

Gender and Urban Agriculture: Emerging Trends and Areas for Future Research

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1. Introduction

Over the last decade, literature on women¹ and urban agriculture has emerged revealing significant insights that arguably can change the future focus of the field at large. This overview presents a synthesis of lessons learned from recent studies that have begun to recognize and examine women as farmers in urban areas. The extent, nature, and role of urban agriculture vary considerably between and within countries, as well as throughout the urban hierarchy. Moreover, evidence tends to be scattered or speculative with little supportive data to substantiate general statements. As such, it is difficult to formulate a synthesis of trends that hold for every context, or even the majority of contexts.

Nevertheless, there are several broadly identifiable trends in recent literature on women and urban agriculture that warrant recognition and further exploration. First, studies now recognize women as urban farmers. Indeed, women play significant roles in urban food production and contribute to both urban household and market economies. Second, women benefit from urban agriculture activities that allow them to successfully combine their multiple roles in subsistence, production, and environmental management sectors. Third, researchers document the constraints hindering women's participation in urban agriculture activities. Obstacles exist at both sectoral and household levels. Fourth, studies identify women farmers' survival strategies and social activism in response to structural constraints and urban food issues. Together these trends have enriched the understanding of urban agriculture. Yet gaps persist in the literature, and a discussion of future trends and considerations for urban agriculture research in general is required.

2. Trends in Women and Urban Agriculture Research

Women as urban farmers

Arguably the most significant trend in recent urban agriculture research is the acknowledgment of women as urban farmers. Women's participation in and contribution to urban agriculture has been masked in past studies by reference to a so-called "urban farmer". This supposedly gender-neutral term suggests an undifferentiated urban dweller who engages in agriculture yet is undoubtedly based on a masculinised norm. Recent studies document women's predominance in the African context (Cockram and Feldman, 1996; Smit, Ratta and Bernstein, 1996), and particularly in the Central African Republic (Alaruka and Choma, 1985), Kenya (Mwangi, 1995, Lee Smith and Memon, 1993, Mazingira Institute, 1987), Mozambique (Ayisi, 1995; Gentili, 1989; Loforte, 1987), Tanzania (Tripp, 1997; Mlozi, 1995), Uganda (Maxwell, 1995; Maxwell, 1994; Maxwell and Zziwa, 1990), Zambia (Drescher, 1997; Drescher and Bos, 1993; Rakodi, 1988), and Zimbabwe (Chaipa and King, 1997; Mudimu, 1996; Mbiba, 1995; Mbiba, 1993). Research in Poland (Bellows, 1996), the Solomon Islands (Sommers, 1992), Thailand (Evers and Korff, 1996), and the United States (Hynes, 1996) also points to the dominance of women farmers in urban areas. Women urban dwellers play pivotal roles in subsistence and market gardening, animal husbandry, food processing, waste recycling and (re)use.

The predominance of urban women farmers in many contexts is attributed to two factors. First, women continue to bear primary responsibility for household sustenance and well-being (Mudimu, 1996:180), largely due to traditional cultural views and societal expectations (Chaipa and King, 1997). Everyday domestic tasks, including the provision of food, water, clothing, and healthcare, as well as the maintenance of a clean homestead, fall to female household members who are responsible for biological and social reproduction. Second, women tend to have lower educational status than men thus face less probability in finding suitable wage employment in the formal sector (Streiffeler, 1993:8). Since few job opportunities exist for women in urban areas it becomes imperative for women to seek other

ways to fill in the gap between cash income and what is needed and available for household reproduction (Rakodi, 1985:56). In combination, these two factors mean that women must often continue in their traditional reproductive roles and secure household subsistence through strategies that do not rely on formal employment.

The benefits of urban agriculture for women farmers

Recent studies document the benefits of urban agriculture for women who are responsible for family food provision. Urban agriculture is predominantly considered a primary strategy employed by women to maintain livelihoods and protect household incomes through subsistence production. While the prime motivation of women urban farmers is to avert hunger by producing a variety of nutritional staple crops, home-grown food also frees up scarce cash that otherwise would go towards food purchases (Maxwell, 1994; Freeman, 1993:12-14). Urban agriculture can thus furnish "a significant contribution to [households], for whom small amounts of food . . . can make a crucial difference" (Sachs and Silk, 1987:3). When gardens flourish they can provide a sizeable portion of the household budget. Dramatic findings from a survey of eleven Latin American countries estimate that one and a half days spent cultivating an urban plot can save ten to thirty percent of the total food bill (Nugent, 1997:5). In Lusaka, approximately thirty-three percent of food consumed by poor households came from urban cultivation (Sanyal, 1987). In Harare urban farmers each cultivated on average five and a half 50kg bags of maize - enough to last a household four to six months (Mudimu, 1996:181) or incur savings of up to US\$20-40 on food expenditures per month (Mudimu et al., 1998:1).

