



Urban Agriculture Impacts: Social, Health, and Economic: An Annotated Bibliography

Author: Sheila Golden

Project Supervisors: Gail Feenstra, UC SAREP and Rachel Surls, UCCE, Los Angeles County

UC Sustainable Agriculture Research and Education Program
Agricultural Sustainability Institute at UC Davis



This project is funded by the
University of California Agriculture and Natural Resources
Competitive Grants Program

University of California
Agriculture and Natural Resources

Urban Agriculture Impacts: Social, Health, and Economic: An Annotated Bibliography

Compiled By: Sheila Golden

November 13, 2013

Background

This annotated bibliography was created as part of a needs assessment for the University of California's Division of Agriculture and Natural Resources' (ANR) new project for developing capacity in urban agriculture.

For the purpose of the assessment, the project team defined urban agriculture as: "Urban agriculture includes production, beyond that which is strictly for home consumption or educational purposes, distribution and marketing of food and other products within the cores of metropolitan areas and at their edges. Examples include community, school, backyard, and rooftop gardens with a purpose extending beyond home consumption and education, innovative food-production methods that maximize production in a small area, farms supplying urban farmers markets, community supported agriculture, and family farms located in metropolitan greenbelts." (Adapted from the American Planning Association, 2011).

The bibliography is focused on articles that discuss economic, social, and health impacts of urban agriculture. Through Google Scholar searches, professional referrals, references used in other articles, and an existing community food systems bibliography (<http://www.sarep.ucdavis.edu/sfs/CFSresources>), the author chose articles that fit within ANR's definition of urban agriculture and explicitly discussed impacts. Although a few international articles are included, most of the literature is from the U.S. A combination of professional reports, peer-reviewed articles, and books are included.

Since definitions of urban agriculture vary between sources, it was difficult to completely separate out articles on community gardens that served only home consumption. The author chose community garden articles that were either widely cited throughout urban agriculture literature or that explicitly discussed projects that went beyond home consumption.

An "At A Glance" spreadsheet was created for a quick reference of the articles and their discussed impacts. The spreadsheet is meant to be a tool that accompanies this bibliography.

Annotated Bibliography

1. **Alaimo K, Stickney, and the Flint Urban Gardening and Land Use Corporation Storytelling Subcommittee. (2002). Neighborhood Violence Prevention Collaborative Evaluation Report: Community Gardens. Ann Arbor, Mich: University of Michigan School of Public Health**

A frequently cited article regarding fruit and vegetable intake in urban agriculture, this research looked at the vegetable intake of community gardeners. The study, out of Flint MI, found that adults that had a member of their household participating in a community garden program, consumed 1.4 more times vegetables and fruits per day than those who did not. They were also more likely to consume fruits and vegetables at least 5 times a day.

2. **Armstrong-A, Donna. 2000. "A survey of community gardens in upstate New York: Implications for health promotion and community development." Health and Place 6:319-327**

One of the most frequently cited sources in urban agriculture literature, this study evaluated twenty community garden programs in upstate NY to identify characteristics that were useful to promote community development and health promotion. The study found that people participated in community gardens for the access to fresh food, health benefits, and time outdoors. Gardens in low-income neighborhoods also included impacts such as citizenship, activism and social mobilization. The survey indicated that the majority of these gardens were for home consumption, although there were some gardens that allowed produce to be sold by individual gardeners.

3. **Balmer, K., Gill, J. K., H., Miller, J., Peterson, M., Rhoads, A., Rosenbloom, P., & Wall, T. (2005). The Diggable City: Making Urban Agriculture a Planning Priority. Portland, OR: Portland State University Retrieved from <http://www.diggablecity.org/news.html>. 89**

This report was prepared for the city of Portland, OR by students and staff at Portland State University. The report is a public land inventory that looks for potential agriculture sites within Portland to use for future use and to accommodate the growing demand for community gardens. Recommendations discussed include designing further management plans, forming an UA commission of citizens and city representatives, and addressing some of the current policies and zoning codes that pose obstacles. The inventory provides snapshots of urban agriculture projects from other cities and highlights many evidence based social, economic, and health impacts.

4. **Beckie, M., & Bogdan, E. (2010). Planting Roots: Urban Agriculture for Senior Immigrants. Journal of Agriculture, Food Systems, and Community Development, 1(2).**

This research, out of Canada, involved qualitative case study approaches to analyze the impacts

of a commercial urban agriculture project (called SPIN-Farming) for senior immigrants. The study found that although limited income was generated, senior immigrants found the program contributed to their integration into Canadian society and created more local food access for the surrounding neighborhoods.

5. **Bellows, A. C., Brown, K., & Smit, J. (2005). Health benefits of urban agriculture A paper from the members of the Community Food Security Coalition's North American Initiative on Urban Agriculture. Venice, CA: Community Food Security Coalition. <http://foodsecurity.org/pubs.html>**

This article is essentially a literature/ resource review of research and potential benefits of urban agriculture. The authors cite empirical evidence from various websites and reports that urban agriculture has impacts on community health through nutrition and food security as well as promoting lifelong active lifestyles and personal wellness.

6. **Blair, D., C. Giesecke, and S. Sherman. (1991). A dietary, social and economic evaluation of the Philadelphia Urban Gardening Project, *Journal of Nutrition Education*, 23:161-167**

Widely cited, and what appears to be some of the pioneering research for urban garden impacts, this study interviewed 144 gardeners from Philadelphia as well as a control group that did not garden. The study also looked at garden sites and evaluated the economic value of the produce grown (around \$160 a site). The study found that gardeners ate more vegetables than non-gardeners, and that gardening fostered community involvement and overall life satisfaction.

