Is it urban? The relationship between food production and urban space in Britain 1800–1950[i]

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Introduction

The post-modern consumer has become used to the notion of eating 'the other', and exotic fruits, vegetables and other perishable foods from all over the world are now taken-for-granted items on supermarket shelves in west European countries.[ii] However, the 'cool chain' and the rapid transport that make the delivery of these items possible over long distances are relatively recent phenomena. In this chapter I want to reflect on an earlier period of history when distance to market was still highly significant, especially for dairy and horticultural produce.

Such was the pull of the urban market and so great the cost and technical difficulty of transport in the nineteenth and early twentieth centuries, that Atkins has found for London that much food production still took place in and immediately around the built-up area.[iii] The same was true of other British cities. Commercial cowsheds, piggeries, and market gardens were all common, along with private self-provisioning from allotments and backyard chicken coops and rabbit hutches. The smell of the city must in certain neighbourhoods have had a distinctly rural *bouquet*, from horse manure on the streets, and also from the many slaughterhouses and cattle markets. In short, here indeed was *rus in urbe*, urban farming on a scale that was significant in terms of food output and the visual landscape.

How is it then that at the turn of the millennium we have all but eliminated food production from cities? This transformation has gone so far that urban places are often defined in terms of having 'non-agricultural' land-uses, functions and employment. Also, in rich countries the perception of 'urban' has changed fundamentally in the last 150 years.[iv] It may still include an allowance for nature in the tamed and manicured form of public parks and individual back gardens, but noisome and intensive food production somehow no longer seems to be appropriate.

The inspiration for this chapter is two-fold. First, I have spent some time researching food systems in Low Income Countries and I have been struck how different the mental construct of 'urban' is in India and Bangladesh. Cities such as Mumbai (Bombay), Chennai (Madras) or Dhaka owe much of their rapid recent growth to a flood of migrants from rural backgrounds. These people bring with them rural skills that are a useful source of income in their new urban environment, and their desperate need to create a livelihood injects a powerful energy into the lower circuit of the economy that is one factor in the continuance of gardening or milk production in city centres throughout the sub-continent. Faced with such a strong survival of rural functions, one is reminded here of parallels with Victorian Britain, where an extraordinarily rapid and comprehensive urbanization was fuelled by migration on a scale never before experienced, and where urban farming thrived.

Second, there has been a recent revival of interest in urban farming in contemporary social science. Africanists in particular have produced a series of relevant publications. Donald Freeman and Beacon Mbiba, for instance, found spontaneous and vibrant urban farming communities in Kenya and Zimbabwe, and there are many similar examples from around the world.[v] Ignacy Sachs and Dana Silk[vi] argue that gardening in tropical cities could produce sufficient food to make a real difference to the nutrition needs for poor people, and there are estimates that 15 per cent of the world's food supply in 1993 came from city plots, rising to a possible 33 per cent in 2005.[vii]

Globally, 800 million urban dwellers are said to be food producers, mostly for own-consumption but 100 million sell their surplus produce for cash. In some cities the majority of families are involved, from 68 per cent in Dar-es-Salaam to 65 per cent in Moscow.[viii] One common finding of this literature is that farming and gardening activities are rarely encouraged by the city authorities, and they are often pushed to the margin of legality in terms of land-ownership and land-use zoning. A second important finding is that food production is a survival strategy for many poor people and it has therefore proved difficult for bureaucrats to eliminate.

Lack of interest until recently in urban agriculture has been due to an absence of official recognition. This has now been rectified, in the international sphere at least, by the Food and Agriculture Organization of the United Nations through three Programmes on: Peri-Urban Production Systems on Animal Production and Health and Veterinary Public Health; Food Supply and Distribution to Cities; and Peri-Urban Horticulture. The international Non-Governmental Organisations have also demonstrated their commitment through the Support Group on Urban Agriculture founded in 1992, the Urban Agriculture Network (1993), and the Global Initiative on Urban Agriculture (1996). Civil society has also generated enthusiasm in this area, such as Canada's 'City Farmer' (started by the government's Office of Urban Agriculture in 1978), which publishes *Urban Agriculture Notes* on the World Wide Web,[ix] and also the Urban Agriculture Research Network (AGUILA).

