the past. In this way, debates over controversial terms dissipate in an uncritical valorization of sustainability that promises to transcend conflict without resolving it. By discussing environmental harms in a vague and relative manner, however, policymakers and researchers

engaging in “development” projects neatly avoid having to answer the difficult questions: “More sustainable” than *what*? What is meant to be *sustained*? Who gets to decide?

These questions suggest that conceptualizing sustainability in abstract terms can exacerbate misunderstanding rather than provide effective socio-environmental solutions. Because of this, it is helpful to consider particular instances in which the term is being invoked and situate these cases in a broader political ecological context. To that end, the following case study aims to trouble the term “sustainability” in the overlapping spheres of dominant (academic and transnational NGOs) and non-dominant (“lay”) discourse and representation. In this case study, undertaken for a master’s thesis in Latin American Studies, significant tensions emerged between groups with distinct backgrounds in their negotiation of knowledge and power around ideas of sustainability. Ultimately, no perfect resolution or plan of action for future sustainability emerges here. Rather, what becomes clear is that in merging different life experiences, knowledge systems, and goals, transcending conflict is impossible. What matters is recognizing these differences and working *through* them, not against them or despite them, toward more equitable socio-environmental relationships.

To that end, in 2010 I traveled to a remote Andean village in Áncash, Peru, to investigate how different groups in a transnational partnership were engaging (or not) with the term “sustainability”. As a master’s student at Berkeley and an intern with a public health and sustainability non-governmental organization (NGO) called SALUD Peru, I hoped a case study of the village of San Vicente de Ferrer would illuminate discrepancies in the ways discourses of human and environmental health were being deployed by stakeholders occupying distinct positions of power.<sup>1</sup> By revealing areas of divergence and convergence in these discourses, I sought to enhance communication and collaboration to maximize the quality and relevance of community projects. Furthermore, through my unique position I became a liaison among villagers, the NGO, and a National Institutes of Health (NIH)-funded team of nursing researchers from a major U.S. research university who intended to gather baseline data on environmental and household health as a starting point for broader regional analysis. It was under these conditions that the case study that follows emerged.

## **Analytical Perspectives**

### *Theoretical Background*

This study is framed by the explicit acknowledgement that pursuing value-neutral, objective scholarship was at odds with the multiple roles I occupied and the participatory goal-setting I envisioned. This was in fact a key motivation for the project: to resist the notion of objective social science research and attempt a more locally-informed approach. The foundation for this approach was based in frameworks of political ecology and feminist, postcolonial, and indigenous science and technology studies (STS), which urge scholars to consider their own social position and to address it critically during research design. According to Donna Haraway, this is necessary because all knowledge is necessarily partial or “situated” (Haraway 1988). Because of this, one must actively engage with others whose life experiences differ widely from one’s own. Likewise, Sandra Harding advocates “strong objectivity” as a method for integrating different kinds of knowledge, and she encourages all researchers – whether bench or social scientists – to begin research from women’s lives (Harding 1995).

“What can we learn about the research topic or the policies and practices likely to result from it,” she asked, “by starting to think about the project from the standpoint of women’s lives in households” (Harding 1995, p. 226)?

These STS approaches align with the concepts of “socially robust knowledge” and “technologies of humility” discussed by Helga Nowotny *et al*, and Sheila Jasanoff, respectively (Nowotny *et al* 2001, Jasanoff 2003). Much like Harding’s notion of “strong objectivity”, Nowotny *et al* advocate “strong contextualization” of scientific research to arrive at more “socially robust knowledge” (Nowotny *et al* 2001, p. 131, 167). According to these authors, strong contextualization “occurs when researchers have the opportunity, *and are willing*, to respond to signals received from society” and therefore “not only shapes research agendas and priorities, but also influences research topics and methods” (Nowotny *et al* 2001, p. 131). Of course, responding to these different social needs through research necessitates first the identification, and then the integration, of multiple perspectives and voices. In a two-fold process, researchers must be aware enough to recognize the limitations of their own knowledge, and they must also be creative and “humble” in locating and incorporating others in the processes of defining problems, investigating those problems, and imagining possible solutions. As Jasanoff asserts, “the origins of a problem may appear one way to those in power, and in quite another way to the marginal or the excluded” (Jasanoff 2003, p. 240).

