URBAN AGRICULTURE IN CARDIFF

Its Potential Contribution for Creating a ‘Sustainable Capital’

by

Stephen Garrett

A dissertation submitted in partial fulfillment of the requirements for the degree of Master of Science in Regeneration Studies

School of City and Regional Planning
Cardiff University
December 2008
SUMMARY

The focus of this dissertation is on the potential for developing urban agriculture in the Welsh capital city of Cardiff, looking at the opportunities and obstacles facing this ambition and evaluating the potential for such a food production system to contribute to Cardiff’s long term aim of becoming a ‘sustainable city’ while at the same time creating a greater level of local food security. There is also an evaluation of the broader potential social benefits which local food growing activities can potentially deliver.

The term ‘urban agriculture’ has been used to refer to food growing activities of all types and scales which take place within an urban environment and which involve people in growing food for both commercial and/or non-commercial reasons.

The key questions this thesis has aimed to address are as follows: Could urban agriculture be economically viable in Wales, and in the city of Cardiff in particular? Could sufficient quantities of food be produced to meet local needs? What are the potential risks and drawbacks of developing a city-based approach to food production? What are the key policy and planning issues?

In exploring this theme, this thesis aims to examine the three overlapping issues of food security, the positive health implications of a more localised food sourcing and its contribution to greater environmental sustainability.

Conclusions are reached about how urban agriculture could function in Cardiff, and the contribution it could make to the social, economic and environmental life of the city. Practical recommendations are offered about the kind of government policies and city planning strategies which would support the development of urban agriculture.
# CONTENTS

Summary iii

List of Illustrations v

Acknowledgement v

Chapter 1: Introduction: The Role of Local Food Production in Creating a Sustainable Wales 1

1.1 Urban Agriculture in Developed Countries 4

Chapter 2: Urban Agriculture and Sustainable Food, a Literature Review 7

2.1 Local Food and Sustainable Cities 8

2.2 Urban Agriculture: A New Local Food Chain? 10

2.3 Local Food: Challenges and Limitations 12

2.4 Broader Potential Benefits of Urban Agriculture 14

2.5 Sustainable Food? 17

Chapter 3: Research Methodology 21

Chapter 4: City Planning and Urban Agriculture 24

4.1 Urban Agriculture and Sustainability 27

4.2 The Role of Local Government in Supporting Urban Agriculture 31

4.3 Current Urban Agriculture Initiatives 33

4.4 Urban Agriculture in the UK: Putting Down Roots 34

Chapter 5: Case Study: Urban Agriculture in Havana, and Lessons for Cardiff from a Planning Perspective 37

5.1 Background: Urban Agriculture and Development 38

5.2 Impressions of Havana 38

5.3 Operational Details 39

5.4 Planning for Urban Agriculture in Havana 41

5.5 The Future 42

Chapter 6: The Policy Environment for Urban Agriculture in Wales 43

Chapter 7: Conclusions and Recommendations 46

Bibliography 52

Web Sites Visited 60

Appendices 62

Appendix 1: The Havana Interviews: Edited Transcription 62

Appendix 2: Images of Urban Agriculture in Havana 67

Appendix 3: Images of Urban Agriculture in the UK 69
LIST OF ILLUSTRATIONS

Tables
Table 1: Land needed to produce various foods 14
Table 2: Relative impact of factors on Cardiff’s ecological footprint 18

Figures
Figure 1: Relative self-sufficiency of fruit in EU Countries 3
Figure 2: A ‘map’ of the factors which influence public health 48
Figure 3: A typical ‘organoponico’ close to central Havana 67
Figure 4: Small scale commercial herb garden 67
Figure 5: Typical small urban organoponico 67
Figure 6: Small organoponico run as a private enterprise on state-owned land 67
Figure 7: Larger cooperative state-run ‘organoponico’ 67
Figure 8: Typical organoponico shop 68
Figure 9: Another organoponico shop 68
Figure 10: Fixed prices at the local market 68
Figure 11: A limited range of produce at a local market 68
Figure 12: Queuing at a local vegetable stall in Old Havana 68
Figure 13: Allotments in Roath Park, Cardiff, c.1945 69
Figure 14: Weeding the crops in Roath Park, c. 1945 69
Figure 15: From a lawn... (2008) 69
Figure 16: …to an edible garden (Australia) 69
Figure 17: Park garden in Middlesbrough 69
Figure 18: Roof garden (Chicago) 69

ACKNOWLEDGEMENT

Special thanks are due to the Welsh Livery Guild for sponsoring my research trip to Havana, Cuba: 1st – 14th November 2008.
CHAPTER 1:
INTRODUCTION: THE ROLE OF LOCAL FOOD PRODUCTION IN
CREATING A SUSTAINABLE WALES

“Living within ecological limits is the non-negotiable basis for our social
and economic development.”

(UK Sustainable Development Commission, 2007)

Gardening has long been a popular pastime with Welsh people, and most Welsh towns
have active allotments where local residents grow a wide range of fruit and vegetables,
albeit for primarily recreational motivations. The question that concerns this dissertation is
whether urban food growing has the potential to play a more significant role in improving
the health, well-being and local economic development of Wales. To date, much has been
written about the benefits of urban growing in the developing world, but has become an
expanding area of interest for the public and for policy makers in developed countries as a
possible means for addressing environmental, social and economic concerns to do with
how our food is produced and distributed. In some parts of the western world remarkable
strides are already being made in expanding the potential for more food to be grown close
to the point of consumption within urban environments (Appendix 3: Figures 13–18).

Rob Hopkins, founder of the Transition Town movement, and one of the UK’s best known
advocates for a new approach to city planning which encourages local residents and local
authorities to take practical steps in adapting to a future of declining, or less available, oil
supplies, is clear that urban areas which want to become sustainable must develop a more
localised way of providing food for residents (Hopkins, 2000). In the face of increasing
food prices, profound changes in the world economic system and mounting concerns about
global warming, Hopkins’ concern with finding practical and deliverable steps to a more
sustainable urban lifestyle is being adopted by a growing number of people including, in a
significant way, the government and people of Wales, who now seem willing to consider
new economic and social models which until recently might have been considered too
radical or impractical.

Because food is such an immediate and basic requirement for our day-to-day survival, any
potential threats to its availability quickly focus the attention of the public and of policy
makers. The way in which our food is produced and distributed provides a focal point for
broader issues in connection with how the globalised economy operates and the implications of that increasingly centralised model for the well being of society and for the environment.

Whatever the reasons for the recent changes in the ‘economy of food’, public calls to government for greater security of access to sufficient food, and for food to be produced in an environmentally more benign way, seem likely to increase. At a recent panel discussion hosted by the Abergavenny Food Festival (2008), Prof. Tim Lang described the high level of anxiety at which emerged central government level during the lorry drivers’ strike of 2007 when it was realised that within three days, the shelves of food retailers would start to empty and there was no way they could be restocked. This situation apparently brought home to Ministers the extent of our dependence on a globalised food economy, and the level of vulnerability inherent in that dependence, for example to changes in oil supplies.

In her history of food and society in Britain, Steel (2008: 60) reminds us that until recently the majority of the apples eaten in the UK were grown in this country. We now import nearly 95 per cent of our apples, and are by far the highest importers of fruit in Europe a situation that is replicated in a number of other food items (Figure 1). One is also led inevitably to ask, for example, why it is that Wales, a country that famously is home to more sheep than people, still imports significant quantities of lamb from New Zealand. Similarly, it seems to contradict common sense that the UK exports to Europe a roughly similar quantity of potatoes as it imports each year, and Patrick Holden, the West Wales-based Director of the Soil Association, has expressed is discomfort at the fact that his carrots had to be shipped hundreds of miles to be packed before travelling back to be sold at his local supermarket. There are indisputable efficiency gains to be had from centralising and coordinating the harvesting, marketing, distribution and retailing of food, as the supermarket chains have found to their great profit.

It would seem self-evident that the financial benefits derived from simply moving food around can only exist because our economy is still organised in such a way that environmental costs of pollution and other damage are hidden or externalised. How such a system would operate if oil supplies are threatened in terms of availability or price is a real concern. This dissertation looks at the extent to which a model of highly localised urban food production which could play a part in addressing this issue, in general terms and also specifically in relation to the Welsh capital city of Cardiff. It draws on the example of
‘urban agriculture’ in Havana as a way of illustrating what some of the opportunities and constraints might be in practice for such a model to ‘take root’ in Wales.

Figure 1: Relative self-sufficiency of fruit in EU countries. 

Food Links UK is a national organisation which describes itself as: “a national voice for groups that aim to achieve fairer, healthy and sustainable local food systems”. Their vision for a ‘healthy food system’ has been described on their Local Food Works web page (http://www.localfoodworks.org) as one which is: “designed to feed all people, throughout the world, well and forever”. Significantly, their perspective on health is also concerned with broader social and ecological values, and make a plea for: “A new food system … which promotes social justice and the development of strong communities at the same time as ensuring an adequate supply of fresh healthy food”. This proposed link between food production and wider social benefit which is one that is echoed in much of the writing concerning local growing activities in all parts of the world, and one that will be returned to in this dissertation.

Thinking of ‘quality of life’ as a priority in adopting a particular economic model is becoming more prevalent in many parts of the developed world as the ‘credit crunch’ takes hold and people begin to re-evaluate what is important in their lives. This broader approach to concepts such as ‘quality’ and ‘wealth’ is reflected in a Well Being Manifesto adopted by the New Economics Foundation (2004), which investigated how policymaking and the economy could look if the government’s main aim was to promote well-being. Their conclusion was that people should seek to maximise their happiness, and not just the
quantity of their possessions. This view underpins much of the writing on sustainability and, more specifically, on the potential for developing a more localised food economy.

One of the basic premises of capitalist growth and ‘free trade’ is that places should produce what they are best at and then trade that with others for what they need from them. Shuman (1998) believes that in the real world, because of the mobility of capital, this creates a very uneven playing field that consistently contributes to the best interests of the stronger players at the expense of the rest. As an alternative, he proposes a model of local self-sufficiency, arguing that many products can and should be made locally in a more ecologically sustainable way and can substitute for imports. This reflects the standpoint of those who propose a new approach to food production which would see empty spaces in city environments used to produce fruit and vegetables to feed the local population. What is needed is a clear vision of how such a situation could be brought about.

1.1 Urban Agriculture in Developed Countries

In looking at the role of urban agriculture in the cities of some less-developed countries, Mougeot (2006) describes how local small-scale food production makes a significant contribution to food security for poor families, providing consistent access to sufficient food at affordable prices over the long term. The nutritional benefits of local food production are increasingly also being recognised in developed countries where “exclusion from the consumption of fresh produce is becoming a reality for many people living in poorer urban areas as their localities effectively become retail deserts” (Howe 1999: 24). In a report of 2002 looking at disparities in the availability of fresh and healthy food across different social and demographic areas, the government think-tank DEMOS concluded that the disproportionate influence of large retailers on how planning for food retailing was allocated resulted in pockets of real ‘food poverty’ across the UK which could only be addressed by a more pro-active government role in promoting greater food access (Jupp, 2002; Howe 1999: 24).