These programmes, networks and databases are intended for the food deficit countries, but there are also stirrings in the richer part of the world. There is a well-established European network of city farms, which are demonstration projects for educational purposes, and the fashionable theme of 'sustainable cities' has also generated interest in the food-producing potential of wasteland and allotments. Community gardens, as the latter are generically known, are popular throughout Europe, with 30,000 in London and 80,000 in Berlin alone.[x]

The present chapter has two aims. The first is to demonstrate the significance of urban and peri-urban agriculture historically in Britain. By so doing I hope to add to the growing volume of material that argues that cities are not inevitably exclusion zones for farming activity. The second aim is to investigate the specific and contingent conditions under which one activity, milk production, was forced beyond municipal boundaries in selected locations.

Food production in urban and peri-urban Britain

Horticulture

Horticulture was one of the most common peri-urban agricultural activities in and around large British cities. In the nineteenth century there were perishability problems concerning certain fruits and vegetables and market gardens were therefore constrained in their location. Taking London as an example, activity was concentrated within a 25–30 km radius of the city, with some preference for proximity to the Thames, for ease of transport and because of the fertile and well-drained soils of its river terraces.

London's peri-urban horticulture in the nineteenth and early twentieth centuries was highly intensive. Spade cultivation was the norm, made possible by an abundant supply of casual urban labour, but there was much skill to back up the muscle. Many early season and exotic crops (celery, asparagus, melons, pineapples) were forced in the artificial environment of hot-beds or greenhouses and this required expensive and complex systems of support.

Inputs of raw materials were also on a large scale, for instance the manure that was essential for enhancing fertility and modifying the heat- and moisture-retention qualities of the soil. Some gardeners are reported to have used 40 tonnes per hectare, and fortunately this was available locally in the form of horse and cow dung from the city itself. One estimate suggests that 250,000 tonnes of cattle and 200,000 tonnes of horse manure were produced in London annually in the 1850s.[xi] Much of this was recycled through horticulture.

In 1870 there were said to be 35,000 people employed in horticulture within a 25 km radius of London, which if true would have represented one third of the gardeners in England and Wales. Table 1 hints that this may have been an overestimate but there were certainly 20,000 in the metropolis of London and the extra-metropolitan parts of Surrey and Middlesex. These people cultivated 5,000 ha of vegetables, 2,000 ha of tree and bush fruit, and 400 ha of herbs[xii] in a region dubbed by one writer the "charmed circle".[xiii]

Table 1 Census enumeration of those employed in horticulture.

	London	Extra-metropolitan		England & Wales
		Surrey	Middlesex	
1851	9,129	323	3,085	74,324
1871	10,122	5,883	4,573	103,695
1891	11,625	11,931	9,492	179,336

Source: British Population Census.

Milk Production

Peri-urban Britain was also home to the intensive production of milk. Atkins has analysed this in detail for London but we also know that there were cowsheds in other cities.[xiv] From data published in the *Annual Reports of Medical Officers of Health* we can see that numbers remained substantial well into the 1920s.

Administrative boundaries present us with a problem in gauging the scale of production. Although urban districts were often given substantial stretches of open countryside when first established (overbounded), later the process of urbanization often saw the built-up area extend beyond the city limits (underbounded). Boundaries were adjusted to take account of this expansion but we should be wary nevertheless of the data in Table 2 which purports to compare the milk-producing capability of cities through the surrogate of the cows within their jurisdiction.

Table 2 The milk-producing capacity of selected cities, 1911–13.

Town/city	Area (ha)	Cows	Human population
Birmingham	13,487	575	525,960
Bradford	22,881	4,400	288,505
Burnley	4,005	726	106,337
Halifax	13,983	2,500	101,556

Leeds	21,593	2,000	445,568
Liverpool	16,642	6,428	746,566
London	74,816	3,096	4,522,961
Manchester	21,645	1,943	714,427
Newcastle	8,452	497	266,671
Norwich	7,896	567	121,493
Nottingham	10,935	860	259,942
Preston	3,971	304	117,113
Salford	5,202	195	231,380
Sheffield	23,662	2,400	454,653
Sunderland	3,357	171	151,162

Source: Medical Officer of Health Annual Reports of the various cities.

