

The Global Food System

Issues and Solutions

William D. Schanbacher, Editor



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The Importance of Process in Achieving Food Sovereignty: Participatory Action Research (PAR) in Coffeelands of Nicaragua

Heather R. Putnam and J. Christopher Brown

This chapter explores the use of a participatory action research (PAR) model to identify community food insecurity dynamics and devise strategies to address them by building food sovereignty. It is based on a case of study of a community food security and sovereignty project involving a second-level coffee cooperative in San Ramón, Nicaragua, and a U.S. nonprofit organization, the Community Agroecology Network (CAN). We argue that the PAR process can result in strategies that favor communities' food security needs and food sovereignty goals. These needs and goals differ in essence from traditional food security strategies; they can be regularly adjusted to better fit the needs of the communities and stakeholders involved and, furthermore, may contribute to resilience through a strengthened participation structure that promotes communication and response. The PAR process as a community food sovereignty tool, however, is limited by difficulties in engaging national-scale and transnational actors that have heavy influence even at the local level, which in turn limits the changes that PAR can effect in mitigating the negative influence that the global food structure has on smallholder coffee growing communities. If PAR is used as a methodology for promoting food sovereignty, it must be complemented by other strategies that engage both global food structures and political processes that weaken local food systems and people's ability to access food.

Food Sovereignty as an Approach to Food Security

Food has not only become a core focus of many civil society organizations, but is also included in the national food and agriculture policies of several nations. Formulated and introduced by the transnational peasant organization *La Vía Campesina* in 1996, food sovereignty represents an alternative approach to achieving food security in the sense that it focuses on guaranteeing the right to organize and control food systems locally. In comparing food security and food sovereignty, Windfuhr and Jonsén¹ emphasize that food sovereignty is a comprehensive, rights-based approach to achieving food security. This is perhaps the most key distinction between food security and food sovereignty. As Pimbert² explains, “The mainstream definition of food security . . . doesn’t talk about where that food comes from, who produced it, or the conditions under which it was grown.” Drawing on Pimbert’s observation, our analysis in this study sought to include contextual factors underlying the processes by which individuals, households, and communities produce and procure food, giving importance to the context and “culture” of food production. The analytical framework used in this study identified 10 indicators drawn from established food security frameworks and combined with food sovereignty indicators, which take into account localized context and culture. Establishing food security must take into account a more complex web of interacting elements that at its core respects the breadth and depth of community participation in defining and shaping their food security.

Existing Approaches to Implementing Food Sovereignty in Rural Communities

The meaning of food security has become more nuanced, expanding beyond food self-sufficiency, beyond the question of national vs. local scale organization, and beyond the radical discourse of participation and power used by civil society groups such as *La Vía Campesina*, placing the idea of sovereignty squarely in the center of the discourse around how to alleviate food and nutritional insecurity. Whereas food security approaches of the 1970s and 1980s focused on food redistribution and strengthening of markets, current discourse focuses on the participation of poor smallholder farmers as the drivers of food security; the end goal is not simply enough food, but rather good nutrition. Contemporary approaches aim to address both the structural and the proximate causes of food insecurity. The 2012 FAO Report “State of Food Insecurity in the World”³ did argue for increased participation of the poor in economic growth and its benefits and pinpointed agriculture as a key tool for ending hunger and malnutrition, but the FAO’s strategies still rely on agricultural development as a way to increase income of the poor (and thus increasing

their economic access to food) and to increase employment (also increasing economic access to food), all while promoting radical strategies like small-holder empowerment and participation of the poor. This is still a stark contrast to the food sovereignty strategies and goals promoted by La Vía Campesina and other social movements in building sustainable local food systems to increase local availability and access to food. Other traditional approaches include subsidies for seed, production inputs, and even food offered by many national governments—for example, Mexico, through its PROCAMPO and *Oportunidades* programs. In the case of Mexico, it has been shown that although food subsidy programs such as *Oportunidades* do alleviate immediate hunger, production subsidy programs such as PROCAMPO have not actually resulted in diversified production and have not achieved their programmatic goals related to food security.⁴ New approaches by other governments have heeded the call for participation by creating municipal level food security committees and other government structures (including Nicaragua and Guatemala) that are part of new legal structures, such as right-to-food laws, that attempt to integrate government food security programs and projects into the existing state legal and government structure in varying ways with varying levels of efficacy.

The development and coffee sectors have used approaches couched as community-based, and they generally focus on diversification of production for diversified consumption and income generation. The Coffeelands Food Security Coalition, for example, is focused on a combination of strategies that include improved farming and business techniques, developing additional sources of income through home gardens and diversified crop production, and engaging more effectively with local government to provide assistance to the hungriest of families.⁵ The coalition's approach, like others used within the coffee industry, does not explicitly focus on changing the power dynamics of food systems: It is not a food sovereignty approach, as espoused by La Vía Campesina, but rather a food security approach with a focus limited to the farm level that does not really engage with policy at any scale.

PAR and Rural Development

Participatory action research (PAR) emerged in the context of the rise of post-structural social theories, which essentially argue that historical and cultural structures influence how knowledge is produced and thus how we interpret knowledge; poststructuralism emphasizes the difficulty of analyzing structure if we are part of the structure. According to Kinden et al.,⁶ PAR “involves researchers and participants working together to examine a problematic situation to change it for the better.” PAR treats all participants as competent agents in a collaborative process, incorporating multiple perspectives within a community into the creation of new meanings based on reiterative reflection and

action,⁷ essentially challenging dominant epistemologies of knowledge. These principles are rooted in critical social science theories and practices, especially feminist poststructuralism and feminist political ecology, as well as emancipatory community-based research processes developed in the 1960s and 1970s in Brazil and contemporaneously in Africa, India, and other parts of Latin America.

