



# **Can Alternative Financing Strategies Foster Farm and Food System Innovation? An Exploratory Comparison of Arizona and New Mexico**

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## Introduction

Recently, scholars, activists and practitioners have underscored the need for further investment in transitioning not just agriculture but entire food systems to more sustainable practices (DeLonge, Miles and Carlisle 2016; Pons, Long and Pomares 2013; U.E. 2013; Tasch 2009). Many farmers and food entrepreneurs wish to tap into the emerging potential for American croplands and livestock herds to meet more localized markets through distribution and processing systems with lower carbon footprints. These potentially re-localize-able markets were recently estimated as being as high as 90% of U.S. food demand (Zumkehr and Campbell 2015). Consequently, early stage farmers and food entrepreneurs are increasingly seeking a wider range of funding sources to increase the proportion of “locally-produced food” with respect to total food demand within their communities. In response to this trend, food system scholars, community development planners and farmers themselves are developing a greater interest in examining the efficacy of emergent funding sources and novel blends of food and farm financing strategies with the hope of technically supporting and creatively financing early stage farmers and food entrepreneurs (Schwartz 2013; Wadud 2013).

It is clear that many early stage farmers are keenly interested in the economic and social value of participating in the “local food sector” within the larger North American foods system, even though these concepts remain hotly contested and critiqued in academia (DePuis and Goodman 2005; Gray 2013). Nevertheless, many communities have decided to focus on the direct sourcing and marketing of food products within a day’s drive of their production sites. These decisions are being made based on the anticipated value of capturing through direct marketing a portion of food’s retail value that now goes to middlemen; of achieving multiplier effects within their communities, and of anticipating that local food production may lead to enhanced food security, social connectivity and environmental resilience (Hewett 2010; Tasch 2012).



*Las Milpitas Farm, The Community Food Bank of Southern Arizona, Tucson, AZ*

In this paper, we explore several established and novel funding approaches being pursued by entrepreneurs operating within AZ and NM local food systems (LFSs). While some of these financing strategies are still too “new” to determine whether they are any more effective in fostering innovation than what conventional financing offers, we argue that early attention to these emerging trends is necessary. Like many innovations described at the earliest stages of development, their potential impact is difficult to measure. Nevertheless, these activities may be disproportionately significant to the future of LFSs relative to the current magnitude of investment in them.

For our purposes, “local food and farming innovations” are considered to be the novel as well as the potentially impactful and transferable approaches being initiated by local food entrepreneurs, activists, foundations and impact investors and other stakeholders that aim to contribute to more sustainable food systems. The impacts of such innovations may ripple out far beyond benefits to the viability of a single business, in ways that stimulate positive food systems change at the community and regional levels. Local food entrepreneurs include those actors who operate independently-owned (and typically smaller scale) farms and ranches, market gardens, farmers markets, community supported agriculture shares (CSAs), production and distribution hubs, and processing sites (e.g., bakeries, breweries, mills), as well as other retail outlets. We also include among innovators the leaders of food banks, community kitchens, and school and community gardens, most of which operate under the management of non-profit organizations.



## The Perceived Need to Address Current Dilemmas in Food and Farm Financing

At first glance, the so-called “locavore,” or food re-localization movement appears insufficiently structured to meet a more substantial proportion of local food demand, let alone support local farmers and food producers. This popular image stems at least in part from the movement presenting itself as an *ad hoc*, decentralized, grassroots initiative that eschews obtaining from the government or from conventional financial institutions the funds needed for expansion (Cobb 2011). There is also a presumption that most food relocalization activities are currently being fueled largely through the personal (or inherited) wealth of innovators. This truism, which is hard either document or dismiss, may be misleading considering nearly all localized food and farm-based enterprises seek start-up and growth capital as well as technical and business management support from a variety of sources (Makower and Fleischer 2003; Pons, Long and Pomares 2013).

As Schwartz (2013, 1) has documented, “One reason that economic development in rural America lags behind its urban counterpart is the persistent lack of venture capital for rural entrepreneurs.” Despite the expressed desire of a growing number of “young agrarians” to join the ranks of local food and farming entrepreneurs, the US Department of Agriculture (USDA) has recently indicated that the financial obstacles being faced by those entering food and farming businesses have never been higher (USDA ERS, 2013). Commercial banks hold approximately 40% of conventional farm debt in the United States, while the Congressionally-backed Farm Credit System (FCS) holds another 42.5% (Monke 2015). The Farm Service Agency (FSA) is a third conventional outlet that farmers who lack sufficient credit sometimes turn to when seeking loans. According to Monke (2015), FSA loans make up approximately 2.3% of the national farm debt. This statistically-based overview of the national farm debt does not, however, take into account no-interest loans from relatives or from other, more unconventional sources of financial support (e.g., crowd-funding campaigns).

Our own field work and professional activities indicate that farmers and local food entrepreneurs are increasing considering leveraging unconventional sources when starting and growing their enterprises. Why? Beginning farmers and other local food entrepreneurs now more than ever earn less money, depend more on other sources of income, receive fewer subsidies, and face far greater obstacles to accessing credit (Ross 2013). Furthermore, among the more than 1,000 members of the National Young Farmers Coalition surveyed in 2011, 78% of respondents identified lack of capital, which was formerly acquired mostly (sometimes entirely) from conventional sources, as being their biggest challenge (Shute 2011). Unfortunately, little is known about the kinds of unconventional support being sought by the small-scale farmers and early stage food entrepreneurs who are driving the re-localization of food systems. In this paper, we begin to describe the importance and accessibility of such unconventional sources of funding (and associated lending models) through a comparison between the AZ and NM LFSs.

Difficulties in accessing credit have had particularly harsh consequences for local food entrepreneurs, especially those who are new farmers. With the 2008-2011 Great Recession, the market for farm credit as well as philanthropic support for sustainable agriculture dramatically declined. Survey research has more recently found that 85% of all farmers (both beginning and evolving/restructuring) are now facing greater difficulty in accessing credit, with 70% of such respondents claiming that their commercial loan rejection rates have risen (Ross 2013). Concurrently, the USDA’s Farm Service Agency (FSA), which young farmers have often turned to for credit when the private sector fails them, recently reported a 56% increase in demand for farm loan services. Despite the U.S. banking industry holding \$127.4 billion in farm loans in 2010, Michael Dimock of Roots of Change reminds us “that the criteria for such loans is far less favorable to small, beginning and organic farmers” (Pons, Long and Pomares 2013, 11). Unfortunately, these difficulties come at a time when 400,000 million acres of food-producing lands in the U.S. are likely to be transferred to other owners over the next two decades (Ross 2013).