As with horticulture, the best definition of 'urban' milk production is the degree of its intensification. In some cities this was taken to the extreme of stall-feeding, with many cows being kept indoors for the full length of their lactation and then disposed of to the butcher. The maximum possible yield from each cowshed was extracted by cramming the animals together and feeding them a stimulating diet that included spent brewers' grains. This approach was most common in London, Liverpool, Glasgow and other cities where milk had long distances to come from rural suppliers. Table 3 suggests that around the time of the First World War there were still cities that continued to source milk from within their own boundaries.

Table 3 The proportion of milk sourced from cows kept within the urban boundaries.

Town/city	Date	Urban production (percentage of total supply)
Belfast	1929	20
Birkenhead	1919	20.6
Bootle	1918	41
Bradford	1920	61.5
Edinburgh	1921	52
Folkestone	1915	25
Liverpool	1927	29.5
London	1850	80.0
London	1880	28.3
London	1910	2.8
Newcastle	1925	15
Sheffield	1929	24.8
Weymouth	1914	33

Source: Mainly from the Medical Officer of Health Annual Reports of the various cities.

Pigs

Small livestock (pigs, chickens, rabbits, pigeons, bees) were also present, mainly as a backyard supplementary food source for working people, but we have no data on this, other than a few scraps. The most tolerant city seems to have been Liverpool, where 5,000 pigs were kept in licensed commercial pigstyes in the 1930s. Harry Thorpe's survey of 1969 showed that animals were still frequently kept on allotments in towns but he found that this caused friction about smells, flies, dirt and "disreputable structures" that "lower the tone" of sites:

> The tenants of allotment gardens whose only desire is to grow fruit and vegetables on their patches of ground, assert that the allotment holders who keep livestock are different people; they have different aims, different interests and different standards.[xv]

Allotments

Until about 1900 allotments in Britain were mainly rural, providing farm labourers with sustenance for their families. The Small Holdings and Allotments Act (1908) seems to have changed this, forming the basis of modern law in this area and giving encouragement to the provision of urban plots. The Allotments Act (1925) required allotments to be considered in every new town planning scheme. The First and Second World Wars, with their campaigns such as "Dig for Victory", were further stimuli. In 1939 there were 570,000 plots in the urban areas of England and Wales, and in 1944 these were estimated to be providing 10 per cent of national food needs.[xvi]

The decline of urban food production

Bid-rent theory would have us believe that agriculture inevitably falls before the onslaught of bricks and mortar, because the latter will always be more competitive in bidding for land. Although this is essentially true, the fuzziness of the land market in the real world prevents the fully rational outcome anticipated by such normative economic models. It seems that many other factors have been involved in the decline of urban farming.

As far as horticulture is concerned, for instance, tenurial conditions were always important in the peri-urban zone. Leases were often short and market gardeners had to calculate whether it was worth their while to occupy a particular piece of land for the time that was available. Thus tree crops were never popular close to the suburban fringe for the obvious reason that the 10–15 year lag before fruiting might be not be completed before the plot was ripe for housing or industry. Landowners often included a "resumption clause" in leases, which meant that possession could be resumed "at will", usually when a suitable offer came in from a builder.[xvii] Vegetables were ideal for short leases where construction was anticipated because yields were high and catch crops could be taken in weeks. Growing them therefore helped avoid the need for land to stand idle between land uses, which is a common feature of the so-called urban shadow.

Intensive production declined near London around 1900 for a number of reasons. First, the cost of casual labour rose, making weeding and harvesting more expensive and at the same time one the main sources of cheap fertility was choked off as horses were replaced by the internal combustion engine and cows were banished from the city. Second, there were problems of smoke pollution and trespass that made inner-city locations increasingly difficult for market gardeners. Third, there was increasing competition from producers within a few hours carting range who farmed at a lower level of intensity and therefore lower cost, and from provincial areas with some natural advantage or historical specialism. Kent, the Vale of Evesham, the Fens, Bedfordshire and coastal

Cornwall were all-important examples of the latter. The advent of the railways enabled their competitive edge to sharpen in the last thirty years or so of the nineteenth century.[xviii] Imports of foreign fruit also increased.