7. **Bonacich, E., & Alimahomed-Wilson, J. (2011). Confronting Racism, Capitalism, and Ecological Degradation: Urban Farming and the Struggle for Social Justice in Black Los Angeles. *Souls: A Critical Journal of Black Politics, Culture, and Society*, 13(2), 213 - 226.**

This article lays out plans for a Black Worker led urban farming project that aims to combat the ecological and job crisis that disproportionately affects African Americans in LA. This article claims that urban farming promotes "community economic self-determination based on anti-capitalist values".

8. **Bradley, K. & Galt, R. (2013). Practicing food justice at Dig Deep Farms & Produce, East Bay Area, California: self-determination as a guiding value and intersections with foodie logics, *Local Environment: The International Journal of Justice and Sustainability*, 1-15.**

This case study looks at Dig Deep Farms and Produce, an urban agriculture project in the East Bay Area of California. The research primarily discusses practices within the organization that increase self-determination and work to create more social equity in the alternative food movement. Impacts observed within this study include crime reduction, employment

opportunities, and self-determination. The article turns a critical lens on the Bay Area's trendy foodie culture, and discusses the it's role in the economic viability of the organization.

9. **Bregendahl, C., & Flora, C. B. (2006). The role of collaborative community supported agriculture: lessons from Iowa. Ames, IA: Iowa State University Retrieved from <http://www.soc.iastate.edu/extension/ncrcrd/CSAReport-2006-LessonsFromIowa.pdf>**

— This report was a research project that looked at the contribution of Community Supported Agriculture serving “urban or peri-urban college towns and surrounding areas” to community and economic development in Iowa. It used a community capitals framework to design survey and analyze results. Major benefits included business incubation and community building.

10. **Broadway, M. (2009). Growing Urban Agriculture in North American Cities: The Example of Milwaukee. Focus on Geography, 52(3-4), 23-30.**

This article looks at urban agriculture in Milwaukee as an example of the growing trend throughout the US. It highlights several of Milwaukee's urban agriculture projects such as Growing Power and Milwaukee Urban Gardens. It also discusses the movement at large by looking at national challenges and beneficial impacts. It is primarily a summary piece that briefly mentions the impacts found in other studies.

11. **Broadway, M. J., & Broadway, J. M. (2011). Green Dreams: Promoting Urban Agriculture and the Availability of Locally Produced Food in the Vancouver Metropolitan Area. Focus on Geography, 54(1), 33-41.**

A study on the availability of locally produced food in Vancouver, this paper found no evidence that urban agriculture was impacting food choices. However this was determined by looking at food selection in grocery stores, assuming that it represented consumer behavior. The article did find that specialty stores and exports provided enough demand for peri-urban farms to maintain a market for their food and that potential exists to link local farms to consumer opportunities.

12. **Brown, C., & Miller, S. (2008). The Impacts of Local Markets: A Review of Research on Farmers Markets and Community Supported Agriculture (CSA). American Journal of Agricultural Economics, 90(5), 1296-1302**

This literature review looks at impacts of local food markets, specifically farmers markets and CSAs. It reviews impacts on communities, farmer impacts, and consumers. Mostly using case study literature, the article found that much of the research supports the idea that farmers markets are a major business incubator for farmers and that these markets have become important community institutions. CSA's particularly play an important role in increasing food and environmental literacy. Most of the CSA and farmers markets in these case studies served urban centers.

13. **Brown, K. H., & Jameton, A. L. (2000). Public health implications of urban agriculture. *Journal of Public Health Policy*, 21(1), 20-39.**

This paper describes trends and legislative action and funding sources for urban agriculture. It then presents evidence that makes a case for stronger policy support for urban gardening. It primarily considers health impacts that include better food access, increased exercise, and improved community and mental health. It also sites some of the economic and environmental benefits.

14. **Campbell, M. C., & Salus, D. A. (2003). Community and conservation land trusts as unlikely partners? The case of Troy Gardens, Madison, Wisconsin. *Land Use Policy*, 20(2), 169-180.**

A case study, the collaboration of two land trusts that created an urban agriculture project in Madison, WI is evaluated to determine if it is a good model for future projects. Using the land trusts to secure space for community identified needs and assets helps create more community driven decision processes, democratic relationship with space, and preserves space to be used for growing food.

15. **Cohen, Reynolds, Sanghvi. (2012). Five Borough Farm: Seeding the Future of Urban Agriculture in New York City. Design Trust for Public Space**

This report is a project between the Design Trust for Open Space and Added Value, a non-profit that operates a 3-acre farm in Brooklyn. The report maps and visually documents current urban agriculture activity in New York City. It creates a shared framework and resource bank in order to track and document citywide activities (documented to be over 700 farms and gardens that grow food) and to measure their social, health, economic, and ecological benefits. The plan also develops policy recommendations.

16. **Colasanti, K., Litjens, C., & Hamm, M. (2010). Growing Food in the City: The Production Potential of Detroit's Vacant Land. East Lansing, MI: The C.S. Mott Group for Sustainable Food Systems at Michigan State University Retrieved from <http://www.mottgroup.msu.edu/uploads/files/59/Growing%20Food%20in%20the%20City%20-%20Colasanti%20Litjens%20Hamm.pdf>.**

This is a research project that sets out to identify publicly owned vacant parcels in Detroit, and to match this space to average consumption data for fresh fruits and vegetables in order to determine the local growing capacity of the city. The project also included a set of interviews to evaluate resident's attitudes and opinions about the urban agriculture potential. Results concluded that Detroit has enough land to supply a substantial amount of its fruit and vegetable consumption. It also suggests that although different groups have different purposes for wanting urban agriculture, most potential conflict is minor and can be mitigated through good community based processes.

