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EL FUTURO DE LA ALIMENTACIÓN Y RETOS DE LA AGRICULTURA PARA EL SIGLO XXI:

Debates sobre quién, cómo y con qué implicaciones sociales, económicas y ecológicas alimentará el mundo.

THE FUTURE OF FOOD AND CHALLENGES FOR AGRICULTURE IN THE 21st CENTURY:

Debates about who, how and with what social, economic and ecological implications we will feed the world.

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Why does the Knowledge Deficit Model Persist in New Farmer Interventions?

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Adam Calo

Abstract

Beginning farmer initiatives like the USDA's Beginning Farmer and Rancher Development Program (BFRDP), farm incubators, and small scale marketing innovations offer new entrant farmers agricultural training, marketing and business assistance, and farmland loans. These programs align with alternative food movement goals to revitalize the anemic US small farm sector and repopulate landscapes with socially and environmentally diversified farms. Yet even as these initiatives seek to support prospective farmers with tools for success, they promote mostly individualistic and entrepreneurial measures that overlook structural barriers to productive and economic success within US agriculture. Analysis of the BFRDP's funding history and discourse reveals a "knowledge deficit" based program focused on the technical rather than the structural. This is contrasted with a case study of beginning farmer challenges from the Agriculture and Land Based Training Association (ALBA), an organic farm incubator in California's Central Coast region. Drawing on insights from 26 in-depth interviews, focus groups, and participant observation, I describe motivations and skills shared by the aspiring small-scale organic farmers and their challenges moving off the incubator. The contrasts between the case study and national structure of the BFRDP program ultimately raise concerns about a policy mismatch between the needs of some beginning farmers and the programs intended to support them.

Keywords: Land Access, Beginning Farmers, Beginning Farmer and Rancher Development Program, Knowledge Deficit Model, Agricultural Policy, Land Tenure

**** A complete version of this summary paper is in review. Please contact the author if there is interest in the complete analysis or the full version ****

Introduction

Enthusiasm for fostering a next generation of farmers abounds in circles associated with the broader alternative food system activity (Bradbury et al. 2012). In one perspective, exemplified by groups like *The Greenhorns*, new entry farmers that come from non-conventional farming backgrounds bring novel and more progressive values to agriculture, slowly re-orienting the priorities and practices of the food system. These farmers are thought to be motivated by environmental or social justice concerns and use alternative agriculture as means to accomplish their political objectives. In an alternative narrative, supporting new entry farmers is regarded as a land preservation strategy, as forces of land-use change and aging

farmer demographics threaten to permanently endanger to existence of smallholder agriculture and rural livelihoods. In this perspective, exemplified by the proliferation of Land Trusts, failing to support new farmers means the deepening of agricultural trends thought to be pernicious to society and the environment, like consolidation of conventional farmland operations and the loss of farmland to development. The result of these phenomenon is a rather uncritical call to "create new farmers", without clarify who these farmers are supposed to be and how they will become established on the land.

In the United States, there is a growing momentum towards the goal of creating and supporting new farmers with novel programmatic supports of training, capacity-building, and loans (Niewolny & Lillard 2010; Sureshwaran et al. 2011; Freedgood & Dempsey 2014). Yet farmers who participate in these programs may find that their training does not provide them with the tools to address the dire problems they face. I argue that the dominant model of beginning farmer supports is limited by its subscription to a "knowledge deficit" model. This logic assumes that new farmers are primarily held back by lack of skills and information, and that remedying this gap will catapult them into successful farm operations. To critically appraise such logic, I juxtapose thematic analysis of the Beginning Farmer and Rancher Program (BFRDP) with narrative data from a farm incubator in California. I show that the deficit model, in fact, transcribes a neoliberal rationality into the beginning farmer space, embracing values of individual improvement, self-sufficiency, and market-based interventions.

The knowledge deficit model at work in beginning farmer support mechanisms reveals the underlying assumptions about how the food system works that both "expert" (agronomists, non-profits, extension agents, researchers) and "lay" (farmers, BFRDP participant) communities hold. In investigating the potential consequences of basing support programs on these assumptions, I ask: Who gets to be a new farmer? And more pointedly, what kinds of new farmers are being produced by the dominant support systems?

By examining broadly how the BFRDP approaches beginning farmer challenges and then deeply exploring a specific case of how farmers in transition experience structural barriers to their success, I aim to critique the neoliberal logics of beginning farmer support programs. If the breadth of strategies under a knowledge deficit model falls along individualistic, entrepreneurial, or market-based mechanisms, what structural barriers are overlooked through these interventions? And if structural barriers are being overlooked, which farmers will be preferentially supported and which farmers are left to fall through the cracks? I consider these questions through exploring the barriers to entry into farming that existing land ownership patterns and inequalities in socio-economic power create for beginning farmers who do not conform to the neoliberal ideal.