The idea of urban horticulture has not faded entirely. Many cities still have nurseries within their boundaries and all have garden centres. The emphasis has now shifted from food production to ornamental plants and much of the stock comes from out-of-town wholesalers.

The idea of animal husbandry in cities has been more thoroughly challenged. Chris Philo, in a welcome excursion into the relationship between animals and the 'urban', has argued that among the inclusions and exclusions, non-pets have been assigned by the modern mind to the latter category because of their perceived transgressions against the norms of cleanliness and purity.[xix] The lives of food-producing animals are now seen to belong to the 'rural' world, and even their deaths in urban slaughterhouses are less tolerated. The construction of this attitude is worth discussion because it was complex and not without resistance.

The sanitary discourse of Victorian and Edwardian Britain was a powerful vehicle for eliminating from towns those activities associated with smells and dirt, and connected in many people's minds with disease. In the capital the process was already under way in 1853 when the new Medical Officer of the City of London, John Simon, introduced draconian bye-laws about the construction of cowsheds. It was the wealthy residential districts of the West End, however, which were most assiduous, with several Local Authorities in the 1860s and 1870s refusing to licence cow-keeping within their jurisdictions. No doubt local lobbying was a factor, although we have no evidence of this. Withholding licences was possible within the Provisions of the Metropolitan Self Management Amendment Act of 1862 but most of London was not greatly affected until 1879 when the Metropolitan Board of Works made regulations under the Dairies, Cowsheds, and Milkshops Orders. From then on pressure was applied by requiring improvements in such aspects of cowshed construction and management as paving, lighting, clean water provision, the volume of air space per animal, ventilation, drainage and cleansing. The additional expense of these alterations was sufficient to force many milk producers out of business, especially as country milk brought by railway was becoming more competitive in the last few decades of the century.

From this account one might imagine that the creation of a sanitised city, devoid of food-producing animals and noxious trades such as slaughtering, tanning and soap boiling, would only have been a matter of time. But the reality was complex, with variations both in time and space.

In London, the East End authorities seem to have been the most tolerant of cows and pigs. Food production was a significant activity in districts such as Whitechapel and Bethnal Green, both poor areas where sustainable livelihoods could not be taken for granted. Closing off such an opportunity for employment would not have been appreciated by voters. Also, here the inhabitants of the slums were much less vocal about environmental hazards than their more comfortable counterparts in Belgravia and Mayfair, and the low rateable value of property meant that the Sanitary Authorities had less income to invest in inspectors and prosecutions.

In other parts of the country there were also variations of practice. In most cities cowkeepers continued longer than in London. In Liverpool, for instance, there were still 1,000 urban cows as late as 1956 (see Table 4), and this was undoubtedly because of the Corporation's conviction that cattle under their control were less likely to be diseased than those based rurally. Table 5 shows that they were correct.

Table 4 Cows and cowsheds in Liverpool.

	Licensed cows	Licensed cowkeepers
1870	4,948	493
1880	5,322	450
1890	5,104	378
1900	5,905	437
1910	6,691	447
1920	4,942	295
1930	4,931	281
1940	3,644	187
1950	1,882	99
1960	519	23

Source: Medical Officer of Health Annual Reports.

Table 5 Tuberculosis detected in Liverpool's milk supply, 1896–1950.

Urban milk		Country milk	
Samples	% tuberculous	Samples	% tuberculous
20,139	4.30	24,330	6.39

Source: Medical Officer of Health Annual Reports.

City authorities were understandably wary of the quality of the rural milk sent to their citizens. In the late nineteenth century this was very likely to be adulterated, as well as dirty and possibly diseased.[xx] The housing conditions of cattle were appalling (see Table 6) and there was little enthusiasm for imposing expensive improvements:

> The urban [and rural] district councils are dominated by uninstructed farmers who regard regulations governing milk supplies as nuisances to themselves. The inspectors are discouraged from performing the work adequately, and if there is an inspector in those areas who does his work conscientiously he will not long keep his job.[xxi]

Table 6 The state of country shippons serving Manchester.

	Shippons in which there were no cows with tuberculous udders	Shippons were cows did have tuberculous udders
Bad general condition of building	37	56
Size and ventilation insufficient	34	62
Shippon not clean	28	53
High proportion of old cows	27	53
Cows in poor condition	13	21
Average number of cows in suspicious udders	5.6	12

Average number of cows with tuberculous udders	0.0	3.7
Average number of cows per farm	20	25

Source: Delépine (1910, 1332).