## Articulating a Working Hypothesis to Explain Shifts in Farm and Food Financing

We suggest that the ongoing constraints associated with conventional financing may be forcing beginning farmers and other early stage local food entrepreneurs to become far more resourceful, relying on novel sources of support to advance their start-up and growth activities. As Slow Money founder Woody Tasch (2012) has suggested, beginning farmers and early stage local food entrepreneurs are now experimenting with finance strategies that “build connectivity and resilience in their communities” and involve the blending of otherwise distinct funding mechanisms and resources. As Tasch has observed, “[local food entrepreneurs are] coming together across fiduciary boundaries--angel investors, mission-related investors, impact investors, [foundation] program officers, philanthropists, entrepreneurs and farmers--we are exploring opportunities for a new kind of connectivity and resilience” (Tasch, 2012, 3). However, the relative effectiveness of these and other types of alternative funding strategies in advancing and sustaining local food innovation remains untested.

Concurrent with the preceding emergence of alternative financing strategies, local food entrepreneurs are more frequently aligning themselves with food non-profits and grassroots alliances. In some cases, they are also increasingly participating in “hybrid” for-profit/non-profit structures through which they can access a broader and more diverse range of support of the initiation and implementation of local food innovations (Rippon-Butler, et al. 2015). Such “hybridity” in social entrepreneurship is being optimistically but cautiously observed for the new opportunities it may bring to a wider sector of the public (Molina 2010; Thompson and Doherty 2006). We discuss such hybridity and provide relevant examples further in the paper.

We propose that local food entrepreneurs are increasingly recognizing a need for access to a broader mix of economic support for the development and long-term profitability and financial sustainability of local food enterprises. In general, the five sources of financial support local food entrepreneurs are most likely to draw upon beyond family resources are 1) *philanthropy*, 2) *government loans and subsidies*, 3) *conventional loans*, 4) *alternative “Slow Money”-style financing* (e.g.s., crowdfunding, pre-purchased “shares” in products or equity, local social venture partners), and 5) *family- or community-based micro-lending* (Shuman 2000; Tasch 2009).

Here, we have chosen two adjacent states in the U.S. Southwest, AZ and NM, for our comparison as a preliminary scoping of the validity of this proposal. This selection is based on our sense that despite their many geographic similarities (see Table 1), these neighboring states involve different political conditions and formal policies that shape the availability of funding for start-ups and subsequently the types of local food innovation that are pursued within. We use state-level statistics from each state as indicators to explore the extent to which four of the five sources of support are beginning used by local food entrepreneurs. The fifth source, which is family- or community-based micro-lending, is notoriously difficult to track (Wadud 2013). Thus, we excluded this source of financial support from our set of indicators.



*Seed stand at a farmers market*



## Table 1: Geographic Similarities between AZ and NM

Geographical Attribute	AZ	NM
Year of statehood	1912	1912
Size in square miles	113,998 sq. mi.	121,589 sq. mi.
% of households that speak a language other than English	20% or more	20% or more
Legal resident pop., 2010	6,392,017	2,059,179
Rural pop., 2010 & % of total pop.	668,977 (10.1%)	673,686 (33.5%)
Per capita income in 2008	\$34,339	\$33,389
Rank in household food insecurity & childhood food insecurity, 2008	13 <sup>th</sup> worst among all states	5 <sup>th</sup> worst among all states
Rank in poverty, 2010	2 <sup>nd</sup> poorest among all states	3 <sup>rd</sup> poorest among all states
Poverty level, 2012	18.7%	20.6%

Sources: <http://www.census.gov/compendia/statab/rankings.html>; [http://www.agcensus.usda.gov/Publications/2012/Full\\_Report/Census\\_by\\_State/](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Census_by_State/).

Unfortunately, no single, readily available database exists that annually tracks the amount of support allocated from each of the four funding sources in the two states (or to our knowledge in any state). In order to help overcome this limitation, we draw upon a diverse set of databases that in the aggregate begin to illustrate the blending of funding and other resources to support local food entrepreneurship and innovation within each state. We intend for this initial set of indicators to provisionally function as a simplified diagnostic to initiate comparisons (Girardin, Bockstaller and Van der Werf 1999). We thus encourage other sustainable food systems scholars to continually expand and refine the metrics that can reflect, inform and support local food sector development across many states, not just AZ and NM.

The four indicators of financing patterns and trends of local food innovation are not fully developed or widely used elsewhere. Accordingly, there remains healthy skepticism, particularly within business schools and conventional lending institutions, about the relevancy and efficacy of non-conventional financing strategies. Skepticism over the long-term viability of non-profit/for-profit hybrid structures and simple crowd-funding platforms in supporting and sustaining local food innovation is particularly strong (Pons, Long and Pomares 2013). To be clear from the onset: we do not wish to imply that novel funding approaches and blending strategies are necessarily any less risky nor more accessible or useful in and across local food systems as compared to conventional options. There are also obvious disparities in access to economic and political support that constrain or hinder each state's capacity to advance self-reliance and food security in an ecological and agricultural sense within this global age (Schuman 2000; Wilkinson and Pickett 2009). For example, in U.S./ Mexico border states such as AZ and NM, the relatively poor access to state governmental support and to financial capital may be among the many reasons these states continue to be plagued by alarming levels of food insecurity (see Table 2).



**Table 2: Food Insecurity per Total Population in AZ and NM**

Household Food Insecurity	2005-2007	2008-2010	2011-2013
AZ	12.0%	15.3%	15.6%
% change in AZ	-	+27.0%	+20.0%
NM	15.0%	15.4%	13.2%
% change in NM	-	+26.0%	-14.0%

Source:

<http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx#trends>, [Household Food Security in the United States in 2013](#).

