

# Deconstructing Homegardens: Food Security and Sovereignty in Northern Nicaragua

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## Introduction

Development practitioners in northern Nicaragua are promoting food security, sovereignty and the localization of food systems to prepare for the projected negative impacts of climate change (Holt-Gimenez 2002; McIntyre et al 2009; Bacon 2011). The implementation of biodiverse homegardens is seen as a way not only to localize food production but also as a strategy in line with a food sovereignty agenda (Schneider and Niederle 2010). Food sovereignty is a social movement and policy agenda brought to the international world stage in 1995 by La Via Campesina, a peasant social movement fed up with ineffective international development policies that fail to address the root problems of inequality in the international food system (Windfuhr and Jonsen 2005; Patel 2009; Lawerence and McMichael 2012). Food sovereignty aims to dismantle the current unjust food system and envision a new, human-centered production and consumption arrangement from the ground up.

This research asks if homegarden implementation in the Segovias region of Nicaragua (see Figure 1) is aligned with food sovereignty principles. To what extent are homegardens an effective strategy to reach food sovereignty? Food sovereignty implies the ability of some social unit (community, nation-state) to make effective choices about what its food will be and how that food will be produced. (World Food Summit 1996). And why might farmers in participating communities of northern Nicaragua resist changing their food production and consumption strategies? While gardens offer farmers tangible benefits, many community members choose not to invest in their development and maintenance.



Figure 1: Map of Nicaragua with project region highlighted. Source: (Bacon 2011)

I worked with a research team and part of a long-term food security and food sovereignty project that includes nineteen base-level farmer cooperatives in the Segovias. The study questions were collaboratively developed with local rural development practitioners, the project management team, and in collaboration with the U.S.- based international sustainable development organization, the Community Agroecology Network (CAN). The ongoing project is now being jointly implemented by a team of practitioners from a second-level coffee cooperative (ADECOOP), a local Nicaraguan NGO (ATSC)<sup>1</sup>, and U.S – based researchers from the University of Vermont, University of California Santa Cruz, and Santa Clara University.

This report highlights a substantial disconnect between a social movement vision conceptualized by La Via Campesina and the reality of how food sovereignty is being implemented by NGOs as an international development project. I offer an analysis of homegardens as one component of an integrated food security and sovereignty development agenda. Homegardens are a microcosm that sheds light on larger trends and practices in the contemporary development world. Focusing on food sovereignty policy discourse, I offer a glimpse into the challenges and opportunities of implementing development policy in rural farming communities. NGOs bring their historic pitfalls (Bebbington 2007; Hickey and Mohan 2005; Roberts 2005; Kurjanska 2012) and perpetuate the dominant discourses of development that the food sovereignty agenda aims to deconstruct. Advocates have used food sovereignty as a basis for arguing for local production, when the essence of food sovereignty is the ability to make effective choices about food.

Despite critiques, NGOs are well positioned to participate by engaging with the underlying processes of development. By employing counter development strategies, NGOs can transform and democratize the

<sup>1</sup> To protect the anonymity of the participating organizations the real acronyms are replaced with pseudonyms.

process of intervention itself. To conclude I propose some tangible actions for NGOs and communities to move *adelante* with strategies aligned with food sovereignty agendas.

## **Research Methods**

I wanted to understand how people value homegardens economically, socially, and politically in order to identify the importance farmers place on this strategy and better explain their behaviors of adoption. Before arriving in country, I analyzed a 90-page project diagnostic report containing descriptive statistics, project goals, objectives, and definitions (Bacon 2011). I learned about the model governance structure and project decision-making. Then, from June 2011 through August 2011 I conducted participant observation, document analysis, and 20 qualitative interviews with families from four different cooperatives in northern Nicaragua. This research intended to understand people's lived experiences of both a food security and food sovereignty agenda. Though current research on food security and sovereignty initiatives indicates that home food provisioning, such as homegardens, contribute to food sovereignty and security (Ninez 1984; Von Braun et al 1993; Moskow 1996; Schneider and Niederle 2010) we cannot fully understand this pattern without understanding what these concepts mean to this group of people themselves (Marshall and Rossman 2011).