17. **Committee, N. A. U. A. (2003). Urban agriculture and community food security in the United States: Farming from the city center to the urban fringe. Venice, CA: Community Food Security Coalition Retrieved from <http://www.foodsecurity.org/PrimerCFSCUAC.pdf>.**

A report by the Urban Agriculture Committee of the Community Food Security Coalition to raise awareness of ways that urban agriculture can respond to food security, this document discusses rising trends of food insecurity and growing urban agriculture. It also discusses the main barriers and challenges with a short list of recommendations, one of which includes more involvement from extension. It is to serve as a tool for nonprofits to expand their work with local, state, and federal governments.

18. **Conner, D. S., Knudson, W. A., Hamm, M. W., & Peterson, C. (2008). The Food System as an Economic Driver: Strategies and Applications for Michigan. Journal of Hunger and Environmental Nutrition, 3(4), 371-383.**

This paper is a study out of Michigan State that attempts to develop an analytical framework for looking at Michigan's potential for growing its own consumption needs. Many assumptions and "what if" scenarios are presented to look at the impacts of inputs and outputs. Results conclude that there could be an increase of 1,780 jobs and \$211 million in income within the state. Although the study does not exclusively focus on urban agriculture, it implies that urban and peri-urban farming, as well as urban markets, drive the potential for a local food economy.

19. **Cooley, J. P., & Lass, D. A. (1998). Consumer Benefits from Community Supported Agriculture Membership. Review of Agricultural Economics, 20(1), 227-237.**

This article compares retail value of produce in various grocery stores to three different CSA's from Amherst, MA. In all three CSA's the shareholder benefitted from savings, sometimes up to 150% of share prices.

20. **Corrigan M. (2011) Growing what you eat: Developing community gardens in Baltimore, Maryland Applied Geography 31 Pages 1232-1241**

This article looks at qualitative data from interviews with community gardeners and a food security non-profit, as well as field observations from food stores and community gardens in Baltimore, to determine how community gardens effectively contribute to food security. The study found that it does contribute to individual and community food security, but needs more support in order to influence healthy living.

21. **DeLind, L. B. (2002). Place, work, and civic agriculture: Common fields for cultivation. Agriculture and Human Values, 19(3), 217-224.**

This is a theoretical paper that explores the concept of "civic agriculture" and discusses how it can be used as a tool to promote citizenship and stewardship. Most suggested impacts are anecdotal or theoretical in nature.

22. **Doron, G. (2005). Urban Agriculture: Small, Medium, Large. Architectural Design, 75(3), 52-59.**

A report that considers designing techniques and strategies to assist in the growth of urban agriculture capacity. The report lists a few environmental impacts and briefly mentions other impacts such as creating green-space and helping create food access for people suffering from economic hardship.

23. **Feenstra, G. (2007). The roles of farmers' markets in fueling local economies. Gastronomic Sciences, 1(7), 56-67.**

This literature review looks at market reports and various sets of research, much of it by the author, to discuss the impacts farmers markets have for local economies. The article lists impacts such as catalyzing farmland conservation efforts, serving as an incubator for business, improving food access, and expanding farmer's direct marketing options.

24. **Feenstra, G. W., & Lewis, C. C. (1999). Farmers' Markets Offer New Business Opportunities for Farmers. California Agriculture, 53(6), 25-29**

A study on California farmers markets across different sized host communities, including rural, small-town, and metropolitan. The survey looked at the age of the markets, operational characteristics of each market, market size and estimated gross sales. The results indicate that farmers markets "are contributing entrepreneurial opportunities for growers." Specific to urban agriculture, most of the farmers markets were in metro areas, and these particular markets provided growers with highest gross sales when compared to rural, small-town markets.

25. **Feenstra, G., McGrew, S., and Campbell, D. (1999). Entrepreneurial Community Gardens: Growing Food, Skills, Jobs, and Communities. University of California, Sustainable Agriculture and Research Program. Agricultural and Natural Resources Publication 21587.**

Using the term "entrepreneurial community gardens" to describe community based gardens that sell products or employ and train community members, this report looks at 27 case studies. Each project is described in detail by its programmatic structure, challenges, and economic numbers. The report also analyzes all of the data to provide an overview of economic implications, including employment distribution, sales, and self-sufficiency indices. It is widely cited in much of the literature and is one of the few economic reports on a major missing piece in urban agriculture literature, production based farms and gardens that also serve urban, social needs (such as youth development, job training, etc.)

26. **Ferris, J., Norman, C., and Sempik, J. (2001). People, land and sustainability: community gardens and the social dimension of sustainable development. Social Policy & Administration, 35 (5), 559-568.**

This paper discusses definitions and types of community gardens found within the Philadelphia and San Francisco area, and their functions. The article identifies entrepreneurial gardens as a specific type (as well as therapy gardens, school gardens, pocket parks, etc.) They apply these projects to the implementation of the UN Local Agenda 21 and sustainable development policies. The article concludes that gardens and the spaces for these urban agriculture projects are associated with environmental justice and equity.

27. **Fisher, A. (1999). Hot Pepper and Parking Lot Peaches. Community Food Security Coalition. Retrieved at <http://www.eatbettermovemore.org/SA/enact/neighborhood/documents/community.farmersmarkets.tools.hotpepperspeaches.pdf>**

This report for the Community Food Security Coalition is a compilation of case studies of eight farmers markets serving low-income communities. The report does a literature review on consumer preferences and the conditions that influence these preferences. It then outlines case studies that suggest strategies and guidelines for successful markets in low-income areas. Finally, it gives policy recommendations. The report seems to indicate that farmers markets do create food access, although improvements can be made.