## Applied Research Methodology

Drawing upon concepts from human organization theory and social entrepreneurship, (Leadbeater, 1997; Molina 2010), we aim to aggregate data from multiple sources specific to AZ and NM. These data provide a baseline capable of beginning to track recent trends in funding from philanthropic sources, governmental agencies, conventional financing institutions, and alternative “Slow Money”-style financing platforms. (As we noted above, the assessment of reservoirs of personal and heritable wealth that may go into food systems change are beyond the scope of this paper.) We also aggregate data pertaining to funding trends that may potentially influence local food innovation within AZ and NM since the beginning of the new millennium, with a particular focus on the period from 2007 through 2014, when both states were strongly affected by “the Great Recession.”

We undertake two analyses fundamental to identifying the patterns of funding and innovation within the local food sectors of each state. First, we explore the sources and blending of funding and other resources that AZ and NM communities and their local food entrepreneurs have successfully employed. Second, we consider indicators of the current innovations that may diversify or strengthen food production and distribution for the benefit of in-state populations.

We have relied upon both governmental compilations of statistics and data collected from online sources to estimate the number of institutions or businesses involved in a particular of funding option and/or type of entrepreneurial innovation. Because Internet searches can be unreliable, we have made efforts to verify or corroborate data first found online through in-person, telephone- and/or email-based communications with representatives of the data sources. The set of indicators used here is provisional, and not necessarily comprehensive or ideal for monitoring local food sector innovations in every state or community. However, the data contained within the set of indicators are readily available on-line and can be further refined in subsequent studies through an iterative process. Rather than being the “last word” on indicators for food systems innovation across the country, we focus on AZ and NM as a pilot case to illuminate and begin to illustrate the otherwise overlooked trend of advancing local food innovation through the blending of funding and other resources. In general, the development of regionally-based standardized metrics such as that which we have begun to develop here have the potential to help local food entrepreneurs and community leaders strategically leverage funding opportunities within the specific context of their communities, states, and regions.



## Results

### Ranking AZ and NM's Current Agricultural Productivity

With regard to farm finance indicators of success in agricultural production, both AZ and NM were in 2013 situated in the mid to lower tier of all states with regard to the statewide gross receipts of farms (USDA ERS, 2015). Specifically, AZ was ranked 32<sup>nd</sup> and NM 34<sup>th</sup>. Table 3 provides further detail on the percentages of total agricultural sales by product category.

**Table 3: Percentages of Total Agricultural Sales by Product**

Category	AZ 2007	AZ 2013	NM 2007	NM 2013
Dried grains, legumes, & oilseeds	3.6%	Data withheld	6.1%	4.9%
Vegetables, root crops, & melons	26.8%	20.5%	4.1%	3.8%
Livestock & poultry products	40.9%	44.3%	74.6%	75.8%
Fruit, nuts, & berries	2.9%	Data withheld	4.9%	4.3%
Aquaculture	0.1%	0.1%	0.1%	0.3%

Note: Non-food product-types not included in Table 4.

Sources: [http://www.agcensus.usda.gov/Publications/2007/Full\\_Report/Census\\_by\\_State/](http://www.agcensus.usda.gov/Publications/2007/Full_Report/Census_by_State/); [http://www.agcensus.usda.gov/Publications/2012/Full\\_Report/Census\\_by\\_State/](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Census_by_State/).

Despite significant differences in the buying power of the consumer base in each state, Arizona's 2013 cash receipts from farming (\$4,492,331,000) are not much more than those of NM (\$3,962,026,000). (USDA ERS, 2015). Moreover, both states have remained stable in terms of overall food production when accounting for inflation effects caused by the Great Recession (see Table 4). This difference in cash receipts becomes much more pronounced, however, when considering the amount of dollars generated per agricultural acre in each state. Specifically, AZ generates \$173 per each of its 26 million agricultural acres, while NM generates only \$91 per each of its 43 million such acres. And yet, NM's agricultural productivity per capita is \$1,924, while AZ produces just \$702 per capita. As is common in other states, there are as many kinds of food products exported from AZ and NM as there are imported. Arizona and NM have also recently shown modest food yield increases per acre, but diminished acreages in food production. Overall, both AZ and NM food systems have, to date, been riddled more by socioeconomic than environmental constraints.



**Table 4: Food Production Profiles of AZ and NM**

Market value	AZ 2007	AZ 2012	NM 2007	NM 2012
Total sales pre-inflation adjustment	\$3,234,552,000	\$3,732,113,000	\$2,175,080,000	\$2,550,147,000
Total sales adjusted to 2012 inflation rate	\$3,581,685,000	\$3,732,113,000	\$2,408,510,180	\$2,550,147,000

Source: USDA Economic Research Service. 2015. *Farm income and wealth statistics*. [on-line]. Retrieved September 1, 2015 from

[http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/annual-cash-receipts-by-commodity.aspx#Pd052ce7ef5c141888760b4bd38125566\\_2\\_16iTOR0x3](http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/annual-cash-receipts-by-commodity.aspx#Pd052ce7ef5c141888760b4bd38125566_2_16iTOR0x3).

### Indicators of Potential for Investment In Food Systems Within the State

By most indicators, AZ exhibits a greater use of entrepreneurial strategies and alternative Slow Money-style funding of local food and farming projects than does NM (see Table 5). According to the Kauffman Index of Entrepreneurial Activity (Fairlie, 2012), AZ was tied for 9<sup>th</sup> in entrepreneurial activity with a 35% index rating between the years 1999 and 2001. Arizona raised its ratings to 44% in 2009-2011 to be tied with California for the highest rating in terms of innovative activities and the number of new business start-ups regardless of sector. Moreover, AZ had 520 startups per 100,000 adult residents, which was a higher ratio than the second-ranked California and Texas. Additionally, the Metro Phoenix area was tied for second in entrepreneurial activity among the 15 largest metro areas in 2011. New Mexico was ranked third with a 41% index in 1999-2001. However, this index rating dropped to 28% in 2009-2011, which tied the State for fifth in entrepreneurial activity.

With regard to the entrepreneurial growth and stability of the local food sectors within each state, the National Restaurant Association has placed AZ in the lead among states for 2015 restaurant sales (\$11.5 billion) and restaurant jobs (273,700). However, NM is not included among the top five states with its meager \$3.3 billion in sales and 87,000 in jobs. Also, AZ's food and beverage sales in restaurants are currently almost 3.5 times higher than NM's (Restaurant.org 2015; Tucson Business Leads and Information 2015), which is not surprising given that AZ has roughly three times the number of restaurant locations as does NM (9,024 vs. 3,265). To some extent, these sharp differences may be attributed to the respective population size of each state, as we alluded to earlier. Additionally, AZ attracts a higher level of tourism because of the prominence of the Grand Canyon, nationally-rated collegiate bowl football games, professional athletic events, and so on.