Out of 19 participating cooperatives, I worked with the project management team to identify four first level cooperatives where I would then sample households for in-depth interviews (Marshall and Rossman 2011). I conducted participant observation and wrote detailed fieldnotes to capture the interactions of farmers and practitioners that then offered rich insights into farmer behaviors and attitudes toward homegardens. I observed in meetings, out in the countryside with farmers, at the NGO offices in the city, Estelí, and during the interviews themselves. I analyzed my field notes and in-depth interviews following a combined analysis strategy (Rubin and Rubin 2012; Charmaz 2006). I used Axil coding to identify excerpts that had relevant concepts, themes, events, examples, names, places, and dates (Rubin and Rubin 2011) through a comparative study of incidents, helping to identify emerging properties of a concept (Charmaz 2006).

## **Characteristics of Agroecological Homegardens**

Gardens can provide direct access to a diversity of fresh foods and nutrients as well as an important source of stable supply of socio-economic products, such as supplementary income, and benefits to the families that maintain them (Ninez, 1986; Von Braun et al, 1993; Moskow 1996). The term *homegarden* is preferred to other terms used to describe these garden production systems because it emphasizes the close interrelationship between the social group living at home and the garden (Eyzaguirre and Linares 2004; Veteto and Scarbo 2009). Homegardens are socially constructed spaces that exist close to the household and are managed by various household members, thereby contributing not only to subsistence and commercial production, but also to the continuance and reproduction of cultural identity (Veteto and Scarbo 2009; Eyzaguirre and Linares 2004). Most commonly homegardens tend to be considered a 'women's space'. Gender segregation in production and accounting may enhance women's ability to control the proceeds of their labor, which in turn enhances the possibility of achieving household food security (Kabeer 1994:118

In a study of Nicaraguan homegardens, Mendez et al found the diversity of plant species ranged from 22 to 106 with an average of 70 (2001). Plants such as medicinals, fruit trees, ornamentals, and plants for timber and construction are consumed in the home or sold on the local market. Advocates have claimed that food production controlled by households is more reliable and sustainable than nutrition programs that rely on government anthropy and financial support (Ninez, 1984; Von Braun et al, 1993; Moskow 1996). Agroecological practices such as homegardens haven proven resistant to dramatic weather events (Holt-Gimenez 2001), a valid concern for a region experiencing a changing climate (CEPAL 2010).

Some research views the localization of food systems as a way to avoid unjust, corporate-driven market relations and a necessary component of a food sovereignty agenda. By internalizing production and consumption habits with homegardens, scholars argue that producers have more control over their farming choices and can lead a more dignified life, fighting against the socio-economic inequalities perpetuated through neo-liberal trade systems (Desmarais 2009; McMichael 2010; Ploeg 2010; Schneider and Niederle

2010). David Barkin (2002, 2006) insists that farmers are rejecting the unstable and exploitative forms of capitalist provisioning by expanding cultivation of maize using traditional methods in Mexico. He posits that the cultivation of maize for subsistence purposes reflects a type of ‘post-capitalist politics’ (Gibson-Graham 2006). Schneider and Niederle (2010) argue that homegarden production shows farmer capacity “to resist the pressures of the dominant socio-technological regime” (399) and to respond to the reproduction needs of the household.

### **Theoretical Findings: Dominant Discourses of Development**

The concept of food sovereignty stemmed from the vision and actions of the international peasant organization and social movement, La Via Campesina. In the case of homegardens in northern Nicaragua, we are confronted with a unique circumstance where a food sovereignty agenda is not led by farmer organizations themselves but directed by local and international non-governmental organizations (NGOs). Ironically, the social movement agenda originally emerged, in part, as a response to decades of Eurocentric, NGO-led development projects. This case of homegardens as a development strategy cannot escape the historic difficulties of NGO-farmer interactions (Biggs 1989; Bebbington 2007; Hickey and Mohan 2005; Roberts 2005; Kurjanska 2012). Because of these challenges, NGO involvement paradoxically contributes to the furthering of dominant discourses of development (Apthorpe and Gasper 1996; Crush 1995; Escobar 1995; Ferguson 1990) that a food sovereignty agenda aims to deconstruct.