Although PAR's early roots extend to post-WWII researchers, most narratives of PAR origins identify the point of conceptual identification of PAR as beginning with the work of Paulo Freire in Brazil in the 1960s and 1970s. That work involved development of methodologies of popular participation in knowledge creation and social transformation processes, especially the creation of consciousness of injustice and of using collective consciousness to inform action, most commonly known through Freire's landmark book *Pedagogy of the Oppressed* (first published in Portuguese in 1968 and in English in 1970). Kinden et al. describe contemporaneous efforts in India that continued and revised the ideas put forth earlier by Mahatma Gandhi to draw on local knowledges and narratives to resist colonial rule. A second wave of PAR took place in the 1980s in the context of a rise in investment in international development; community and rural development contexts still continue to be a major focus of PAR researchers and researchers. Those that add "participatory" to their "action research" projects signal a commitment to the legacies of Freire, Gandhi, and other early PAR practitioners to "political commitment, collaborative processes, and participatory worldview."⁸

The approach is rooted in a cyclical process of looking, reflecting, acting, and sharing between the investigators and the communities involved, resulting in a process of knowledge production in which reflections about actions are constantly monitored and reintegrated into actions in a dialogic process.⁹ As Méndez et al. argue, the value of PAR approaches is that "they are done with the participation of communities, produce relevant and necessary data, and facilitate capacity building and support networks."¹⁰

In work related to rural livelihoods, participatory research has had several manifestations and issues. Participatory Rural Appraisal (PRA), which can be defined as "a family of approaches and methods to enable rural people to share, enhance, and analyze their knowledge of life and conditions, to plan and to act," has many approaches within its family, including activist participatory research, agroecosystem analysis, applied anthropology, field research on farming systems, and rapid rural appraisal (RRA);¹¹ thus it can be considered a kind of umbrella family of methodologies. PRA parts from RRA in focusing on local ownership of the research process and the designing of actions stemming from local analysis of the problems and issues identified, whereas RRA is a methodology more related to donor elicitation and extraction of information.¹² The valuing of the analytical ability of rural peoples and peasants is a

tenet of PRA¹³ that informs the present study as well as some of the methodologies PRA traditionally uses, including “they do it” (in which subjects themselves perform the research), stories and case studies, sharing of information and ideas, and, especially, livelihood analysis,¹⁴ the main methodology employed by this study.

Chambers emphasizes that in participatory research, there are different ways that “participation is used”—it can be a cosmetic label used to give a positive face to the work being done without involving real local ownership of the project; it can also describe a coopting process in which participants contribute their time to an outside-led project process; or it can be an empowering process in which the “we” describes project beneficiaries actively involved in decision making.¹⁵

Potential Benefits of Using PAR to Implement Rural Community Food Sovereignty

PAR permits a more active engagement with local place-based cultural factors, which are often ignored in most food security studies; the FAO has stated that cultural preferences must be taken into account when promoting food security, but the reference is murky and its applicability is unclear.¹⁶ Though food sovereignty social movement discourse addresses cultural preferences explicitly and centrally in its discourse (see La Vía Campesina’s 2007 Declaration of Nyéléni), methodologies for studying, evaluating, and working toward food sovereignty are nascent, and they could benefit from the experience of PAR as a field, in terms of specific methods for integrating elements of cultural values and preferences into study design, analysis, and formulation of strategies and actions.

Another potential benefit of PAR as a tool for implementing food sovereignty is PAR’s utility in avoiding an overromanticizing of “local” food systems as a solution in what is called the local trap, a tendency in some politico-ecological work to assume that local organizations and locally based actions will inherently produce better results than nonlocal solutions to a problem¹⁷ and a homogenization of the idea of community that also results from this phenomenon. The local trap has indeed manifested in food justice movements. In 1999 Patricia Allen explored the topic of food security and the issues involved in its then-surgling links with the local food movement.¹⁸ Citing a movement to promote local food systems as the solution to community food insecurity, she highlighted various problems with local food systems: Although they do increase access to food for low-income consumers, decentralize power over food systems, create a sense of place and pride in place, and promote increased awareness of food systems among producers and consumers alike, the idea of local food systems tends to also homogenize community. They are also driven by ideologies mediated by income, occupation, gender, race, ethnicity, and

other factors that can lead to local food system initiatives addressing not the needs of the most disenfranchised residents, but rather the needs perceived by the movement drivers, which can create power imbalances. Allen argued for solutions wherein the problems are identified locally and by a wide array of actors; that address issues of labor (which is often not locally based even in local foods), low wages, and high costs of living; and that especially include complementary state interventions; Allen is essentially arguing that social movements cannot do it alone but must engage with other problems and actors outside the food system. Avoidance of the local trap could potentially come from the PAR methodology of including multiple stakeholder voices from within and outside the direct realm of a given problem in analyzing a problem and defining actions to address it.

PAR methods are appropriate to food sovereignty evaluation and implementation precisely because they maintain a place for local knowledge by involving farmers and community stakeholders in the research process, thereby empowering communities to be stewards of their own community development and community food sovereignty while also benefiting from the knowledges of other stakeholders.