The Knowledge Deficit Model: A Primer from Science and Technology Studies

In a knowledge deficit model, environmental and social problems are often attributed to lay people who lack the knowledge to make appropriate decisions or to behave more sustainably. For example, many government officials assume that farmers are causing land erosion through their improper soil management practices, because of a lack of understanding of the mechanisms of soil loss (e,g., Blaikie and Brookfield 1987). The solution, then, is to provide lay people with the missing knowledge and thereby correct their misconceptions and gaps. This can be achieved through one-way dissemination of knowledge from credible, officially recognized experts (Irwin & Wynne 1996; Jasanoff 2005). This sets up a contrast between a knowledgeable expert and an ignorant public, obscuring the social construction of both expertise and ignorance (Cortassa 2016). Lay people are treated as passive receptacles of information and as having no role in helping produce or evaluate the knowledge. The knowledge is meaningful precisely because experts have recognized, defined, and validated it. In doing so, the knowledge deficit model produces a state of "non-knowing" defined in comparison to some authoritatively determined ideal (Irwin & Wynne 1996). In other words, experts are the ones whose knowledge matters most.

Critics of the knowledge deficit model have identified several core weaknesses, which are instructive for better understanding the beginning farmer intervention landscape. First, campaigns to rectify a knowledge deficit have been shown to be ineffective at "improving" understanding as experts would define. In the case of publically funded science literacy campaigns in England, surveys of participants revealed little improvement in the metrics of knowing proponents hoped to achieve understanding of science revealed scant improvement, thereby undermining the validity of the approach (Miller 2001). Additionally, case studies showed that those individuals who did experience measurable gain in scientific literacy did not uniformly change their attitudes towards scientific issues, remaining asymmetrical to expert opinion (Durant et al. 2000). Even though there was new knowledge produced by these campaigns, the knowledge did not influence decision making in a meaningful way.

This critique, based on utility, paved the way for science studies scholars to question the privileged status of expert knowledge embedded in the deficit model (McNeil 2013). Scholars argued that specialized knowledge is not the most important nor the only type of understanding at work in complex systems (Funtowicz & Ravetz 1993). Instead, the knowledge deficit model was shown to undermine local knowledge and values through unilateral delivery of expertise, deepening divides between "expert" and "lay" (Fricker 2002). These contributions showed how the content of the outreach offered by professional institutions end up coproducing technocratic values (Brunk 2006) without questioning the power structures embedded in those systems (McNeil 2013).

Reflection on the privileged status of expert knowledge in public spaces dovetails with the results of substantial research focused on traditional agricultural knowledge (Altieri et al. 1995), horizontal and peer-to-peer learning among farmers (Rosset et al. 2011; Holt-Gimenez 2006), and critiques of historical cooperative extension models (Warner 2008; Warner 2011). The legacy of the land-grant system has been a top-down technology program from the academies and experiment stations to the landed agriculturalists of the nation (Warner 2008). Scrutiny of this legacy shows the social construction of such expertise, often being used as a tool to drive desired forms of agricultural production (Henke 2008; Hightower 1972). This work has led to alternatives to the vertical model of knowledge dissemination in agricultural extension, including state-sponsored funding on horizontal farmer to farmer networks (Warner 2007) and participatory approaches to sub-domains like plant breeding (Kloppenburg 2010) and sustainability learning (Pretty 1995).

Despite the critiques of the deficit model, state-sponsored knowledge delivery programs to solve social problems are ubiquitous, appearing in domains such as public health, (Corburn 2003), public understanding of policy (McNeil 2013), and public education (Pitzer 2015). To understand this persistence, work from a governance perspective provides insight to why some strategies remain durable strategies for solving social problems. Governmentality scholars identify this trait as a "program of government" or designs put forth by state and non-state actors to "configure specific locales and relations in ways thought desirable" (Rose and Miller 1992). Programs of government are the mechanisms that embody certain political rationalities, translating the ideals of authority into lived experience. The replication of subjectivities through such programs and their associated technologies, is what is thought of as "government from a distance" (Rose et al. 2009).

Importantly, scholars in disparate fields have situated the knowledge deficit model within neoliberal rationalities (Petrovic & Kuntz 2014; Dutta 2015). Indeed, the knowledge deficit articulates strongly with neoliberal hallmarks like a programmatic commitment to market solutions for societal problems, the abdication of state subsidy in favor of self-sufficiency, and the favoring of entrepreneurism. The deployment of large scale knowledge deficit programs is indicative of "roll-out neoliberalism", where the state deepens commitment to institutionalizing neoliberal logics, rather than previous eras dismantling of state support (Peck and Tickell 2002).