Discourse is not limited to spoken communications but also encompasses processes, procedures and the socially acceptable activities of farmers and practitioners carrying out development projects. I examine dominant discourses in development through overlapping dimensions: first, in the customary forms of communication and interactions between farmers and practitioners that perpetuate a disconnect between farmer-perceived needs and implemented development strategies; second, these interactions are lodged in the stubborn, structural bureaucratic methods that persist as remnants from post WWII modernizations. Evidence of these dimensions is laid out below; they are exhibited in farmer-practitioner interactions, uncompromising bureaucratic procedures, and project cycle norms.

For example, at the conclusion of each interview 100% of respondents asked for help with resources, ‘*un poquita ayuda*’, such as seeds, fencing, and water storage. While local practitioners understand this expectation as ‘the norm’, it highlights the role of practitioners as providers of aid but not facilitators of a process that would facilitate communities having command over their resources. Existing interactions where farmers expect aid are reminiscent of post-war food security projects where food availability was deemed the problem and food aid the solution. Economists (Sen 1981; 1987) and development scholars (Ericksen 2008; HLPE 2012) have since debunked this Malthusian notion. Food sovereignty envisions a redefining of precisely these sorts of social relations where practitioners’ role is not to give aid but work to redefine the development processes. Expectations and norms of aid perpetuated through practitioner – farmer relationships represent a challenging obstacle for a food sovereignty agenda to overcome.

Traditional data collection strategies do not necessarily translate into gauging farmer preference and have not lead to regional conceptualizations of food sovereignty. Project leaders use participatory methods such as surveys, case studies and community meetings to gather information on project recipients. These common practices are the most efficient and timely methods for gathering large amounts of information from a large sample. However, instead of speaking up to share preferences that may be rejected by development project practitioners, some farmers and their cooperatives have become accustomed to managing these interactions by conforming to development agendas (Eversole 2011). It’s possible that farmers sometimes de-emphasize their preferences in order to appear to conform to the expectations of the development agenda. This perspective may help to explain disconnects between perceived needs and strategies and, in part, the lack of adoption of homegardens.

The structure of project cycles, specifically at the phase of problem definition, contributes to the perpetuation of dominant discourses of development. For example, who is defining the problem that the project aims to address and how are farmer interests being represented on the project management team? Starting with problem definition, it is a customary blueprint model – and most often financially necessary -

for NGOs to develop visions and goals for projects in order to secure funding prior to soliciting input from first level cooperatives, the targeted recipients of project resources.

In the case of this food security and sovereignty project, a funding proposal was researched, written and approved before receiving community-level perspectives. A review of past development projects emphasizes the ineffectiveness of this type of blueprint model. Instead, a “learning-process” model (Korten 1980; Berkes 2009) would open a space in which planners and locals work together to develop approaches based on locally recognized needs and that integrate with existing social structures. Although this would entail already over-worked, busy farmer participation in yet another project, I argue that in the long run farmers will waste less time and resources by implementing food security and sovereignty strategies that they themselves envisioned. As it is, resources and time are often wasted when farmers do not deem strategies as viable or situationally appropriate. This model is supported by long-term relationships that practitioners and organizations have within a community. Subsequent projects ideally build upon these and seek to involve community members in the project development from the stage of inception.

Cyclical community processes such as these are de-emphasized when priority is given to bureaucratic procedures like project reports, budgets, and linear timelines (Acre and Long 2000; Mohan 2002) and may further contribute to difficulties in implementation. Nicaraguan practitioners often complained of spending weeks developing extensive reports for funders, affecting the amount of time and energy they spend on their interactions with farmers and participating in community processes. While *técnicos* are trained agronomists and the official on-the-ground counterparts representing farmers on community development projects, their interactions with farmers were cited as often brief and abrupt. Instead, the *técnico* role is often dominated by paperwork and project coordination - administrative procedures and processes are necessary to insure accountability of project efforts and funds - while still being expected to perform agronomist duties. A number of farmers complained of practitioners ‘driving by on their motorcycles and throwing down a package’ and speeding off two minutes later. During an interview with a male farmer he commented, “*técnicos* come here with their book education and point fingers without understanding the context, you have to work this land for many years before understanding...” Complaints such as these are not new or the only types of interactions between practitioners and farmers. However they are still common enough to create a social and physical distance that perpetuates linear project norms, creating disconnect between needs and strategies.