Unfortunately, the entrepreneurial spirit within the AZ local food sector has not been matched by charitable giving (see Table 5). Specifically, AZ has dismal records in charitable giving by individuals, as well as in the participation of its foundations and coalitions in funding agriculture, as well as food and nutritional health projects. Between the two states, only NM's Max and Anna Levinson Foundation is listed as among the country's fifty most active foundations in grant-makers accelerating positive change in local food sectors (Maskower and Fleischer 2003). Curiously, AZ's only advantage over NM is the establishment of the second state-level Social Venture Partners organization in the country in 1999, which has contributed more than \$3.9 million to over a hundred non-profits in the state. While Arizona now has two chapters of such social venture investors, none currently exist in NM.





**Table 5: State Rankings and Activity in Charitable Giving, Entrepreneurial Activity and Credit Union Presence**

State	Rank in charitable giving, 2014	Rank in entrepreneurial activity, 1999-2001 & 2009-2011	Rank in restaurant job & sales growth, in 2014-2015	Cities ranked in 150 best for business, 2014	Rank in sustain. ag. & food systems funding agencies	Credit unions & estimated members
AZ	2 <sup>nd</sup> worst	9 <sup>th</sup> to 1 <sup>st</sup> best	1 <sup>st</sup>	8	Worst (no agencies)	62 unions, 1.4-1.5 million members
NM	5 <sup>th</sup> worst	3 <sup>rd</sup> to 5 <sup>th</sup> best	not in top 5	1	Low (2 agencies)	53 unions, .5-6 million members

Sources: Data gathered from Kaufman Institute, Sustainable Ag and Food Systems Funders, cardreport.com, Arizona.coop.com, Environmental Grant Makers Association and National Restaurant Association, through their websites, reports or personal communications.

Arizona local food entrepreneurs have begun to use Slow Money-style funding strategies such as crowd-funding through social media platforms far more than their NM counterparts. One indicator of this difference is the greater use of Kickstarter, Indie Go-go, and Barnraiser to support food and farm projects by AZ citizens than those in NM (see Table 6). For example, Arizonans have attempted 238 projects on Kickstarter, whereas New Mexicans have only attempted 55 through January, 2015. Even when normalizing these data to account for the population difference between the two states, the numbers of attempted AZ Kickstarter projects are three-fold that of such projects attempted in NM. While the emergent nature of these trends limits the ability to conduct statistical analysis, the underlying data are nonetheless worthy of tracking.

**Table 6: Food and Farm-Related Kickstarter Projects**

AZ successful projects, 2010-2014	AZ live projects, January 2015	NM successful projects, 2010-2014	NM live projects, January 2015
17 value-added food product micro-enterprises	3 value-added food product micro-enterprises	3 value-added food product micro-enterprises	1 value-added food product micro-enterprises
13 restaurants & micro-breweries	13 restaurants & micro-breweries	5 restaurants & micro-breweries	2 restaurants & micro-breweries
3 festivals	-	1 greenhouse	1 farm project
1 seed school	-	2 cookbooks	-
1 gardening proto-type	-	-	-
1 eco-ranch non-profit	-	-	-
1 community garden	-	-	-
1 truck mobile ag project	-	-	-

Source: <https://www.kickstarter.com/>



Arizona local food entrepreneurs are highly engaged in tracking alternative food and financing strategies through discussions and initiatives convened by non-profit organizations such as “Slow Money.” (K. Bahr, personal communications, January 2, 2015). Regardless, the attempts by AZ and NM local food entrepreneurs to gain funding through Slow-Money strategies have thus far translated to only a few actual investments in food businesses. Specifically, AZ had two local food ventures (Double Check Ranch and Hayden Flour Mills) included among the national finalists for donor support through the Slow Money Entrepreneurs’ Showcase, while NM had no finalists. Hayden Flour Mills, which is located in the Phoenix, AZ metroplex area, was awarded the Slow Money People’s Choice favorite for funding on the basis of the amount of social media support it had for its new food venture. Nevertheless, of the 2,900 national Slow Money *donors* through December 2014, 3% were from NM while only 1% were from AZ. While AZ has 948 individuals on the Slow Money mailing list compared to NM’s 441, AZ still lags behind NM in donors after adjusting for differences in population size (148 vs. 210 subscriptions per 1,000,000 residents). This greater engagement of NM donors (as opposed to entrepreneurs) may be in part due to the fact that Slow Money’s national operations were headquartered in NM for several years and one of its national conferences was held in Santa Fe. Incidentally, AZ did have slightly more contributors (five) to the 2014 BeetCoin crowdfunding experiment than did NM (four).

Our exploration has also revealed an emerging pattern of forming hybridized for-profit/non-profit structures that blend social values with profit-driven entrepreneurial strategies for advancing food systems change. In particular, local food entrepreneurs are increasingly developing and/or benefiting from hybridized for-profit/non-profit organizations that enable access to funding from an ever-widening mix of platforms, venues and arrangements. This emerging pattern was especially evident in AZ (see Table 7). Indeed, AZ can be considered a leader in local food funding innovation, as indicated by being one of the few states with an annual statewide Food and Farm Finance Forum, as well as serving as the host of one of the best attended annual conferences of the Business Alliance for Living Local Economies (BALLE). Its second largest city, Tucson, has recently been designated as the first UNESCO City of Gastronomy north of Mexico, an honor that food activists sought to stimulate more investment in its food economy. While this list provided in Table 7 may not be comprehensive and criteria for inclusion are provisional, we nevertheless feel that these structures are ripe for analysis as future case studies.