While such an undertaking may prove difficult for a particle physicist, the idea of beginning research from women’s households appears (on the surface, at least) less problematic from a social science lens. In designing the project at hand, for example, all of the participants seemed perfectly poised to engage in an ostensibly democratic and participatory research process. The Board of Directors of SALUD Peru consisted of women who had been trained in public health and who shared special affinities (if not identities) with the villagers on whose behalf they were working. The university nursing team likewise comprised women with personal roots in, or deep connections to, Latin America. And while I had never worked in Peru, my own position relative to Latin America (a white woman with latent Mexican heritage and a variety of experiences in the region at large) encouraged me to seek social application of academic theory. Finally, it was assumed that the actual subjects of my research – that is, the women of Ferrer – would certainly have a stake in framing this research and its potential outcomes. Therefore, from the beginning I attempted to incorporate their perspective. This proved to be a logistical challenge, however, and it was impossible to obtain their insight until I arrived on the ground in Peru.

### *Translating Theory into Research Design*

To begin this research in ways that would meet the call of the aforementioned theorists, I had to listen to the various stakeholders and understand how they each articulated the central problems in the case of transnational health and sustainability projects with Ferrer. To that end, it was relatively easy to meet with representatives of SALUD Peru and the university team to assess their conceptualization of the problem, and thus the nature of their motivations and goals. Both sought baseline data and villager input to determine the design and direction of comprehensive environmental and human health interventions that would be sustainable for the village in the long run. For SALUD Peru, this meant collecting information from villagers through interviews and town-hall meetings to develop programs that would be assessable and

replicable according to particular public health paradigms and metrics. For the NIH-funded nursing researchers, baseline data was to be collected from female heads-of-household according to Demographic and Household Survey (DHS) templates with special emphasis on intersections between environmental health and maternal and child health (MCH).

Thus for these two groups, the “problem” in general terms was clear: there were unmet needs in Ferrer, and once they were identified through various semi-structured qualitative instruments, the development of “sustainable” community health interventions could begin. Through numerous face-to-face meetings, I adapted my research plan to better investigate the questions posed by SALUD Peru and the nursing team. The success of these negotiations, however, stood in stark contrast to my inability to integrate Andean perspectives in the problem-defining stage of my project. If the whole point was to begin research from women’s lives, to be more humble and hesitant in making assumptions –charitable though they may be – about the lives of others, how could the absence of *ferrerina* input be justified?

The only other feedback received prior to fieldwork came from the institutional review board (IRB). Within the set ethical parameters of its standardized protocol, this body was untroubled by the lack of subject input. While the IRB possessed the final power of approval over each question in every document in the investigation, it did not require local involvement in any way. While this observation seems trivial, the sources of authority shaping the direction of research is a point worth emphasizing. The legitimacy and accessibility of public health expertise was scrutinized by the IRB only to the degree that it may exploit participants in a position of lesser power vis-à-vis the researcher. The IRB was notably unconcerned, however, with whether participants would leverage their own expertise against the researchers. This is because such “marginal” ways of knowing are considered “non-dominant” (or “lay”) in that, by their very definition, they are assumed to cede to the kinds of empirical, objective modes of knowledge (re)production most valued by the Global North. Thus just as the problem of Ferrer had already been articulated according to the ontology of public health expertise, the power dynamics of the research project were reified by the presumably protective expertise of the university’s IRB.

The assumed inevitability of how different knowledge systems are negotiated by groups occupying distinct positions of power (and with distinct resources at their disposal) deserves further examination. In Jennifer Howard-Grenville’s case study of dominant and non-dominant organizational subcultures, the author reveals that many qualities assumed to be universal are in fact socially constituted along differentiated lines of power. Because of this, abstract categories such as “knowledge” and “time” are conceptualized according to different values, and thus problems and strategies to solve them are contingent upon culturally-specific articulations (Howard-Grenville 2006, p. 54). This illustration is meant to challenge the notion of an organization as a superficially consistent social actor, but it is also instructive in the present case of transnational partnerships among separate but overlapping groups. In the case of Ferrer, both SALUD Peru and the university nursing team assumed that the problem was one of unmet environmental and human health needs. Once the board members and nurses received the details of these unmet needs (through me, the intern/researcher, as well as their own pre-designed surveys) they could tailor their interventions accordingly. Whether this was the goal of *ferrerinos* was more a matter of survey response than research design