### **Farmer’s Perceptions on Planting Homegardens**

I wanted to learn how Segovian farmers think about homegardens and what strategies they are currently using to provide food to their families. Respondents recognized two primary socio-economic benefits of gardens. Of the 20 interviews, 90% of respondents perceived gardens as contributing to a diversified and healthy diet while offering the opportunity to save money by not purchasing goods at the local supermarket.

At the same time, farmers shared two main factors that discouraged the planting of homegardens: first, the cost of materials, labor, and inputs was not perceived as worth the opportunities provided from the harvest. Second, the consumption of more vegetables was not identified as part of the local customs. Other farmers were not interested in the benefits of starting homegardens since it’s cheaper to plant more coffee and sell to the international market, and then purchase from the local *mercado*.

#### *Homegardens require a change in food production strategies*

When asked about the challenges that keep farmers from planting agrobiodiverse homegardens, respondents cited lack of necessary materials: seeds are very expensive, fencing is needed to keep animals from eating the plants, there is unreliable access to water in the dry season, and there may not be either sufficient or appropriate land for growing near the house. An elderly man of short stature and dark skin, wearing a sturdy cowboy hat and accompanied by his wife explained that to plant vegetables they would need a water source: “I haven’t planted vegetables, I don’t have water, there needs to be water...” Another male farmer in the same cooperative asked specifically for water storage and irrigation systems:

“but also I need a pila, [pump or faucet] I need a pila certica to store water during the months without rain...to have an irrigation system, to have a bomba for the times that I’m short...” A male member of the *consejo* answered: “no, near the house we don’t have [a homegarden] because the chickens and other animals inhabit that area...we would need a fence.”

Farmers are not investing in homegardens on their own since the costs of materials do not outweigh the perceived benefits of harvested vegetables, fruits, and herbs. It should be noted that seed banks were in the process of being developed as part of the larger food security and sovereignty project at the time of this research but were not yet functioning or recognized by respondents. Interestingly, removal from the market as a political action was not mentioned.

Farmers explained their current livelihood strategy as supplementing subsistence staple crop production with income from wage labor and the sell of commodities. 95% of respondents growing subsistence crops such as corn and beans also depend on the sale of coffee to the international market in order to buy seed and other material necessities. An elderly female farmer remarked: "...maybe going to Leon or Managua, the thing is that I really haven’t thought much about it [homegardens] since... to pay a vehicle means nearly all the benefits of the harvest stays with the transporter and so maybe you go there to the city to sell cheap, then you are left with just enough to pay for transport, you don’t even keep the price of labor ... or the expensive inputs " Moreover, the sale of coffee and excess staple crops sold to local markets subsidizes the planting of corn, beans, and sorghum used for home consumption.

Maintaining homegardens is not a small task. In practical ways, farmers would need to re-prioritize not only their labor but also their economic investments to accommodate for homegarden maintenance and materials. Farmers explained that in order to make a homegarden profitable they would need to sell some of the harvest to the large markets in the city to cover the lofty costs of seed and other inputs. However, market price for vegetables is low and the cost of transport is high. It may be that gardens are perceived as not providing sufficient tangible benefits to invest their already scarce resources.

Before making these sorts of livelihood changes, a farmer might ask him or herself: what benefit will come out of the work invested in changing food production and consumption practices? Is there a general feeling of some need to change their current system? Coffee, for example, is relied upon for necessary cash income and some respondents view homegardens as taking their focus away from income generation and toward subsistence.