Part of the problem was that before the 1920s rural producers were not penalised for poor quality milk and were not under any pressure from their local authorities. It is scarcely surprising therefore that urban cowkeepers were finding it difficult to compete. The situation was summed up in the House of Commons by Dr Christopher Addison:

> The members of the various authorities in the country, that is, small urban councils and so forth, frankly, are not enthusiastic to adopt the Cowsheds Orders; are not enthusiastic to secure clean milk supplies for London or Birmingham, or some place two or three hundred miles away. When one comes to study the various Public Health Acts and the enormous number of Private Acts which have to do with the control and regulation of our milk production, I think it is fair to describe them as a hopeless chaos.[xxii]

The rural regulatory laxity demonstrated in Table 7 was changing in the 1920s and 1930s but by then it was too late for many city cowkeepers. Those who survived were largely to be found in towns where fear about tuberculosis in country milk outweighed the urge to cleanse the urban built environment.

Table 7 Cowshed regulations adopted by 1907.

	Regulations under Article 13 of 1885 Order	Regulations based on Local Government Board Circular of 1899	No regulations
County Boroughs	39	30	4
Other Boroughs	86	127	40
Urban Districts	330	345	131
Rural Districts	220	266	171

Source: Ministry of Health (1906-1909); Return showing names… (1907).

Conclusion

In the twentieth century urban food production declined steadily in Britain. There was competition from rural and foreign producers, both of whom had lower overheads and whose comparative advantages were facilitated by improved transport and storage technologies and also by better organized marketing channels. Meanwhile the costs of urban producers rose, not least because of the regulatory framework established by the local state.

However, that local state was not monolithic by any means. The Dairies, Cowsheds and Milkshops Orders (1879, 1885, 1886, 1889, 1899) were permissive and inevitably this led to a great deal of variation between urban areas, let alone between town and country. It was not until the Milk and Dairies Order (1926) that inspections became compulsory and conditions of production became subject to general standards.

Market gardening, cow and pig keeping were increasingly marginalized in urban life. It is noticeable that animals which had no access to grazing were concentrated in the poorer districts, where complaints about smells

and other forms of pollution were rare. Their keepers were often poor people, especially rural immigrants finding their way in a strange environment.

Horticulture also survived in the peri-urban zone longest in the interstices of the built fabric. This was not resistance to the flood tide of urbanization from a group of eccentric gardeners but rather a means of optimizing returns to land that everyone knew would eventually be developed. There was an economic logic here which suited the growers, the landowners, and presumably also the consumers but, as the opportunities faded, so did the production.

The power of the urban land market and of the officious state have swept British cities clean of farming. The survival of allotments, garden centres and pony clubs is a modest reminder of the country in the city but the memory is dim because the urban mind itself has effectively eliminated the very idea of food production in its area of dominance. Urban farming has been thought out of existence and banished to an outer sphere, the mutually exclusive binary category that we call 'rural'.

This outcome is not inevitable. As suggested in the introduction, urban farming continues to thrive in Low Income Countries and there are currently international efforts to encourage it further. The hygienist discourse, which has dominated much Western thinking about urban planning, is less evident in the poor world, and urbanization there is still a magnet for people with rural skills. One imagines that it will be several decades yet before the milk producers disappear from Madras or Dhaka.

Bibliography

Atkins, P.J., 'The intra-urban milk supply of London, circa 1790-1914', in: *Transactions of the Institute of British Geographers*, new series, 2 (1977), 383-99.

Atkins, P.J., 'The production and marketing of fruit and vegetables 1850-1950', in: D.J. Oddy & D. Miller (eds.), *Diet and Health in Modern Britain* (London, 1985), 102-33.

Atkins, P.J., 'The charmed circle: von Thünen and agriculture around nineteenth century London', in: *Geography*, 72 (1987), 129-39.

Atkins, P.J., 'Sophistication detected: or, the adulteration of the milk supply, 1850-1914', in: *Social History*, 16 (1991), 317-39.