## Empirical Analysis

### *Negotiating Multiple Knowledges*

Upon arriving in Peru, it became clear that theoretical expertise mattered less than potential concrete deliverables when it came to actually conversing with the residents (particularly the women) of Ferrer. Initial informal conversations quickly revealed that terms such as “environment” and “sustainability” had no place in the daily discourses of *ferrerinas*, and upon realizing this, I adapted my own interview guides to incorporate vocabulary more relevant to the community. Through observations and slowly building rapport with community members, I began to gauge their own priorities and expectations in relation to SALUD Peru and the nursing researchers (two of whom were to arrive some days after I had). Even within a short time it was clear that the primary goal in Ferrer was to generate cash to meet basic living standards. To the degree that local people were even aware of SALUD Peru activities, they seemed to view them more as primarily a financial support system. While most of the men in the community were away from town (most of them sharecropping) for the duration of the studies, those who stayed behind expressed little desire to remain in place without a stable source of income. Such sources were limited to a proposal to establish a high-tech dairy factory (a notion dismissed by the board of SALUD Peru due to perceived market saturation), and a textile cooperative (discussed below) that produced items to sell at fundraisers in the U.S.

As far as health was concerned, residents relied upon a small, poorly stocked health post that was unstaffed during the entire month of fieldwork. The nearest hospital was a six-hour bus ride to the coastal city of Chimbote, and specialty cases generally had to be seen in Lima (several more hours by bus). Villagers therefore hoped to take advantage of the presence of nurses in town to address their healthcare needs, an expectation that would remain unfulfilled given that the team’s mission was data-oriented rather than clinical. I anticipated that the nurses would clarify this misunderstanding when they arrived, but this was not so. These individuals (both women) seemed fully aware of how much power their medical expertise carried in such an isolated village, and they were well versed in the particular health challenges facing this community (especially upper respiratory tract infections), but their non-clinical role had not been clearly communicated. Additionally, despite the nurses’ explicit validation of local people’s intimate understanding of their own health and environment, the standardized metrics embedded in their surveys in reality excluded – and often belittled – the expression of local women’s knowledge.

This disconnect first became apparent during a town hall meeting intended to facilitate coordination among the diverse interests of multiply situated actors. The gathering unfortunately also brought the latent power differentials between groups to the surface. After brief introductions, the mayor arose and thanked the U.S. researchers for coming to share their wealth of knowledge with such “poor”, “humble”, and “uneducated” people. Whether this reflected residents’ actual subjectivities mattered less than the fact that its articulation through by the mayor made it the official local discourse. Preempting the obsequious narrative that was certainly to follow, one of the nurses rose abruptly from her seat to interrupt the mayor. She forcefully chastised the village leader for using such self-deprecating terms, and she countered that, in reality, *ferrerinos* should be proud of the many *lujos* – “luxuries” – that they possessed in contrast to most American communities. Among these she listed an intimate knowledge of

the landscape, the ability to live in tight-knit family groups, and the maintenance of long-standing cultural traditions. With her back turned toward the *ferrerinos* in attendance, she passionately defended the immeasurable value of “traditional” knowledge against the mayor’s valorization of American biomedical and environmental health expertise.

Later, as women gathered to enroll in the nurses’ study, the same researcher (who herself was from South America but raised in the U.S.) decried in English the general ignorance and lack of hygiene of the community members. When the surveys began, she laughed as women responded that their babies were all one kilogram at birth, and she grew angry when women universally denied any instances of abortion, miscarriage, or stillbirth. She also spoke against the dairy factory proposal, saying that women could just continue making cheese in informally at home, despite from Peruvian healthcare professionals that doing so was unsafe. The inconsistency of this discourse was more than a matter of personality. Instead, it reflected a broader double-standard wherein healthcare professionals proposed standards while simultaneously excluding lost causes from the need to adhere to them. The nurse in this case certainly would not have eaten the homemade cheese herself, but she saw no reason that the lice-infested, hungry residents continue their “traditional” practices. The suspicion and distrust that this behavior generated spread quickly amidst the already contentious politics that typify small-town politics around the world. (“*Pueblo chico, infierno grande*” – “small town, big hell” – was a common turn of phrase in the village.) Accusations of witchcraft ensued, and this conflict caused the researchers sufficient distress to immediately abandon their project. They returned to Lima only two days into their study.

### *Adapting the Approach*

After observing the quick dissolution of the nursing project, I became more cautious of my role and how others’ perceived it. To the disappointment of many in the wake of the nurses’ retreat, I continued to conduct their surveys (as well as my own interviews) while reiterating my lack of clinical expertise. In this way I hoped to dispel any traces of such assumptions in the community. At the same time, I also emphasized my desire to communicate local needs and goals to the SALUD Peru board. Despite these attempts, I frequently met with uncomfortable silences during my interviews. First, it became clear that the women wanted me to tell them the correct answer to questions rather than share their own experiences. Why, they wondered, would an expert ask them about terms with which they were unfamiliar? If they responded at all, most women suggested I speak with their children, who tended to be better educated. Even in my interactions with male village leaders, such as the mayor, the message was the same: we are humble, we are poor, we are ignorant, and we are very grateful that you have come here to teach us. This discursive deployment of inferior subjectivities (regardless of whether they accurately reflected people’s actual attitudes) emerged as a constant source of tension in my interviews and the broader transnational NGO dynamics.