To date it has been left to community food projects such as Community Food Enterprise in Newham (http://community-food-enterprise.org.uk) – a social enterprise which provides a mobile shop service in a large economically disadvantaged area of West London with
virtually no food retailers – and the expanding network of ‘food coops’ which exist to make fresh produce available to residents of poorer communities at wholesale prices.

Taking the process of urban food provision one step further to one of actual food production in the city – using the term ‘urban agriculture’ – is now on the sustainability agendas of an increasing number of Western cities. Experience in the US has shown that although levels of actual food production at local food growing projects may be limited, at least in the early stages, there are a number of immediate benefits to be had in allocating land to food growing. In their report on urban agriculture, the Community Food Security Coalition (2003) observed that: “City revitalization efforts which include urban agriculture have a regenerative effect when vacant lots are transformed from eyesores – weedy, trash-ridden, dangerous gathering places – into bountiful, beautiful and safe gardens that feed peoples’ bodies and souls”.

The environmental benefits of urban agriculture are already familiar to those working in less-developed countries (Smit and Nasr, 1995; Nasr et al., 1996) who have emphasised that city-based agriculture also helps to protect the urban environment in a variety of ways, for example by making use of organic waste products by turning them into mulch and compost, and using wastewater for irrigation. Garnet (1997) also points out the range of other benefit that can accrue from city food growing – including reducing the waste-stream, providing poor urban dwellers with an otherwise rare contact with the natural environment, improving access to healthy diet and even income generation.

The idea of growing food within city limits is by no means a new one. Garnet reminds us (op cit.: 62) that in the nineteenth century, market gardens in Paris produced a high proportion of the fresh produce consumed in the city, using all kinds of waste generated by the city as a growing medium, and until the end of the First World War, they were famous for the abundance of their crops. ‘Victory Gardens’ were planted in America during World War II to reduce the pressure on the public food supply brought on by the war effort and these gardens were also considered a civil ‘morale booster’ in that gardeners could feel empowered by their contribution of labour and rewarded by the produce grown. There are also plenty of people still alive who can remember the wartime Dig For Victory campaigns when backyard and gardens became suddenly very productive in the UK in response to a nationally perceived need to support the war effort (Appendix 3, Figures 13–14: Food growing in Roath Park, Cardiff circa 1945).
With the current concerns about security of access to food at affordable prices, coupled with increasing public demand for food that gets to their plates in an environmentally friendly way, a similar spirit of flexibility and support in relation to local food growing may be needed. Garnet (*ibid.*) notes that the greatest difficulty facing an urban food growing initiative can be as simple as access to appropriate land, but concludes that, with sufficient political will and effective work in partnership with voluntary sector organisations, there is no reason why this cannot be overcome by local authorities which have sufficient vision and determination.

As the capital city of Wales, Cardiff has a modest population of less than 400,000 people, and is a particularly relevant focal point and ‘test case’ for a review on how this political will might be found, not least because the Welsh Assembly Government prides itself on being the only national government worldwide which, to date, has made a core policy commitment to sustainability.
“Urban Agriculture [describes] an industry located within ... or on the fringe... of a town or a city... which grows or raises, processes and distributes a diversity of food and non-food products, (re-) using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area.”

(Mougeot, 2006: 1)

Prof. Tim Lang, one of the UK’s foremost thinkers in relation to food policy and a regular advisor to central government, describes what he calls a state of ‘turmoil’ in our existing food system resulting in an inequity in terms of access to good food, combined with the exploitation of consumers by food companies. Lang proposes that that the large food corporations now control the means of food production, distribution and marketing – a combination of factors which are referred to by Morgan et al. (2006) and others as the ‘food chain’ – to such an extent that the public can only make very limited choices about what they purchase and eat. The implication is that the disempowerment, ill health and environmental damage which may result from this system can only be addressed by radical changes in how food is produced and distributed, and a need for much greater government involvement in this process (Lang, 1999: 216–225)

A recent report commissioned by the Worldwatch Institute concludes that, in the most developed countries: “The food system is now so intensely consolidated, and support for long-distance food is so pervasive, that the scattered efforts to invigorate local food systems could have as little effect as a mosquito bite on a tractor” (Halwell, 2002: 50). In other words, the existing corporate food chain which generates huge profits by shipping mass produced food huge distances with what seems to be little, or no, concern for environmental, health or social impacts, is so well consolidated, and has such a huge economic impact, that any change in the existing food economy is not going to happen without strong political support.
Some writers challenge the idea that there is something inherently bad about large-scale food chains (Born and Purcell, 2006). The suggestion is that, even assuming an interest in values such as ecological sustainability, social justice, democracy, better nutrition, food security, freshness, and quality, it is questionable whether a local-scale food system will be inherently better able to deliver these things than a national-scale or global-scale food system. At the same time Campbell (op cit.) agrees with Lang (ibid.) that a sustainable food economy is needed which will engage with people in a way which offers them a healthier diet and also engage them in a process of more active engagement, resulting in a sense of entitlement to make choices which are not determined by the producers and marketers of the mainstream food system.

It is suggested that an over-reverence for all things local may detract from the main challenge of ensuring that a growing population is adequately fed (Campbell, 2004) and that rather than a binary ‘local food good, global food bad’ approach (op cit.: 305), we need a workable model that involves elements of both approaches. Additionally, if narrow ‘defensive localisation’ strategies are pursued at the expense of wider societal interests such as inclusivity, this approach “does not give planners or others much leverage to bridge food systems tensions or even ideas of where to begin” (op cit.: 346).

DuPuis and Goodman (2005: 360) also caution that ‘the local’ may become what they call “a site of inequality and hegemonic domination” and they argue for the need to develop a ‘reflexive localism’ which emphasises the building of local partnerships and ensures that the process is an inclusive and empowering one for participants. Research undertaken at the University of Sussex (Pretty, 2001) on the feasibility of expanding local food production also warns that there could be negative implications to a more local food system for a societal point of view, such as a potential loss of jobs and a reduction in overall food productive efficiency.

2.1 Local Food and Sustainable Cities

As well as the risk of revering the ‘local’ in an unreflected or inappropriate way, there is a tendency amongst environmentalists to assume that cities are inherently bad places to live and damaging to the environment. However, the paradox is that as human population and economic activity increases, relativity dense groupings of people may become a necessary
part of human survival, because a city can be much more resource efficient in per capita terms that a more dissipated structure (Rees and Wackernagel, 2005).

Basagio (1996) observes that the current notion of a ‘sustainable city’ is a relatively new one, stepping from ecological concerns which emerged in the early seventies. These in turn reflected earlier plans for ‘Garden Cities’ which had their roots in the idealistic views from at the turn of the century. Steel (ibid.) also explains how, prior to the industrial revolution, cities in Europe experimented with a range of ways of developing closer inter-relationship with their natural and productive surroundings, particularly in relation to the provision of adequate food. It was only with the arrival of industrialisation and the rapid growth in urban populations in England that the connection between the population and the source of their food began to be broken, and the foundations laid for the current generation, some of whom – if we are to believe the news stories – are hard-pressed to acknowledge that a potato chip has it’s origins in something which had to be dug out of the ground.

The broader implication of this concern with urban sustainability, which is accelerating as evidence of the limitations to our current patterns of resource consumption becomes clearer, is that we have to start thinking about cities as living systems linked to nature, so that a radical and more sustainable vision of how a city will feel and function can be created. This vision of the city is in sharp contrast with what Dekay and O’Brien (2001) describe as “the mechanistic city” which in their view is mostly “dead” in that it produces almost nothing in ecological terms and depends on remote sources for food while ignoring the valuable organic resources in its waste stream.

There is a growing consensus that new models for urban living can, and indeed must be devised which will reflect a new set of environmentally sensitive postindustrial values and also an economic reality in which oil is becoming more scarce, and the pollution caused by the burning and other uses of fossil fuels are an imminent threat to the planet. In particular, the suggestion is that the way our food is produced and distributed has a central role to play in determining how sustainable a city can be, as well as contributing in a variety of ways to the quality of life for residents.

Pearce (2006) has an optimistic perspective which sees the rapidly expanding cities of the world as “far from being parasites on the world”. Rather, he believes that they “could actually hold the key to sustainable living for the world’s booming population”. The two
key steps to this stage in his view are, in his view, to abandon an approach to city planning which has been designed around cars (initially championed in the US and since adopted as a model world-wide) and to plan for more food to be produced within city limits.

2.2 Urban Agriculture: A New Local Food Chain?

It is clearly important to be realistic about the contribution that urban growing could make to the food supply. There is a well-documented history of city-based food growing in many parts of the developing world, where it has played a significant role in ensuring adequate levels of nutrition for the poorest people. At the individual and family level, this approach to small-scale agriculture has enabled people with very limited resources to grow food for their own use, at the same time as creating surpluses which can be sold to generate income. Because of the minimal need for inputs and transportation, urban agriculture produces food which can be sold locally at a price which is affordable to those with minimal incomes. In effect, urban agriculture removes food from the normal business approach of maximising profits – a ‘market logic’ which can easily exclude those with the least resources and the greatest need (Nasr et al., 1996)

If in the past, issues of food security and sustainability tended to be concentrated in the developing world only, where large sections of the population are undernourished, it is today increasingly recognised that the developed world also has a ‘food problem’, with rising levels of obesity and environmental damage so that goals of sustainable agriculture are now as relevant in the developed world (Johnson, 2006). The reasons for the increasing levels of urban agriculture activity in the developed world are described succinctly by Henning (1997) as a combination of factors, including: “a crumbling urban core, combined with resource outflows, increasing urban poverty, malnutrition, social network decay, and market system failure”.

Ten years ago Jac Smit (1996), one of the best known writers on the role of urban agriculture for developing countries, held out an optimistic vision of sustainable cities where the growing of food would be ingrained in the design and the management of urban spaces, and ‘closed loop’ systems would mean that what was formerly viewed as ‘waste’ becomes an input to food production processes that could not only meet food needs but also address social and economic requirements without damaging the environment. Smit
emphasised the important role that local government has in evolving policies and support mechanisms, including planning legislation, which can enable this new sustainable approach to food production to take place.

Mougeot (*ibid.*: 2) observes that the main obstacles to city food growing to date have come mostly from urban planning, public health and environmental departments. As a first step to addressing this situation, he argues for greater conceptual clarity about the term ‘urban agriculture’ so as to make its integration into mainstream activities more feasible and that it is important for there to be a clearer sense of the risks and potential associated with such activity by national and local governments so that it can be properly developed and regulated.