In light of these benefits, it may be argued that PAR has the potential to yield results that (1) are the product of involving farmers in the development of the study, interpretation of the data, and identification of strategies joining indigenous with Western knowledge to address the complex causes of food insecurity and that (2) lead to the development of more sustainable, effective, context-oriented, and culturally and environmentally appropriate strategies for strengthening food sovereignty and enhancing community food security because of its emphasis on local knowledge and practices combined with other knowledges. In the PAR model used in the case study, we emphasized the revitalization of traditional production systems and food cultures, because all of the stakeholders agreed from the outset that this is essential not only for increasing or restoring agrobiodiversity, but also for strengthening local control over food availability and accessibility—which, in turn, is argued to enhance agroecological and cultural resiliency.

Food Security and Sovereignty in Coffeelands

Food insecurity in smallholder coffee-growing communities is a reality that has become a central focus of the fair trade movement, as well as of the specialty coffee industry as a whole. After decades of promoting higher fair trade prices in the interest of economic justice for marginalized smallholder coffee farming families, research in the last 10 years has shown the effects of alternative coffee markets to be uneven. Although farmers participating in fair trade benefit from various positive impacts in education, investment in infrastructure,

and lower costs, basic livelihoods factors are not positively affected, and the farmers still suffer low income, high rates of outmigration, and food insecurity.¹⁹ Seasonal hunger is the most common manifestation of food insecurity in coffeelands, although chronic hunger and malnutrition also affect families and especially children under age five in the most vulnerable communities. Transitory food insecurity also occurs in coffee-growing communities as the result of periodic shocks such as extreme weather events or coffee price dips that directly affect the availability of food in the community (as in the case of heavy rains' destroying basic grains crops) or a family's ability to access food economically (as in the case of price dips), according to Caswell et al.'s analysis of the relatively limited body of studies exploring the effects of alternative coffee certifications (including studies of smallholders certified Fair Trade or Organic) on food security.²⁰

Seasonal hunger in northern Nicaragua, called in Nicaragua *los meses de las vacas flacas*, or "skinny cow months" (hereafter "thin months"), is experienced in coincidence with three other phenomena as shown in Table 12.1, based on the results of this study: The rainy season between May and November, the period after income from the previous coffee harvest has been spent and cash for purchasing basic foods is scarce, and the period after basic grains have been harvested. Strategies used to mitigate the thin months include limiting the diet to basic grains (risking nutrient deficiencies) or skipping meals altogether (risking caloric deficiency), according to Caswell et al.²¹

Coffee communities' extreme vulnerability to multiple risk factors, including coffee price swings, climate change, degradation of the means of production, and seasonal changes in food prices,²² lead to vulnerability and lack of resilience to shocks such as occurred during the period of the coffee crisis in 1999–2004, when coffee prices dipped to historical lows, wreaking economic and social havoc in coffeelands. Efforts to mitigate the effects of the coffee crisis in 1999–2004 focused on promoting alternative markets to provide higher and more stable prices to smallholders and decrease smallholder organizations' vulnerability during market swings. These strategies were complemented by development projects aimed at diversifying coffee markets and strengthening coffee quality by improving farmer production practices. Much of these interventions involved collaborations and partnerships between specialty coffee companies and organizations with development organizations and agencies internationally and locally. However, the focus on higher-paying specialty and alternative markets also had the negative, but not unpredictable, effect of farmers' planting more of their land in coffee and less in food;²³ this is a well-documented tendency among coffee farmers of any size when the market experiences an upswing for more than a year at a time, and it reduces smallholder household resilience in the face of subsequent weather or market shocks that affect production yields or prices. PAR can potentially be a critical

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tool for communities and researchers to identify the long-term effects of subjection to these shocks as well as solutions (including increasing and diversifying food production, or strengthening local food distribution systems) that will help households and communities be resilient in the face of these often unpredictable shocks.

PAR Principles and Acknowledging Tensions in the San Ramón Case Study

The approach, methods, and methodologies employed in this study are rooted in a history of past experiences of CAN-affiliated researchers in PAR processes and projects over the past 10 years in coffee-growing communities in Central America. With each project CAN researchers have learned new ways of implementing the iterative cycle of learning, reflection, and action, adapting the process to different types of relationships and social structures and improving it along the way. After going through and reflecting on two iterations of the PAR cycle with coffee farmer organizations in Matagalpa, Nicaragua, and Tacuba, El Salvador, in the mid-2000s, Bacon et al. reflected and developed a set of five principles for PAR research,²⁴ listed here with comments on how these principles were implemented in the current case study:

1. “PAR activities can support different ends depending on the values of the organizations and academics involved in the process”; that is, PAR research can also serve conventional purposes, not just community development and environmental conservation efforts. (citing Fox 2004)
2. If people involved in a PAR process want to create an opportunity for more participation they will need to engage the many manifestations of difference . . . recognize the way that cultures arrange these differences into hierarchies, and work to create forums that provide more opportunities for marginalized voices.