A second key realization was that the aforementioned interview questions were entirely predicated on a separation between humans and “nature”, a separation that makes little sense in a community long rooted in subsistence agriculture. Despite an attempt to design the interviews with space to allow different perceptions of nonhuman “agency” (in the form of spirits, for example) in human-environmental relationships, the questions remained mired in a Western frame of reference where dualistic categories seem inevitable and natural.

Upon realizing these limitations, the interview guide was adapted accordingly. Instead of abstract inquiries about unfamiliar terms, other words and ideas were tested. “Climate”, it turns out, is a term very familiar among *ferrerinos*. When paired with specific questions about human and livestock health, soil and water quality, and trends in crop production, it enabled rich conversations to emerge. Similar to what Kai Lee proposes in his discussion of “adaptive management”, experimentation through trial and error became part of the research itself in order to increase the flexibility and responsiveness of the investigation (Lee 1993). In essence, the initial mistakes led to a couple of terms that worked, and the interviews gained momentum. Of course, Lee’s prescription for adaptive management is intended to blend the experimentation of a scientific laboratory with practical application through environmental policy, and thus involves a greater degree of synthesis between research and follow-through than the investigation at hand. Yet while I was not directly managing environmental and human health in Ferrer, my role as NGO and research liaison required a more immediately flexible and responsive approach than standard research methods afforded.

The shortcoming of adaptive management, however, is that it places control entirely in the hands of experts and therefore constrains the ability of “lay” people to participate in decisions that affect their lives. This represents a significant internal contradiction because it limits input and thus curtails the very flexibility and responsiveness it seeks to maximize. In the context of this case study, the nurses’ surveys did not have epistemological space for improvisation in the field. They set their terms firmly and tended to interrupt and “correct” conversations that went off course. In some ways, they had to, for the nature of their research allowed them very little leeway. It was only in my own in-depth interviews that I had the flexibility to begin really listening to what the women of Ferrer had to say.

### *Challenging “Traditional” Knowledge*

One of the benefits of adapting the open-ended interviews was the opportunity this created to capture simultaneity and ambivalence in the multiple knowledges expressed by participants. For example, many women spoke longingly about the *ancianos* (elders) and *antepasados* (ancestors) who seemed to them so much stronger and more knowledgeable than they envisioned themselves to be. An example of this disjuncture is the way in which many women described the relationship between “traditional” knowledge and its inability to keep pace with changes in environmental and human health. In such discussions, changes in “*el clima*” – the climate – of Ferrer were believed to have led to a decline in the nutritional content of crops as well as the decreased potency of *ramitas* – special “branches” or herbs – that remain the principle cure for what ails *ferrerinos*. According to many of the women I interviewed, this in turn has resulted in “weaker” residents who are sicker than their ancestors. Thus while the health post was closed during nearly the entire duration of my stay in the village, and while people claimed it was woefully under-equipped (offering only “*calmantes*” – calmatives – and not cures), they nevertheless understood its presence as representative of a fundamental shift in community health.

This ambivalence toward what many would consider “modern” healthcare in a changing environment became a recurrent theme in my interviews. According to one woman, for example:

Before, we cured ourselves with branches, that's it... But not anymore, everything's got to be medicine now. [...] With vaccinations around, the kids are protected against illness. But still they seem weaker now, because before, those old people *really* lasted. Us, on the other hand – we don't even make it to fifty years old, and we're sick!

Another woman, on the other hand, described in great detail how she prepared *ramitas* and how she administered them to cure a variety of illnesses. Tellingly, however, these “traditional” cures involved a mixture of Old and New World flora and contemporary pharmaceuticals. When her daughter was gravely ill with fever, for example, she relied on a combination of masticated wheat with salt. For diarrhea, she recommended avocado seed with lime peel. For bronchitis, she puréed garlic and onion and tossed in a piece of amoxicillin. When I asked how she learned these preparations, she explained that the knowledge was passed from generation to generation according to *los antiguos* (elders/ancestors). “To cure ourselves with branches – our ancestors taught us,” she explained. “They were stronger than we are.”