Approach

To investigate the contrast between dominant beginning farmer support strategies and the structural barriers that beginning farmers experience, I complement a detailed analysis of the nascent BFRDP grant program with ethnographic observations drawn from fieldwork with a beginning farmer incubator in the Central Coast of California. I examined the proposals of all 215 BFRDP funded

proposals thus far (2009-2015) available on the USDA National Institute of Food and Agriculture website (NIFA 2015). Using a thematic analysis approach, I coded each proposal by the type of beginning farmer problem the grantee institutions aimed to address and the principal grant funded activities planned. I also measured the distribution of proposals that focused on beginning farmer land access barriers, because previous work identified land access challenges in the study area (Calo and DeMaster 2016). The project activity codes were characterized by the BFRDP's intended list of suitable grant activities and were thus coded deductively from the Request for Proposals (NIFA 2014). If the proposal activity did not align with one of the BFRDP's suggested grant activities, they were labeled accordingly. The proposal's main problem frame was coded inductively from the problem statements of each proposal. I also examined proposal discourse that was representative of the main problem frames and grant activities. Finally, I took note of proposals that appeared as outliers in their approach to beginning farmer challenges both in problem frame and proposed activities.

This government program-level analysis is contrasted with narrative data within a farmer incubator in the Central Coast of California. Through semi-structured interviews, farm and facility participant observation, and focus groups, I gathered perspectives from farmers, farmer advocacy administrators, and land access professionals associated with the Agriculture and Land Based Training Association (ALBA), a farm incubator that recruits dominantly from former farm laborers. ALBA carries out technical instruction in organic production in a farm site classroom situated in 150 acres of prime agricultural land in the Salinas Valley. After graduating from their technical course, farmers have the ability to apply to lease small plots of land (between ¾ -4 acres) at a subsidized rate on the ALBA property. While there, ALBA facilitates sale of farmers' produce and fosters horizontal learning between neighboring beginning farmers. ALBA, like many farm incubators, has received support from the BFRDP.

Results and Discussion

My analysis of the BFRDP reveals the dominant effort to motivate the next generation of beginning farmers is largely through individualistic and market-based means. Forty percent of all funded proposals indicated a gap of agronomic, business, or technical assistance awareness knowledge as the main justification for their intervention. Examination of the primary program activity showed that 66% of all proposals planned to carry out horticultural training and entrepreneurial training activities. These technical trainings take the shape of outreach materials, training workshops, incubator programs, and business training consulting services. To see how the BFRDP program as a whole addressed structural barriers, I examined the proposal activities geared to address land access barriers, a structural barrier that emerged from the narratives of the ALBA case. In proposals specifically targeting land access, 65% of proposals planned to carry out entrepreneurial, financial management, or horticultural training as the mechanism to overcome the land access problem.

The results show a program aimed at rectifying a knowledge deficit through agronomic and entrepreneurial training programs. These strategies aim to increase supply of new farmers and their capacity to transition new acreage into restorative farm enterprises. Yet the farmer narratives of the ALBA case reveal how the deficit approach falls short of addressing the structural nature of some beginning farmer challenges. The limit of the knowledge deficit approach is a flawed logic that says the injection of cognitive resources will help farmers overcome structural barriers such as ethnocentric preference of supports, land owner tenant dynamics, or land suitability. This limited approach joins other "good food" interventions by embracing a neoliberal rationality.

In contrast, the farmer narratives represented in this study reveal how the deficit approach falls short of addressing the structural nature of some beginning farmer challenges. When attempting to transition to larger or more stable parcels of farmland, farmers experienced a power imbalance when negotiating with mostly white landowners. Farmers experienced reduced access to certain resources based on their ethnic status, like access to federal startup capital or the service of discerning realtors. Finally, as tenant farmers, new entry farmers often are hesitant to make capital improvements to a piece of land because they know their lease may end. The limit of the knowledge deficit approach is a flawed logic that says the injection of cognitive resources will help farmers overcome structural barriers exemplified by ethnocentric preference of supports, land owner tenant dynamics, or land suitability.

