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Biehl Report: Sustainable Urban Agriculture in Cuba

Summer 2012

Introduction

The original research question for this Biehl Internship was, “How does Cuba provide healthy, locally-produced food to the public with minimal inputs and environmental impact?” Through interviews of Cubans involved in urban agriculture, the study would explore how technology, research, policy, social norms, and collective decision-making contribute to the country’s local food movement. The interviews quickly became more specific, however, focusing on respondents perceptions of urban agriculture and the type of agriculture practiced in Cuba. Based on these interviews, Cuban urban agriculture is a deeply institutionalized phenomenon striving towards genuinely agroecological principles. Those who work in urban agriculture view the movement positively, citing improved standards of living through better nutrition and job opportunities.

Methodology

This study uses Grounded Theory to explore the theme of urban sustainable agriculture. As articulated by Strauss and Corbin, Grounded Theory is an interview style where the interviewer allows the dominant themes to emerge from the respondents themselves, rather than controlling the conversation and sticking to preconceived questions or assumptions. The interviews are centered around the agricultural experience of each interviewee’s experience, but specifically those dealing with urban agriculture and agroecology. Agroecology is a type of agriculture that uses ecological manipulation in order to avoid external inputs (Altieri). For example, an agroecological farmer would choose to fight a pest by introducing a repellent flower into her farm ecosystem rather than spraying her fields with a foreign substance.

Spending two months total in the cities of Havana and Sancti Spiritus, I completed 41 voice-recorded interviews ranging from 6 to 90 minutes in length. All interviewees were either working at an urban agricultural site or practicing home gardening or animal husbandry. The interviewees varied in terms of age, experience in urban agriculture, and position at their farm or garden.

Historical Background

Before considering the findings of this study, it is necessary to briefly explore the historical context of Cuban urban agriculture. Agriculture on this Caribbean island has historically been dominated by sugar cane, and sugar is still by far the country's number one export crop. Between the Cuban Revolution in 1959 and the collapse of the Soviet bloc in the early nineties, Cuba's agriculture system became the most heavily mechanized in Latin America and relied heavily on monocultures, petroleum, and agrochemicals for production. The breakup of the USSR led to serious economic hardship for Cuba, which imported most of its food and agricultural inputs from the USSR at the time. Starvation and extreme lack of foreign trade led Cubans to develop urban agriculture out of necessity, and they began growing food in vacant lots and on rooftops to keep from going hungry. In a country of 90% urban dwellers, this proved a crucial strategy in surviving the "Special Period," as this time of hardship was dubbed by Cuban politicians.

In the late 1990s, the Cuban government succeeded in integrating the spontaneous gardens into the state system, providing them support, offering free land, and organizing many of them into either state enterprises or cooperatively owned units of production. It is important to note that Cuban urban agriculture is focused mainly around vegetable crops, which are traditionally rare in the Cuban diet. According to the director of one cooperatively owned farm, the idea of urban agriculture during this time of crisis came from Chinese immigrants, who were already tending small gardens in the city.

Findings

While the vast majority of Cuban vegetables (and to a lesser extent, fruits) are sourced locally, Cuba is *not* self-sufficient in foodstuffs. It still imports much of the staple food items like milk, meat, beans, and rice (Koont). Cuba has achieved impressive results in its local vegetable production, however, and this is exemplified by the urban farm UBPC Vivero Alamar, located in a residential area east of Havana. This farm employs about 160 individuals on less than 15 acres, and contains a number of diverse departments, including vegetable production, animal management, seed starting, fruit and ornamental trees, worm composting, and processing. This is a great example of what Cuban agriculture *could* be: the cooperative generates lots of income, provides social services such as small loans and haircuts to employees, and is tremendously diversified. The other farms I visited are simpler vegetable production units that purchase their soil and provide good (but not exceptional) salaries for employees. Alamar is the exception largely because of external aid, including rare financial support from several European NGOs. Unfortunately this is often the only urban farm that tourist and foreign student groups visit, leaving an impression that agriculture here is more ideal than the reality on most urban farms.

Besides some of the small gardens grown in backyards or on rooftops, all urban farms in Cuba receive some sort of direct support from the state. Some are actual state enterprises, whereas others are more private, but essentially all farms use state land and receive free extension and infrastructure support from the government. Through my interviews and observations, I discovered a synergy between the urban agriculture program and other state programs. For example, the state-run media is crucial in educating Cubans about the benefits of eating vegetables, and many interviewees reported that they learned about the health hazards of chemical agriculture through state newspapers, radio, or television. This symbiosis also exists with the famously successful healthcare program, which trains doctors in the use of medicinal

plants that are often grown in urban garden plots. In fact, UBPC Vivero Alamar had an entire medicinal plant department with two full-time doctors.

Cuba's local food movement differs from the American counterpart in several significant ways. There is no organic certification in Cuba, meaning chemical-free produce is the same price as conventional goods, even cheaper when purchased at the farm itself. Food production is also *extremely* local when compared to the 100-mile radius often considered by American "locavores." Because of the difficulties in transporting food items, much of the produce is grown *in* residential areas and is consumed within walking distance from where it is grown.

Cuban organic agriculture is often characterized as done out of necessity rather than for the ecological or health benefits, and some have argued that it would diminish should transportation or agrochemicals become easier to access. However, the interviewees in this study showed a remarkable amount of knowledge about and support for agroecological principles, fresh produce, chemical-free food, and producing food within city limits. While the young tradition of Cuban urban agriculture certainly has its roots in scarcity and necessity, it exists today as a supplement to the Cuban diet and has been institutionalized by the Cuban state.