**Table 7: Hybrid or Complementary For-Profit/Non-Profit Structures**

Diablo Burger & Diablo Trust	Taos County Economic Development Commission Mobile Matanza Meat Processing, Community Kitchen, Taos Land Trust & New Mexico Acequia Assoc.
Local Alternative, Inc., Leupp Family Farms & SEDI Regional Food Production and Security Project	Plants of the Southwest and the Kitchen at Plants of the Southwest
Hayden Flour Mills, Native Seeds/SEARCH, Barrio Bread	The Cooking Post of the Pueblo of Santa Ana and Tamaya Foods
Borderlands Restoration Nursery & Borderland Habitat Network Earth Care Youth Corps	La Montanita Co-op, Permaculture Credit Union & MoGro Mobile Food Service
Avalon Gardens, Food for Ascencion Café and Global Media	Mixing Bowl Community Kitchen & South Albuquerque Economic Development Center
Tohono O’odham Community Action & Desert Rain Cafe	-
Community Food Bank of Southern Arizona and Fed by Threads Clothing	-
Ishakashita Refugee Network, 7 farms, food and crafts sales	-
Borderland Food Bank, WIGWAM Market on the Move	-

Sources: Interviews done by University of Arizona Southwest Center staff at the Arizona Food and Farm Finance Forum, Quivira Coalition, Slow Money, Slow Food and New Mexican Organic Farm Alliance conferences, and articles in Edible Baja Arizona, Edible Phoenix and Edible Santa Fe, 2013-2015



In short, we see evidence of AZ and NM being on divergent financing trajectories specific to food and farm start-ups and innovations. This apparent divergence raises the question: Is there any indication that one or the other of these trajectories more effectively moves the “needle” of food systems change? While we do not pretend to discern direct causation, we wish to see whether distinctive patterns can be identified that can later come under closer scrutiny.



*Chile entrepreneurs at a New Mexico food festival*

### **Indicators of Recent Local Food Innovations in AZ and NM**

How do the emerging patterns of blending the four sources of funding (alternative, conventional, governmental, philanthropic) potentially influence local food innovation in one state versus another? Today, it appears that early stage farmers and food entrepreneurs in rural areas are working harder than ever before to establish markets and overall synergy with residents in nearby metro areas. While our focus below is on “rural” food production, it is often done by early stage farmers on or just beyond the fringes of metro areas, in order to better capture such synergies, as some of the following statistics and examples indicate.

*Indicators of Rural Food Production Innovation.* There is ample experimentation by local food entrepreneurs in AZ and NM, especially farmers and ranchers, who aim to reach a greater number of customers with like-minded values through the promotion of their food products using eco-labels and third-party “best practice” certifications. With regard to innovations in rural foods production and marketing that could be tracked, NM clearly excels in every indicator of certified organic production (i.e., plant, animal, dairy). Also, the NM Department of Agriculture employed state-funded organic inspectors well before the state transitioned to using USDA/NOP-accredited organic standards, while the AZ Department of Agriculture has never employed its own organic inspectors.

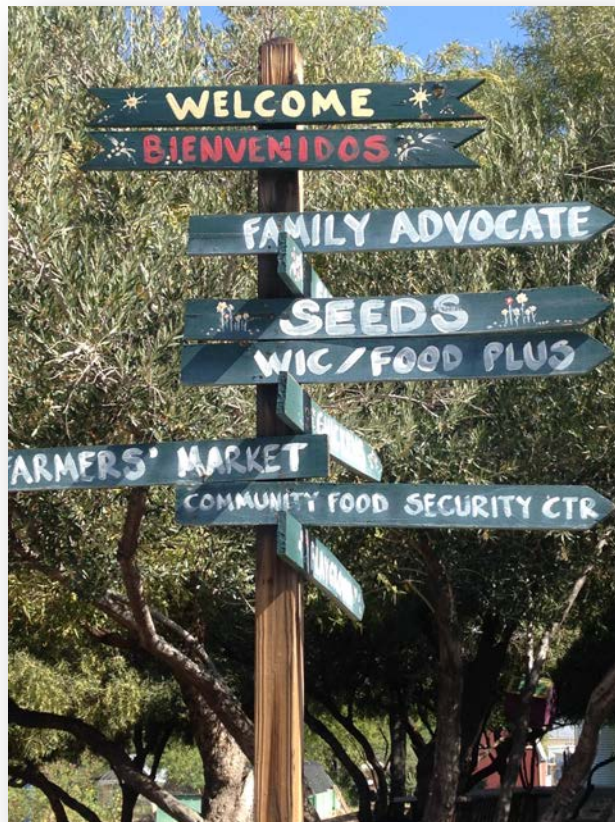
Arizona local food entrepreneurs favor investments in “certified naturally grown” eco-labeling that is facilitated through peer-to-peer inspectors over the more expensive organic certification process that is monitored by state- and/or federally-authorized inspectors. Also, AZ farmers and ranchers sometimes offset the costs of eco-labeling entirely by emphasizing direct marketing through [localharvest.org](http://localharvest.org), where they can emphasize their own mix of cultural, ecological, and ethical practices. But as Table 6 suggests, AZ is growing in organic crop and forage acreage even though the number of accredited operations has been declining. New Mexico, however, has seen a decline in certified naturally grown applications, and its farmers and ranchers use the eco-label far less than their AZ counterparts. We are careful to note that the portion of certified USDA organic acreage in AZ and NM represents a very small of the total agricultural acreage in both states. Moreover, the amount of certified USDA organic acreage increased by a very modest .1% in both states between the periods of 2008-2010 and 2012-2014. Thus, certified organic farming and ranching contributes very little to the total agricultural production in both AZ and NM. Regardless, differences between the two states pertaining to local food innovation patterns remain evident.



**Table 6: Innovation in Organic Crop and Forage Activities**

	AZ 2008-2010	AZ 2012-2014	% change	NM 2008-2010	NM 2012-2014	% change
Organic farm & ranch activities	77	56	-27.3%	197	215	+09.1%
Certified USDA organic acreage	29,248	40,188	+37.4%	359,310	365,719	+01.8%
Percentage of total agricultural acreage that is certified USDA organic acreage	.1%	.2%	.1%	.8%	.9%	.1%
Certified natural grown applications	13	17	+30.8%	12	7	-41.7%
Animal-welfare approved farms	-	1	-	-	9	-
American Grassfed Association certified ranches	-	1	-	-	6	-

Sources: Data gathered from [www.localharvest.org](http://www.localharvest.org); [www.livestockconservancy.org](http://www.livestockconservancy.org); [www.americangrassfed.org](http://www.americangrassfed.org); [http://www.agcensus.usda.gov/Publications/2007/Full\\_Report/Census\\_by\\_State/](http://www.agcensus.usda.gov/Publications/2007/Full_Report/Census_by_State/); [http://www.agcensus.usda.gov/Publications/2012/Full\\_Report/Census\\_by\\_State/](http://www.agcensus.usda.gov/Publications/2012/Full_Report/Census_by_State/).