A likely cause of the preference of market-oriented responses to addressing beginning farmer challenges is the process of government in a neoliberal era (Guthman 2008). If the knowledge deficit approach is an example a "program of government" that translates neoliberal rhetoric into the daily lives of distant subjects, then the BFRDP can be thought of a "governmental technology," described by Rose and Miller (1992) as ''the complex of mundane programmes, calculations, techniques, … and procedures through which authorities seek to embody and give effect to governmental ambition." It is through this parameterized grant making program that *a priori* establishes a logic of self-improvement for supporting beginning farmers. This may explain why most funded programs frame their target problems as knowledge gaps among their farmer constituents and propose programs to improve technical capacity, thus reinforcing the dominant logic. The grant receiving institutions are influenced by a powerful governmental technology designed to reproduce neoliberal livelihoods. Including alternative logics of agricultural interventions could mean not receiving funding.

In Guthman's (2008) critiques of the limited imaginary of alternative agricultural movements she writes, "The problem … is that many of these projects as they are currently conceived contribute to the production of neoliberal subjectivities of the sort that acquiesce to consumer society." The evidence in this paper argues the same phenomena is occurring in the beginning farmer landscape. The consequence of deepened production of neoliberal subjectivities is to exacerbate inequity in the food system (Holt Gimenez & Shattuck 2011; (Minkoff-

Zern & Carney 2015). Farmers without structural barriers receive the benefits of public individualistic supports while others, based on their social location, fall behind (Ayazi and Elsheikh 2015; Minkoff-Zern 2014). Without a focus on the structural aspects of beginning farming, new farmers will certainly be produced, but that success will likely favor particular classes of new farmers (e.g., those who are highly educated, well-resourced, and white). This would deepen existing divisions in broader food system representation. Those like Alejandra, who overcome their individual knowledge deficits through an incubator like the ALBA program, are nevertheless confronted by a broader system of barriers that exist outside the realm of technical training or entrepreneurial tactics.

Faced with the limits of a knowledge deficit approach, science scholars suggest a more democratized epistemology is needed to address complex systems (Miller 2001; Funtowicz and Ravetz 2003). Cortassa (2014), writing on alternatives to the knowledge deficit, suggests a model that redefines expertise, where:

> Specialized knowledge is not the only knowledge nor in principle the most valuable at play. Instead of being regarded as passive recipients, people should be seen as fully competent agents who assume an active role in the relationship relying on their own expertise, skills, values and criteria.

Much theory in participatory agricultural extension and farmer-to farmer knowledge production supports this adjustment in epistemology. Numerous experiences show how a de-emphasis on expertise and support for local knowledge can lead to greater understanding of complex agricultural systems (i.e. McGreevy 2015; Roling and Wagemakers 1998). However, while a commitment to these democratized epistemologies address some shortcomings of the knowledge deficit model, the ALBA case underlines how some structural barriers still defy pedagogical innovation. Even though ALBA focuses on alternative knowledge transfer methods and peer to peer farmer learning, it is an example of how incubators are hamstrung in providing meaningful transition services into a rigid industrial food system (Calo and DeMaster 2016).

If the knowledge deficit model persists because of entrenched governance modalities then new farmer interventions within the BFRDP are likely destined to uphold and even promote disparities in the food system. This is true even as beneficiaries of the programs appear to gain footholds within the food system. As farmers interviewed in this paper show, those spaces of success many be predetermined. In effect, the knowledge deficit approach severely limits the types of farmers that have a place in the next generation of farmers.

This analysis focuses closely on the BFRDP as a site of research. However, the findings suggest that efforts to promote generational turnover and within a food sovereignty framework deserve similar critique. A future question to investigate is whether programs with food sovereignty ideals similarly enact knowledge deficit programs. Re-orienting the nature of new farmer support

programs to one geared towards governance restructuring would ensure that programs do not contradict the epistemological pillars of food sovereignty.

In this hypothetical shift, programs that previously focused on creating new capacities amongst beginning farmers work to create a system where those same farmers have improved chances at success. Instead of educating farmers about how to negotiate a fair lease, programs would work towards appointing a farmer representative like Alejandra to county housing boards in the pursuit of novel ordinances to protect tenant farmers. Farmer support institutions could test these ordinances, like a provision that compensates tenant farmers for capital improvements, and share the results in other new farmer communities. Instead of solely teaching farmers in business management, programs would lobby to reduce ethnocentrism in the existing agriculture loan products available. A beginning farmer support program that looks upstream to structural barriers would not just teach marketing strategies, but rather work with buyers and shippers to innovate on contracts that meet the needs of low resource farmers.

New Farmer interventions unbound by the limits of the knowledge deficit model would acknowledge how power influences winners in the food system instead of reifying neoliberal values of entrepreneurism. Because in a food system with structural barriers to entry, making better farmers doesn't necessarily mean making new farmers.

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Nazioarteko Hizketaldia

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