In this case study, implementing these particular principles required the explicit focus and involvement of youth and women in the PAR process from the outset, since it is a given that these two groups are the most marginalized within the cooperative and community structures, and they are also the explicit beneficiaries of the project itself. The PAR cycle also focused explicitly on capacity building, by training staff as well as cooperative youth leaders in basic PAR principles, processes, and methodologies.* Although the second

*This resulted in the UCA–San Ramón taking on a more leading role in the design and implementation of the 2-year evaluation study that we are currently completing at the writing of this chapter.

principle has guided both the project and research design, we feel that we have not adequately addressed the hierarchy of the cooperative structure itself; the points of consultation with cooperative members and beneficiary families have been limited to workshops in which we share preliminary analyses of data as well as proposed strategies and in which participants agree or disagree or add other insights and ideas to the working document. The tension of hierarchies is something that will require ongoing and complicated dialogue, even as we are conscious of it and know we need to address it transparently.

3. There are tensions between social change and scholarly agendas. . . . Researchers are generally paid by universities and rewarded according to their ability to publish examples of how specific cases advance and/or contradict more general theories . . . [while community participants] are interested in using more general principles to create specific strategies for change”—two very distinct approaches and goals, which must be acknowledged from the outset of any project to achieve an effective process. (citing Fox 2004)

This tension is related to the first principle. Farmer beneficiaries want to know what actions will be implemented immediately to solve their problems of chronic and seasonal hunger, and we researchers seek to understand how their experience will enrich our own understanding of why they are experiencing it in the first place (and publish that knowledge and get paid for it). The tension is also a tension of hierarchy, as one of these distinct interests might be prioritized by whoever has power—more often than not, the researcher.

4. The PAR process is context dependent, often requires more time, and is more complicated than most conventional research.

In San Ramón, Nicaragua, the project included a team of agronomists, project managers, and youth leaders, who have very different needs and approaches in the research process. It also depends on the social structures themselves. In San Ramón the existing cooperative hierarchy required that we consult with varying levels of the structure during each step and iteration, including the UCA–San Ramón board of directors, the staff, the first-level cooperative boards, and the families themselves. Needless to say, this was complicated and time-consuming—and continues to be.

5. The fifth principle reminds all participants to think beyond themselves and their organizations towards playing a part in larger cycles.

This principle is both the hardest and easiest for researchers to remember. It is the easiest because we work with organizations such as the UCA–San Ramón

whose daily discourse and language revolves around resistance to the dominant repressive economic model and the need for social change. The difficulty of abiding by this principle arises because on a daily basis we deal with often-competing priorities and interests from different directions, including our donor organization and its requirements and our interests in publishing and disseminating all the work we do—all while keeping in mind the interests of the UCA–San Ramón as an organization primarily committed to commercializing coffee and other commodities.

The Structure of the PAR Process in San Ramón

The basic PAR cycle of Looking→Reflecting→Acting→Sharing, in repeating iterations over time, informed the design of this study, along with the considerations of the guiding principles, actor relationships, actor priorities, and project goals described above. This process is illustrated in Figure 12.1. This chapter encompasses the process up through step 4 in a two-year

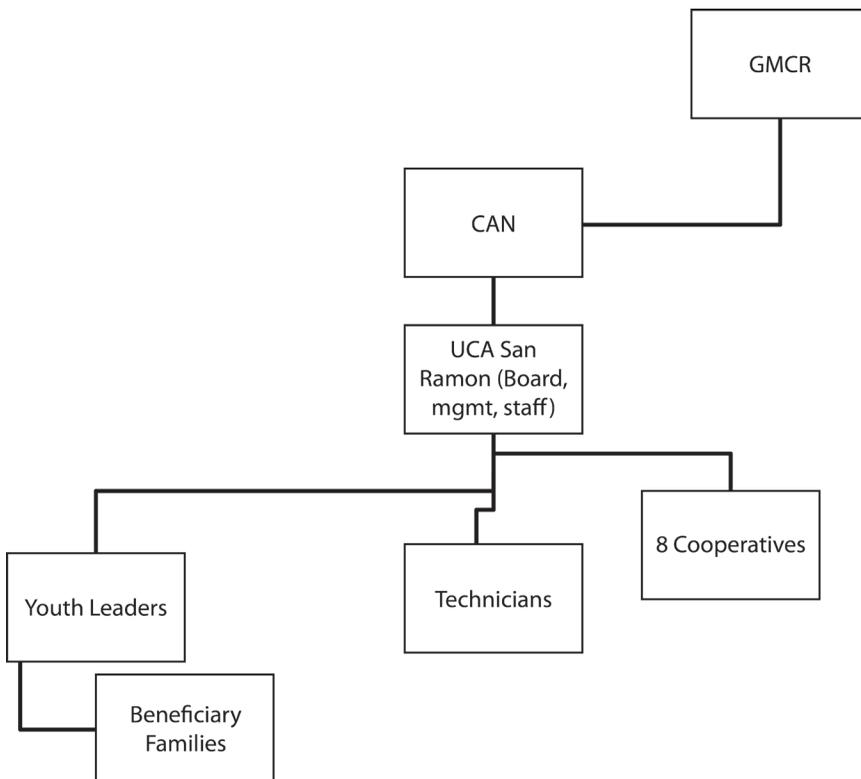


FIGURE 12.1 Actors in the San Ramón PAR Process

PAR process with 59 households in eight first-level coffee cooperatives that are members of the UCA–San Ramón cooperative; step 5, implementing the action plans and monitoring and evaluating change resulting from actions, is part of the second iteration of the PAR process between CAN and the UCA–San Ramón (but is beyond the scope of this chapter). In Figure 12.2, we map the relationships of the actors involved in the PAR process, including the project funder, Green Mountain Coffee Roasters (GMCR), and the families themselves.