In looking at the experience of urban food growing in the US, Jolly (1999) observes that, from a purely food producing perspective, the results to date of urban agriculture in California have been less than impressive. There seem to be a number of reasons for this, including the shortage of available land which is suitable or available, and the fact that urban ‘farmers’ often lose interest if they are involved purely from a voluntary or ideological perspective. Research undertaken by the American Community Gardening Association (1998) similarly showed that in the US there is quite a high and consistent rate at which community gardens are ‘lost’, for a variety of reasons, with a low rate of security of land tenure by gardeners. More to the point, from a city planning perspective, they found relatively few cities where a progressive or supportive policy towards supporting local small-scale food production was in existence.

Another US study (Bailkey and Kaufman, 2000) looked at a wide range of urban food-growing activities and found that city farming enthusiasts were far outnumbered by those who were sceptical about it or disinterested. Many urban agriculture projects were under funded, understaffed, and confronted with difficult management and marketing issues. Crucially, urban agriculture was not seen as the “highest and best use” of vacant inner city land by most local government policy officials (*op cit.*: 84). They found that the idea of turning urban areas into areas where a viable food crop could be produced was still foreign to most people.

However, pockets of support for urban agriculture ventures were found among government officials in several cities, and people who lived close to where food-growing enterprises
were located in inner-city neighborhoods were generally positive about the value of such developments for their neighborhoods. There was also some evidence that city farming operations were beginning to identify funding sources to provide working capital for their early stages, and some of the more entrepreneurial urban agriculture projects were beginning to show modest profits. Importantly, most of the established projects were providing a variety of other social, aesthetic, health, and community-building benefits, alongside the core activity of growing local food (op cit.: 83–85).

2.3 Local Food: Challenges and Limitations

Local food projects alone will not solve issues of poverty, but they can have an important role to play in this regard, if only because they can ensure a supply of fresh local food at affordable prices (Power, 1999). For urban agriculture projects to function, they do require a lot of hard physical work, and commitment to them has to be more than ideological (Rodriguez, 1999). It is relevant to refer here to the fact that in order to stimulate urban agriculture projects in Cuba the government took what was, for them, the fairly radical step of allowing them to be run in some cases as private businesses in order to take into account the need for individual incentive. One of the skewed outcomes of this approach, as mentioned in the chapter on urban agriculture in Havana, is that urban farmers earn more than doctors or professors in Cuba, but it does mean that levels of food production in the city are consistently high.

Another reason that local food projects will not in themselves solve poverty issues because they cannot create he necessary longer-term changes needed in economic structures or food access. Faced with the challenges of day-to-life, people with low incomes are understandably likely to bypass healthier food options in favour of more easily available short-term solutions (Dowler and Caraher, 2003). However, because of the essential nature of food, there could be seen to be a moral case to be made for ensuring that access to a good diet is a universal human right, and that in the same way as education and health care, society needs to ensure that a reasonable quality of provision is available to all. Jolly (ibid.) believes that projects which can clearly demonstrate that the outcomes were broader than merely food production. For example training, job creation, work with disaffected youth – that such projects brought justifiable benefits to the community on a variety of levels and
could justify a level of subsidy to make them sustainable. Jolly found that in practice it was almost impossible for such projects to sustain themselves from produce sales.

Despite the apparent benefits of a more localised food economy, there is the risk that urban agriculture could create a two-tiered urban food system, where the only more affluent could afford to have locally grown fresh produce, while everyone else would have to make do with cheaper, lower quality mass-produced imported food. (Jolly, *ibid*.). This concerns is reflected in a recent report published by Newcastle University looking at broad issues of land use and sustainability (Rural Economy and Land Use Programme, Newcastle University, http://www.relu.ac.uk) which also questions whether a preoccupation with local sourcing might deny customers the opportunity to taste and enjoy a wide variety of food cultures, although this diversity should not be offered at the expense of strengthening the local economy (Hinrichs, 2003: 38).

Even acknowledging the likely environmental and other social benefits of a more localised food chain, complementing what can realistically be achieved at a local level in terms of actual food production, it is necessary to take into account the extent to which our existing highly centralised food production and distribution infrastructure and ingrained patterns of food purchasing behaviour could adapt to such a reality. A local food economy would no doubt necessitate a much higher proportion of the population to be living on the land. Would sufficiently large numbers of people would be willing to work on the land to achieve adequate levels of food production? It might also prove difficult for enough local food to be grown without a certain level of chemical input (Fairlie, 2007). There is also the question of whether consumers would agree to forgo their out-of-season fruit in order to be part of a more sustainable and more localised food economy, or whether they would be willing to eat far less meat, bearing in mind that, apart from the health a nuisance risks of attempting to raise meat in an urban environment, thirty times as much land needed to provide same calories from beef as from vegetables (Table 1). The environmental imperative for us to move to more of a vegetarian-based diet is one which has been powerfully argued for by Lappe and Lappe (1972) since *Diet for a Small Planet* first appeared thirty years ago, and a growing food ‘counterculture’ recognises a rapidly expanding interest in healthier and less meat-based diet and the positive environmental impact of such choices (Belasco, 2007).
Table 1: Land needed to produce various foods.

<table>
<thead>
<tr>
<th>Food</th>
<th>Land per kg (m²)</th>
<th>Calories per kg</th>
<th>Land per cap p.a. (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>20.9</td>
<td>2800</td>
<td>8173</td>
</tr>
<tr>
<td>Pork</td>
<td>8.9</td>
<td>3760</td>
<td>2592</td>
</tr>
<tr>
<td>Eggs</td>
<td>3.5</td>
<td>2600</td>
<td>2395</td>
</tr>
<tr>
<td>Milk</td>
<td>1.2</td>
<td>640</td>
<td>2053</td>
</tr>
<tr>
<td>Fruit</td>
<td>0.5</td>
<td>400</td>
<td>1369</td>
</tr>
<tr>
<td>Vegetables</td>
<td>0.3</td>
<td>250</td>
<td>1314</td>
</tr>
<tr>
<td>Potatoes</td>
<td>0.2</td>
<td>800</td>
<td>274</td>
</tr>
</tbody>
</table>

*Source: Gerben-Leenes et al. (2002)*

The obstacles to developing a local food system which makes a significant contribution to health, the economy and food security are not just to do with knowledge, access to land, and a supportive climate but also about evolving the cultural norms and expectations about food purchasing, norms which Lang (ibid.) feels have been so successfully expropriated by the large food corporations. There are also those (Delind, 2006) who believe that food activists tend to overlook the fact that people’s choices about what they eat are not limited to the most rational (i.e. ‘healthy’) or economic choices, but have to do with a range of cultural, social and personal factors which will have to be taken into account in devising any programme which is designed to influence public food consumption patterns.

The implication is that Government has a potentially interventionist role in actively encouraging and widening consumer awareness and choice, a function that has been to some extent delivered by the Food Standards Agency since its formation eight years ago. The Foundation for Local Food Initiatives (2001) have identified several key challenges to ensuring access to a healthy diet for all. In particular they note the need “to learn more from, and influence, consumer understanding of farming and local food; to successfully penetrate the private and public sector catering market (and) to persuade consumers who can afford it to spend more money on food, and to get quality local food to consumers who can’t”.

### 2.4 Broader Potential Benefits of Urban Agriculture

The benefits of growing food in the city include the obvious contributions to household food supply and personal budget savings. But the evidence is that benefits go beyond
nutritional value. Investment in community gardens and their expansion will return significant economic, as well as physical and psychological benefits to the community.

The Joseph Rowntree Foundation (McGlone et al., 1999) found that the social gains for individuals and communities resulting from local food projects are at least as important as nutritional and health benefits, and suggest that: “Projects should be evaluated on the increase in skills, confidence, changes to shopping and eating behaviour, as well as on longer term nutritional and health outcomes”. They emphasise that, as with any community development activity, food growing projects can make an important contribution to community life by provide a place to meet and an opportunity to make friends, although there needs to be a clear balance between these broader outcomes and addressing nutritional issues. A key factor is that everyone who is involved, professionals and local people, feel that their concerns are being met. In order to ensure the genuine involvement of local people as active participants and equal partners: “…it is important that involving local communities starts at the planning stage, when decisions are being made about what type of project is required” (op cit.: 3).

The concept of local food growing encompasses smaller grass roots initiatives such as community gardens, and allotment gardens, where plots of land are allotted for a fee, as well as communal open spaces such as demonstration sites and gardens linked to schools, community or faith centres. According to Hassen (1994: 15),

“Community gardens provide significant economic benefits to unemployed people and low income families. Food produced in community gardens supplements limited incomes…[and] investment in community gardens and their expansion will return significant economic, physical and psychological benefits.”

Community gardening provides people, many who are economically disadvantaged, with the opportunity to grow fresh food, supplementing both their diet. But the benefits of community gardening go beyond nutritional value. Community gardens are examples of inner city food growing which demonstrate how shared growing activities contribute to community building and social cohesion (Holland, 2004). However although the social and educational benefits of such initiatives can be clearly identified, the potential economic benefits have been less clearly documented (op cit.: 304).
An emphasis on the broader community benefits resulting from community food growing projects in terms of increased skills and confidence is reiterated in a Sustain paper on the appropriateness of the ‘social enterprise’ model (Sustain, 2002a), which has been defined by the Department of Trade and Industry (2002) as: “A business with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or in the community, rather than being driven by the need to maximise profit for shareholders and owners”.

Local Food projects can also contribute in many ways to local economic development. For example, they encourage can be trading and bartering for land, equipment, seed, composting, fencing, information and educational materials. Local greenhouses, nurseries and garden supply stores experience better business, and some urban agriculture projects emphasise entrepreneurialism through market gardening and micro-enterprises or by promoting farmers’ markets. The New Economics Foundation have calculated that every pound spent with a local supplier is worth nearly two pounds to the local economy, and only 36 pence if it is spent out of the area (Ward and Lewis, 2002).

A recent article in the *The Guardian*, business journalist Tania Branigan (2006) pointed out benefits that small scale food growing projects can even indirectly bring to the mainstream economy, because: “…greener cities attract highly skilled workers, who contribute to stable economic growth and are likely to press for even tougher environmental standards, creating a virtuous circle”. There is also evidence that green spaces including gardens and public areas, improve the mental and physical health of residents. Branigan (*op cit.*) goes so far as to say:

“Green cities are not merely aesthetically pleasing. Rather, they are a key engine of economic growth in the modern skills economy… green amenities do attract and select for the highly skilled. Where those people cluster, innovations and cross-industry synergies take place. The net result is robust economic growth.”