When I asked her why she thought the *antiguos* were stronger than present-day *ferrerinos*, she explained how they would have outlived modern residents who now succumb to unprecedented ailments such as cancer and stroke. In her estimation, these maladies were unheard of among older generations. When pressed to explain the causes of such debilitation, she replied simply, “It seems like, I'd say, the climate is different. Before, supposedly, it was better, and that's why there wasn't much sickness.” The destabilization of traditional agricultural practices due to increasing environmental pressures thus, in her mind at least, went hand-in-hand with the declining effectiveness of traditional healing for maintaining community health. Because of this, people have had to be flexible in adopting practices that may seem to outsiders as contradictory. When something works, they go with it; when it does not, they make due. “Sometimes the nurse gives us pills, and nothing happens. So we have to use the branches.”

Such examples illustrate that while people in Ferrer regularly move between identities that may seem antagonistic in other contexts, they appear to be doing so more out of necessity than caprice. Nostalgic discussions of traditional health patterns alongside syncretic curative practices reveal a strong awareness of change and a concomitant ability to adapt – a capacity that challenges the static dualisms often assumed by “outsiders”, both domestic and international. Whether made by policymakers in Lima or environmental and human health researchers from the Global North, assumptions of cultural and natural stasis – both of particular people and the landscapes they inhabit – tend to characterize the perceptions of mountain life by residents of lower elevations. These perceptions then become normalized through a variety of media – official legislation, visual representations, NGO project programming, *et cetera* – in a negative feedback loop that excludes mountain peoples' views while drastically shaping their lives.

The women's *taller de telares* (weaving workshop) provides an additional challenge to the notion of preserving traditional knowledge through “sustainable” projects that, in theory, should directly benefit the women of Ferrer. According to a traveling instructor affiliated with the Centro Educativo Técnico Productivo (CETPro) of the provincial capital, Cabana, seven



*telares* (looms) have been in operation in Ferrer over the past eleven years. At the time of the study, there were fifteen women and girls participating in the workshop in Ferrer, and they invested 10 soles and three months in training and pre-professional yarn. After completing 1,000 hours of training to master what is ostensibly a “traditional” skill, the participants receive the title of “auxiliary technician in loom weaving”.

While certification seems like an advantage to the weavers, in reality there is no market in the province or region for what they are producing. In general, residents of the area weave their own household products using wool from sheep they own or tend. The only profits from the weaving workshop, then, have come from sales made in the United States through SALUD Peru fundraisers. In this way, each woman received payment in direct proportion to the number of her pieces sold in the United States. In my interactions with the weaving students during June of 2010, women were still producing weavings with hopes to sell them in the U.S. through SALUD Peru connections. Without realizing the complicated entanglement of provincial-level governmental aid (in the form of looms and training) and transnational support (from the executive director of SALUD Peru), the women participating in the weaving workshops had become reliant upon foreign sales for money that they were currently using to purchase necessary items such as medical treatments and family expenses.

Meanwhile, back in the United States, the Board of Directors was planning to curtail such operations, in part because the woven pieces, made as they were with synthetic fibers, did not appeal to U.S. consumers as natural wool would have done. Once in the village, I realized there was a stark difference between the clothing the women made for themselves and their families and what they were producing for presumed export. I asked why women chose synthetic wool, which they had to purchase, for the looms rather than using the same wool they used at home to make household items. They explained that the looms were built for only synthetic wool. When they tried to use their wool from home, which they did not have to purchase, the looms broke and would have to be repaired. They also explained that pedal-looms existed that could handle their natural wool, but that these looms were not available in Ferrer, nor was anyone in the region able to instruct participants on such looms. Because of this, this transnational weaving project that was intended to expand local women’s independence through income-generating activities based on “traditional” knowledge had inadvertently established a relationship of dependence on outside support where none had previously existed.

These examples challenged the arbitrary nature of “traditional” knowledge upon which “sustainability” projects in Ferrer were based. Given the fluidity with which *ferrerinos* move to and fro across ostensibly dualistic knowledge categories that characterize dominant notions of “progress” as a linear movement from the “traditional” toward the “(post)modern”, I should not have been so surprised in my brief interactions with them. On a hike up to some Inca ruins, for example, a thirteen-year-old boy shocked me by pointing to a cactus – a recent arrival to the *sierra* ecosystem– and saying, “Look miss, this cactus is an example of the globalization of the environment.” I stopped short. For weeks I had been trying to ascertain from local women some sense of what the “environment” meant to them, and what this might mean for “sustainability” in the area. After realizing that my choice of terms was completely out of sync with these women’s lives, I had almost stopped using such terms entirely, opting instead for words like “climate” and trying to discern patterns of change or stasis from what they told me.