The Results of the PAR Process in San Ramón

The initial PAR process with the eight cooperatives and the UCA–San Ramón resulted in a series of negotiations among stakeholders to reach a common understanding of the problem of food insecurity in these cooperatives and of how to take a food sovereignty approach to begin to address the problem.

Previous research had established that food insecurity and reduced food resilience among smallholder coffee farming families are related to overdedication of available land to coffee production, resulting in economic



FIGURE 12.2 The PAR Process in San Ramón

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overdependence on a single source of income as well as low food production at the farm level.²⁵ What we found was more complex than a simple inverse relationship between coffee production and food production. In addition, we discovered that this chain of explanation couldn't be reduced to the scale of the farm, community, or cooperative. Explanation must include structural factors that must be taken into account in any strategy proposed to alleviate food insecurity or seasonal hunger in coffeelands.

We found that coffee production and basic grains production is inversely related, consistent with the conclusion that overdependence on coffee as the single cash crop reduces families' ability to grow food for consumption and increases their vulnerability. We also must pay special attention to the specific relationship among the factors of access to land (especially for young people who were children during the Nicaraguan agrarian reform and have since come of age and formed families), production of basic grains only during one season, and lack of production diversity (almost no vegetables and little protein production).

It would be expected that high dependence on coffee as a once-yearly source of income to buy food, combined with less land dedicated to food production, would result in increased periods of scarcity. Higher dependence on coffee is related to lower amounts of land available for food production, but it does not appear to directly result in longer periods of scarcity. Whether a household produces basic grains is indeed related to small parcel sizes, which limit the amount of available land for growing basic grains. A counterexample suggests that other factors are important elements in food security: Even Ramón García Cooperative, which produces almost no coffee, still experiences severe periods of scarcity. Even selling about 50 percent of the grain it produces, it is not able to meet its needs, indicating that the problem for this cooperative may lie with finance cycles and the dependence on a grain market where prices are very low at the time of sale, and thus families must sell a higher proportion of their grains to earn the cash they need. This cooperative also still has low dietary diversity, even though its consumption of protein is higher.

However, regardless of the size of the landholding, balanced dedication to two or more crops for food and/or income leads to longer periods of household provisioning, whereas shorter periods of household provisioning is linked to overdependence on a single cash crop, be it coffee or basic grains. The implication of this finding in particular is that production diversification is critical to increasing local availability and access to enough basic foods.

Other factors identified as contributing to household food insecurity are as follow:

- Loss of local knowledge of seed selection and saving
- Lack of hygienic seed storage infrastructure

- Loss of knowledge of how to prepare and consume local vegetables and fruits
- Lack of access to markets for diverse products
- Low levels of education that inhibit innovation that would increase productivity or other economic opportunities
- Lack of access to road and transport infrastructure
- Lack of water to irrigate during the dry season (limiting production to one season and limiting vegetable production)
- In some cases, gender inequity that limits womens ability to provide for their families (since they are assuming multiple roles as head of household)
- Short-term finance cycles that are high-cost and high-risk for farmers

A complicating fact is that very few fresh fruits are consumed, even in the households where a diversity of fresh fruits is available. This implies that attention must be paid to revitalizing consumption cultures, especially in relation to fruits. Vegetables are also rarely consumed, and this is related in part to the fact that they are hardly produced within the cooperatives. The conclusion reached by stakeholders was that any strategy must include not only promotion of production at the household level, but also education about how to consume vegetables and creation of new cultures of consumption.

The calendar of when households must manage these different factors is critical as well, as shown in Table 12.1, further demonstrating the complexity of household food insecurity. Addressing all or some of these proximate causes in combination can arguably increase households' food security in both the short and the long terms.

Even in light of the complex story of the interrelatedness of coffee and these other factors in contributing to food insecurity, the role of coffee cannot simply be dismissed or underemphasized: Farmers and their families are subject to wide price swings that periodically threaten their livelihoods when prices fall below the cost of production, as they did during the 1999–2003 coffee crisis. Dependence on income from coffee to purchase food and other basic needs, on the one hand, allows farmers to access those foods; but on the other, it can be argued that it also increases their vulnerability to price swings, coffee plagues, and extreme weather events. Any solutions that are promoted must be combinations that address coffee production and income, basic grains production, production diversification, access to water for irrigation, the creation of good food preparation and consumption habits and cultures, and agroecological practices that will preserve the means of production (quality of land) over time for both food and coffee production.

The political ecological analysis of this case study reveals three levels of causality of food insecurity in the cooperatives studied (see Figure 12.4). The proximate causes of insecurity discussed above can be more readily addressed

TABLE 12.1 Calendar of Production, Finance, and Coping Mechanisms

	Event	January	February	March	April	March	April	May	June	July	August	September	October	November	December
Coping mechanisms	Avg. coffee harvest duration	■												■	■
	Pay back coffee credit		■	■											
	Average duration of food harvest	■	■	■	■								■	■	■
	Plant grains and gardens						■	■							
	Rainy season							■	■	■	■	■	■	■	
	Avg. thin months (4.63 mos.)							■	■	■	■	■			
	Highest food prices								■	■	■	■			
	Lowest food prices												■	■	
	Harvest grains and gardens												■	■	
	Limit diet to basic foods								■	■	■	■			
	Take out credit from local store or co-op to buy seed or food							■	■	■					
	Skip meals									■	■	■			
	Borrow money from relatives to buy food									■	■	■			
	Sell grain to pay back credit												■	■	
	Take out credit to fund coffee harvest													■	■

than the structural causes, which require a sovereignty approach to increase households' resiliency when confronting them. Households and cooperatives are vulnerable to four major structural factors that influence their behavior at the local scale and their ability to respond to their own needs: volatile food prices, extreme weather events, volatile coffee prices, and the persistence of the culture of green revolution technologies.