Other benefits include cleaning up abandoned sites, engaging with disaffected young people, providing employment, giving a sense of usefulness to older people, building community, recycling kitchen and other urban wastes, and producing fresh nutritious food (Bourque, 2000).
With the human population’s shift, as of this century, to living predominantly in cities, there are inevitable challenges in seeking to ensure that adequate food is available to urban populations. There is even more of a challenge in aiming to ensure it is produced and distributed in a way that contributes as little as possible to global warming or other environmental damage. At the same time there are increasing concerns at government and public levels about the implications of our existing food system for the environment, for public access to healthy food across the economic spectrum, and for food security.

2.5 Sustainable Food?

In a report for the Welsh Assembly Government, the World Wildlife Foundation Wales (2007) stated their view that: “Living within ecological limits is an essential prerequisite to delivering sustainable development in Wales”. The report concluded that more localised food production would be fundamental to this process, and argued for a ‘One Planet Food Agenda’ which would see a transformation of the existing food system which would involve producers responding to concerns about the environmental impacts of their practices, and consumers adopting a healthier diet. In taking this view, the WWF joined an increasing number of non-governmental organisations in recognising the impact that methods of food production and distribution have on wider environmental, health and socio/economic issues.

’Sustainability’ was defined in the original Brundtland Commission report (1987) as the result of managing the economy in a way which: “…meets the needs of the present generation without compromising the ability of future generations”. To date there seems to have been relatively little research undertaken on the relative ‘sustainability’ of different types of food system – that is to say, the totality of how food is produced, distributed and marketed – in terms of environmental impact. A universal ‘food footprint’ measurement tool has not yet been agreed which could provide a common set of indicators for comparing the relative environmental impact of different food production/distribution chains, although several attempts have been made to clarify ‘carbon footprints’ and ‘environmental footprints’ (Table 2).
Table 2: Relative impact of factors on Cardiff’s ecological footprint.

<table>
<thead>
<tr>
<th>Big ecological hitters</th>
<th>gha (global hectares) per capita</th>
<th>% of footprint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food and drink</td>
<td>1.33</td>
<td>24</td>
</tr>
<tr>
<td>Energy use</td>
<td>0.99</td>
<td>18</td>
</tr>
<tr>
<td>Passenger travel</td>
<td>0.99</td>
<td>18</td>
</tr>
<tr>
<td>The city’s infrastructure and housing</td>
<td>0.90</td>
<td>16</td>
</tr>
<tr>
<td>Consumables and durables</td>
<td>0.64</td>
<td>11</td>
</tr>
<tr>
<td>Other (incl. government, services, holiday activities)</td>
<td>0.77</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>5.59</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Cardiff City Council (2005)

According to the major UK based non-governmental organisation concerned with sustainability in the food chain (Sustain, 2002b) there is as yet no agreed legal definition of ‘sustainable food’. Their own working definition is that sustainable food should be:

“…produced, processed and traded in ways that contribute to thriving local economies and sustainable livelihood… protect the diversity of both plants and animals (and the welfare of farmed and wild species), avoid damaging natural resources and contributing to climate change; and provide social benefits, such as good quality food, safe and healthy products, and educational opportunities.”

Much has been made by environmental organisations of the potential for organically produced food to contribute to a sustainable food chain (Sustain, 2007), and there has been significant growth in the market for organic food in recent years. Meanwhile, a report by Food Policy (Carlsson-Kanyama, 1998) concluded that in terms of environmental impact, sourcing local food would have a greater positive impact on the environment than buying organic food.

However the idea of a direct link between ‘food miles’ and sustainability is itself a contested issue. In its Sustainable Development Action Plan (2004), the Welsh Assembly acknowledges that the transportation of food accounts for around thirty per cent of the lorries on British roads, and creates 3.5 million tons of carbon dioxide every year. A more recent report at Cardiff University (BRASS, 2007) observed that the production, processing and transportation of food is responsible for thirty per cent of Cardiff’s global footprint, and is the major factor in the city’s contribution to global warming. A common
sense conclusion would be that reducing the distance the food travels from ‘farm to fork’ would contribute to greater sustainability.

Paradoxically, it seems that sourcing food more locally may result in a range of, as yet not fully understood or measured, negative environmental impacts (Food Ethics Council, 2007). The picture is further confused by the introduction of broader moral elements in relation to how an insistence on the reduction of distances travelled by food in order to achieve greater sustainability could damage the export dependant economies of developing countries (Müller, 2007; Soil Association, 2007).

In their role as the UK Government’s agency with responsibility for agriculture and environmental issues, DEFRA (2005) have also been less than sanguine about using food miles as an indicator of the ‘ecological footprint’ of a particular food type, concluding that the impacts of food transport are complex and involve trade-offs between different factors – including emissions, water pollution and impacts on biodiversity. In their paper on food miles, Sustain (1999) agree on the importance of looking at the wider impacts of how and where food is produced, but conclude that long distance transportation of food can also result in greater use of agri-chemicals which are used to protect the crops in transit or storage, as well as the fact that growing the same variety in one place to provide large volumes to supermarkets means more disease and pest problems which can lead to greater chemical requirements. As a result, Sustain conclude with one straightforward guideline. For environmental and for nutritional reasons, the best food policy is: “...the closer the consumer can be to the grower, the better, as produce should be stored and transported less”.

Edwards-Jones (2007) is concerned that: “Food miles [have] become a shorthand for sustainability” and is keen to make the point that there is more to food’s impact on climate change than the distance it has travelled. He agrees with Sustain’s analysis that the use of synthetic fertilisers, and even cooking in the home, accounts for a share of emissions, but suggests that it may be better (in moral terms) to fly in fresh food from Africa than to buy it locally, even if it does use more energy, because purchasing from poorer countries helps them to address issues of global poverty.

He also reminds us that winter lettuce from Spain may be less harmful than those grown under glass in this country, because overall less energy is required in their cultivation. In
addition, more nutrient value is lost in storage than in long-distance transportation. In spite of these provisos, Edwards-Jones ultimately concludes that we should question the wisdom of demanding tomatoes all year round, and we should adjust our diets so that as much as possible we eat food which is produced locally and in season.

In its 2007 report on food miles, the Food Ethics Council also concluded (2007) that whether fruits and vegetables are in season locally is the major factor in their energy use and contribution to climate change, and not simply on how far they are transported. They believe that the high global warming potential of out-of-season produce may arise from a combination of factors such as production, transport or storage and that the environmental footprint of food varies through the seasons as well as by place and method of production.

The implication is that, while food miles are a good indicator of localness, they aren’t necessarily the best indicator of energy use (Pirog and Benjamin, 2003), and that in comparing the sustainability of various food production and distribution systems, the picture is a complex one, so that aiming for the optimum level of food sustainability involves various trade-offs rather than a clear path for ‘doing the right thing’. Indeed, achieving the most sustainable food chain may be a process of seeking trade-offs between a variety of concerns, rather than taking an absolutist approach that ‘local is best’.

At the same time, the Cardiff Health Alliance Strategy concludes that if a local and seasonal food production process could be established, that there would be significant benefits in terms of reduced greenhouse gases as well as access to affordable, fresh (and thus healthy) food for the local population.
CHAPTER 3:
RESEARCH METHODOLOGY

In this dissertation I have aimed to provide an overview of the challenges and possibilities associated with the potential for urban agriculture in a developed country like Britain. Specifically, I reach conclusions and make recommendations for the city planning process in the Welsh capital city of Cardiff – a relatively small city which ostensibly wishes to take steps to becoming a ‘sustainable capital’ and to being accredited within a European programme of ‘Healthy Cities’. I do this through analysing writings describing perspectives rooted in a variety of academic disciplines, comparing them with a case study of urban agriculture in Cuba and juxtaposing them with an overview of the current policy environment as it relates to issues of sustainability in Wales and the UK.

I have taken the view that the predominant features of our existing food economy which are taken for granted as ‘normal’ have come into being because of specific priorities and interests on behalf of key players operating predominantly in the worlds of business and government, and I have drawn on a wide range of readings in aiming to unpick and clarify what those interests are.

I have sought out a wide range of writings on the topic of urban agriculture in order to identify and compare theories and observations about the impact which localised food production systems can have on environmental, social and economic factors in urban environments, drawing on examples from both developed and less developed countries. I have reviewed academic journals, third sector reports, policy documents, and websites relating to the main obstacles and opportunities in relation to the potential for localised food chains to contribute to greater urban sustainability, and looked at government policies at a variety of levels which relate to the local production and marketing of food.

I have aimed to distil a range of perspectives on the broader social benefits of urban-based food production activities and the extent to which they are making, or have the potential to make, a significant contribution to local food supplies while also delivering other benefits such as a reduced carbon footprint, increased food security, development of the local economy, and the health of consumers in an urban context. I have identified the main constraints and contradictions inherent in a localised approach to food production and marketing, reflecting on the extent to which these are predominantly cultural, economic, or political, and how they might be addressed.
I have looked for what can be learned from examples of local food production systems in other urban locations, in particular the Cuban experience, where a highly localised food production and distribution system was put in place fifteen years ago as a response to the sudden withdrawal of oil supplies from the Soviet union and the ongoing economic embargo from the United States. I undertook a two-week research trip to Havana in November 2008 to look at the current status of Cuban example of intensive urban agricultural production, to identify the risks and opportunities currently facing urban agriculture in the capital city of Havana and to reflect on the extent to which the Havana local food production model is relevant to, and replicable in Wales. My research there was predominantly qualitative; the views and experiences of people involved in evaluating and assisting urban agriculture projects was elicited in structured interviews which asked a standardised set of questions, while at the same time allowing space for the expression of individual subjective viewpoints. I sought to ‘read between the lines’ in unpicking as far as possible the totality of the concerns and perceptions revealed in each encounter. These were combined with a reading of relevant research papers and visits to specific urban agriculture projects in aiming to accurately, if briefly, describe the current reality and future potential of the situation relating to urban agriculture and sustainability in Havana, and to evaluate its relevance to the situation in Cardiff.

An edited and translated transcription of the interviews undertaken in Havana is included (Appendix 1), alongside with several photographs of urban agriculture projects (Appendix 2: Figures 3–12).

The Cuban case study was chosen as a particularly interesting example of the potential of urban agriculture to meet local food consumption needs and at the same time to address broader social and environmental concerns. My research was ‘intensive’, that is to say involving relatively few samples and examples from which an empirical overview was distilled.

Drawing on readings and the Cuban case study I have sought to identify and the type of planning and policy environment which would be conducive to the development of urban agriculture in Cardiff, and to describe the rationale from environmental, social, economic and social contexts necessary for this to take place, rather than to analyse deeper psychological reasons for current and projected patterns of food purchasing and consumption.
I have adopted what could broadly be termed a ‘constructivist’ epistemology in this dissertation. That is to say, I have combined elements of objectivity in describing how local food systems do currently operate in different parts of the world, with subjective elements of personal reflections, and the reflections of other writers, on the obstacles and paradoxes facing any plans to expand local food production in the city. I have also aimed to leave room for subjective observations. In that sense I have combined elements of the qualitative and the qualitative in my descriptions and analysis – aiming to ensure that any conclusions I have drawn are informed, credible and relevant to target policy makers while reflecting on how, and why, I feel that the development and adoption of city planning strategies which support localised food production should be encouraged.