In addition to providing yields sufficient for some quantity of household sustenance, urban agriculture activities have the advantage of allowing women to work close to the homestead. This is important in light of domestic and child-rearing responsibilities for which women often have primary responsibility (Ratta, 1993). Urban agriculture is also relatively accessible to women in that it utilizes indigenous practices and low-cost inputs that are attainable and affordable for women with limited incomes, skills, and resources. For example, women backload fuelwood from periurban areas in Ethiopia to satisfy energy needs for cooking and food processing (Haile, 1991) or collect and prepare wild vegetables to contribute to household nutrition in urban Lesotho (Mapetla, 1994). Studies show that urban agriculture is particularly significant for women with larger families to support (Mudimu, 1996; Freeman, 1993:7; Rakodi, 1988; Alaruka and Choma, 1985), elderly women (Ethangatta, 1994; Rogerson, 1994), and women heads-of-households who tend to face considerable financial, resource, and time constraints (Nicholson et al., 1998; Mudimu, 1996; Maxwell, 1995; May and Rogerson, 1995; Mwangi, 1995; Egziabher, 1994; Maxwell, 1994; Mbiba, 1993; Lado, 1990; Mazingira Institute, 1987; Ninez, 1985).

Some researchers have found that women urban farmers do not limit their activities to the subsistence realm. Urban agriculture requires an investment of household resources, such as land, labour, and capital that can motivate women to go beyond food acquisition for domestic use. Urban food enterprises represent an avenue through which unskilled and uneducated women potentially can gain entry into the business milieu. Women, for example, sell fresh produce in market stalls in Maputo (Loforte, 1989), Harare (Horn, 1995), and Nairobi (Ethangatta, 1994), while women profit from urban dairying in Nigeria (Shehu and Hassan, 1995). Enterprises in Nairobi's informal sector, including food kiosks, restaurants and bars, and market stalls, are primarily run by women (Freeman, 1993:2). A similar trend is evident in Nigeria and Thailand, and women outnumber men as vendors in Indonesia, the Philippines, Senegal, and Jamaica (Tinker, 1998:6). Food produced by women urban farmers is often a major source of supply in these enterprises. These findings suggest that small-scale food businesses may be more accessible to those women already involved in urban agriculture production and processing for subsistence purposes.

In addition to reproductive and productive roles, women are environmental resource managers who (re)use and recycle materials to enhance crop and livestock yields to feed their households and communities. Women are caretakers of family health by maintaining sanitary conditions around the house and safely disposing of household wastes. Recent literature identifies linkages between waste management and women's participation in urban agriculture that facilitate both household food security and local environmental sustainability (Mehra, 1996; Furedy, 1990). In urban Mexico, for example, women have become principal managers of an organic waste recycling technology that produces nutrient-rich fertilizer and treats blackwater from household sewage systems for use on vegetable garden beds (Schmink, 1989). Paolisso and Gammage's (1996) research in Quito, Ecuador reveals that

women undertake the majority of environmental management tasks in urban households, including the purification of drinking water and the recycling of domestic waste. Women are careful to reuse garbage and separate inorganic from organic refuse for the latter adds value to vital farming and husbandry activities. Assaad and Bruce (1997) detail the important role of young women in garbage collecting that contributes to and supports urban pig keeping in Egypt.

Constraints facing women urban farmers

Another trend in recent work on women and urban agriculture has been the documentation of sectoral and household level constraints to women's participation in urban food production. Perhaps the most overarching barrier to women urban farmers is the opposition to city farming activities by local authorities. Urban agriculture is often perceived as an artefact of rural life that simply does not belong within the city limits and poses a potential health nuisance or threat to urban dwellers. It is also thought to be of marginal importance to the urban economy (Maxwell, 1995) and is not considered a legitimate form of urban land use. As such, urban planners or policy makers do not plan for cultivation and husbandry activities nor are these activities supported by local authorities (Mudimu, 1996:180).

Hostile or unsupportive policy for urban agriculture may be particularly detrimental to women farmers who (in relation to men) tend to possess fewer skills that are valued in the marketplace and whose domestic responsibilities, including childcare, make it difficult to enter the formal workforce in order to adequately support their households. Repressive measures create barriers to women's access to urban space for cultivation (Mbiba, 1995; Freeman, 1991).