Atkins, P.J., 'White poison: the health consequences of milk consumption', in: *Social History of Medicine*, 5 (1992), 207-27.

Atkins, P.J. & Bowler, I.R., *Food in society*: *economy, culture, geography* (London, 2001).

Bennett, L.G., The development and present structure of the horticultural industry of Middlesex and the London region, unpublished PhD thesis, University of Reading

Cuthill, J., *Market gardening, or the various methods adapted by gardeners in growing for the London market*, 5th edn (London, 1870).

Delépine, S., 'Report to the Local Government Board, on investigations in the Public Health Laboratory of the University of Manchester upon the prevalence and sources of tubercle bacilli in cow's milk', in: *Report of the Medical Officer to the Local Government Board, 1908–9*, Appendix B, No. 5 (1910), 341–414.

FAO, Issues in urban agriculture, *Agriculture* 21. [http//faoext02.fao.org/ WAICENT/FAOINFO/AGRICULT/magazine/9901sp2.htm.]

Faruqui, N., Mougeot, L., Smith, O., Wilson, B. & Hovorka, A., Cities feeding people: programme summary, 1997–2000, CFP Report Series, Report 22 (Ottawa, 1998). [http://www.idrc.ca/cfp/rep22_e.html]

Freeman, D.B., *A city of farmers: informal urban agriculture in the open spaces of Nairobi, Kenya* (Montreal, 1991).

Helmore, K. & Ratta, A., The surprising yields of urban agriculture, in: *Choices* (UNDP) (April, 1995), 22–27.

Mbiba, B., *Urban agriculture in Zimbabwe: implications for urban management and poverty* (Aldershot, 1995).

Meikle, J., 'Pigs in the city', in: *Guardian* (11 August, 1999).

Ministry of Health (1906-1909) Milk Bill Papers 1906 to 1909, Public Record Office MH 80/3.

Philo, C., 'Animals, geography, and the city: notes on inclusions and exclusions', in: *Environment and Planning D: Society and Space*, 13 (1995), 655–81.

Report, Departmental Committee of Inquiry into Allotments (Cmnd 4166), Chairman: H. Thorpe (London, 1969).

Return Showing the Names of the Councils of Boroughs and Urban and Rural Districts who have Made Regulations under the Dairies, Cowsheds, and Milkshops Order of 1885, *British Parliamentary Papers* 1907 (152) lxvii.381

Sachs, I. & Silk, D., *Food and energy: strategies for sustainable development* (Tokyo, 1990).

Shaw, C.W., *The London market gardens: or, flowers, fruits, and vegetables as grown for market* (London, 1879).

Stanhill, G., 'An urban agro-ecosystem: the example of nineteenth-century Paris', in: *Agro-Ecosystems,* 3 (1977), 269–84.

Whitehead, C., 'The cultivation of hops, fruit and vegetables', in: *Journal of the Royal Agricultural Society of England*, series 2, 14 (1878), 723–60.

Williams, R., *The country and the city* (London, 1973).

Notes

[i] I am grateful to the participants at the Sixth Symposium of ICREFH in Tampere for their comments on a earlier draft.
[ii] Atkins & Bowler (2000).
[iii] Atkins (1977); Atkins (1987).
[iv] The classic reference for this is Williams (1973).
[v] Freeman (1991); Mbiba (1995).
[vi] Sachs and Silk (1990).
[vii] FAO; Faruqui et al. (1998).
[viii] Helmore and Ratta (1995).
[ix] [http://www.idrc.ca/cfp/rep22_e.html]
[x] Meikle (1999).
[xi] Atkins (1987).
[xii] Cuthill (1870); Shaw (1879).
[xiii] Whitehead (1878). Stanhill (1977) gives a fascinating account of the equivalent *marais* in Paris that shows how extraordinarily intensive market gardening was in the nineteenth century.
[xiv] Atkins (1977).
[xv] *Report, Departmental Committee of Inquiry into Allotments* (1969), 192.
[xvi] Ibid.
[xvii] Bennett (1950).
[xviii] Atkins (1985).
[xix] Philo (1995).
[xx] Atkins (1991; Atkins 1992).
[xxi] *Parliamentary Debates* 161 (1923), 194–95
[xxii] *Parliamentary Debates* 39 (1912), 190–95.