My conclusions contain perspectives that are ‘normative’, that is to say, statements of what I, and identified others, would ideally like to see happen in the development of a more local food economy. Inevitably these statements incorporate value judgements, but I have attempted to be reflexive in acknowledging these values, and in the process, to create a clear distinction between empirical facts, the perspectives of others and my own values and beliefs.
CHAPTER 4:  
CITY PLANNING AND URBAN AGRICULTURE

“It is crucial that we learn to recreate cities into places that are sedentary, which are not centres of mobilisation but centres of civilisation again, of urban culture and of the urbane, creative interchange between people.”

(Girardet, 2000)

According to Morgan (2008), city planners in most parts of the world have generally dealt with all the essentials of life – like air, water and shelter – with the conspicuous exception of food. However, he observes that the American Planning Association (A.P.A.) has now developed what he describes as “an exemplary strategy for sustainable food systems in which localization is championed at home and abroad … in ways that … increase local capacity for food security and food self-reliance” (op cit.: 24). Morgan sees the A.P.A. strategy as a testament to what can be achieved when sustainability is treated seriously and: “…when local/global and green/fair are framed in complementary rather than competitive terms”.

It seems that an increasing number of planners (Knowd et al., 2005; Barling et al., 2002) recognise urban agriculture as a potentially important resource in aiming for greater urban sustainability and quality of life, which requires a strategic approach, while also acknowledging the value of such activity in economic, social and environmental terms. The implication is that failing to aim for sustainability in this way risks denying current and future generations an adequate range of choices in the way the economy, society and the environment are managed. What is required is renewed city planning regimes which put making urban land available for food growing as a priority.

The availability of land is a clearly a pre-requisite for the establishment of urban agriculture. From this perspective, unused urban space can be seen as a wasted opportunity, and local governments will need to develop ways to determine how much space is unused, underused, or misused, and how much of this could be made more attractive, more productive, and more profitable in social, economic, and environmental terms through urban agriculture.
The debate about the appropriateness of food growing in cities is no longer one of tension between what some would see as the romanticised views of William Morris and the profit-driven priorities of mainstream land use strategies. The pressing need now is for a more practical approach to the issues which takes into account the measurable benefits that urban food growing can deliver. This implies a planning process which is sufficiently flexible and visionary to be able to weigh up and balance the related costs and benefits of using land for food growing. While it is hard to imagine a scenario of compulsory land purchase or other measures which would restrict land owners from seeking the greatest profit from how their land is used, it does seem feasible for local authorities to think more laterally about the potential of such land to support food growing activities so that urban agriculture can be seen as a strategic resource (Veenhuizen, 2006). This approach implies a planning approach that includes ‘triple bottom line’ accounting, that is to say measuring and valuing outcomes at economic, social and environmental levels.

This perspective is echoed by Drescher (2001: 2) who believes that:

“Urban land management (as any other land management) should aim to put urban land resources into efficient and sustainable use. This requires, first of all, recognition of the prevailing problems and acceptance of urban livelihood strategies including urban farming, but also realization of benefits and opportunities created through productive use of green open spaces in cities.”

Drescher (op cit.) identified a number of planning tools and perspectives which can help to foster access to land. In his view, the key to developing a supportive planning regime depends on willingness on the part of planners to look at all the available options and consider how to balance the need for safeguards with the need for flexibility. At the same time they need to identify resources which can be made available as ‘pump priming’ to help get new local food enterprises off the ground. He points particularly at the need for ‘strategy plans’ which can be localised and relatively flexible in relation to land use, as opposed to ‘master plans’ which tends to be much slower and less flexible.

Henning (1997) summed up the difficulties well as being to do with poor information and inadequate knowledge on the part of planners and practitioners, and suggested an important role for governments to help in facilitating the flow of information and in
encouraging city farmers to form self-organised groups; to form partnerships with public and private interests, and to support research and technology transfer.

Howe (2002) is also concerned about the obstacles to increasing the level of city-based food production in the UK created by the current planning system. He observes that, in spite of the growing interest on the part of the public and policymakers what he sees as the necessary integration of agriculture into urban planning and city development has remained consistently low, other than in a preventative sense, in spite of the fact that the planning system could provide valuable and indeed necessary support for the future of urban food growing. Howe describes and compares planning decisions in relation to urban agriculture which were taken in the two northern cities of Leeds and Bradford. In both cities there were a variety of measures that could be used to preserve or expand planning permission for allotments and other small-scale agricultural activity, and the level of public pressure to advance this process. However, Howe (op cit.) observed that planning policies tended to assume that urban food growing could only take place in the traditionally conceived ‘allotments’, which might themselves be under threat if there is pressure on inner city land for housing development, and that planning could go a lot further in terms of a pro-active approach to promoting the allocation of inner city spaces for food production.

In contrast, some forward-looking planners (Gascon and Rouge, 2006) are suggesting that food-growing opportunities are built in to the design of new and existing communities, even in a city the size of London. There is a recognition that new major urban developments should include provision for new urban agriculture, and that if farming is integrated from the very beginning in the community design process, it can be effectively mixed within urban spaces. The suggestion is that planners need to ‘think out of the box’ in devising approaches which are sufficiently innovative for residents to live well while coping with economic and environmental challenges.

De Zeeuw et al. (2007) goes so far as to create a list of key issues which city planners should take note of in order to create a more socially and legally conducive environment for fostering urban food growing. This included creating a conducive policy environment for urban agriculture and its formal acceptance as a valid form of urban land use; enabling access to vacant urban land and land tenure security; delivering support services to improve the productivity and economic viability of urban agriculture; promoting gender
equity and social inclusion; and taking steps to reduce any associated health and environmental risks.

The implication is that urban agriculture needs to be adopted as a new category requiring a formal recognition in the planning process. A more creative approach needs to be taken to the municipal policy and planning process to facilitate access to unused land by those who want to grow food on it. One approach, illustrated by the Cuban case study, is to legislate for temporary access to land that has future planning arrangements such as construction that may not take place until some time in the future.

Mougeot (2006) identify some specific problems to do with incorporating food growing into land use planning. For example, urban farming may make demands on overstretched public services, such as water supplies. There is also the risk of vandalism of crops and equipment, and crops grown close to main roads may be liable to absorb pollutants. (op cit: p219). Other challenges described include: security of land tenure; funding for start-up costs; access to market outlets; the need for knowledge and skills; and the seasonal limits to growing the in the northern hemisphere. These concerns have to be balanced against the reality that, particularly in the early stages of a project, the actual contribution to food supplies or to income may be quite small.

4.1 Urban Agriculture and Sustainability

It is reasonable then to question the relevance and potential role that urban agriculture may have in a relatively advanced economy such as Wales. If large numbers of residents are not about to be come back-yard subsistence farmers, and this seems unlikely in the foreseeable future, despite the worst effects of the current global financial problems, it is important to be realistic about what the costs and benefits, and potential productivity of inner city food growing in Cardiff, for example, could be.

In a Dutch study of urban agriculture, Van den Berg (2000) noted the key fact that urban agriculture must be economically viable for it to develop, but recognised it was also important to consider the whole range of benefits associated with local and community based food production in order to find the necessary political support.
In their detailed study of urban agriculture in the US, Kaufman and Bailkey (2000) observe that although there was skepticism at official levels, there was a growing acceptance of entrepreneurial urban agriculture in some North American cities. They found a diverse array of non-profit and private sector organisations actively engaged in urban agriculture projects, some of which were even turning a profit. They also discovered a small but growing number of government representatives who were supportive. Their study also concludes that there is no shortage of urban land which could be made available in most US cities, partly created by the middle class exodus to the suburbs, although this is a trend which may soon reverse with concerns about the increases in the rice and scarcity of oil.

Another key observation of the report was that urban agriculture activities do not fit any single model and that they are initiated and managed by a wide range of different types of community organisations and interested individuals. Some projects sell what they produce to make a profit; others are hybrid operations, growing some food for consumption by growers then selling the surplus. However the report concluded that because there was no statutory requirement to support such projects, projects were vulnerable and depended significantly on the attitude of certain individuals in key positions (op cit.:85).

If it is accepted that, in addition to being a source of local food production, urban agriculture can help to create a green city environment by contributing to recycling and re-use of urban organic wastes and wastewater, reducing energy use by provision of fresh food close to the consumers and reducing the ecological footprint of a city, then clearly policy instruments are needed which take these broader benefits into account in the following policy areas: urban land use policy; urban food security and health policy; and environmental policy (de Zeeuw et al., 2007). The suggestion is that urban agriculture for has to be integrated into a wider concept of urban sustainability, which includes economic and social aspects, and for this to occur an increased awareness of a wide range of stakeholders is required (op cit.: 163).

Seyfang (ibid.) feels there is a risk that in spite of lip service paid to the concept of sustainability by local authorities, much of this may be just a cover for ‘business as usual’ which offers a feel-good factor and conscience salve for administrators. In her view the true ‘ecological citizens’ of the future will need to adopt a more committed and radical approach to changing their patterns of consumption which will have particular relevance to
the area of food, which will imply “socially embedded economies of place” and will involve:

“…developing connections between consumers and growers, boosting ethical capital and social capital around food supply chains, educating consumers about the source of their food and the impacts of different production methods, creating feedback mechanisms which are absent when food comes from distant origins, and strengthening local economies and markets against disruptive external forces of globalization” (op cit.: 386).

The concept of ‘food citizenship’ is a useful one when considering the wider potential social impacts of a more localised food system, and is defined by Wilkins as: “…the practice of engaging in food-related behaviours that support, rather than threaten, the development of a democratic, socially and economically just, and environmentally sustainable food system” (Wilkins, 2005: 270). In other words, there is a clear acceptance of the idea that urban food-growing projects deliver much broader social benefits to city residents than providing access to adequate food and nutrition. This is combined with evidence of a high level of productivity among existing urban agricultural activity of all scales in countries of the developed world, to the point where rapidly expanding numbers of people are involved in some kind of food growing activity, for reasons of either necessity and/or pleasure, and many cities produce significant proportion of their food needs (Deelstra and Girardet, 2000).

Baker (2004) describes three garden case studies in Toronto which illustrate the importance of the concept of ‘food citizenship’ to notions of food security, and describes how gardeners work to transform urban spaces, the complex network of organisations working cooperatively and in partnership which is required to implement these projects, and the way in which this work is shaping the urban landscape.