*Many threads involved in a local food system. Tucson, AZ*

*Indicators of Food Processing, Distribution and Local Marketing.* Arizona appears to outperform NM in terms of the magnitude of innovation as indicated by farmers markets, micro-farms with on-site sales, CSAs, and community access to commercial kitchens (see Table 7). Because these innovations appeal to many urban dwellers, this finding is not so surprising once one considers that AZ has three times the number of urban dwellers as NM. The difference in the combined population sizes of the two largest cities found in each state is also notable. In 2013, the combined population of Phoenix and Tucson, AZ was 2,039,116. (This number more than doubles when the entire metro areas of the two cities are accounted for.) In comparison, the combined population of Albuquerque and Las Cruces, NM in 2013 was only 657,819.



**Table 7: Food Processing, Direct Sales and Community Kitchen Innovations**

	AZ 2008-2010	AZ 2013-2015	% Change	NM 2008-2010	NM 2013-2015	% Change
Farmers markets	72	83	+15.3%	63	66	4.8%
Micro farms	24	32	+33.3%	15	10	-33.3%
CSAs	29	45	+55.2%	25	36	44.0%
Non-profit community kitchens	1	6	+600.0 %	1	2	+100.0 %
For-profit shared use and kitchen incubators	5	6	+20.0%	0	0	-

Sources: Data gathered from [www.farmersmarketnm.org](http://www.farmersmarketnm.org); <http://www.arizonafarmersmarkets.com>; [www.arizonacommunityfarmersmarket.com](http://www.arizonacommunityfarmersmarket.com); [www.farmers.localharvest.org](http://www.farmers.localharvest.org); [http://farmersmarket1.com/states\\_arizona.php](http://farmersmarket1.com/states_arizona.php)

There are far more community kitchens in AZ than there are in NM. Equally notable is that these kitchens are being increasingly structured as either for-profit or hybridized for/non-profit facilities. Arizona has more farmers markets, micro-farms and CSAs than NM and higher growth rates for each. These organizations and enterprises are largely funded with private capital, not by government grants or philanthropic donations from AZ citizens or foundations. Moreover, farmers' markets in AZ are primarily structured and operated as for-profit businesses. For example, the Arizona Farmers, Growers and Producers Association and the Arizona Community Farmers Market Group are both for-profit businesses. The AZ Department of Agriculture uses a limited amount of funding from its tenuous Arizona Grown promotion initiative to act as one of three online clearinghouses for farmers' markets locations. Conversely, the NM Farmers Market Association was established as a non-profit clearinghouse with a \$50,000 grant from the NM Department of Agriculture. While having bureaucratic elements to its structure that may constrain certain entrepreneurial innovations, the Association has had considerable success in working with the NM state government on policy initiatives. The differences between the operational set ups of farmers' markets within the two states reveal potential differences in how local food innovation can be structured and subsequently funded. Such differences are likely to be even more diverse should the tracking we are attempting here be expanded to a broader regional or even national scale.

With regard to innovations aimed specifically at enhancing food security by providing easy, more affordable access to locally grown and processed foods, NM exceeds AZ's efforts (see Table 8). For example, NM has more farmers' markets with EBT access for SNAP benefits than does AZ, which is due largely to NM's Food Policy Council and Farm to Table training efforts. Additionally, the MoFoGro mobile food truck fleet is a particularly strong example of an innovation that with the support of a blending of private and philanthropic funding is able to provide increased access to locally and regionally produced foods to socially disadvantaged and physically disabled residents in three Native American communities located in NM. Private New Mexican philanthropists led this social venture with assistance from La Montanita Food Hub, Johns Hopkins University and the tribes. New Mexico also has more farmers' markets with EBT access for SNAP benefits than does AZ, which is due largely to NM's Food Policy Council and Farm to Table training efforts.



*Indicators of Food Relief Innovation.* Data indicates more food relief strategies per capita have been developed in NM than in AZ (see Tables 8 and 9). In particular, there is more participation per capita in Farm-to-School programs in NM than in AZ. There are also more food banks per capita in NM than in AZ. However, AZ food banks have more diverse and longer-term food security-oriented programs, including several initiatives with explicitly entrepreneurial approaches. The Community Food Bank of Southern Arizona (CFBSA), for example, is a national leader in food security innovation, and is funded as much, if not more by private support and entrepreneurial collaboration as it is by government support. Moreover, the CFBSA is a leader in the national discourse on innovative solutions to hunger, which includes those that are market-driven. For instance, the Bank hosted the 2013 “Closing the Hunger Gap” conference on longer-term solutions to poverty and hunger, which brought together over 300 participants from 170 different organizations from around the U.S. to discuss innovative approaches to eliminating hunger in America (Closing the Hunger Gap, 2015). Another AZ food bank, Borderlands Food Bank (BLB), has partnered with both Market on the Move and POWWOW, both of which sell produce rescued at the border to individuals and families within low-income communities, often for as little as \$10 for 50 pounds of vegetables.

**Table 8: Percentage of Farm to School Programs by State Totals**

State	Farm to school districts	Farm to schools	Farm to students
AZ	23% (53)	28% (552)	38% (384,925)
NM	29% (26)	41% (400)	57% (194,114)

Sources: <http://www.ped.state.nm.us/it/schoolfactsheets.html>; <http://www.azed.gov/about-ade/overview/>

**Table 9: Food Relief Programs Per 1,000,000 Residents**

State	Food banks	SNAP-eligible stores & mini-marts	SNAP-eligible farmers' markets
AZ	1.6	631.4	2.8
NM	2.4	733.3	18.09

Source: [www.fns.usda.gov/snap/retailerlocator](http://www.fns.usda.gov/snap/retailerlocator); [www.feedamerica.org](http://www.feedamerica.org)



Another example of the diverse support of local food innovation in AZ aimed at reaching those who are food insecure is Edible Baja Arizona. This magazine, which is published six times a year and reaches 90,000 in-state readers, is the only Edible magazine that covers food justice issues in both Spanish and English. Its coverage of food justice issues and volume of ads by small businesses are greater than the combined efforts by the two other Edible magazines in these states, Edible Santa Fe . Overall, AZ food journalists are more engaged in promoting community-based and artisanal-scale entrepreneurial activity, as well as funding strategies aimed at food insecurity than are their counterparts in NM.