Smallholder coffee farmers are buffeted by volatile global coffee markets that swing periodically between high and extremely low prices and that threaten family stability, the ability to fully provision a family during the year, and community well-being.²⁶ They are doubly hit by speculation on the grain markets at the national and international levels that sends prices spiraling downward at the moment of sale, then shooting upward when farmers must purchase grain for food or planting or take out credit for these activities. Farmers are unable to fully engage with these markets as aware participants owing to their lack of information infrastructure and awareness of where to get market information. Instead, they must rely on intermediaries (including the UCA–San Ramón) to purchase their crops or to provide the grains they must buy. The UCA–San Ramón, as a second-level cooperative, has worked to provide a more just and transparent bridge to markets for basic grains and coffee (and, most recently, milk), but the cooperative still is restricted to paying farmers local market prices for these products as they fluctuate as a risk management strategy. However, this is still a great improvement over the prices that middlemen pay or charge for buying or selling these products.

Extreme weather events are perceived by farmers to be related to climate change, and these events are considered the single greatest factor affecting their resilience. The main reasons are that there is little physical or organizational infrastructure to prepare communities or cooperatives for the loss of their crops due to rain, and no risk management strategies exist at those levels, either. Potential strategies would be establishing local grain and food distribution centers that maintain a secure local food supply, local seed banks that can allow farmers to easily replant their basic grains if their crops are destroyed by weather events, and emergency evacuation plans. We argue that risk management strategies such as these—increasing resilience and the ability of families and cooperatives to respond to such conditions without depending on external support—are as important to creating food security at the family and community level as are increasing and diversifying production to increase availability of foods at the local level. Torrential rains tremendously harmed the basic grains harvests of 2010 and 2011. Thus it is imperative that any strategies to alleviate seasonal hunger in these eight cooperatives include weather risk management strategies and food and seed storage strategies to ensure supplies. Risk management strategies are also critical to deal with price swings in basic foods, coffee, and other commodities on which cooperatives, including Ramón García, depend.

Finally, it is clear that the long-term impacts of the green revolution persist among these cooperatives and within the UCA–San Ramón. This has manifested in a number of different ways. At the farm level, widespread usage of agrochemicals has been accompanied by the abandonment of traditional soil conservation and water conservation practices, as well as on-farm fertilizer production. This has resulted in polluted water sources, soil loss over time, loss of soil fertility, and overall environmental degradation. Over time, many farmers have come to see the use of green revolution technologies, like agrochemicals, as “progress”—so much so that they believe traditional or artisanal agroecological technologies to be inferior or irrelevant. This is not true across the board, but the belief persists, especially among the older generation.

Among youth who have been active in the UCA–San Ramón’s environmental education campaigns or youth groups, there is less buy-in to the belief that “modern” technologies are the way to go. However, this story has an irony to it: Although the UCA–San Ramón has invested personnel and capital in environmental education and capacity building in organic production techniques among its members, it also continues selling NPK fertilizers to its members out of its offices, and its field technicians continue to prescribe the use of these chemical fertilizers to farmers. I have noticed over the years a stout resistance among the field technicians to organic techniques and to agroecology; it is clear that the technicians themselves have been trained and inculcated as well into the culture of the green revolution, and it is difficult for them to reject all the training they received in agronomy school. However, this is the contradiction and challenge for the present, and one that the staff and managers of the UCA–San Ramón know well. In pursuing food security among its member cooperatives, the UCA–San Ramón will need to confront its own role in promoting continuing environmental degradation even as it promotes health programs, education projects, and environmental campaigns among its members.

These are the five major structural factors affecting food insecurity that must serve as an umbrella for any way we think about dealing with the proximate causes of food insecurity; these must also be at the center of any strategies to promote self-determination and sovereignty. Beyond the major structural and proximate causes discussed above, there exist other relationships, politics, and ideas that may contribute to mitigating or worsening the ability of the 59 households to be food-secure throughout the year, consume a nutritious diet, and be sufficiently resilient in the face of weather and economic shocks. Finally is the increasingly powerful cultural imposition of transnational food companies who push processed foods, especially on children. The effects of this are evident in children’s preferences toward processed snacks often sold in local schools themselves in the communities in question.

In other factors (so named because their effects are uneven and inconsistent) are the Nicaraguan state’s increasing interventions in the area of rural

food security, often in partnership with international social movements like *Campesino a Campesino* that are dedicated to strengthening local control over food systems and promoting food sovereignty at the community level. The state's fostering of this movement along with the establishment of government structures dedicated to food security at the national, departmental, and municipal scales is promising even though its impacts are uneven; only three of the Food Security Law–mandated 153 municipal food security committees are currently active and functioning (San Ramón municipality is among the three), but in those three, citizen participation has been active in the last two years. The efficacy of the Food Security Law is also limited by its reliance on the FAO food security framework, which relies on a neoliberal framework that privileges the strategy of increasing agricultural production for income generation as mentioned earlier, rather than seeking to address many structural limitations to food insecurity. Those limitations are noted in [Figure 12.4](#), including volatile food prices, extreme weather events, and the persistent power of green revolution culture.