Although some respondents prefer a subsistence lifestyle, few in the Segovias region carry this out in practice. (See Table1) Only 5% of farmers in the region buy *no* food from the store for home consumption (Bacon 2011). Families that rely on subsistence must build their daily lives around intensive labor practices and skills that often take years to pay-off. Seed saving, storage techniques and food preservation are easily challenged by rodents, lack of silos and other materials needed to store in a tropical, most environment (Bacon 2011). It was widely noted during interviews that access to water, cost of materials and expensive seed were inhibiting factors to homegarden development. In these ways, farmers maintain a dual reliance in part on subsistence means of production while also taking advantage of local, national, and international markets.

#### *Homegardens imply a change in eating habits*

Farmers are not readily planting homegardens since it challenges local consumption habits. Consumption habits are influenced by symbolic and cultural factors as well as socio-economic status (Bourdieu 1984; Caplan 1997; Mintz 1996). 90% of respondents recognized that diversifying their diets is a tangible health benefit of homegardens. However, while consumption of a variety of vegetables may have been perceived as “good,” it was not widely practiced. Households in the Segovias region are generally not accustomed to eating a diversity of vegetables, yet vegetables are precisely the product harvested from the gardens.

**Table 1: Percentage of Families Purchasing Staple Food for Home Consumption.**  
Source: (Bacon 2011)

<b>buy more than half</b>	40%
<b>buy all food</b>	21%
<b>buy less than half of food</b>	39%
<b>do not buy any food for home consumption</b>	5%

Food preference has historical and cultural roots and contributes to the reproduction of dynamic social groups. Historically, traditional Nicaraguan foods were presented as a means of resisting US imperialism and of confirming a distinctive Nicaraguan identity. It is an example of how 'foods can easily become highly charged symbols of ethnicity because they speak deeply to us about who we are' (Weismantel 1988:9; Caplan 1997).

One day while in the field, I actively participated in a Farmer-to-Farmer (PCAC)<sup>2</sup> workshop. Breakout groups organized themselves into *maizeros*, *frijoleros*, and *cafetaleros* (meaning corn, bean, and coffee farmers). As groups of four to five people congregated, they joked and laughed, calling each other by the group name, "mucho gusto *maizero*" or *frijolero*, and settled into the activity. The group cohesion exemplified a connection between individual farmers that centered on identification with traditional Nicaraguan foodstuffs. Farmers identify with certain crops, they are related to a lifestyle and the way days are spent. The local knowledge on seed saving, pest management, and plant life cycles pertains to particular crops, which are often prepared in their homes and what their children learn to plant, harvest and consume. It's not just about food—food is connected to how people relate to each other, how they engage in livelihood strategies, how they see their aspirations for the future. The implementation of homegardens challenges these norms.

One female respondent, an active leader in a local women's group in her 50's maintained a *tienda* in the front of their house. She explained that they are not accustomed to eating certain vegetables, "I think that maybe we are not very adapted to eating broccoli, we don't know the nutrients it contains so we don't give much importance to it as a vegetable. We don't eat carrots or cabbage... its a custom that we do not have..." Farmers understand that there are benefits of eating healthier but it is not in their habits and customs to do so. Corn, beans, rice, onions, peppers and tortillas make up the day-to-day food preferences. Several farmers cited not having experience growing a diversity of vegetables.

Material, or socio-economic functions also help us think about practical concerns in daily diet decision-making. Rural communities in Nicaragua tend to have not only high poverty and unemployment rates but also lack regular access to basic services such as healthcare and potable water. That is to say that deciding what to eat is also a practical, subjective decision influenced by the socio-economic position of a person or group.

Education and distance from necessity frames attitudes toward food preference (Bourdieu 1984). Distance from the necessities of life allows for more economically secure Nicaraguans to experience a world that is less bounded by urgency to meet basic survival needs, such as food, water, and shelter. The goal of eating more vegetables as a diet diversification strategy in the larger food security and sovereignty project may not resonate with farmers more distant from meeting their basic economic necessities on a daily basis. Inherent in these identifiers of food choice are the pragmatic decisions influenced by daily food access and availability opportunities.