In terms of regional leadership, New Mexico's Farm to Table (FtoT) is a non-profit which provides NM communities with "access to nutritious, affordable, locally grown, culturally significant foods by linking local food production to local need" (FtoT, 2015). The FtoT is an example of a local food innovation that has been funded through state-led policy initiatives and collaboratively maintained by the NM Farmers Market Association (NMFBA) and the NM Food Policy Council. In 2007, FtoT and NMFBA successfully lobbied the legislature to pilot a state-funded Senior Farmers' Market Nutrition "Enhancement" Program (SFMNP) in six counties. This program provides low-income seniors with increased access to locally-grown and produced foods. In 2009, the NMFMA also started pilot programs for accepting EBT (food stamps) at four farmers' markets using wireless technology, which was long before AZ did the same. By 2010, the NMFMA encouraged the NM Department of Health (NMDOH) to apply for the federally funded SFMNP. Due to the success of the state-funded pilot, the NMDOH received funds to provide vouchers to over 16,000 seniors. NMFMA also began helping markets increase the public visibility of their SNAP programs with the Double Value Coupon Program (DVCP), which AZ has adopted relatively recently at just two sites. Additionally, the NMFMA received \$50,000 in federal stimulus funds to further support the DVCP, which resulted in the increase of annual SNAP sales by 400% across 16 markets. In 2012, the NMFMA also partnered with the Wholesome Wave Foundation to begin a Fruit and Vegetable Prescription in Rio Arriba County, as one of the initial twelve sites selected from across the nation. The Foundation added one such program in AZ to its portfolio in 2015.

The public funding directed by NM state agencies towards local food innovation should not be viewed simply as subsidies. Instead, such state funding should also be understood as strategic investments. The potential returns on such investments in local food sectors include stimulation of local economies, increased food security, and reductions in public healthcare costs through increased healthy eating. Accordingly, we consider such funding allocations to be entrepreneurial investments of the public kind rather than conventional subsidies.

## CONCLUSIONS

Access to capital for early stage farmers and food entrepreneurs has always been limited, but this problem has been aggravated since the onset of the Great Recession (Schwartz 2013). Non-conventional or alternative funding for beginning farm and food enterprises has, however, made meaningful contributions to the economic recovery of communities since the Great Recession began in 2008 (Hewlett 2010). Indeed, local food ventures have been among the quickest and most cost-effective means of generating multiplier effects and stimulating the post-Great Recession recovery of local economies (Schwartz 2009).

Our preliminary analyses of data and trends from before and after the Great Recession reveal that the local food sectors in AZ and NM are increasingly engaged in and to some extent influenced by a peculiar broadening and blending of monetary support and other sources of support. However, it remains difficult to use governmental statistics and on-line sources to obtain accurate annual estimates of state-level support for local food innovation through philanthropic and governmental funding, as well as conventional private and alternative financing. The data and trend-tracking metrics we have compiled and presented here begin to address this challenge. While we can now confirm that alternative financing is indeed aiding early state farmers and food entrepreneurs in AZ and NM, and broadening the financial portfolios of other food businesses, we must await more longitudinal data analyses to determine both the magnitude and efficacy of these innovative financial strategies in aiding early stage farmers.



Building on our analysis of descriptive data from AZ and NM, we proposed that the degree of blending of alternative, conventional, governmental and philanthropic funding likely influences the nature, trajectory and pace of the local food innovation. Innovations by single businesses or by “hybrid” non-profits and for-profits have indeed begun to contribute to positive local and regional food systems change (greater equity, food security, profitability, etc.). Although we cannot claim or confirm causation, entrepreneurial activity appears to be more evident in the AZ local food sectors than in those of NM. There are notable differences in the levels of such entrepreneurial activities between the two states. Some of these differences may be attributable to AZ food entrepreneurs being supported less by state policies and programs as well as having limited access to philanthropic funding and conventional lending options. There is no doubt that other states currently face similar imbalances in their access to the four groupings of food and farm support. Their policy makers, community leaders, and entrepreneurs should consider the strengths and weaknesses of the strategies prevailing in AZ vs. NM when navigating their own peculiar mix of available financial support. Our provisional set of local food innovation indicators has helped us document differences between the two states’ food systems. Local food entrepreneurs in both states are increasingly turning to novel blends of financial support to initiate or restructure their local food enterprises and organizations.. At minimum, we can confidently report that communities in both AZ and NM have embraced a number of innovative strategies for positively changing their LFSs over the last 15 years in a manner that makes better use of in-state food production to feed their local populations. With this in mind, the relatively recent development of such blending strategies and the seemingly growing number of alternative financing opportunities deserve more discussion, analysis, and debate over the associated risks and potential benefits.

Our preliminary findings also provoke attention to the nascent broadening and blending of financing strategies and resource acquisition approaches that have helped local food entrepreneurs in both AZ and NM initiate and implement local food innovations. Although we encourage other scholars and practitioners to expand and refine the set of indicators we have developed here for future comparisons, it appears that the use of such a set of metrics has heuristic value in understanding patterns of change in local, state-level and regional food sectors and systems.

We reveal that the kinds and pace of change measured by our set of indicators document that AZ and NM are evolving in very different ways. On one hand, NM has mostly benefited from leading edge initiatives supported by the public sector, which includes the blending of governmental (state and federal) and philanthropic support. On the other hand, AZ’s local food sector has already employed a suite of innovations directly reflective of its strong entrepreneurial climate. Such innovations include, but are not limited to the relatively intense pursuit of alternative “Slow Money” food and farm financing strategies. In this regard, AZ food innovators have come to rely more on private entrepreneurial support and alternative financing strategies to maintain and promote their innovations.