Women urban farmers also face local obstacles with respect to land, labour, agricultural inputs, and environmental conditions. First, many researchers have identified, in general terms, women's lack of access to land as a major constraint to urban agriculture activities (Maxwell et al., 1998; Smit et al., 1996; Maxwell, 1995; May and Rogerson, 1995; Maxwell, 1994; Drescher and Bos, 1993; Haile, 1991; Matlala, 1990). Women in many countries have been, and continue to be, barred from claiming ownership of land plots due to cultural traditions. Moreover, deflated economic status, and difficulties faced within the formal employment sector preclude women's ability to purchase land in their own right. Thus women tend to rent, borrow, or illegally use land for urban agriculture activities. Furthermore, for many women proximity to agricultural plots may be hindered by quality of homestead. Those who rent rooms in houses or reside in high-density areas may encounter few opportunities to farm neighbourhood land (Horn, 1995). Instead women resort to farming in locations that are some distance away from the homestead (Alaruka and Choma, 1985) and thus require increased time for commuting, leaving less time for other tasks and responsibilities. Those women forced to squat illegally on land face a greater probability of crop theft or confiscation and destruction by local authorities and private landholders, due to the lack of physical presence at the site (May and Rogerson, 1995). Hence, women tend to lose livelihood options in cities when faced with a loss of or poor access to land (Maxwell et al., 1998). In contrast to the trend of poor land access, Mbiba's (1995) study reveals women's roles as landlords and gatekeepers in the urban agriculture community in Harare. While women control and manage agricultural plots, men participate as contract labourers or assistants to female spouses in crop production. This finding points to the possibility of alternative scenarios in different contexts that deviate from trends revealed in recent literature on women and urban agriculture.

Second, women tend to invest their own labour in urban agriculture activities. It is documented that women spend longer amounts of time in the fields than men (Mudimu, 1996:190), commit substantial amounts of labour into dairy production, processing and marketing (Nicholson et al., 1998), and must fetch water, prepare meals, care for children, and so on, upon returning to the homestead (Dennery, 1995). Thus women must carry out household care and maintenance regardless of the time they devote to food production or other livelihood activities. This is particularly difficult for women heads-of-households who bear the sole responsibility for both reproductive and productive tasks (Egziabher, 1994).

Third, while women are most likely to invest labour in cultivation or husbandry activities, they are unlikely to have access to agricultural inputs (Cockram and Feldman, 1996). Women often do not have extra income with which to purchase seed and fertilizer. Hence, they must utilize those available resources that may be hazardous to their health, such as wastewater or solid waste. Credit is unobtainable without secure rights to land, which usually requires ownership. Women's decision-making power and ability to participate in agricultural activities may also be undermined by a lack of knowledge of inputs, such as pesticides and fertilizer, due to limited exposure to commercial urban agriculture (Dennery, 1995) or training and skills

courses offered by institutions or non-governmental organizations. Women are also less likely to benefit from research or extension services (Ratta, 1993; Mazingira Institute, 1987) that fail to consider gender specific differences regarding methods of plant production, crop species, and use of composts, manure and fertilizer (Drescher, 1997).

Fourth, environmental constraints hinder women's efforts in urban agriculture activities. Access to water, for example, is a key constraint to productive capacity and successful gardens are often limited to the rainy season. Otherwise, water is obtained at a high financial cost from informal street vendors or through illegal means (Nugent, 1997:5) such as tapping municipal water pipes. The productivity of land varies so that a surplus of produce is not guaranteed; this is especially the case in intensive continual work on urban plots which often occurs due to the need for subsistence produce or extra cash from marketing (Loforte, 1989). Continual urban development, and the resulting loss of environmental resources, means that women must search further and further away for products such as fuelwood (Haile, 1991), fodder, and wild vegetables (Mapetla, 1994) to support their families. Increasing urban pollution and environmental contamination result in serious problems that impede women's abilities to adequately feed their families. Food loaded with toxic contaminants sabotages the health of those it ought to nourish.