Deelstra and Girardet (op cit.) are clear about the way that incorporating food growing into the planning for a city environment helps to create a circularity in terms of resource use – where much of what is considered traditionally as waste is in effect recycled to provide the nutritional building blocks for food production – an essential foundation block in any system which has pretences to sustainability. At the same time local growing helps to develop heightened environmental awareness on the part of residents. In their view:
“Nobody would suggest that all city people will want to grow food themselves, but urban agriculture also has the potential for bringing growers and consumers closer together” (op cit.: 55).

The implication is that urban planners will need to work alongside community organisations and take into account the ecological, social and environmental aspects implicit in growing food in the city. According to Mougeot (2000: 4): “Access to land is usually more of a constraint than is its availability”. In urban areas, he argues, space may be more critical than land itself, and a great deal of production can (and does) take place in rooftops, walls, fences, sheds, shelves, basements, ponds, and even window boxes.

Cities produce a vast quantity of potentially useful resources currently regarded as waste. By reusing wastes to increase local food production, cities move towards a measure of sustainability (Nelson, 1996: 14). For example, leaf litter, sewage, food wastes and yard trimmings could all contribute to the productivity of urban gardening efforts or local farming operations. Some Welsh towns and cities, including Cardiff, are already adopting on-site organic waste composting systems as an environmentally friendly and economically sound approach to waste reduction, and environmental organisations are beginning to develop educational facilities where backyard composting techniques are demonstrated to the public.

Urban agriculture could be integrated into existing compost programs, grey water recycling systems and sewage treatment programs. Clearly, cooperation between health, engineering, parks and recreation and planning departments would be needed at a Local Authority level to establish appropriate regulations and systems to enable this to take place.

A recent international electronic conference on urban agriculture recognised the importance of achieving the support and recognition from city planning regimes. In summary, the experience of the delegates in working with planning laws was that: “Planning needs pressure” and that “the conservation of urban open space for cultivation and recreation involves a continuous battle with an expanding city and different interest groups” (Drescher et al., 2000).
4.2 The Role of Local Government in Supporting Urban Agriculture

If the key to increasing opportunities for the development of urban agriculture to do with access to available land, it is in this area that the Local Government can have a key role in its planning process. Strategies, policies and regulations would need to be put in place which will accommodate and encourage greater use for urban food production. This has to be balanced against the primary imperative of urban land management (as any other land management) which is to put urban land resources into efficient and sustainable use. The suggestion is that this process can include an acceptance of urban livelihood strategies including urban farming, and a realisation of the benefits and opportunities created through this productive use of green open spaces in cities.

Drescher (ibid.: 1) has described how, although public interest in, and support for, farming activities in cities is slowly increasing, agriculture is still in many cases ‘by definition’ not practiced in cities, and is often seen by planners as economically unimportant or as purely a fad or a temporary phenomenon, as if the terms ‘agriculture’ and ‘urban planning’ are seen as incompatible. The situation is not helped by the fact that much of the literature on urban agriculture refers to the situation in developing countries, while the writings about food growing western countries refer mostly to allotment schemes.

A fundamental step for Local Government is setting the right conditions for city farming is for them to develop an urban agriculture plan and policy, and to recognise the interrelated nature of food, agriculture, health and ecology by forming a cross-departmental working group that can deal with food issues from a total system perspective. This group could involve, for example: the health department, planning department, engineering, local economic development, water management and waste management Deelstra and Giradet (2000).

Following this, an urban agriculture plan should be incorporated into the land-use planning system. A key part of this process, according to Drescher, is that: “…the focus of planning for cities should shift from central government control and the international realm to local personnel and institutions concerned with urban issues who should be given a greater say in decision-making and policy implementation” (ibid.: 6).
Without some degree of institutional and intra-government support for their efforts, urban farmers would have to continuously struggle against existing regulations, agencies and financial disincentives.

The suggestion is that it has to be the responsibility of local government to at least: “…provide at least a policy context in which people can create their own solutions” (Bourque, 2000: 141). Bourque refers to the concept of Community Food Security which takes the view that while guaranteeing access for citizens to sufficient food is rooted in a complex web of factors, it is important to focus on activities that have direct impact on the community as well as the individual. He sees urban agriculture as a key element of “Community Food Security” but also part of an larger process which also includes: “…developing closer producer/consumer relationships, supporting the development of other food outlets, protecting farmland from development, supporting rural communities as well as urban and protecting government food support systems” Bourque (op cit.: 122.).

The extent to which concerns about adequate access to food may galvanise a clearer government commitment to supporting urban food growing is indicated by the way the same concern in practice led to the high level of government support for, and implementation of, urban agriculture in Cuba. As Bourque succinctly puts it: “Organising around urban agriculture may not always be the best way to address food-security issues, but organising around food-security issues is one of the best ways to promote urban agriculture” (op cit.: 121).

A survey of the attitudes of local authorities across England and Wales to the concept of urban agriculture (Martin and Marsden, 1999) found that there was a reasonably high level of awareness concerning the concept and also about the wide range of benefits which it could bring in social and community development terms in addition to the potential for actual food production. However, there was a wide variation in the extent to which urban agriculture was taken seriously in the planning process of different authorities and in the provision that was made to ensure that land availability was ensured for such activities. They concluded that” “The focus on community development and empowerment is all very well, but this can only occur through extensive negotiations, the willingness of the community to become involved and an approach of local government to facilitate a process of participatory democracy” (op cit.: 410).
4.3 Current Urban Agriculture Initiatives

In some parts of the UK, significant progress has been made in establishing local food initiatives, with varying degrees of support from the local authority, and in measuring the benefits which were experienced by participants. Numerous urban garden projects have sprung up, for example in London and Sheffield, where groups of ‘Guerrilla Gardeners’ (http://www.guerrillagardening.org) plant food plants and flowers in available spaces, and also working with residents to ensure that existing fruit trees are properly harvested. Urban areas often contain hundreds of such trees which are often ignored and the potential food supply wasted. Bradford and Middlesborough (http://www.dott07.com/go/food) have become the locations of much urban agriculture activity with the full support of their respective City Council and the Calthorpe Garden near Kings Cross in London (http://www.calthorpeproject.org.uk) attracts increasing numbers of volunteers to grow fresh food for themselves and also to enjoy the tranquillity as well as the health, nutritional and recreational benefits of food growing.

Some of the groups in Britain may have been inspired to some extent by their counterparts in North America. New York City, in particular, seems to contain an abundance of vibrant local growing projects, such as the Green Thumb initiative (http://www.greenthumbnyc.org) involving hundreds of low income New Yorkers in food growing activities across the city.

We can also look further afield for inspiring examples of innovative and sustainable development. Perhaps because of its long historical association between its people and its vast landmass, Canada is a country with several particularly well-developed programmes of urban agriculture. It is estimated that 44 per cent of the population of Vancouver are involved in growing food of some kind (Kaethler, 2006: 17). City Farmer of Vancouver (http://www.cityfarmer.org) is known for its 2500 square feet demonstration garden showing the quantity of food that can be grown in a city yard, as well as coordinating an online urban agriculture newsletter and library and serving a global network of organisations and enthusiasts.

The city government in Montreal has also invested time, energy and resources into reconnecting people to food production. Food growing and alternative food marketing mechanisms have been supported which help to diversify and localise the food system, and
numerous urban agriculture projects are undertaken that work to improve health and food access at a community level. Effort is invested in areas of education, public participation and at the political level to create change at a structural level. Meanwhile research is being undertaken on the benefits of combining urban waste streams, heating systems and food production, as well as urban organic agriculture methods, greenhouse production, hydroponics systems, and the efficiency of urban gardens and farms operating at a community level (Bhatt and Kongshaug, 2005). The overall impression is of urban agriculture being taken seriously as a future part of all planning for the city, and having a key role to play in aiming for sustainability.

Annex Organics of Toronto (http://www.fave.ca/p012.htm) is another example of a group exploring all of these links and promoting urban agriculture technologies, with the broad support of their municipal government. Such projects, which represent just a hinting at the current level of urban agriculture taking place in cities all over the developed world, all illustrate the high level of public interest and enthusiasm for the idea of re-connecting with nature through the cultivation of food, and the important role of local government in ensuring the development and survival of such activities.

4.4 Urban Agriculture in the UK: Putting Down Roots

In defining some specific steps which are required to getting an urban agriculture ‘revolution’ launched, Lazarus (2000) also emphasises the key role for policy makers and land use planners, emphasising their need to recognise that urban agriculture can be a viable economic development activity and that local governments need to support urban agriculture both financially and with policies and procedures. He also echoes the point raised in other parts of this dissertation, concerning the value for non-profit organisations getting involved in urban agriculture because of the way it can help to address many of the social and personal issues they’re working on. Those involved in urban agriculture need to teach others how to start their own projects so that individual communities can create their own appropriate urban agriculture projects.

The provision of allotments is one of the easiest ways to make land for small-scale growing available to urban residents. The current rapidly increasing demand for allotments is an indicator of the expanding interest on the part of town and city residents in the UK in
urban food growing. To achieve better recognition and protection of allotments, local authorities need to keep better information about the demand for, and supply of, allotments, planning departments and allotment management services could work more closely together and planners need to prepare more proactive allotment strategies. (Local Government Association, 2008).

Allotments provide a relevant and interesting example of existing planning legislation in the UK which supports a level of urban agriculture. The provision of some level of allotment land is a statutory responsibility for all local authorities. In recent months, there has been a sudden upsurge in the number of people applying for allotments, so that many Local Authorities now have long waiting lists. At the same time, sales of vegetable seeds have more than doubled. Although allotments are generally undertaken on an individual and non-income generating basis, allotments are increasingly seen as an important potential source of affordable and high quality fresh fruit and vegetables, as well as an asset which give a better quality of life in cities and towns.

Perez-Vazquez et al. (2001: 240) suggest that in order to develop and sustain allotment gardening, allotment holders, their organisations and local authorities should combine their efforts in such areas as promoting the teaching of gardening in primary schools or in gardening workshops, or through frequent visits to allotments or communal gardens. It is also suggested that the law relating to allotment provision be updated and further research undertaken on the valuation of the social benefits of allotments, on the level of food production, and on other issues relevant to the promotion of allotments and urban agriculture. Also that local authorities should implement programmes to promote the use of allotments, especially by the more vulnerable members of society.

In effect what is needed at the planning level is the creation of an ‘institutional home’ for urban agriculture (van Veenhuizen, ibid.). To date, food sector policies have generally been defined under the assumption that agriculture only take place in a rural sphere, and there is an obvious lack of fit when we are talking about food growing in an urban environment. Campbell (ibid.: 350) emphasises the need for a more responsive planning approach to the use of urban land for food production. She suggests a number of steps to facilitate this process, including: the value of collecting and analysing data on existing local or regional food systems; the revision of local land-use plans and regulations to promote the local food system; facilitating the development of ‘local food policy councils’
as a means for creating food policy and for stimulating public participation in food
democracy; and participation with other municipal and non-governmental agencies in
developing local food policy.