28. **Gale, F. (1997). Direct Farm Marketing as a Rural Development Tool. Rural Development Perspectives, 12(2), 19–25.**

A study that discusses the economic impact of direct marketing for farmers, data indicates that only a small minority of farms are able to generate significant income through direct sales. Those that do are able to do so with the support of near-by urban markets, where the bulk of direct sales occur.

29. **Glover, T., Shinew, K., & Parry, C. (2005). Association, sociability, and civic culture: The democratic effect of community gardening. Leisure Sciences, 27 (1), 75–92.**

This study compares democratic values of community garden participants and leaders to attempt to understand the democratic effects of participating in community gardening. It looks at how community garden participation can validate Putnam's concept that participation in leisure clubs or groups produces more engaged and active citizens. The study found that the gardens appeared to be a medium for democratic values to be practiced and produced, although this relationship appeared weak.

30. **Goldstein, M., Bellis J., Morse, S., Myers, A. & Ura, E. (2011). Urban Agriculture: A Sixteen City Survey of Urban Agriculture Practices Across the Country. Report by Turner Law Clinic, Emory University.**

This is a report that reviews zoning ordinances of 16 cities within the US that have had long standing success in establishing active urban agriculture or had recently changed land use laws and codes to accommodate the growing trend. Each city was compared using the Sustain-Lane sustainability index. The regional, political, and historical context was considered, as well as the current status of urban agriculture zoning ordinances. Also, each city's urban agriculture practices are highlighted. Cities include, Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Detroit, Milwaukee, Minneapolis, Nashville, New York City, Philadelphia, Portland, San Francisco, Seattle, and Washington DC. There are a few examples observed impacts in some of the projects studied.

31. **Hanna, A & Pikai, O. (2000). "Rethinking urban poverty: a look at community gardens." *Bulletin of Science, Technology & Society*. 20(3):207-216.**

This study on urban gardens in Philadelphia looked at how gardens can help alleviate poverty. The study interviewed gardeners to learn more about their motivations and background. The study found that mostly older folks (over 50 years old) participated and had a history of growing up gardening or farming. The article provides data that Philadelphia's community gardens produce food valued around \$2 million and served around 2,800 families

32. **Hendrickson and Porth. 2012. Urban Agriculture- Best Practices and Possibilities. University of Missouri Extension <https://web.uvic.ca/~repa/publications/REPA%20working%20papers/WorkingPaper200906.pdf>.**

An overview of urban agriculture and local food system resources and practices in the US, this report focuses on emerging concerns and needs that could possibly be addressed through Extension services. The report included a large interview sample and served the specific objective of collecting a list of best practices and policies to promote urban agriculture.

33. **Hodgson, K. (2012). COMMUNITY-BASED FOOD SYSTEMS : A National Scan and Evaluation of Local Comprehensive and Sustainability Plans. American Planning Association. 1-75**

A research study by the American Planning Association, this report features results from a national web-based survey conducted to identify "adopted comprehensive and sustainability plans that address food access and other aspects of the food system (p. 7)." Through these interviews the author posits that including food system goals into major planning documents ultimately created more opportunities for food access through community gardens, grocery stores, and farmers markets. The report evaluates thirteen comprehensive plans and uses this evaluation to identify best practices and lessons learned. The report also provides a list of recommendations that include developing a food policy council, partnering with government stakeholders and foundations to leverage support, and creating an intergovernmental designated food systems staff position.

34. **Holland, L. (2004). Diversity and connections in community gardens: A contribution to local sustainability. *Local Environment*, 9 (3), 285–305.**

This study out of the UK looked at the functions and types (or in the article “schemes”) to decide how and why these projects are developed. The survey results found that most of the garden projects (which varied from children’s gardens to urban farms) were formed or created out of a local need and the most successful were created with a bottom-up approach. The study suggests that gardens function as more than contributors to food access, they have heavy community development implications and serve as agents of change.

35. **Hynes, H. (1996). *A Patch of Eden: America’s Inner-City Gardeners*. Chelsea Green Publishing Company BOOK**

This book features in-depth looks at garden projects in Harlem, San Francisco, Philadelphia, and Chicago to determine how these gardens impact their neighborhoods. Stories highlight how gardens create safe, aesthetic spaces that build community and friendships, how they buffer sounds and clean the air, and how they help people develop a sense of place. The book also highlights how these gardens are primarily maintained and managed by women.

36. **Iles, J. (2005). The social role of community farms and gardens in the city. In: A. Viljoen, K. Bohn and J. Howe, eds. *Continuous productive urban landscapes: designing urban agriculture for sustainable cities*. Oxford, UK: Architectural Press, 82–88. BOOK**

This book looks at how to foster continuous productive urban landscapes (or CPUL). It is a designing perspective for urban agriculture as an important tool for sustainable cities. In this particular chapter, various aspects of UA are described, such as land use policy, the role of farmers markets, community gardens, the history, and more. It cites impacts associated with urban regeneration, tackling crime, social justice, supporting local economies, various health benefits, and sustainable communities.

37. **Jarosz, L. (2008). The City in the Country: Growing Alternative Food Networks in Metropolitan Areas. *Journal of Rural Studies*, 24(3), 231-244.**

This study looks at the Alternative Food Networks in Skagit and King Counties in Washington State. It suggests that growing urbanization and local food discourse is creating more markets for peri-urban farmers. The clients for this food are often of higher education and economic status, and many farmers are driven by the economic benefits of appealing to these clients, while subjecting themselves to self-exploitation to meet demands.