Women urban farmers' survival strategies and community activism

Recent studies identify women farmers' survival strategies and social activism in response to structural constraints and urban food issues. Millions of women urban farmers have managed to produce food in towns and cities without any official recognition or support. Women often gain access to rights-of-way and vacant land that they do not own to grow staple foods and raise small livestock near their dwellings. Elderly women in Nairobi grow beans, kale, cabbage, and bananas in the slum areas and along roadsides, while also keeping dairy cows to produce milk, during severe economic conditions (Ethangatta, 1994). In Mamelodi, South Africa, women banned from land-ownership illegally grow vegetables on vacant land scattered within the township or along riverbanks and mountainsides (Matlala, 1990). In Nairobi, women farmers spread the risk of crop theft, confiscation or destruction by cultivating multiple plots in different locations in the city (Freeman, 1993:10). Women's roles in environmental management become especially pertinent for those women who lack access to agricultural inputs such as fertilizer. Women are careful to recycle garbage and use organic refuse to add value to vital farming and husbandry activities (Assaad and Bruce, 1997).

As community activists, women farmers participate in governance, local politics, and community groups, linking social activism and urban food issues. For example, in Poland, women have buffered themselves from unfavourable policies that can result in uneven distribution or excessive prices of food (Bellows, 1998). Specifically, women rally around improving conditions for food provision as industrial pollution in the Silesia Region has given rise to food contamination (Bellows, 1996). The effectiveness of the women's "Tested Food for Silesia" program has created an environmental management model of immediate relevance, and has served to enhance the status and power of women farmers in the community. Similarly, the suburban farmlands of Mozambique have been the site of women's activism since the mid-1980s when the government initiated the Maputo Green Zones Project. It has since become a women's initiative (Ayisi, 1995) with ninety-five percent of the 11,500 cooperative members being women. These women have created a life in the public sphere, gained access to vegetables, grains and fruit produced by the cooperatives, and acquired skills and training (Marshall, 1987). Also, in the Gambia, government support for horticultural production has harnessed the community activism of women who have formed a periurban farming cooperative. The cooperative was provided with a loan of 10,000 dalasi and managed to pay back the entire amount within nine weeks of the first harvest of chilli peppers (Barrett and Brown, 1988). The strength of women's social networks and cooperative efforts are noted as potential areas for successful development strategies in the urban agriculture sector.

3. Areas for Future Research

Trends in recent research reveal that urban agriculture is an adaptive strategy of women to protect household food security either through direct provision of a supplemental food source, as food reserve, or as a means of stretching other sources of income. Despite sectoral and local level obstacles, women urban farmers pursue cultivation and husbandry activities through their reproductive, productive, and environmental management roles. While the four trends detailed above have facilitated greater understanding of women's participation in urban

agriculture activities, several important issues must be considered in future research. These include gender analysis, geographical scale, and difference.

Gender as an analytical category is meant to capture a complex set of social processes that are inextricably linked with power relations. Gender analysis involves the examination of men's and women's roles, responsibilities, and social status in relation to local cultural perceptions of masculinity and femininity that delineate access to opportunities and resources in a particular context (Hovorka, 1998). In reformulating gender as a theoretical category and an analytical tool, we can better explore the division of social experiences along gender lines that tend to give men and women different conceptions of themselves, their activities and beliefs, and the world around them (Harding, 1986:31). Those researchers who explore gender dynamics to this depth provide some of the most comprehensive, interesting, and thought-provoking pieces in the field of urban agriculture (Mianda, 1996; Mudimu, 1996; Mbiba, 1995; Maxwell, 1994; Lee-Smith and Memon, 1992; Rakodi, 1991; Rakodi, 1988). Mianda (1996:91), for example, explores how sexual division of labour serves as the basis for gender relations in garden production in Kinshasa, Zaire (now Democratic Republic of Congo). She illustrates how women utilize strategy and tactics to gain advantage over their husbands and hence control over the garden enterprise. In order to get the approval of their husbands to initiate production, women stress the feminine nature of agriculture and its importance to family well-being (for which women are primarily responsible). Men often refuse to participate in such culturally defined feminine tasks for fear of being symbolically perceived as a woman. The resulting sexual division of labour establishes gardening as an entirely female activity. Women gardeners rely on this to control the entire process of production from price setting and negotiation to marketing. Furthermore, women hide portions of the profits from their husbands by storing monies in kitchen pots. Again the cultural perceptions of domesticity as women's domain dissuades men from handling cookware for fear of becoming the victims of sorcery. Women thus take advantage of cultural traditions that tend to marginalize them into particular social spheres. It is important therefore to consider what activity men can involve themselves in without loss of community status. It is also necessary to recognize the cultural factors that play a role in the interchange of labour and relations between men and women.