Then this boy casually mentioned “the globalization of the environment”, and I felt myself return to square one.

Still another interview revealed even more complex levels to the kind of difference made by embodying the disorienting space between knowledge systems that, on the surface, seem clearly differentiable. As I attempted to interview one woman at home with her two babies, her sister arrived and joined in the discussion. The two talked about their experiences in Ferrer in terms common throughout my thirty interviews. There was generally no paid work in the village, with the semi-exception of sharecropping, and so men tended to leave for Lima in search of income opportunities. Women had fewer options, however, because they needed to stay home and look after children, older relatives, and whatever livestock the family might possess. This interview, however, took an interesting turn when the sisters departed from my guide. They both agreed that the land was no longer producing well because crops were spoiled by unprecedented “burning” by the extreme sun and frost, and that because of this quality of life in the village was generally declining. They disagreed, however, about why this might be so.

One of the sisters identified herself as an evangelical Christian (a religion relatively new to the region). She was a newly single mother since the father of her children had recently committed suicide. She was certain that the declining health of Ferrer and its “environment” (that is, what she spoke about in terms of “climate”, soil, livestock, *et cetera*) was a direct reflection of the will of God – a sign that the end of the world was close at hand. “What could it be?” she repeated, and responded finally, “Judgment day is coming.” It was like the Bible said, she explained: the sun would get brighter and hotter – as it seemed to be doing now – until one day they would no longer be able to stand it. Then it would all be over. Other strange signs, such as the birth of deformed babies and animals in the village, seemed to corroborate her hypothesis.

The other sister, whose quiet, trembling voice is barely audible on the interview recording, begged to differ. The deformed babies her sister referred to were her own, a boy and a girl, who had both been born with poorly formed eyes and were blind or nearly blind. Unlike others in the village, she was not surprised by their condition because, in the case of her first child (her son) she had already dreamt it. “I dreamed of him, my little boy... I dreamed he would be born with his eyes closed.” Furthermore, she now frequented Lima with her husband in search of treatments for her children, and she was aware of other possible explanations. Throughout the interview, she blended religious rhetoric with complicated medical terms (such as “cornea transplant”) and more “traditional” perspectives (such as the dream sequence she described). Tears filled her eyes as she listened to her sister’s explanation of recent changes, and, choking them back, she retorted:

They even say that’s why my babies were born like this. They say, it’s the end of the world, that because of this we’re seeing things we’ve never seen... They’re frightened when they see these cases. They don’t ever leave this village to see how things really are. But me, I’ve been all over Lima with my babies and I’ve seen these cases. I’m not afraid anymore."

[Interviewer]: “And you don’t think it’s the end of the world?”

“No, I’d say maybe God has sent my children like this because, well, it’s a test that He’s giving me, to see if I can handle my children. If I can love them, if I can care for them, because there are others that get tired of this. ... It’s a test God has sent us; it’s not a punishment.

Given the heartbreaking tension of embodying this knowledge of a world that exists somewhere between Lima and Ferrer, it seems surprising that she still calls the latter home. Despite what others might say about her and her family, however, she tries to ignore them. For all the advantages Lima may have for her children’s health, migrating there is not an option. “I don’t ask for anything... In Lima, you know how it is... just cash. Without work, we don’t eat.” Such a response, rather than a deep spiritual connection to tradition and the land upon which sustainability claims rested, would have surprised me when I began the interviews. As it became clear that these women and their families held neither individual nor communal claims to the plots of land they sharecropped, I understood the indifferent refrain I heard time and again from the women of Ferrer: “*Si no de aquí, ¿de ‘ónde?*” If not from here, then from where?

### Conclusion

While this case study represents only a singular moment in time and cannot be broadly generalized, it does illuminate how knowledge systems corresponding to particular life experiences and positions of power matter greatly in the negotiation of complex concepts such as “health” and “sustainability”. Each of the actors in this case study necessarily embodies a specific way of knowing, and yet these knowledges are clearly not equal. And while it seems that the different stakeholders correspond neatly to particular knowledge systems, in reality the distinctions are not so simply dualistic. Ultimately the people of Ferrer, who supposedly embody traditional knowledge, are also familiar with dominant knowledge systems to the extent that they understand their own knowledge as inferior while simultaneously acting out complex, intertwined knowledge systems. The nurses, on the other hand, in fact represent a more homogenous, standardized approach to research that recognizes there is something useful to be learned from the “subject”, but that these data are incomplete without the analytical expertise of the researcher. Thus the nurses needed information from the women of Ferrer, but only insofar as it would be useful in identifying “problems” and potential solutions within the standardized parameters of public health ontology and epistemology.