38. **Kaufman, J., & Bailkey, M. (2000). Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States. Cambridge, MA: Lincoln Institute of Land Policy Retrieved from http://www.lincolninst.edu/pubs/95_Farming-Inside-Cities.-**

This report looks at for-market city farming. It analyzes characteristics, obstacles, and suggestions for advancing the cause. The research was informed by interviews and surveys from 120 people involved with urban agriculture, and three case studies in Boston, Chicago, and Philadelphia. This study is frequently cited in most papers discussing the impacts of urban agriculture. It is the largest inventory of entrepreneurial urban agriculture programs and lists various statistics and impacts for individual programs.

39. **Kerton, S., & Sinclair, J. (2010). Buying local organic food: a pathway to transformative learning. *Agriculture and Human Values*, 27(4), 401-413.**

This research piece discusses the learning that occurs from eating organic, local food. Using transformative learning theory, this article looks at a market-garden operation, an education and outreach center, and a CSA project. The report found that all participants experienced some form of learning. This learning included cultivation skills, food preservation, cooking skills, diet and nutrition, food economics, and more.

40. **Kobayashi, M, Tyson, L, Abi-Nader, J. (2010) The Activities and Impacts of Community Food Projects. Report for the USDA/NIFA, National Research Center Inc., and the Community Food Security Coalition.**

This report on a grants program for community food projects, funded by the USDA, assesses the impacts of programs that have received awards. The projects ranged from community gardens, school gardening, local food awareness programs, food justice programs, food policy councils, farmers markets, and more. The evaluation found that major impacts included increased job training, job creation, and demand for local produce. It also found that community food projects helped preserve land for farming.

41. **Krasny M, Doyle R. (2002). Participatory approaches to program development and engaging youth in research: the case of an intergenerational urban community gardening program. *J Ext [serial online]*. 40(5). Available at: <http://www.joe.org>. Accessed February 7, 2005.**

This article looks at participatory models in an inter-generational program for youth. It documents ethnic gardening practices and used qualitative interviews to look at what motivated participants and how they benefited from the program. The report concludes that this particular project resulted in inter-generational learning as well as opened doors for Extension to share information and build partnerships.

42. **Kremer, P., & DeLiberty, T. L. (2011). Local food practices and growing potential: Mapping the case of Philadelphia. *Applied Geography*, 31(4), 1252-1261**

This research used GIS tools and qualitative interviews to assess Philadelphia's local foodshed. It considered community gardens, peri-urban and more rural farms that serve the greater Philadelphia area, and backyard personal gardening potential. Some of the major findings suggest that community gardens serve lower income population in Philadelphia, where as farmers markets and CSAs tend to cater to middle and upper-class (based on spatial analysis). The study also looks at food miles, but does not compare it to a conventional food production system.

43. **Landis, B., Smith, T. E., Lairson, M., McKay, K., Nelson, H., & O'Brian, J. (2010). Community-Supported Agriculture in the Research Triangle Region of North Carolina: Demographics and Effects of Membership on Household Food Supply and Diet. *Journal of Hunger and Environmental Nutrition*, 5(1), 70-84.**

This journal article interviewed over 200 CSA members to find out about demographics, motivations, and consumption habits. The article concludes that most CSA members are middle-upper class Caucasians and that fruit and vegetable consumption was substantially higher after interviewees subscribed to CSAs. It discusses what barriers exist for low-income membership.

44. **Larsen, K., & Gilliland, J. (2009). A farmers' market in a food desert: Evaluating impacts on the price and availability of healthy food. *Health & Place*, 15(4), 1158-1162.**

This study looked at food access before and after the opening of a farmers market in an underserved urban neighborhood. Their findings confirmed that not only did the farmers market improve access to healthy foods, it also had a major impact on grocery store prices which decreased by almost 12% in 3 years.

45. **Lawson, L. (2005). *City Bountiful: A Century of Community Gardening in America*. University of California Press BOOK**

This book takes a historical look at community and urban garden projects and their impacts. It discusses the historical and current civic impacts through case studies and stories.

46. **Levkoe, C. Z. (2006). Learning democracy through food justice movements. *Agriculture and Human Values*, 23(1), 89-98.**

An ethnographic case study on an urban agriculture project called the Stop Community Food Centre, the author finds that the Toronto-based program helped develop strong civic engagement and critical perspectives. The observational study concludes that urban agriculture sites rooted in food justice can be important places for transformative learning which increases citizenship and encourages participants to get involved in the democratic process and contribute to strong local communities.

47. **Liu, J. (2008). Gateway Greening Report. [cited 2013 Aug 2]. pp. 1–11. Available from: http://actrees.org/files/Research/gateway_greening_whitmire.pdf**

This study looked at gardens ran by the Gateway Greening program in Saint Louis, MO and the effect they have on surrounding neighborhoods. The study used GIS and census data to suggest that garden projects raised property values and correlated with higher incomes.

48. **Lovell, S. T. (2010). Multifunctional Urban Agriculture for Sustainable Land Use Planning in the United States. *Sustainability*, 2(8), 2499-2522.**

This is a literature review on land-use planning specific to urban agriculture. It includes cited benefits of urban agriculture, mostly from research from Europe and in other countries. This particular article cites a vast amount of literature relative to the topic, and expresses many positive impacts.

49. **Macias, T. (2008). Working Toward a Just, Equitable, and Local Food System: The Social Impact of Community-Based Agriculture. *Social science quarterly* 89(5): 1086-1011.**

This article compares three urban agriculture programs ran out of Burlington's Intervale and evaluates how each address food equity, social integration, and natural human capital. The researcher concludes that community gardens address more food equity issues due to the low cost of renting plots, but require time demands. The upfront cost of CSA's make it somewhat inaccessible to consumers, and although farmers markets are more accessible, they are not necessarily affordable for low-income individuals.