By including comparable data from these two neighboring states, we had hoped to reveal how patterns of state government policy based on socio-political and economic factors differentially influence the trajectory of LFSs in AZ versus NM. In all probability, such reliance is likely linked to the chronic lack of other public support options in AZ that push the overall entrepreneurial culture to flourish. The entrepreneurial approaches of those leading the changes across LFSs in AZ are also likely driven toward private and alternative funding sources by a conservative political environment that favors free market initiatives over public interventions. While the balance of sources of funding support is different in every state, food scholars and community development practitioners in general are likely to find “take home messages” pertinent to opportunities or constraints in their own LFSs by noting the results of the different trajectories taken by AZ and NM. We expect this initial probe will encourage other sustainable food systems scholars and community leaders to devise better metrics that can support LFS development, as well as the activities of local food entrepreneurs and practitioners across many states, not just AZ and NM.





A recent report by Tasch and Dickie (2014) indicates that most Slow Money investors, investment clubs and small innovative funds are focused on offering small-scale loans of \$100k or less to local farmers and food entrepreneurs. While low (1-5%) to no-interest loans account for about 70% of alternative financing transactions, 20% come in the form of equity investments. Grants, royalties and convertible debt account for the remaining 10% of such transactions. Farm- and ranch-based projects and value-added food projects (e.g., organic enterprises) each captured a third of traceable alternative financing. One third of Slow Money-style investors are helping these start-ups based on the potential social and environmental impacts as much or more than their expressed interest in gaining immediate economic returns. Such “social venture” investors are seeking to foster local food production and consumption, job creation with livable wages, rural economic vitality and increased access to healthy food across income brackets, cultures and races. Half of questionnaire respondents reported having tracked available metrics to assess the potential social and environmental impacts of their investments (Tasch and Dickie 2014). Nevertheless, it is still too early to tell whether this new arena of food and farm financing is making a significant number of local food start-ups and enterprises more economically viable.

We see the emerging interest of local food entrepreneurs in experimenting with a diversified set of financial support mechanisms as an indicator that the conventional financing of local food innovation is not working as well as it had prior to the 2008 Great Recession. While we also see a modest increase in the number of start-up businesses experimenting with hybrid for-profit/non-profit structures, the sample size is far too small to know whether these initiatives are any more economically viable than others supported solely by either for-profit or non-profit structures. Indeed, the long-term stability of finance innovations such as Barnraiser and Kickstarter remain uncertain, as do the potential unintended consequences linked to undefined borrower default and collateral collection policies.

Nevertheless, novel financing structures and strategies warrant ongoing attention as local food innovations continue to emerge and develop. We therefore urge LFS scholars and practitioners to more rigorously monitor emerging and evolving alternative finance trends and associated implications in order to better guide local food entrepreneurs during start-up activities. We intend the indicators we have aggregated from AZ and NM to serve as a template for the development of broader and more expansive standardized metrics capable of guiding the decisions and strategies of policy makers and local entrepreneurs alike on the state, regional and national levels. It is our hope that the baseline indicators which evolve out of this process can also be used as a resource for nascent local food entrepreneurs who are attempting to traverse the increasingly complex and diverse local food sector landscape.

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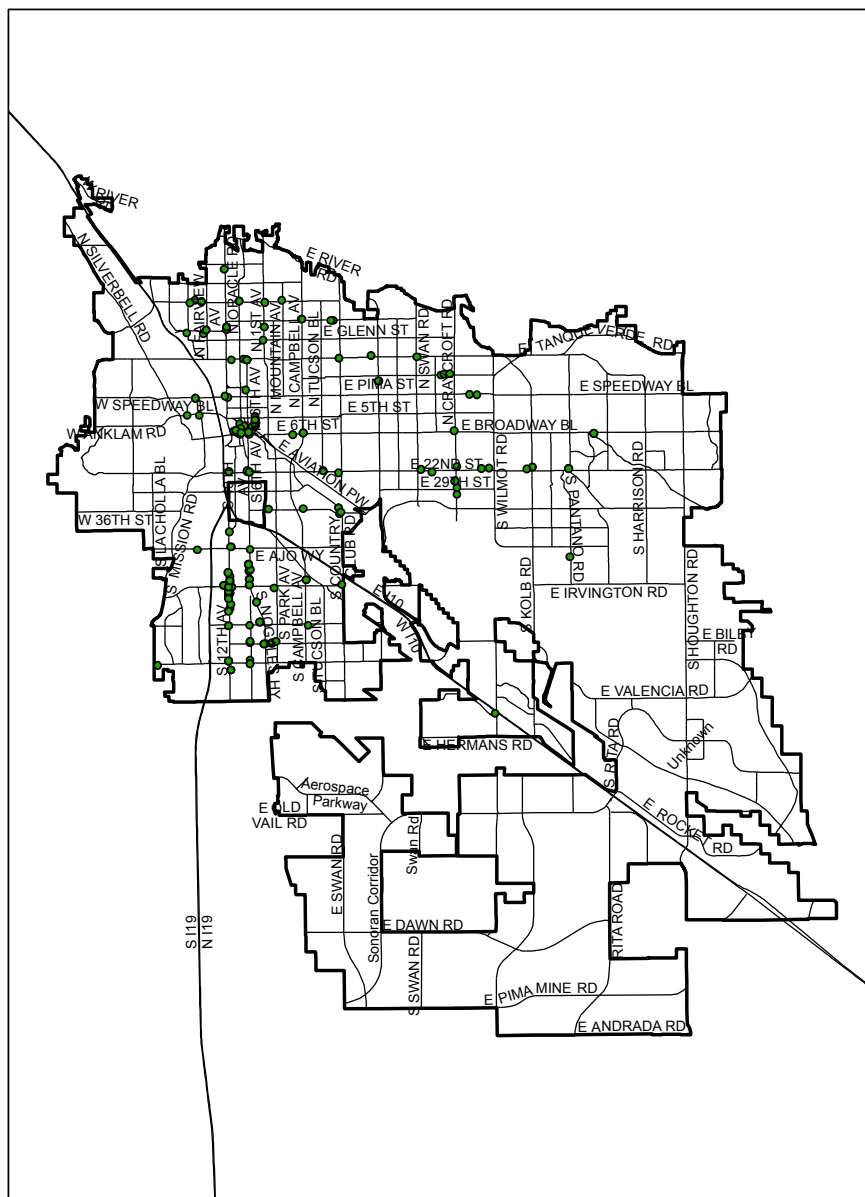
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Map of mobile food vendors, Tucson, AZ





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