This case study of Ferrer is illustrative of the pitfalls of trying to balance expertise and agency. These interactions are supposed to involve conversations, but it is taken for granted that not everyone is beginning from the same standpoint. The assumption that good intentions can overcome vastly different life experiences is one that leads to incredible frustration and impossible goals. Not all knowledge systems are commensurable, and no two people possess the same life experience from which to draw in understanding the world around them. Nevertheless, the desire to revolutionize old notions of neutral “objectivity” – that is, an ideal that obscures the actual partial perspective of the researcher under what Haraway refers to as the guise of the omniscient “view from nowhere” – demands genuine attempts at communication (Haraway 1988).<sup>ii</sup> According to Nowotny *et al* (2001, p. 170):

To be comprehensible to others (although the definition, and so the extent, of 'others' is crucial) is necessary if a scientific object, whether theory or set of empirical findings, is to be available to be added to the stock of knowledge or open to improvement or refutation.

Once this "consensibility" is achieved, the process of negotiating "consensuality" (that is, "the maximum degree of agreement" among diverse parties) can begin in earnest Nowotny *et al* 2001, 170).

This notion of developing consensibility and consensuality to arrive at "reliable knowledge", however, still implies that there is one, universal knowledge that can be augmented and improved. While the authors recognize that "others" is a tricky category, they forget that "knowledge" itself emerges from particular worldviews that may or may not be shared among various researchers and stakeholders. And while they state clearly that "not everyone is equal" in these interactions, their focus is relatively limited to the nexus between experts and laypeople in a post-World War II theater of knowledge production in the Global North (Nowotny *et al* 2001, p. 170). As mentioned above, this is problematic in that the terms of the conversation, and thus the nature and scope of problems, tend to be set according to those with power, in line with their worldview.

In retrospect, it is clear that these recurrent tensions in Ferrer resulted from an inability to negotiate knowledge and power in a mutually intelligible manner. At a very basic level, the kind of scientific expertise prized in the Global North discourages the inclusion of lay voices in decision-making processes. In making the point that nonhumans also have agency (understood more as the power to influence outcomes than actual sentience), Bruno Latour asserts that objects must be "made to talk" in order to reveal their social role, a role that is often obscured by their very materiality (Latour 2005, p. 79). Emphasizing this point, he reminds the reader that "humans, too, have to be made to talk" (*ibid*). Unlike humans, however, objects have agency only momentarily; with humans, on the other hand, "there is a difference" (Latour 2005, pp. 79-80):

...once humans [have been made to talk], it is hard to stop them. An indefinite stream of data springs forth, whereas objects, no matter how important, efficient, central, or necessary they may be, tend to recede into the background."

While the notion of nonhuman agency is indeed a key theme within my own research, the more important point here is what Latour mentions only casually with respect to human agency. What is taken for granted, time and again, is that humans, with adequate attempts at communication, either possess or can be granted sufficient agency to articulate their particular knowledge relative to that of others. Not all humans are equal in the negotiation of knowledge, however, and Latour himself declares that "we will not be content to have power and domination *themselves* be the mysterious container that holds inside of it that which makes the many participants in the action move" (Latour 2005, p. 83).

What do we do, then, with these questions of power and domination? Do we, as researchers, try to design research that will be more inclusive of and responsive to previously marginalized perspectives? Do we ask different questions; do we use different terms? Is this what Jasanoff means in her discussion of “technologies humility”?<sup>iii</sup> These “social” technologies, as she sees it, “would engage the human subject as an active, imaginative agent, as well as a source of knowledge, insight, and memory” (Jasanoff 2003, 243).

As my case study indicates, however, this is easier said than done. My experiences in Ferrer indicate that specific, incremental changes in thinking and acting are both necessary and possible. Simply put, people in positions of power must be willing to reconsider the certainty of the knowledge system they embody. It is one thing to recognize that the people of Ferrer see the world differently from public health or environmental studies researchers from the United States. It is quite another to consider the possibility that their knowledge is not just waiting to “catch up” to dominant ways of knowing, but that it has something valuable to contribute that dominant systems are unable to perceive. This is the point behind Sandra Harding’s “sciences from below”, and this is what is often missing in cases like Ferrer. Despite the efforts the nursing researchers made at the town hall meeting to express their valorization of “traditional knowledge” – knowledge which, abstractly, I believe they really did value – this explicit recognition required no change in their own way of thinking or behaving. When this superficial level of respect conflicted with the nurses’ understandings of health, however, “traditional knowledge” became recoded as scientific ignorance.