50. **MacNair, Emily (2002). Seeds of Success: Growing Healthy Communities Through Community Gardening. Victoria, BC: POLIS**

This particular report looks at management of various community gardens in Canada and the US, focusing on land tenure. As access to land is often the largest barriers and threat to community gardens and urban farms, land tenure is a good indicator of policy and political support. The report highlights several cases and finds that a common characteristic in successful community garden initiatives is strong partnerships and that even small amounts of government support can help gardens proliferate. It is important to note that this particular report refers to all types of urban agriculture projects as "community gardens".

51. **Magnus K, A Matroos, and J Strackee. (1979). "Walking, cycling, or gardening, with or without seasonal interruption, in relation to acute coronary events." *American Journal of Epidemiology*, 110(6):724-733. Dec**

This article is the one consistently cited when discussing physical activity as an impact of urban agriculture. The study looked at people who sustained light physical exercise and the relation to acute coronary events. This study found that people who participate in uninterrupted gardening had less acute coronary events. Although it doesn't necessarily reflect an impact of urban agriculture, it supports the general understanding that gardening is a physical activity that promotes health.

52. **McClintock, N. (2013). Radical, reformist, and garden-variety neoliberal: coming to terms with urban agriculture's contradictions. *Local Environment: The International Journal of Justice and Sustainability*, 1-25.**

This theoretical article discusses the nature of urban agriculture as a countermovement that functions inside a neoliberal market. The article cites the research of others to list negative impacts such as gentrification, as well as positive impacts such as increased food access, self-determination, and strengthening communities.

53. **McCormack, L. A., Laska, M. N., Larson, N. I., & Story, M. (2010). Review of the Nutritional Implications of Farmers' Markets and Community Gardens: A Call for Evaluation and Research Efforts. *Journal of the American Dietetic Association*, 110(3), 399-408**

This article looks at research that directly correlates farmers markets and community gardens with more vegetable and fruit consumption. It is a literature review that established criteria about what was considered evidence, and then compiled and inventoried the data to draw conclusions. It is frequently cited in other work claiming that urban agriculture has positive health impacts.

54. **Mendes, W., K. Balmer, et al. (2008). "Using Land Inventories to Plan for Urban Agriculture Experiences From Portland and Vancouver." *Journal of American Planning Association* 74(4): 435-449.**

This article looks at how land inventories in Portland and Vancouver were beneficial in integrating urban agriculture into planning and policymaking and addressing ecological and social dimensions of the sustainability movement. The article lists several impacts of urban agriculture to make the case that it indeed aligns well in the mission for sustainable communities. The article concludes that both programs helped integrate urban agriculture, but Portland's inventory had a larger scope with more detail and was used more by the city.

55. **Metcalf, S., & Widener, M. J. (2011). Growing Buffalo's capacity for local food: A systems framework for sustainable agriculture. *Applied Geography*, 31(4), 1242-1251.**

This paper looks at the potential of using vacant lots within Buffalo, NY and other Rust Belt

cities to address food insecurity and access in a sustainable way. Some current projects have yielded increased employment opportunities for up to 50 local youth as well as created a forum to discuss and address often hidden social issues of privilege and access.

56. Moreau & Hodgson (2012). Delta Community-Based Food District: Planning Southlands as a Regionally Significant Model for Metro Vancouver

This plan is a framework for how a specific area in British Columbia could run a community-based farming enterprise. It defines community-based farming as “the production, processing, distribution, and marketing of food and other products that cultivate direct connections between farmers and the adjacent community (p.6).” The plan stresses the economic impacts and benefits of community-based farming scenarios and estimates significant economic gains. All impacts are projected or predicted.

57. Murphy C. (1999). Cultivating Havana Urban Agriculture and Food Security in the Years of Crisis. Oakland ,CA: Institute for Food and Development Policy. Food First

This report by Food First looks at the process in which Havanna, Cuba addressed its food security crisis through urban agriculture. It discusses the history of agriculture in Cuba, looks at some of the strategies, and quantifies some of the production results. It claims that urban agriculture in Havanna created food security, created jobs, and is still very popular, even as the food crisis has abated.

58. Nugent, R., (2003). ‘Economic impacts’, in: SIDA (ed.), Annotated Bibliography on Urban and Peri-Urban Agriculture, 130–169.

This paper, which was included in a project called the Annotated Bibliography on Urban Agriculture, looks at economic impacts of urban and peri-urban agriculture on a global scale. It is a literature review solely on economic impacts. It claims that most impacts listed are produced by casual observation or limited survey methods. A few use statistical data or primary data sources. In general, it suggests that urban and peri-urban agriculture was used for recreational and health reasons more than food security issues. It also notes that considering the global scale, there are many different contexts, definitions, and scales in which urban and peri-urban agriculture is done, so it is difficult to make broad statements.

59. Ober Allen J., Alaimo K., Elam D. & Perry E. (2008). Growing Vegetables and Values: Benefits of Neighborhood Based Community Gardens for Youth Development and Nutrition, Journal of Hunger & Environmental Nutrition, 3:4, 418-43

This was a qualitative case study conducted in two community-based garden programs in Flint, MI with youth components. Participant observation and interviews with adult gardeners, neighbors, youth, and community police officers offered evidence that gardens were positive

for directing youth towards constructive activity, developing relationship and inter-personal skills, and improving nutrition.

