Mapping and characterising the urban agricultural landscape of two intermediate-sized Ghanaian cities

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Abstract

Extending beyond previous research biases towards large cities or analyses based largely on one type of urban agriculture (UA) (such as market gardening, or home gardening), this research aimed to investigate all forms of UA within two intermediate-sized Ghanaian cities (Techiman and Tamale). Where was being farmed? For whom, and why? The paper considers how findings compare to Ghana’s larger cities, and possible implications for theory and for planning. Methods included remote sensing, field mapping, interviews and a 1000-household per city questionnaire. The most common reason for farming was food supplementation. This was often via staple foods, particularly maize, rather than the leafy vegetables common in larger cities’ market gardening. Farming was predominantly via home gardening, particularly for the better off. The larger city of Tamale also sustained organised irrigated-vegetable market gardens.

Findings suggest a picture not dissimilar to Ghana’s larger cities but with greater prevalence of home gardening, and a dominance of staple foods rather than perishable or high value crops. A compelling finding, which has received less attention in the literature, is the extent to which, and roles played by, what this study refers to as ‘institutional land. Both Ghanaian Ministry of Food and Agriculture’s policy framing, and market crisis theorising, of the drivers and role of UA were not found to be an accurate reflection of Techiman and Tamale’s UA. Rather than being a localised survival activity of the poor or marginalised, or of recent migrants, rather than the urban population actually lives in the urban landscape, the research aimed to investigate urban agriculture (UA) activities present within urban areas. As such, the study aimed to investigate all forms of UA activity, but both the Hamilton and Thebo papers acknowledge their resolution of spatial analysis excluding home gardens or “small, spatially dispersed areas of urban croplands” (ibid, p8), as well as excluding animal-husbandry. They both call for comprehensive local surveys to contextualise UA’s extent and role. In addition to this need to understand the scale of UA locally, changing demographic trends (Maxwell, 1999), as well as the effects of the 2007–08 food price riots and global financial crisis (Bush, 2010; Prain et al., 2010), may have rendered studies from the 1990s/early 2000s out-dated. Additionally, much of the research undertaken on urban or peri-urban agriculture has focused on capitals and larger cities—a “metro-bias” (Thornton, 2008) or on a single type of UA (such as only investigating market gardening of high-value vegetables; or only home gardening). Such exclusionary focus on just one UA form, or on larger cities, may unintentionally misrepresent UA. Research in larger cities may also be less pertinent given that the greatest development pressure in coming decades is predicted to be in secondary cities (Cohen, 2004; De Bon et al., 2010; Satterthwaite et al., 2010). Indeed such secondary or intermediate-sized cities (defined in this research as roughly 100,000–500,000 inhabitants) are thought to be more representative of where the world’s urban population actually lives (Satterthwaite et al., 2010). In terms of theory, until relatively recently the urban agriculture literature tended to bifurcate across two schools of thought when attempting to explain why farming within cities occurs

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1. Introduction

Urban agriculture (UA) is claimed to have grown in scale and importance since the 1970s (Hampwaye, 2013; Mougeot, Chapter 1 in Egziabeher et al. (1994)), though not without debate (Hamilton et al., 2014). Attempts at global assessment of urban cropland estimated 67.4 Mha or 5.9% of the world’s irrigated and rain fed croplands to be within urban areas (Thebo et al., 2014). Hamilton et al.’s (2014) review of developing country UA estimates 266 million households engaged in some way in urban crop production (29 million households in Africa). Such figures suggest a not insignificant UA activity, but both the Hamilton and Thebo papers acknowledge their resolution of spatial analysis excludes home gardens or “small, spatially dispersed areas of urban croplands” (ibid, p8), as well as excluding animal-husbandry. They both call for comprehensive local surveys to contextualise UA’s extent and role. In addition to this need to understand the scale of UA locally, changing demographic trends (Maxwell, 1999), as well as the
1.1. Urban agriculture

It is necessary to describe and define urban agriculture since there has been imprecision or disagreement regarding what constitutes UA, and a lack of consensus regarding its role (Dubbeling et al., 2010; Zezza and Tasciotti, 2010; van Veenhuizen and Danso, 2007). It is not possible to cover this debate in detail. Sufficient to say that lack of consistency of definition leads to difficulty assessing the true scale, and hinders comparability of studies (Thebo et al., 2014). For this research, practicality of definition was of concern i.e., what could be mapped and identified remotely and from in-field survey. Thus aspects related to the post-harvest food supply chain such as processing, distribution, or marketing were excluded. Urban agriculture, in this study therefore, (following Quon, 1999) refers to: the growth of food crops (including staple crops, fruit and vegetables), or cash crops (such as coffee, tea, sugarcane) or other agricultural products (such as textile, rope, fuel-wood), or the practice of animal husbandry (including for meat, milk, fish, poultry), at all levels from subsistence to commercial, within the city area.¹ It may be illegal or legal, planned or unplanned, on public or private land, and the produce may remain in the city or be transported outside.

Urban agriculture has been documented around the world (Egziabher et al., 1994; De Bon et al., 2010; Taylor and Lovell 2012) and indeed is not a new phenomenon (Hampwaye, 2013). The significance for food security, income generation, nutritional intake or business opportunity is debated however, and very context-dependent (Zezza and Tasciotti, 2010; Hovorka 2004; Frayne et al., 2014). UA in the African city context, although it is a source of food production, is also a way of overcoming the accessibility, affordability barriers to food and nutrition security (de Zeeuw and Drechsel, 2015). UA is purported to contribute to better nutritional and health status (Dixon et al., 2007), though this is debated. Families with access to food through UA have been found, in some studies, to have better nutritional diversity (Maxwell et al., 2000; Prain 2010; Zezza and Tasciotti, 2010). Studies of urban African households documented between 20 and 50% being involved in UA, depending on country (Orsini et al., 2013). Two sister projects to this research, also in intermediate-sized cities, found 16 and 22% of urban households in Tamale and Techiman (Ghana) respectively (Ayerakwa 2017), and 17% of Kenyan households in Thika and Kisumu involved in UA (Omondi et al., 2017).

The practice of urban agriculture has been theorised by Marxists and political economists as being a result of market failures to provide food and employment for urban inhabitants (Maxwell 1999; McClintock 2010). When UA first attracted research interest it was often portrayed in this way (motivated by survival needs) or as a transitory expression of rural behaviours prior to immigrant assimilation into appropriate city living (Drakakis-Smith et al., 1995, Mougeot, 2006; Drechsel and Dongus, 2010) but this is still claimed in some contexts (Masvaure, 2016; Bryld, 2003; Smart et al., 2015). Agriculture in African cities has been read by some as a sign of poverty: a 2010 analysis of urban households that practiced agriculture (regardless of farm location) across 15 countries concluded that agriculture “is an activity in which the poor are disproportionately represented”, most significantly in Africa (Zezza and Tasciotti, 2010, p. 271). Other types and motivations for UA encompassing an accumulative potential for wealthier urbanites, and a “means of consolidation” (Bryld, 2003, p80) for the better off may be recognised by these framings. Nevertheless, it was commonly concluded that the majority of urban farmers were “engaged in cultivation as a means of survival” (ibid) further pin-pointing practitioners as poor and/or marginalised.

Other research, however, has tended to focus more upon the market gardening type of urban farming. Such studies posit that city food

¹ “land which is administratively and legally zoned for urban uses” (Mbiba in Quon, 1999, p63).
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