### **Homegardens as a Food Sovereignty Strategy?**

NGO interventions may find ways to support a change in food production and consumption strategies but the crux of successful, long-term homegarden implementation is to find methods for dismantling dominant discourses and practices of development. Funders and NGOs perpetuate the field that reproduces the bureaucratic structures, shaping the potential forms of communication and agency between farmers and practitioners. Such procedures may unintentionally veil farmer preference and inhibit the trajectory toward food sovereignty. Since this is precisely the form of discourse that the food sovereignty movement intends to dismantle, NGO involvement with a food sovereignty project paradoxically challenges the goals of a food sovereignty agenda.

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<sup>2</sup> PCaC is a farmer movement, or social process methodology developed in the 1970's in Mexico. The process employs a popular education methodology where farmers share with their peers innovative new solutions to problems that are common among many farmers. This method offers some direction in how to overcome development discourse by depending on local realities and ingenuity (Holt-Gimenez 2006).

A focus on internalizing food production and consumption is one aspect of having control over one's food system and is often mistaken as synonymous with being food sovereign. For example, project diagnostic report states that 5% of families don't purchase food off-farm and for this reason are the only families considered to be food sovereign (Bacon 2011). This neglects the other principal characteristics of food sovereignty, namely that people have the right to determine the degree to which they would like to achieve food self-sufficiency and the ability to define terms of trade that are consistent with the sustainable use of natural resources and the health of local economies; and that people not only have the right to sufficient calories, but also the ability to fulfill their nutritional needs with foods and practices that are culturally meaningful (Windfuhr and Johnson 2005). The market can support a food sovereignty agenda by subsidizing subsistence farming practices, a current practice among Segovain farmers. Participating farmers may not be familiar with food sovereignty as defined in the project documents and international policy; it's important that communities themselves conceptualize their own food sovereignty agenda.

### **Moving Adelante**

Successfully developing homegardens depends on taking concrete actions against dominant discourses of development. We need to understand what level of participation in the international market is compatible with farmer conceptualization of food sovereignty and find methods for effectively improving participants' diets so they have the opportunity to live a more dignified life. If homegardens were carried out in concert with a food sovereignty agenda, they would be more widely adopted by Segovian communities.

I propose the use of an analytical backdrop that includes an analysis at multiple scales, the actors at each scale and the relationships between scales (Brown and Purcell 2012) under the umbrella of a counter development philosophy (Galjart 1981; Ace and Long 2000). Counter development is the implementation of strategic actions counter to dominant development thinking and trends (Ace and Long 2000). A focus on counter development helps to avoid viewing development simply as geographical and administrative processes of incorporation. In counter development, the main role of external donors should not be that of managing the uncertainties of development projects but finding a balance between introduced bureaucratic procedures and local practices. NGOs are well positioned to participate in a way that engages with the underlying processes of development. I would suggest NGOs not just involve farmers in the political process through facilitation of *assembleas* and surveys but employ counter development strategies to transform and democratize the process of planned intervention itself.

Social movements strive for structural changes on a national and international scale but in this case, NGO capacity may only be receptive to more minor tweaks at the community and institutional scale. The paradox of the NGO – social movement project is a unique circumstance that can be harnessed as an *opportunity* for NGOs, practitioners, and farmers to work in mutually beneficial relationships. That is, if all are willing to participate in collaboratively defined, regional conceptualizations of food sovereignty. Considering a post-development approach “starts from a standpoint of not knowing with respect to how to move forward, allowing both normative and practical visions to emerge from the local or regional context” (Gibson-Graham 2010).

The following suggestions are complementary to the work and strategies already being implemented by the project management team and in the spirit of counter development:

#### *1) Farmer cooperative involvement with food sovereignty envisioning and problem definition*

Facilitating a process of problem definition would complement the already participatory action plans, or *planes de acción*, developed through *assembleas* at each of the 19 cooperatives. During the action plan meetings, cooperative members brainstormed project strategies, such as the homegarden, that would help move toward greater food security. Participation in problem analysis and solution finding is combined with a people-centered approach goes beyond people's 'participation'. It aims to develop 'capacity to exert authority over their own lives and futures' and promotes a 'strongly developed civil society ... in which the power of the state, of capital and of transnational capital and transnational “aid” organizations, is held in balance by a plethora of competent, independent and self-reflective community-based and non-governmental organizations' (CDRA 1999; Kaplan 1996; Yachkaschi 2009).

