

Making the Road by Mapping: Informing Food System Transformation through Participatory Mapmaking

Objectives

This project was initiated with the intention to map the organic strawberry supply chain for small producers. The research team aimed to explore how recently introduced regulations in water quality and food safety were impacting these farmers. However, during initial focus groups and informal interviews with organic farmers, the team found that the critical barrier to success was access to farmland rather than these regulations. Therefore the following research investigates barriers to farmland access among beginning farmers, and sheds light on the potential of participatory mapping to directly assist producers.

Methods

1. Used participatory research to identify and map critical needs of small-scale, beginning organic strawberry farmers in California's Central Coast region, including 26 in-depth interviews, focus groups, and extensive participant observation.
2. Partnered with two community organizations, the Agriculture and Land Based-Training Association (ALBA) and California Farmlink, to creatively address land access needs for beginning farmers.
3. Conducted a course-based research project for undergraduate students in which students learned participatory mapping techniques and created several data-rich maps.
4. Presented these findings in novel, innovative, and visually captivating ways with the goals of:
 - a) informing specific policies/regulations and
 - b) providing small-scale producers with easily accessible caches of community-generated knowledge.



Partner farmer packing organic strawberries. Photo by Adam Calo

Findings

Sociocultural constraints impede land access

Beginning farmers are highly motivated and possess sophisticated farming skills, but ethnicity/cultural identity can play a role in landowner and farmer tenant relationships and restrictive lease arrangements.

Limited farmland access impedes the viability of new, small-scale organic farmers

The inability to access suitable farmland may be a root cause for the significant number of ALBA graduates who eventually leave farming.

A lack of information on land quality can lead to precarious leases

Unanticipated environmental factors can challenge the ability of farmers to realize their land's productive value. Tenants without prior knowledge about land suitability have less power to dictate terms of a lease agreement.

Information on suitable land is generally inaccessible to smaller producers

Data concerning land ownership and associated agricultural attributes is publicly available, but it is often

aggregated and sold by private firms. This premium service is typically inaccessible to smaller producers.

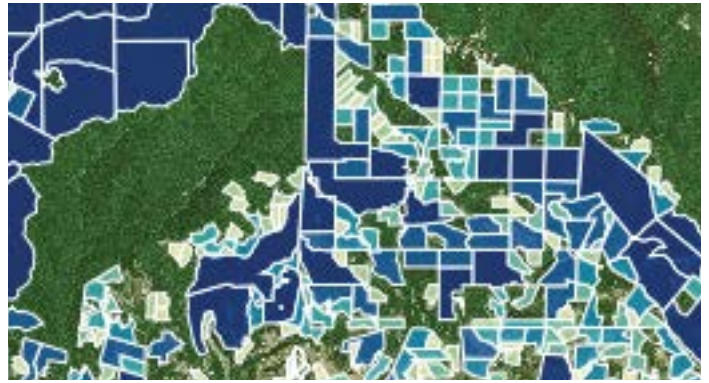
Result: Farmland Monitoring Project

As a potential solution to these challenges, the research team developed a web-based participatory mapping tool to link beginning organic farmers with suitable, available parcels of Central Coast farmland. Developed in collaboration with ALBA and California Farmlink, this mapping tool is tailored to specific farmer needs and allows small-scale producers to better compete with larger firms. The Geographic Information System (GIS) map includes aggregate data on:

- Farmland quality, including water availability and production practices of nearby farms
- Tax assessor parcels
- Zoning codes
- Other publicly available data

The Farmland Monitoring Project (FMP) application can help producers identify viable farmland parcels and negotiate fair leases with landowners. Organizational advocates for small-scale organic farms in the region can now better match landowners with beginning farmers; this database of farmland availability will assist these organizations in their mission to help farmers transition from incubator programs into viable proprietorships with equitable lease/ownership arrangements.

The second goal of the FMP is to leverage the social power of mapping to facilitate alternative visions of farmland use. Articulated within the mapping tool is a map series that



Map showing parcel size of available farmland.

explores themes such as agricultural land use, conservation easements, land ownership trends, and demographic disparities in farm operators versus landowners.

Key Accomplishments

- Published research findings in March 2016 in the *Journal of Agriculture, Food Systems, and Community Development* in an article titled, “After the Incubator: Factors Impeding Land Access Along the Path from Farmworker to Proprietor”
- Published an op-ed in the *San Francisco Chronicle* on October 18, 2016 titled, “For Farmers, This Land is Often Someone Else’s”
- Presented the research at a Citizen Science conference as well as Harvard’s Just Food conference
- Leveraged the Berkeley Food Institute Seed Grant funding to garner additional grant funding for participatory mapping technologies

Research Team

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Explore the map!
farmview.herokuapp.com