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CITY FARMS: MOVING TOWARD AN EQUITABLE AND SUSTAINABLE FOOD SYSTEM

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Considering the alarming environmental crises and vast social inequalities our society is confronted with today, the role of urban farms must be recognized as having an important role to play in solving these issues. The most prevalent and insidious of these environmental issues is human-caused climate change, brought about by the use of fossil fuels to feed society's massive energy demands. We are already seeing the results of increasing atmospheric CO2 levels, including intense droughts and flooding, extreme heat, sea level rise, ocean acidification, and increased hurricane and typhoon intensity. These effects are projected to increase in severity as climate change progresses unchecked. The social issues we are seeing may intuitively seem to be distinct from our environmental issues, but, as systems go, the two are more interdependent than it may seem. The social issues in question are the results of poverty in low-income neighborhoods, including crime, crowded urban dwellings, increased stress and depression among individuals, lack of affordability and access to healthy foods, and the resulting diet related ailments such as obesity, diabetes and heart disease. There is a very real discrepancy in the health and quality of life between those of different socioeconomic statuses. During the course of my work with UW Farm, I came to realize the value and benefits of having an urban farm on campus. This work led me to ask some questions about urban farms and how they relate to environmental and social justice issues. How do urban farms benefit individuals, communities, and the environment? How are these benefits distributed throughout society? And what can UW Farm do to bring these benefits to those who need them?

The work I did at UW Farm consisted mostly of producing and managing a weekly off-campus student farm stand, in which a few volunteers and myself would sell produce grown

at UW Farm to customers in the Wallingford neighborhood. I first had to find a desirable location for the farm stand, then obtain permission to set up there once a week. Once this was done, I worked primarily on designing flyers, posters, and banners, and advertising the opening of the stand through various community avenues. After these initial steps, we opened the farm stand, and I worked mostly on coordinating volunteers and overseeing the execution of the stand every Friday afternoon. I spent a lot of time getting to know customers, and talking to them about UW Farm, our mission, and the importance of local food. As the summer progressed, I saw the effect that the farm had on students, volunteers, interns, and customers. Those who worked on the farm were engaged with each other, and they all were engaged in the process of growing food. They all displayed increased knowledge of soils, seasons, ecology, plant biology, and earth systems. The customers who came to the stand were also very engaged, enthusiastic and curious about the process that brought the produce to them. I became friendly with many of the customers, and found that they came back every week to see us and buy produce from us. The strong community surrounding the farm, the regular availability of fresh, healthy food, and the systems thinking and environmental knowledge exhibited by participants led me to conduct a literature review on urban farms and their effects on people and the environment. As I conducted this search and started learning about the very tangible, well-researched benefits that urban farms can have, I started to ask myself how these benefits were distributed in society. Clearly the people with the privilege of attending UW and those living in the Wallingford neighborhood near our farm stand were benefitting, but what about those of lower socioeconomic status who live in poorer neighborhoods, who typically don't attend university?

During my time interning at UW Farm, and throughout my literature review, I came to categorize the benefits produced by urban farms into three different, yet interwoven, categories: the benefits seen by individuals, those received by communities, and those effecting the environment. There has been extensive research conducted examining the interaction between people and urban farming, and there is clearly an association between physical and mental health in individual and their active or passive engagement with urban farms in their neighborhood. Passively engaging with greenspaces, such as urban farms or community gardens, have been shown to have significant impacts on mental health. Several studies have found that living near greenspaces can reduce symptoms of ADHD in both children and adults, and improve executive functioning and attentional performance. One of these studies, in turn, linked these improvements to better life management skills such as more effectively coping with poverty and violence. Actively engaging in gardening or urban farming has been linked to a significant change in total cholesterol, HDL cholesterol and systolic blood pressure. Several studies have also linked gardening to a significantly lower risk of dementia among the elderly, one study finding a 37% lower risk and another finding a 50% lower risk. Community gardens also benefit the elderly by providing a means for them to connect with others, and decreasing isolation and the associated health side effects. Several studies report that community gardeners have consume larger amounts of fresh vegetables, and lower amounts of sweet foods. Participating in urban farms or community gardens can make fresh, whole foods more affordable and accessible. Armstrong discusses a project which reported savings of \$50 - \$250 per season in food costs for those participating in community gardens. This figure seems accurate to me, and perhaps even a bit conservative. During the course of my internship at UW Farm, I often took home an

abundance of varied produce each week after the farm stand. At market value, this sometimes totaled \$30. This food was easily accessible and affordable, and as a result, I had an incentive to cook healthy meals consisting of vegetables and whole foods. In a time when minority populations have disproportionately high levels of diet-related chronic diseases such as obesity, diabetes, and heart disease, we can start to see how the presence of urban farms and community gardens in minority neighborhoods can have a life changing effect.