A final factor affecting food security is the contradictory nature of the specialty coffee industry, a factor that produces uneven results, along with government structures and laws governing food security (see Figure 12.3). On the one hand, the industry has stepped up to investigate the causes of, and find solutions to, the problem of persistent food insecurity in the communities it sources coffee from, and it should be congratulated for this. The coffee industry partnered with the international development industry to focus primarily on production diversification and increased market opportunities at the local level, however, and, as Colleen Bramhall of the Corporate Social Responsibility area of GMCR has mentioned to us, the industry needs to engage more with the governments of the countries where they work. We argue that the industry needs to also pay closer attention to the structural causes of food insecurity and engage with its own relationship to these factors.

Results of the PAR Process

The PAR process of this diagnostic study culminated in sharing back the preliminary analyses with the various stakeholders at the UCA–San Ramón. We performed five workshops with the Board of Directors and staff of the organization, with the youth leaders as a group, and with the project beneficiaries of the eight cooperatives. In these workshops, participants gave input into interpretations of the data that we offered, sometimes agreeing and sometimes offering alternative interpretations. All of their input was integrated into the final interpretation of the data, the identification of problems and of specific actions to address the problems.

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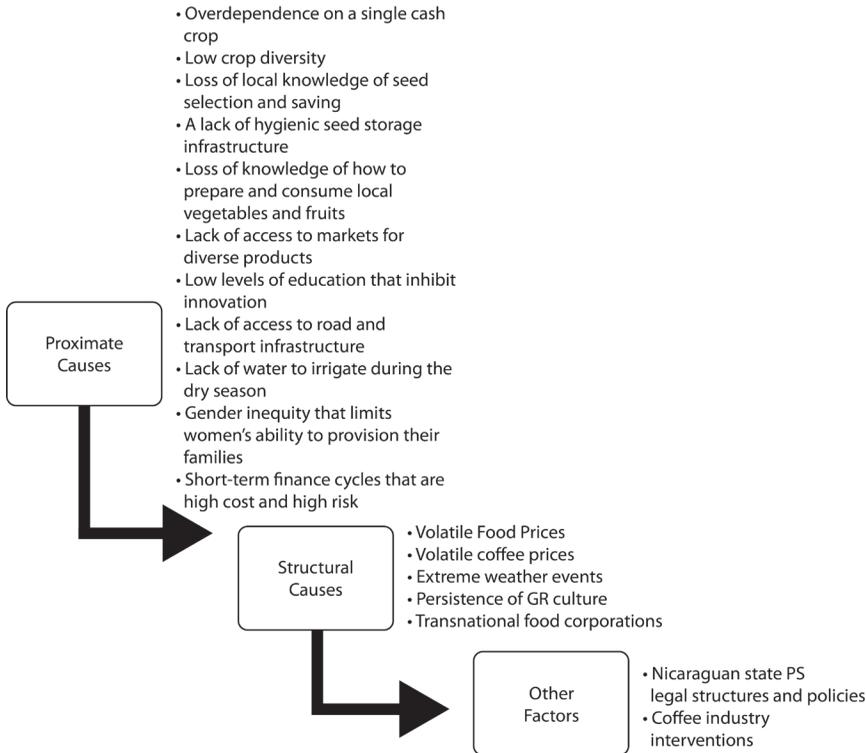


FIGURE 12.3 The Chain of Explanation of Food Insecurity in Eight Smallholder Coffee Cooperatives

The resulting five-year action plan addressed a major portion of the problems identified in a comprehensive way. Moreover, the board of directors of the organization voted in 2012 to adopt the five-year action plan as the UCA–San Ramón's Five-Year Food Security Strategic Plan, to be implemented eventually among all of its member cooperatives as needed. Although the management was resistant to individualized cooperative action plans, actual implementation of the plan has involved individualized actions organized informally:

- Cooperatives with the most female heads of household are part of efforts to reduce vulnerability.
- Cooperatives experiencing difficulties with the supply of water are part of efforts to develop irrigation systems.

The strategic plan that resulted from the PAR process offers insight into the vision of the UCA–San Ramón, the project beneficiaries, and the CAN researchers. Desired outcomes mentioned in the plan are focused on increased

and expanded food production, a strong implementation of sustainable agroecological food production practices, revaluing and disseminating sustainable traditional production practices as well as food preparation and consumption practices, relinking local food production and local food preferences, increasing and diversifying leadership roles and income generation opportunities for women and youth in the cooperatives. The desired outcomes are geared toward reducing dependence on external food sources, strengthening local control over food access and availability, and bolstering women's and youth leadership in the food system, but they do not include outcomes related to changing power structures in the global food system that create dependencies and inequities in the first place. Including these kinds of outcomes into a cooperative strategic plan would of course be complicated, but without them the plan is limited in effecting deep social change outside the scope of the cooperative, unless the strategies used include engaging with wider social movements, policy, and other scalar relations.