Through this strategy, power can be shared in a way that allows both local and practitioner knowledge to complement each other. Effective development calls for the ‘ownership’ of processes of change by those who will embody them in the future. However, the power asymmetry of donor – recipient relationships, or giving “aid”, has negative implications for a capacity development intervention because it often leads to a lack of ownership (Yachkaschi 2009).

Such participatory processes are often not realistic for small budget funding cycles. NGOs and international researchers are working within the dominant funder-driven, bureaucratic world that inevitably demands an end product, timeline and methodology that clashes with more circular conceptions of time and space in the *campo*. However, any funder that purports to want to work with farmers toward food sovereignty would need to allow for practices of autonomy to take place and it may be the NGO’s role to pressure, or educate funders on how this could work. This may happen in a meeting with all levels of participation and after the food sovereignty envisioning session.

In terms of funding organisms that would support food sovereignty agendas, organizations such as Grassroots International currently support alternative social change processes, i.e., La Via Campesina and The Landless Workers Movement (MST) in Brazil. These peasant organizations are carrying out long-term processes of social change at both the policy and local levels. Practitioners and NGOs may wish to further research their funding mechanisms to understand how they manage alternatives to the dominant development paradigm.

## 2.) *Prior research of past projects in the region*

Homegardens are not new to the region. Past development projects have attempted with varying successes to work with the Segovian communities to plant homegardens. Indeed, during the interviews respondents pointed out the need to improve on past homegarden projects. Including prior research of these past projects could be one of the preliminary steps in project sequence. This will combat against repeating similar mistakes and offer a valuable ‘lay of the land’ while at the same time helping gain legitimacy with local participants. In the end, this will save both resources, time, and reduce disillusionment from project recipients who are more likely to invest in well researched and improved homegarden strategies.

## 3.) *Farmer-to-Farmer methodologies, or Programa Campesina a Campesina (PCaC), as a social process method for farmers to share their expertise on developing and maintaining homegardens*

PCaC has already been involved on the periphery of this food security and sovereignty project and I encourage finding strategies for more involvement of their networks and methodologies. PCaC is a participatory method aiming to address local peasant needs and respect the regional culture and environmental conditions. It employs a popular education methodology where participants share new solutions or rediscovered older traditional solutions to common problems (Holt-Gimenez 2006). This takes place by recognizing, taking advantage of, and socializing the rich pool of family and community agricultural knowledge which is linked to their specific historical conditions and identities (Rossett et al 2011). On the ground this method translates to farmer-led workshops where farmers learn from each other and once seeing a method from a fellow farmer, farmers may be more likely to emulate the practice. The food security and sovereignty project already works with trained *promotores*, or community promoters, that are also an integral aspect of the PCaC methods.

PCaC methodologies may help in addressing development discourse since farmers are more likely to believe and emulate a fellow farmer who is successfully using a given alternative on their own farm than they are to take the word of an agronomist of possibly urban origin. Additionally, this is a safer alternative to the often suggested radical social movement agenda. Nicaragua has a unique history that may not be conducive to the igniting of social movement that requires radical displays of agency. Many farmers still talk about the revolution that continues in the memories of lost family members and impoverished livelihoods. PCaC may be a more acceptable social methodology for this region.

## **Conclusion**

The ideal type homegarden has strong potential to be aligned with a food sovereignty agenda. When coupled with seed banks, community storage and distribution centers, homegardens offer

cooperatives/communities a method for determining their role and integration in local and global food systems; perhaps a more autonomous lifestyle where decisions can be made at the household and regional scale. In this way, they contribute to a redefinition of social relations and how we relate to food and the global agricultural market.

However, it's unclear if the project's local and international NGO partners will prioritize the larger-scale structural issues that food sovereignty ultimately aims to redefine. International farmer organizations are nevertheless working at the policy level while farmers around the world are working toward their visions in the countryside. Whether Segovian farmers and practitioners intentionally work as part of the larger food sovereignty movement is not necessarily the point, they are all the same actively working to address the inequalities built into international food governance.

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