Halwell suggests a number of practical actions which can be taken in rebuilding what he
terms the local ‘foodshed’, a concept intended to illustrate an understanding of the various
interrelating factors which determine how food gets to us, and described as “a place for us
to ground ourselves in the biological and social realities of living on the land and from the
land in a place that we can call home, a place to which we are or can become native” (ibid.: 9).
Kloppenburg at al. (1996) suggest a model of ‘local food policy councils’ as a
mechanism to support this process on a community level. Such councils would be made up
of informal coalitions of local politicians, hunger activists, environmentalists, sustainable
agriculture advocates, and community development interests, to ensure that the food policy
decisions they take would reflect a broad range of interests and help to create useful
collaborations.
CHAPTER 5:
CASE STUDY: URBAN AGRICULTURE IN HAVANA, AND LESSONS FOR CARDIFF FROM A PLANNING PERSPECTIVE

This chapter describes my observations, conversations and conclusions reached during a two-week research visit to Cuba undertaken in early November 2008 supported by a bursary from the Welsh Livery Guild. The visit was undertaken with the aim of investigating the current status of small-scale intensive food production (‘urban agriculture’) in Havana, and to identify any precedents set and lessons learned in this field by the Cubans which would be relevant, from a city planning perspective, to the process of encouraging more local food production in Cardiff as part of its stated aim of becoming a more ‘sustainable city’.

Havana is the capital of Cuba and, with a population of more than million, the largest city in the Caribbean. As the capital city, its high levels of local food production have attracted interest from city planners and environmentalists worldwide. In this dissertation I have not attempted, or been able, to go into all the operational details of the full range of urban agriculture activities in Havana, but rather I have aimed to give an overall picture of current policy and practice from a city planning perspective, illustrated with some specific examples.

My time sent in Havana was relatively short, but given the communication difficulties and the bureaucratic complications of getting to speak to people in authority, I feel that it was a very productive visit. My visit included: four days attending a permaculture conference on the outskirts of the city (a time that enabled me to make excellent contacts with a number of people involved with research into and support for food growing in Havana and other parts of Cuba); interviews with several key individuals working in urban agriculture research and land policy/planning; and personal visits to a number of small scale intensive organic allotments in Havana, referred to there as ‘organoponicos’. I have aimed here to synthesise the information and opinions gained in the interviews and meetings with my own personal observations and conclusions.
5.1 Background: Urban Agriculture and Development

There is a well-documented history of city-based food growing in many parts of the developing world, where it has played a significant role in ensuring adequate levels of nutrition for the poorest people. At the individual and family level, this approach to small-scale agriculture has the advantage of enabling people with very limited resources to grow food for their own use, while at the same time creating possible surpluses which can be sold to generate income. On a slightly larger scale, because of the minimal need for inputs and transportation, urban agriculture produces food which can be sold locally at a price which is affordable to those with minimal incomes. In effect, urban agriculture removes food from the normal business approach of maximising profits which can easily exclude those with the least resources and the greatest need. A key concern in all locations has been the extent to which food growing is, or is not, entrenched in city land use planning.

With the collapse of the Soviet Union in 1989, Cuba suddenly lost its main trading partner, and in particular its main source of oil and oil-based products. This had a particular impact on agriculture, due to its use of oil-based fertilisers and insecticides, alongside fuel needs for tractors and transportation. Faced with the risk of widespread food shortages, especially in the cities, the Cuban government quickly instigated a programme of small-scale intensive food production in every kind of available urban space.

In effect a kind of Cuban ‘green revolution’ was set in motion, and this example of a government planning commitment to urban agriculture led to some astonishing results. It could be argued that Cuba was in a unique position to achieve this kind of rapid transition, due to having a one-party state-controlled economy, significant amounts of vacant urban spaces, a climate in which plants grow quickly and a population with an apparent resilience and determination to survive in the face of adversity. Food production developed quickly, and over the past fifteen years much knowledge and experience has been gained – to the extent that Cuba is now recognised as a world leader in urban agriculture.

5.2 Impressions of Havana

My time in Cuba was spent almost entirely in Havana. A planned visit to the Sancti Spiritus/Cienfuegos area in the south of the country, noted for it’s high level of urban
agriculture activity, had to be cancelled due to the need for people there to concentrate on responding to significant damage inflicted by Hurricane Paloma, which hit the country during my stay in Cuba. However, as the capital city, urban agriculture in Havana does have a particularly relevance for Cardiff, albeit on a larger scale.

It is in the outskirts of Havana that many of the food growing activities can be found. I visited three organoponicos in two such areas – two producing a range of vegetables and one producing medicinal herbs. I also visited several larger food producing areas closer to the centre of the city. Two things quickly became clear to me from talking to people involved with the cultivation of food in Havana. Firstly, the level of pride they feel in the way they have managed to adapt to an extreme situation in such an effective way, and the contribution that they feel they make to creating a healthy affordable source of local food for city residents. Secondly, the degree of variety and flexibility, which seems to exist in terms of how urban agriculture is planned, managed and delivered in the city.

5.3 Operational Details

Only organic fertiliser is used in the organoponicos, as their name would suggest. It is mostly sourced from nearby meat-producing collectives, and in some case is made up from composted green matter. It is illegal (in theory) for organoponicos within the city to use chemical fertiliser, and in fact it makes good economic sense not to do so because the cost of chemical fertiliser is high and sources of manure readily available. I did see some evidence at one location that chemical fertiliser had been used, but as there is no form of organic certification, this can be done more or less without risk in a flexible way.

However, there is a strong public demand for fresh organically grown vegetables and a constant flow of people in search of items to the small shops located adjacent to some organoponicos, even though their opening hours seem somewhat irregular and sales are dependant on the availability of produce each day.

Although the Cuban economy is characterised as highly centralised and state controlled, in connection with urban agriculture there has evolved a high level of flexibility in how it actually operates, and there is a clear willingness on the part of the government to tolerate and support a relatively individualistic entrepreneurial approach in this area of activity.
Perhaps this is because they have learned from their own experience and that of other countries (the recent history of China comes to mind, where the levels of production per square foot in small privately owned allotments were found to be several times greater than in the large state controlled farms) that unless individual effort is rewarded in some way, indifference can set in, even within the most ideologically committed societies. In a country with an economy as constrained and weakened as that of Cuba, in the area of food production its citizens need to remain as motivated as possible. In any case, the tolerance of, and support for, enterprise is particularly prevalent in the urban agriculture sector, where the need for productivity is so great and the work almost entirely manual and physically demanding, and has had the effect of creating a dedicated and hardworking cohort of ‘urban farmers’ who achieve impressive levels of productivity.

Amongst the organoponicos I visited, there were a range of operating methods. Some were entirely state owned and managed, with workers paid a monthly salary. Others operated more or less as private businesses managed either by cooperatives or, in some cases, by individuals. Sales took place either at a ‘shop window’ alongside the organoponico or at other nearby market outlets. Income from these sales was used to cover costs and pay workers with any surplus returning to the managers. Other organoponicos were part of larger state-owned cooperatives. Some organoponicos were required to provide a percentage of what they grow to local schools and hospitals at a fixed price; others could sell the majority of what they produce directly to the public, although there is a ceiling set by the government on what prices can be charged. As well as the organoponicos’ own shops, here are a number of small markets in different parts of the city, and in these locations much of the food sold comes from nearby farms. Vendors at the markets are essentially ‘middle-men’ who buy directly from the primary producers. In such cases prices must remain within state determined ceilings. (Appendix 2, Figs. 3–12).

Generally speaking, food growing is a popular form of employment in Havana, partly because more money could be make growing lettuce than by working, for example, as a qualified professional in the Health service. However the demand for cultivation work was tempered by its relatively low status, and this is something that the proponents of urban agriculture are trying to change by involving more schools and children in growing activities at an early age and promoting food production as essential to the survival of ‘the revolution’ – a concept which still inspires a certain passion amongst many Cubans, albeit somewhat less than in past decades. To encourage more people to take up urban
agriculture, a process has been introduced by the government whereby anyone who wishes to become a food producer can submit an application, following which and a piece of available city land will be identified and allocated to them in ‘usufruct’ – that is to say, provided the land is used productively, and until it may be required for other purposes. The government also provides some initial support in terms of seeds and compost to enable the new growers to establish a viable operation.

5.4 Planning for Urban Agriculture in Havana

There was a consensus of opinion amongst the people I spoke to that urban agriculture has become, and is likely to remain, a key land planning commitment for the Cuban government and for the committees who run the municipalities. It is still the case that Cuba imports around 60 per cent of the protein consumed in the country, but this can balanced against the impressive fact that about 80 per cent of the leafy vegetables consumed in Havana are produced within the city. The number of people directly involved in food production in the city is currently estimated as being more than 20,000 people. This is a smaller number than in previous years, partly because a certain degree of economic development in Cuba has led to the emergence of other opportunities for employment, and partly because the efficiency of local food production has consistently increased year on year as those who do still work ‘in the field’ develop their skills and production techniques.

It was expressed to me that one of the key challenges facing urban agriculture in Havana relates to the extent to which land in the city can be made permanently available for food growing. A certain level of economic development in Havana has resulted in increasing pressure for alternative uses for available land within the city, and in such locations urban agriculture is seen as temporary. This sense of impermanence places distinct limitations on the capacity of growers to attract investment of time and/or resources. Another key issue is the extent to which the broader and less tangible benefits of urban agriculture than food production, employment and economic activity are recognised and taken into account in the city planning process. For proponents, the productive green spaces created by organoponicos deliver a wide range of social and environmental benefits and contribute to the broader well being of the city, its environment and its residents by providing well-managed environmental areas that are free from vandalism and degradation. It was seen as
encouraging that, although urban agriculture did not appear in the Havana city plan of 1990, by 2000 it was entrenched in the plans, although access to urban land was still seen as somewhat temporary, and the emphasis from the government perspective is still on food production and creation of employment, rather than broader social and environmental benefits. It was recognised that there needs to be a more in depth study into the relative costs and benefits of urban agriculture, from economic, social and environmental perspectives, so as to secure its place in the future planning for the city. It was felt that only a greater recognition of the broader benefits of urban agriculture would ensure longer-term government support – especially if economic development in Cuba leads to a greater availability of imported food.