One question asked of nearly all respondents was, "What are the benefits of producing food in the city?" Almost every respondent mentions the quality and freshness of the food first. Many also comment on the ease of transport to work, with farms so close to the labor pool. Several mention that urban farms "bring the countryside to the city," and, for one cooperative member, this is important for today's youth. He recognizes a disconnect between the younger generations and nature because they cannot get out of the city easily. In this way he sees urban agriculture as an important way to reconnect youth with nature through learning about plants and growing cycles.

In addition to the noted benefits of urban agriculture, respondents generally associate urban farms with a certain *style* of agriculture, distinct from rural agriculture. Urban farming is perceived as having a high level of biodiversity, relying little on chemicals additives, focusing on vegetable production, non-mechanized, and therefore labor-intensive. One respondent who had previously worked in rural, chemical-free agriculture claims that urban agriculture is different because it is a more controlled environment, having some independence from weather cycles or soil quality in a given place. Another respondent perceives his work on a state-run farm negatively, associating rural agriculture with autonomy and control over the growing process. In my observations I noticed there is a high ratio of workers to acreage. When technology was applied, it was often on a limited scale, locally controlled, labor-intensive, and human-centered. Although I never heard the term used, the movement seems to apply economist E.F. Schumacher's concept of "appropriate technology."

Within city limits, agrochemicals are generally banned, and farmers substitute these with Integrated Pest Management (IPM) as well as some plant-derived biochemicals. I asked for the interviewees' opinions on the lack of petrochemicals and the practices they use. Virtually every worker contends that chemicals are hazardous to human health and support the ban on chemicals, linking exposure specifically to the development of cancer. At the same time, few respondents were against chemicals in all cases, and did not actively oppose their use outside the city.

A cooperative member said, "That which is ecological is very healthy," but the common notion of health and ecology is anthropocentric. For example, the state distributed Temephos, a hazardous chemical used to destroy mosquito larvae, to urban farms because of the insect's role in spreading human disease. The people and policymakers have the interest of direct human health in mind, and I met few who believed in ecological health for its own sake. This

was further exemplified by the director of UBPC Vivero Alamar, who told me the health and well-being of cooperative members and neighbors was his first priority, and care of the land second.

Surprisingly, agricultural professionals who had been trained in more conventional agricultural methods have similar opinions about agrochemicals as the other respondents. In fact, the former technocrats and agricultural engineers were often the most vehement supporters of agroecological practices. Many respondents also linked the lack of chemicals to the concept of sustainability; the fewer products a farm needs to buy, the more independent it becomes.

I was also interested in learning *how* the interviewees came to learn what they know about chemicals. The most common response was through state media (radio, television, newspapers), with others mentioning word-of-mouth from other agricultural workers and more formal agroecological training or schoolwork.

Self-Criticism

There are several issues with my research that should be considered in any further research on this topic. This includes ethical and legal problems, a lack of strong relationships with the interviewees, a lack of female representation, and a possible response bias due to how the interviews were conducted.

The ethical issues stem from the fact that my research was done under a tourist visa and not a research visa. This allowed me to perform my research independent of government influence, but also meant that each recorded conversation and each visit to farm grounds was technically illegal. I do not have the details of the laws that prohibit unapproved research and farm visits, but the primary concern here is the well-being of the interviewees, whose employment may have been endangered by talking to me. Some of the interviewees may have been ignorant of this rule. Others were aware of the danger and still decided to interview, while others declined based on the legal ramifications. This also has implications for the outcome of

my research, selecting for either interviewees with little respect for the law or greater ignorance of the law.

Because I spent a limited amount of time in Cuba, I was not able to form close, trusting relationships with every person I interviewed. This is always an issue in doing qualitative interviews, but especially in a totalitarian state like Cuba. Interviewees who were essentially strangers to me may have filtered their language, assimilating their opinions to the government's stance on local organic food, which is heavily disseminated through media and education.

Latin American culture is notorious for *machismo*, a sense of manhood that glorifies physical prowess, including manual labor. This creates a male-dominated environment on farm sites that was not significantly addressed in my research, as only eight of the 41 interviewees were female. This is partially because of the lack of women employees in agriculture; only 3 of the 13 agricultural units I visited had female employees, and two of these only had one woman working in sales.

Lastly, there is a potential response bias from telling the majority of interviewees that I am an Environmental Policy student before beginning the interview. This could lead interviewees to think of environmental issues even before talking about the benefits of urban gardens, perhaps leading to a portrait of workers as more environmentally conscious than reality.

Further Questions

This study suggests further research in several areas. According to one experienced urban agriculturalist and former government administrator, the largest threat to urban agriculture is not the growing availability of agrochemicals and petroleum, but the competition between urban housing and urban farms for available land. According to him 25% of urban farms have disappeared for other developments, and it would be helpful for all investigations into Cuban agriculture to understand the extent to which these developments are usurping agricultural land

within cities. This could take the form of a statistical data regarding total land area covered by urban farms, or even a GIS survey showing current and former farm plots.

Another area of interest, especially for anthropological studies, is the role of women in the urban agriculture movement. There were a substantial number of female members at UBPC Vivero Alamar, but the work was still strongly divided along gender lines, and most farms I visited did not have female workers. It would be helpful to investigate questions such as, "What social mechanisms are preventing females from working in agriculture?" and, "What are the perceptions of gender roles and relations on farms that have both female and male workers?"

Works Cited

- Altieri, Miguel A. "The scaling up of agroecology: spreading the hope for food sovereignty and resiliency." Sociedad Científica Latinoamericana de Agroecología's Rio+20 position paper. May 2012.
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