Taking Jasanoff’s recommendation for humility seriously, researchers actually have to put themselves in an unfamiliar and uncomfortable position wherein expertise allows space for diverse perspectives. This, in turn, requires listening in a thoughtful, deliberate manner throughout research collaboration. While this analysis may sound trite, it is trite only to the degree that merging knowledge systems and life experiences toward collective and democratic problem-solving succeeds more often than it fails. This is not the case. Much work remains to be done, and it is an ongoing process. Yet as long as individuals and groups can hide behind their supposed expertise *or* ignorance, people will continue to talk past one another when they most need to communicate. This is what humility means, and this is what makes it so difficult to achieve.

At the conclusion of this project, I was prepared to abandon “sustainability” research. Yet if the term is going to persist in environmental and human health projects, as I believe it will, then it is still necessary to work through these difficult questions of knowledge and power, of agency and humility, which emerge time and again in transnational partnerships. If sustainability is to remain a goal of development interventions, then it must be done carefully, with time taken to deeply consider and re-consider assumptions of commensurability and inevitability that so far remain under-analyzed. For transnational partnerships in Ferrer, this means taking the time to ask, “What should be ‘sustained’? On whose terms? Who decides?” In a place like Ferrer, where the status quo is miserable poverty that promises only to worsen in the face of climate change and economic inopportunity, such questions must be asked. Is this what is meant to be sustained? If not, what alternatives should emerge, if any, and according to whom? If “sustainable” futures are the goal, then mutual understanding is only a first step, but it is a step that cannot be missed.

## Works Cited

- Clark, J. H. (2005) "Green Chemistry and Environmentally Friendly Technologies", in *Green Separation Processes: Fundamentals and Applications*, edited by C.A.M. Alfonso and J.G. Crespo, Weinheim: WILEY-VCH Verlag GmbH & Co. KGaA, pp. 1-18.
- Haraway, D. (1988) "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies*, 14(3), pp. 575-599.
- Harding, S. (2008) *Sciences from Below: Feminisms, Postcolonialities, and Modernities*, Durham: Duke University Press.
- Harding, S. (1995) "'Strong Objectivity': A Response to the New Objectivity Question." *Synthese*, 104, pp. 331-349.
- Howard-Grenvill, J. A. (2006) "Inside the 'Black Box': How Organizational Culture and Subcultures Inform Interpretations and Actions on Environmental Issues", *Organization & Environment*, 19 (1), pp. 46-73.
- Jasanoff, S. (2003) "Technologies of Humility: Citizen Participation in Governing Science", *Technologies of Humility: Citizen Participation in Governing Science*, *Minerva*, 41, pp. 223-244.
- Latour, B. (2005) "Third Source of Uncertainty: Objects too Have Agency", *Reassembling the Social: An Introduction to Actor-Network Theory*, pp. 63-86 (New York: Oxford University Press).
- Jenck, J. F., F. Agterberg, and M. Droescher. (2005) "Products and Processes for a Sustainable Chemical Industry: A Review of Achievements and Prospects," *Green Chemistry* 5: pp. 544-556.
- Lee, K. (1993) Chapter 3, "Compass: Adaptive Management", in *Compass and Gyroscope: Integrating Science and Politics for the Environment*, pp. 51-86 (Washington: Island Press).
- Nowotny, H., and P. Scott and M. Gibbons. (2001) "Ch. 8 Weakly Contextualized Knowledge/ Ch. 9: Strongly Contextualized Knowledge/ Ch. 10: From Reliable Knowledge to Socially Robust Knowledge", *Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty*, pp. 121-130, 131-142, 166-178 (Cambridge: Polity Press).

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<sup>i</sup> SALUD means “health” in Spanish, and the acronym stands for “Sustainability for Áncash through Leadership, Unity, and Development. (The acronym has the same meaning in Spanish.)

<sup>ii</sup> Haraway uses this metaphor of “vision” (including in her critique of the disembodied “view from nowhere” or “God Trick”) throughout *Situated Knowledges* and a number of other works (including *The Persistence of Vision*, *Primate Visions*, etc.).

<sup>iii</sup> Jasanoff defines the role of “technologies of humility” as “to complement the predictive approaches: to make apparent the possibility of unforeseen consequences; to make explicit the normative that lurks within the technical; and to acknowledge from the start the need for plural viewpoints and collective learning” (Jasanoff 2003, 240).