60. **Park, Y., Quinn, J., Florezc, K., Jacobson, J., Neckermant, K., & Rundl, A. (2011). Hispanic immigrant women's perspective on healthy foods and the New York City retail food environment: A mixed-method study. *Social Science & Medicine*, 73(1), 13-21.**

This mixed-method study looks at Hispanic female immigrants' perspective on healthy foods. The study concluded that greater fruit and vegetable consumption occurred in neighborhoods that had farmers markets and live meat markets. Respondents unanimously expressed distrust of grocery stores and preferred the fresh markets and valued local sourcing

61. **Patel, I. C. (1991). Gardening's socioeconomic impacts. *Journal of Extension*, 29. Retrieved from. <http://www.joe.org/joe/1991winter/a1.html> on October 22, 2008.**

Rutgers Cooperative Extension in New Jersey conducted interviews with 178 gardeners in Newark to determine some of the socioeconomic impacts of urban gardening. Some of the life quality benefits included access to fresh food, improved diet, and personal satisfaction. Many interviewees claimed to have saved money on groceries (estimated at \$475 per garden). Other benefits discussed were socializing, helping others, sharing produce, and improvement in the neighborhood.

62. **Pearson L., Pearson L. & Pearson C. (2010): Sustainable urban agriculture: stocktake and opportunities, *International Journal of Agricultural Sustainability*, 8:1-2, 7-19**

This literature review states that knowledge gaps in UA occur in social, economic, and environmental impacts. Considers international UA projects, including many in developing countries. The paper ranks the knowledge gap of each impact in terms of UA, the UA interface with people and environment, and UA's contribution to built form. It also explicitly suggests some priorities for UA.

63. **PolicyLink's (2012). Growing Urban Agriculture: Equitable Strategies and Policies for improving access to healthy food and revitalizing communities.**

This report put out by Policy Link, a national research and action institute is a "product of over 40 interviews with urban farmers, advocates, and policymakers who serve low-income communities and communities of color (p.13)." The article explains the benefits of agriculture as improving access to healthy food, improving economic health, and revitalizing communities. The report expresses some of the main challenges faced by urban farms and provides recommendations based on best practices found within this study.

64. **Reynolds, K. (2011). Expanding Technical Assistance for Urban Agriculture: Best Practices for Extension Services in California and Beyond. Journal of Agriculture, Food Systems, and Community Development. Advance online publication.**

This is an article discusses urban agriculture characteristics in Alameda County, California and looks at Cooperative Extension's role in providing assistance to these programs. The study interviewed urban farmers and Cooperative Extension's staff and identified four types of urban agriculture being practiced, community gardens, community food security food justice/youth development, sustainable living and self-provisioning, and commercial farming. Each of these areas had unique sets of challenges and needs. The article also briefly mentions some of the impacts and environmental disadvantages to urban agriculture.

65. **Saldivar-Tanaka, L. and Krasny M. (2004). Culturing Community Development, Neighborhood Open Space, and Civic Agriculture: The Case of Latino Community Gardens in New York City. Agriculture and Human Values 21: 399–412.**

This research, which is frequently cited in regard to social impacts of urban agriculture, conducted interviews with community gardeners and supporting agencies to determine the role of gardens in community development, open space, and civic agriculture within Latino neighborhoods in New York City. The study concluded that community gardens are sites for production of conventional and ethnic vegetables and herbs, a place for social events and activities, and a place to promote community activism. Results suggested that gardens are more of a social and cultural gathering place than a place for production.

66. **Schmelzkopf, Karen. (1995). "Urban Community Gardens as Contested Space," Geographical Review 85 (3):364- 381.**

This case study looks at community gardens in a specific neighborhood in New York City and the competition between land and housing. The study found that the gardens served a critical purpose for the community, such as food security and creating healthy and safe, social environment.

67. **Schukoske, J.E. (2000). Community Development Through Gardening: State and Local Policies Transforming Urban Open Space. Legislation and Public Policy 3, 351-392.**

This theoretical piece discusses how vacant lots in cities are a form of blight and how transforming them into community gardens is a way to empower communities, provide strong social capital, and are a worthwhile investment. The article looks at state and local laws that govern community gardens and the roles of intermediary organizations such as land trusts.

68. **Sharp J, Imerman E, Peters G. (2007). Community supported agriculture (CSA): building community among farmers and non-farmers. Journal of Extension. 40:1–7.**

This case study of a Midwestern CSA looks at why people participated in CSA and evaluated the community building that occurred in the first year of establishing the business. It found that most subscribers to the CSA wanted to support local food systems and get quality produce. The producers expressed commitment to building community and environment. The study also found that there was increased interaction between the rural farmers and urban buyers. The article concludes that CSAs have potential to mitigate possible rural-urban interfaces while creating new markets for rural farmers.

69. **Smit, Jac, Ratta A. and Nasr J. (1996). Urban Agriculture: Food, Jobs and Sustainable Cities. United National Development Programme. Retrieved at: <http://www.cityfarmer.org/smitbook90.html>**

This book, which is the most frequently cited in much of the literature on urban agriculture, looks at farming within cities in Africa, Latin America, and Asia. The book is a comprehensive look at urban farming, using case studies from over twenty countries. It assesses who the farmers are, what they are growing, the economic and food security benefits, and the urban management of risks. The book determines that urban agriculture is increasing food security, providing jobs and local economy, and a critical step for developing sustainable cities.

70. **SPUR. (2012). Public Harvest: Expanding the Use of Public Land for Urban Agriculture in San Francisco**

This report lists recommendations for policies and city action to increase public space used for community gardening and urban agriculture in San Francisco. It lays out the major barriers and challenges (such as access to land and utilities and high demand for garden plots) as well as identifies specific actions to overcome these. The report mainly lists community growth and education about food systems as the largest captured benefit from urban agriculture. It explicitly says that economic impacts are modest and it is not realistic to try to grow the majority of the city's food through this land.