The strategies identified to reach the desired outcomes in five years include production diversification and improvement of agroecological practices to improve availability of foods at the family and cooperative levels; increased access to, and availability of, diverse and nutritious foods, as well as promotion of the sustainability of local food systems; and the strengthening of cooperatives with a focus on the participation and leadership of women and youth in the base cooperatives. Echoing the desired outcomes laid out in the plan, the strategies are exclusively focused on enhancing existing, and building new, local organizational structures to support changes that will result at the cooperative scale in more sustainable production practices, heightened local food accessibility and availability, and increased capacity of youth and women to manage local food systems. In essence, the priority of the PAR partnership and the resulting strategic plan is to delink the local structures (cooperatives, in this case) from global factors and replace dependency on food and agricultural inputs with self-dependence.

Food Sovereignty and Resilience in the Face of a New Crisis

The issue of food resilience has become an urgent topic in the coffee world and especially coffee growing communities in the last five months, as Central American coffee fields have been destroyed by a disease called *la roya*, or coffee leaf rust. The disease is normally present in coffee fields in minor amounts, and farmers simply pick off affected leaves to manage the disease. For reasons not well understood, *la roya* has hit coffee fields this year in Colombia, Guatemala, Nicaragua, Honduras, and Costa Rica in “one of the worst outbreaks . . . in memory” according to the *New York Times*.²⁷ In northern Nicaragua, the cooperative PRODECOOP has cited 80 percent loss of income during the

2012–2013 coffee harvest, and regionwide the disease is expected to halve harvests across the board. This means not only a supply crisis for the coffee industry next year, but also a crisis for those families that depend on coffee as their main source of income to purchase food for the year. The *la roya* crisis over the next two years will be a testing ground for everything we have implemented so far to improve food security and resilience with and among smallholder coffee farmers, and the crisis will show us where we should focus attention to assure the survival and prosperity of the families with whom we work.

Conclusions: PAR as a Food Sovereignty Implementation Tool

At the beginning of this chapter we argued that PAR has the potential to yield results that (1) are the product of involving farmers in the development of the study, interpreting the data, and identifying strategies joining indigenous with Western knowledge to address the complex causes of food insecurity and that (2) lead to the development of more sustainable, effective, context-oriented, and culturally and environmentally appropriate strategies for strengthening food sovereignty and enhancing community food security because of its emphasis on local knowledge and practices combined with other knowledges. The PAR process in this case study resulted in strategies that addressed issues of local control over food systems, including access to the means of production (seeds, water), leadership of youth and women in food systems management, and diversified production for consumption and income generation. The collectively devised and approved strategies join the values of the different participants in the process and reflect the respective strengths of, and relationships among, the different stakeholders involved, rather than imposing one set of values of one actor (e.g., income generation is the way to increase access to food). In this way the strategies differ from those used by Nicaraguan government programs as well as many development agencies.

A major limitation of this process was its exclusive focus on the scale of the cooperative, the household, and the farm. This is a limitation because although strategies identified through the process are meant to increase household food resilience to environmental and economic shocks, they do not really address how these same households are affected daily by national and international policies, transnational corporations and agencies, and other structures outside the realm of their direct control. The process, in effect, ignored the roles of actors at other scales besides the local, as well as possible innovations lying outside the local. The question arises how a PAR process promoting food sovereignty can engage actors beyond the local scale, and how they might be influenced.

How applicable are the strategies and lessons learned in San Ramón to other places? In light of what we know about the variability in causal dynamics

of food insecurity and seasonal hunger among eight cooperatives lying in the same municipality, we must assume that in other countries the dynamics may present similar or even greater variability; we would be wasting time and resources if we tried to apply the same set of strategies to communities in another country. Promoting rural food security and sovereignty thus requires a *process* that emphasizes communities' needs, rather than a defined set of strategies, seeing that we already know that one set of strategies is not applicable from place to place. Food sovereignty is the approach, and PAR is a tool to implement this approach, even with its recognized and unresolved tensions of interests, power, and values. It is the PAR process that is applicable. Locally appropriate and culturally preferred strategies can be decided on by participants themselves. Civic and political structures and dynamics at various scales can be taken into account and integrated into the process. We are convinced of this because of our experiences in various places. At the same time that we began the project in San Ramón, Nicaragua, we also launched the project in the mountains of Veracruz, Mexico. It is beyond the scope of the present chapter to go into much detail about the differences; it will suffice to mention a few: Regarding social organization, we work with a local nonprofit there, not a producer cooperative, with Mexican party politics affecting everything we do. The altitude and climate of the region restricts what can be produced there in a number of ways. The human organizational scalar relationships were also different: The coffee farmers we work with there were not organized into a cooperative when we started. They did not have direct market linkages, but they did have linkages with development organizations. Moreover, the PAR process itself unfolded differently than in Nicaragua. We had begun with exactly the same general project blueprint as in Nicaragua, but the work we did together changed as the PAR process progressed. Today the project has distinct goals, strategies, and actions from the San Ramón project. It has its own definition of success as well. We have learned that the process can be applied in different places and that it leads to locally appropriate, locally defined, actions. This has its challenges and critiques and arguably has not led to generalized understandings that can be globally applied, but this is the future of this kind of work: decentralization and situation-appropriate collaboration guided by experimentation, participatory monitoring of results, collective reflection, and sharing. It might seem as if the results will be small-scale, but it could also turn out that one of these days we will create a viable model that truly is sovereign and independent of transnational green revolution-oriented companies. What the decentralized process encourages is the pursuit of a number of strategies, each of which we can present to the world as being possible. So far the dominant model has simply dictated one standard way of producing food, and it has not resulted in eradicating hunger and poverty at any scale, but has instead increased farmer vulnerability. What do we have to lose?

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