By understanding how gender hierarchies are constructed, legitimated, challenged, and maintained in specific contexts one can unearth the social relationships that structure a particular urban agriculture system. This is especially pertinent when exploring who in the household actually controls produce or income generated from farming activities. Mbiba (1993) reveals that while women have control and decision-making power regarding cultivation, the husband's consent is still required due to his potential assistance with financing or dealing with local authorities. Shehu and Hassan (1995) note that dairying activities of female household members serve to balance household power relations by providing women with their own enterprise. Maxwell's (1994) study details the struggle over resources between men and women and their respective activities. Investigating issues of control and power relations shed light on how and why distinct urban agriculture activities are chosen by, or assigned to, particular household members.

Another important consideration for future research on women and urban agriculture is that of geographic scale. Rather than considering a particular scale in isolation, the application of gender analysis leads to the fundamental examination of social structures and institutions that create specific power dynamics at the local level (Rathgeber, 1990:494). Not only is it essential to analyse intra-household gender relations, it is also important to explore organizational, legal and political structures and ideas that reinforce gender differences and inequalities. As detailed above, for example, Mianda's (1996) study reveals the subtle gender relations that structure urban agriculture activities at the household level. The study illustrates how larger cultural traditions delineate masculine and feminine roles that form the basis of a power struggle in the household garden produce sector. Other authors also explore the linkages between micro- and macro-levels. Horn (1994) details the agricultural and urban developments that have resulted in the role of women as fresh produce vendors in Harare, Zimbabwe. Structural adjustment policies in particular have created differential problems for women as compared to men. Freidberg (1997; 1996) explores recent trade liberalizations in Burkina Faso that have prompted urban gardeners to adopt more entrepreneurial strategies in order to secure access to external markets and aid. Economic reforms have failed to create a market free of gender biases, leaving women gardeners in a disadvantaged position compared to men. Aside from a small number of examples, however, there are few cases where urban agriculture researchers peel back the layers to uncover the larger processes that influence relationships between men and women. Further work remains to be done, for

example, to adequately examine how urban policy and/or economic markets at the macroscale impact on the gender relations that structure local urban agriculture systems.

Finally, the issue of difference requires greater consideration in future urban agriculture research to highlight distinct systems that form along gender, race, ethnicity, class, and age lines. Some researchers have begun to emphasize differential experiences of women urban farmers, in particular the experiences of women heads-of-households, who tend to be amongst the poorest urban farmers and hence face significant constraints to food production. Others have noted experiences that differ across age and class lines. The recognition of context-specificity and distinct standpoints can provide greater scope and richness to research. It avoids a priori assumptions about a single determinant of gender relations in any particular culture or locale (Flax, 1990:46). Recognizing differences amongst urban agriculture practitioners also avoids the privileging of a universal experience that conflates the needs, interests, and experiences of persons into a single conceptualisation.

5. Conclusion

Most research to date presumes a positive impact of urban agriculture activities on household food security despite the paucity of conclusive evidence confirming this assumption. While there is insufficient data on the linkages between urban food production and basic household needs, there exists even less evidence as to what urban agriculture means for women who tend to be the primary practitioners in many contexts. This point was first made by Rakodi (1985) and continues to hold true some one and a half decades later. There is little consensus on whether the promotion and support of urban agriculture practices is beneficial to women. Some researchers note that such activities do not address, and may in fact mask, larger issues of women's access to education, skills, or wage employment (Mbiba, 1995; Rakodi, 1985). Encouraging women to spend more time engaged in urban agriculture may impose additional burdens to those they already face.

The advocacy of urban agriculture as a development strategy necessarily targets women in many contexts as the agents of intervention without adequate consideration of how potentially successful endeavours may alter their existing circumstances. Schroeder (1993) points out that high-visibility interventions can be co-opted by men to capture female labour or rights to land and natural resources where women have previously asserted some autonomy over their economic activities. Hence in capitalizing on women's modest successes in urban agriculture activities, development strategies may exacerbate inequitable gender relations. It is important to analyse the benefits of urban agriculture to households, especially to women, compared to alternative economic and social opportunities that might be made available through other initiatives (Smit et al., 1996; Egziabher, 1994). Advocating urban agriculture as a viable development strategy without truly understanding the intricacies of such current systems may prove perilous.

The consideration of gender analysis, geographical scale, and difference can further the advancement of knowledge on urban agriculture systems. Such investigations must be paired with the collection of empirical data to substantiate claims regarding the productivity and sustainability of cultivation and husbandry activities in cities. These issues will become increasingly important in light of urbanization, demographic and environmental trends, and continuing concerns regarding social and economic development.

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