71. **Suarez-Balcazar, Y., Martinez, L. I., Cox, J., & Jayraj, A. (2006). African Americans' views on access to healthy foods: what a farmers' market provides. Journal of Extension, 44(2). <http://www.joe.org/joe/2006april/a2.php>**

This research, which involved surveys, measures the benefits, costs, and satisfaction that farmers and consumers experienced through participating in an urban farmers market in a low socio-economic neighborhood in Chicago. The research found that the markets were welcomed and well-used, predominately by older black females. Many surveyed said that the market was essential to access fresh produce in their neighborhoods. The farmers, most from a rural, black

farming community, saw the market as beneficial as well. The article gives several recommendations for extension in how to foster fresh and local food access for low-income minority communities.

- 72. Sumner, J., Mair, H., & Nelson, E. (2010). Putting the culture back into agriculture: civic engagement, community and the celebration of local food. *International Journal of Agricultural Sustainability*, 8(1-2), 54-61.**

This is a case study of a peri-urban, Canadian CSA farm that serves Ontario. Researchers did in-depth interviews with CSA participants and farmers and found three main reasons why people participated in the program. The three themes were civic engagement, community, and the celebration of local food. The author maintains that this study validates that urban agriculture goes beyond food access and business, but plays an important cultural role.

- 73. Teig, E., Amulya, J., Bardwell, L., Buchenau, M. Marshall, J.A., & Litt, J.S. (2009). Collective efficacy in Denver, Colorado: Strengthening neighborhoods and health through community gardens. *Health & Place*, 15, 1115-1122.**

This research analyzes data from interviews with community gardeners in Denver. It examines how social processes within gardens are described and links them to promoting health. Impacts found within the study were community building, activism, civic engagement, and more. It suggests that these processes help support access to resources that protect against poor health.

- 74. Travaline, K., & Hunold, C. (2010). Urban agriculture and ecological citizenship in Philadelphia. *Local Environment: The International Journal of Justice and Sustainability*, 15(6), 581-190.**

This research used participant observation and in-depth interviews with leaders and participants of urban agriculture projects in Philadelphia to discuss the concept of ecological citizenship. The study found that urban agriculture projects increased ecological literacy and informed decisions and actions that made participants into food citizens as opposed to just food consumers. The study concluded that if UA projects are thoughtful in design, they are effective tools for environmental education and participant engagement.

- 75. Twiss, J., Dickinson, J., Duma S., Kleinman, T., Paulsen H., and Riveria, L. (2003). "Community Gardens: Lessons Learned from California Healthy Cities and Communities," *American Journal of Public Health* 93(9): 1435-1439.**

This field action report looked at improvements and efforts of programs, which includes school gardens, community gardens, as well as small farms, that received funding from California Healthy Cities. These impacts included higher fruit and vegetable consumption, more access to land for growing food, increased physical activity, and increased educational opportunities.

76. **Viljoen, A., Bohn, K., & Howe, J. (2005). Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities. Architectural Press. BOOK.**

This book looks at how to foster continuous productive urban landscapes (or CPUL). It is a designing perspective for urban agriculture as an important tool for sustainable cities. It discusses various aspects of UA, such as land use policy, the role of farmers markets, community gardens, the history, and more. It cites impacts associated with urban regeneration, tackling crime, social justice, supporting local economies, various health benefits, and sustainable communities.

77. **Voicu, I., & Been, V. (2008). The effect of community gardens on neighboring property values. Real Estate Economics, 36(2), 241-283.**

This research attempts to estimate the impact of community gardens on neighborhood property values using secondary data from NYC and a hedonic regression model with a difference-in-difference specification. The results conclude that there are significant positive effects, particularly in poor neighborhoods. In some cases a garden raises property values as much as 9.4% within five years of the garden's opening. The article also looks at how much gardens can lead to in tax revenue increases, finding that gardens can lead to .5 million dollars per garden over a 20 year period. Higher quality gardens (size, aesthetic, and function) reflect higher housing values. According to the list of gardens used, some (but not all) were entrepreneurial community garden projects.

78. **White, M. (2010). Shouldering Responsibility for the Delivery of Human Rights: A Case Study of the D-Town Farmers of Detroit. Race/Ethnicity: Multidisciplinary Global Contexts, Vol. 3, No. 2, Special Issue: Human Rights, Social Justice, and the Impact of Race (Spring 2010), pp. 189-211.**

This case study on D-town farms in Detroit examines how urban agriculture has created new discourses and efforts to restore food access through self-determination. The project cites impacts such as self-determination and self-reliance, increased food security, and culturally relevant education about food literacy.

The University of California Division of Agriculture & Natural Resources (ANR) prohibits discrimination against or harassment of any person participating in any of ANR's programs or activities on the basis of race, color, national origin, religion, sex, gender identity, pregnancy (which includes pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), genetic information (including family medical history), ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994: service in the uniformed services includes membership, application for membership, performance of service, application for service, or obligation for service in the uniformed services) or any person in any of its programs or activities.

University policy also prohibits retaliation against any employee or person participating in any of ANR's programs or activities for bringing a complaint of discrimination or harassment pursuant to this policy. This policy is intended to be consistent with the provisions of applicable State and Federal laws.

Inquiries regarding the University's equal employment opportunity policies may be directed to Linda Marie Manton, Affirmative Action Contact, University of California Agriculture and Natural Resources, 2801 Second Street, Davis, CA, 95618-7774, 530-750-1318.

This document was developed as part of UC ANR: A Resource for Urban Agriculture, a project funded through the UC ANR 2012 Competitive Grants Program which develops educational resources for California's urban farmers and local policy makers addressing urban agriculture issues. Special thanks to project team members Gail Feenstra, Claire Napawan, Shermain Hardesty, and Ryan Galt for their guidance in this literature review. For more information about the UCANR Urban Agriculture Project, contact Principal Investigator Rachel Surls, Sustainable Food Systems Advisor, UC Cooperative Extension-Los Angeles County at ramabie@ucanr.edu .