These individuals all live within communities, and their standard of living is largely effected by the neighborhoods they live in and the way people interact in those areas. Crime is an issue which happens in all neighborhoods to some degree, but the frequency and severity of crime is disproportionately high in low-income neighborhoods. Several studies have reported a link between the ability to see or interact with greenspaces in urban neighborhoods and a reduction in both property crimes and violent crimes, including graffiti, vandalism and domestic violence. Community ties have been shown to be closely linked to neighborhood crime. A study mentioned in Okvat's paper reports that "certain characteristics of inner-city neighborhoods, such as crime rate, levels of noise, crowding, and barren common spaces are correlated with a lack of neighborhood social ties." And similarly, "In urban areas, availability and proximity of greenspaces, especially trees and grass, have been found to correlate positively with social contact among neighbors." (Okvat). This suggests that the presence of greenspaces can strengthen and improve community ties, which in turn reduce the crime rate in those neighborhoods. This is reported directly in Armstrong's study, where she discusses at length the mechanisms by which urban farms and community gardens cultivate relationships and trust between community members.

The effect of urban farms and community gardens on the environment are diverse in their mechanism of action but nearly always positive. Urban farms can affect the environment through both direct and indirect pathways. Producing and consuming food locally greatly reduces the energy expended on the transportation, refrigeration, processing, and packaging of mass-produced food, which is a major source of CO₂ emissions. Growing food in the city reduces the distance food must travel from point of origin to the consumer from up to several thousand miles, to merely a couple. By producing food sustainably and locally, urban farms reduce the demand for food produced by conventional, industrialized farms which have been shown to have harmful effects on surrounding ecosystems and the environment at large. Urban farms also affect the environment indirectly, by the influence they have on individuals. As I mentioned earlier, the people I worked with at UW Farm tended to have a much different perspective on the earth as a system. It is believed by many that interactions with gardens or farms has an effect on a person's understanding of humans' connection to the earth. David Orr, in his provocative essay *Agriculture and the Liberal Arts*, says "for all their flaws, farms were schools of a sort in natural history, ecology, soils, seasons, wildlife, animal husbandry, and land use," and that these farms "taught directly, and sometimes painfully, the relationship between our daily bread and soil, rainfall, animals, biological diversity, and natural cycles, which is to say land stewardship." David Orr and Aldo Leopold attribute our society's lack of ecological intelligence on the separation of people from their food source, namely farms. Leopold says "there is value in any experience that reminds us of our dependency on the soil – plant – animal – man food chain, and of the fundamental organization of the biota. Civilization has so cluttered this elemental man-earth relation with gadgets and middlemen that awareness of it is growing

dim. We fancy that industry supports us, forgetting what supports industry.” Bringing farms into the city and reconnecting people with food can enact urban lifestyle change and inspire individual efforts to reduce environmental harm. Considering that people of higher socioeconomic status are much more likely to have the knowledge and the financial means to be environmentalists, we can see that low-income neighborhoods need urban farms more than higher-income neighborhoods.

My research suggests that while urban farms are clearly beneficial, they would have the greatest impact in low-income neighborhoods. It would seem that the University of Washington, as a public institution, could do more to serve the common good. UW Farm could be used not only as an educational resource for UW students, but also as an avenue for outreach and as an educational source for students in low-income neighborhoods. There are endless ways this could be modeled, and the logistical details are too variable to be discussed here. But I have several ideas which could serve as a start to moving in this direction. It would be possible for UW Farm interns to apply their knowledge and expertise to the education of youth in low-income neighborhoods. This could be a collaboration between Seattle Public Schools and UW Farm, in which high school students could, for school credit, come to the UW Farm and work with interns. The Program on the Environment could also be involved, collaborating with Seattle Public Schools and UW Farm to provide educational benefits to both UW students and high school students. CitySoil Farm, a partnership between King County and Seattle University’s environmental studies program, is similarly modeled. With a UW Farm interns could work with high school students to run farm stands in neighborhoods in South Seattle, selling produce grown at UW Farm. UW Farm interns and environmental studies students could help with the building

and running of community gardens in South Seattle. Many other public and non-profit organizations are currently involved with the urban farm movement in Seattle, including City of Seattle Parks Department, P-Patch, and Seattle Tilth. The University of Washington can have a great deal of influence in the move to develop urban farms and foster environmental awareness in low-income neighborhoods.

Urban farms and community gardens improve the health and well-being of individuals, strengthen communities and reduce crime, and both directly and indirectly help to reduce carbon emissions and mitigate climate change. My experience working with UW Farm brought to my attention these benefits, and the fact that those involved with UW Farm were typically of higher socioeconomic status. The University of Washington, and UW Farm as an extension, has so much to offer and I think it's important to explore outreach options and develop strategies to benefit both students of the university and those who don't have these resources.

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