5.5 The Future

People I spoke to were confident that even if there should be a drastic change in the economy of Cuba, resulting in a much greater availability of imported oil and consumer goods, the public demand for locally produced food will remain strong, and government commitment to supporting it’s development in the planning of Havana will continue. Personally I am more sceptical. It is understandable that people in Havana are inclined to take a positive view of the urban agriculture situation, for reasons of pride in their country and possibly because in near future they still cannot really imagine that there will be any other genuine alternative way to ensure affordable food for the population. From my more detached and perhaps rather cynical perspective I think there is a real risk that people who have been denied the, albeit dubious pleasures of consumerism for so long are likely to embrace them with great enthusiasm given the opportunity, and that multi-national corporations will be only to eager to provide them. One can only hope that the government does recognise, as well as the health benefits to the population, the tremendous touristic and trade potential of continuing to move towards becoming a truly sustainable country which has rejected crass commercialism, and having a uniquely developed organic local food system.
CHAPTER 6:
THE POLICY ENVIRONMENT FOR URBAN AGRICULTURE IN WALES

“It is within an orderly institutional framework that [urban agriculture] can develop and grow. But, there needs to be a balance with sufficient freedom, to allow the energy, resourcefulness, and entrepreneurial potential of these farmers to be expressed.”

(Henning, 1997)

In response to a growing sense of imminent environmental crisis, and the role of food in this, there has been a rash of relatively recent policy statements and strategy documents at central, regional and local government levels in the UK relating to support for a sustainable approach to food system operation and urban planning, (DEFRA, 2005; UK Government, 2006, 2008; Welsh Assembly Government, 2004, 2007a; Cardiff City Council, 2006a, 2006b, 2007), although to date there has been little if any commitment to the resources or legislation which would ensure that their laudable recommendations for achieving greater sustainability are adopted. Barling et al. (2002) call for a more joined up approach to public health and a sustainable food supply and are concerned that new policies are being created in an ad hoc way by a variety of local food initiatives, whereas what are needed are more structural-level interventions at the regional and local governance levels to address the social dimensions of a sustainable food supply.

In fact the lack of ‘joined up’ thinking in this regard is often startling. At a recent meeting of Local Authority sustainability officers attended by the writer, it was bemusing to see that while the officials present were all stating their commitment to more local sourcing and procurement, the bottled water on the table (itself a product of questionable sustainability) had been imported from France. Such disconnects are not unusual in the Local Authority environment.

A recent report from the Cabinet Office (UK Government, 2008) describing the government’s thoughts about, and planned responses to, this issue, observes that: “The food chain’s environmental impacts include nationally significant contributions to UK greenhouse gas emissions, production of packaging and other waste, pollution of water, and habitat and biodiversity loss”. The report concludes that “Looking forward, we face
twin threats: that existing patterns of food production are not fit for a low-carbon, more resource-constrained future; and that existing patterns of food consumption will result in our society being loaded with a heavy burden of obesity and diet-related ill health” (op cit.: 16).

DEFRA, the central government agriculture and environment agency (2002, 2005) also acknowledges an increasing level of public concern about how food is produced and transported, about whether it is healthy, and about the implications that food production, processing and distribution methods have for climate change and energy security.

An action plan formulated by the Welsh Assembly to look at steps to greater sustainability in food production in Wales has projected that in Wales: “…the agricultural industry must work towards achieving carbon neutrality by 2020” (Food Standards Agency Wales, 2006). This ambitious commitment begs the key question as to whether sufficient resources are currently being committed to make it an achievable reality.

The Welsh Assembly’s Nutrition Strategy for Wales (2006: 5) also affirms the need to: “Develop in Wales to address issues of public access to fruit and vegetables” as a key element of promoting better health, and more recently, the Welsh Assembly Government’s recently drafted Quality of Food Strategy (2007) describes a part of its aims as: “…the engagement of the people of Wales in the development of a quality of food action plan and the communication of an understanding of the benefits of healthy eating and fresh seasonal food” so that “the desire for quality food will be increased and consequently demand created to influence the food industry”. The Assembly’s Environment Strategy for Wales (2007: 17) also affirms that the Welsh government will aim to: “…ensure greater targeting of our agri-environment and land management schemes to deliver our environmental priorities”.

Cardiff City Council has also shown a commitment to sustainability. In 2005 they published research into the ‘carbon footprint’ of the city which showed food production, processing and distribution as the primary contributor to greenhouse gas production within the city (Table 2, above). In response to this study, Cardiff Council has made a policy commitment to increasing the sustainability of the city and is in the process of preparing a draft Sustainable Food Strategy. Cardiff has adopted a draft Sustainable Development Policy (2006) which identifies guiding principles that seem particularly relevant to the
development of urban agriculture, for example: “Living within Environmental Limits”; and “Achieving a Sustainable Economy”.

Cardiff’s Food and Health Strategy (2004: 21–23) commits itself to reducing Cardiff’s food footprint and suggests several specific actions which could contribute to this process, including: “…a significant increase in the consumption of organic foods…and to promote unprocessed foods rather than processed foods since they have a lower ecological impact”. At the same time the strategy confirms that: “…increased consumption of fresh foods will not only reduce the [ecological] footprint but will also have health benefits” and conclude that “there should be a shift to the production and consumption of fresh, organic, seasonal foods” (op cit.).

The strategy affirms the importance to Cardiff of developing access to local healthy food in the food supply by actions such as such as: “…growing your own in gardens or allotments, vegetable box schemes, farmers markets”, and acknowledges that: “Food sustainability tackles social, environmental and economic issues together to ensure that while we meet the needs of the present we do not compromise the outlook for future generations” (op cit.: 33). Unfortunately, to date, these commitments have not been backed up by any allocation of resources, or by a specific action plan to promote food sustainability.

The Cardiff Health Alliance Strategy (2008) also emphasises the importance of ensuring that healthy eating choices are available and affordable, particularly in local shopping areas and to those without cars or poor access to public transport, and confirms the value of: “…developing local alternatives to accessible local healthy food in the food supply such as growing your own in gardens or allotments, vegetable box schemes, farmers markets etc.” (op cit.: 34).

If at Welsh Government level, there is this consistent policy interest in promoting and encouraging sustainability and better access to fresh local food – not to mention the plethora of other benefits which have been seen to result from local food projects it would seem reasonable to conclude that the logical next step would be a programme of investment in urban agriculture, including at least a pilot project in the capital city.
CHAPTER 7:
CONCLUSIONS AND RECOMMENDATIONS

“Urban agriculture could play a major role in sustainable city
development by creating open green spaces, increasing the urban habitat
diversity and thereby biodiversity in cities, reducing noise and pollution,
closing the energy loops and making cities more habitable.”
(Drescher, 2001)

According to writers like Hopkins (ibid.) and Lang (ibid.) we are at a turning point in
history where our survival depends on us moving quickly towards a more sustainable
economy, away from consumption and towards conservation as our main paradigm of
development. History suggests that such ‘paradigm shifts’ are not impossible or even
unusual. The ‘destructive wind’ of creativity and change described by Schumpeter (1983)
has blown through Western society on more than one occasion within living memory,
usually stimulated and fostered by some kind of crisis or extreme event. From this
perspective, the environmental imperatives facing city planners (and in more direct terms,
civilians and businesses) could be seen as representing opportunity rather than one of
imminent disaster, particularly in the area of food availability and costs, and that with a
flexible and innovative approach there can be benefits and gains.

Public concerns about the rising price of food, as well as an increased awareness of the
environmental impacts of conventional agriculture and the need to develop increased levels
of food security, have led to a new level of government and public interest in the potential
for urban agriculture to play a role in creating more sustainable food chains. In several
other parts of the UK there are already inspiring examples of urban-based food growing
projects which have demonstrated that significant levels of food production can be
achieved in urban areas in the Britain which at the same time delivering a range of social
and environmental benefits.

From a policy perspective, the Assembly Government are taking the first steps in looking
at the potential role of localised food chains and in the potential for urban agriculture to
play a role in creating a more sustainable food system in Wales. The Welsh Assembly’s
Climate Change Commission is currently prioritising which actions should to be taken in
Wales to reduce carbon emissions sufficiently to meet European Union targets. The Welsh
First Minister has stated somewhat controversially that in his view, global warming presents opportunities as well as difficulties for the Welsh economy, and if that is the case, one of the most immediate opportunities will be for increased levels of local food production. A number of national and local government strategy documents have identified the need to deliver on the potential environmental, economic and social benefits of more localised food chains. The suggestion of this dissertation is that developing a policy for supporting the development of urban agriculture in Cardiff and in other urban centres in Wales would fit well within such aspirations.

As a first step in supporting the development of urban agriculture in the city, Cardiff Council needs to know much spare land they have, and how much of this could be made more attractive, more productive, and more profitable in social, economic, and environmental terms through urban agriculture? As the Cuban example illustrates, ensuring political and public support for the concept of dedicating city land to food production rather than to other leisure or economic activities requires that the social and environmental benefits to the city and its residents be factored in as well as the food production and economic/employment aspects. Once there is a political and planning commitment to securing access to land, then the process can begin of determining which production systems and which organisational models would be best suited for particular land uses and particular sites and other operational details.

Cardiff is currently in the process of seeking a designation as a ‘Healthy City’ at a European level. As a part of this process it is seeking to identify and adopt a ‘healthy urban planning’ approach, and to see that reflected in a range of planning processes including its Land Use Plan, Corporate Plan, Community Strategy and Local Development Framework. Other relevant policy documents include the Cardiff Food and Health Strategy, which expresses strong support for the idea of improving residents' access to fresh and locally produced food. The clear implication is that for Cardiff to plan to be a sustainable or ‘healthy’ city, it will require a high level of cross-departmental collaboration, in marked contrast to the type of ‘silo’, departmentally separate operating that has to date characterised most Local Authority management – including Cardiff. The experience of this writer in trying to gain planning permission to run a weekly fresh food market on a piece of Council-owned land is instructive here. Although the concept was supported by the Department of Economic Development, and fitted in with the priorities outlined in Cardiff’s Sustainability Strategy, it took two years of meetings in order to gain the
necessary support from other departments within the Council in spite of the fact that, in practice, they had no objections to the proposal.

‘Health’ was defined by the WHO as far back as 1948 as: “A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. A commonly used diagrammatic representation for understanding the key elements which impact on health is of particular interest in considering the potential impact of urban agriculture which, by its very nature, cuts across every category represented (Figure 2). It follows that city planning for urban agriculture will also depend on a high level of interdepartmental communication and collaboration within the Local Authority.

Figure 2: A ‘map’ of the factors which influence public health.
Source: Barton and Grant (2005).

Setting aside areas in or around Cardiff for the exclusive and permanent use of growing food may not be possible, but by involving a broad base of stakeholders Cardiff Council could develop appropriate policies that will meet the needs of both the city and its residents. By drawing on expertise that already exists within their own departments, alongside community organisations and engaged citizens, the Council could create planning strategies to address the multiple challenges to urban agriculture. In addition, funding streams could be created or identified which would enable the necessary skills and
equipment to be acquired by individuals, enterprises and community groups in order to set up sustainable local food growing projects.

The Local Council will have a crucial role in this process; what is needed now is a clear commitment to action on its part to ensure that legal obstacles are removed and the necessary resources and support are easily available. Whatever policies are put in place, ultimately the drive and motivation for implementing urban agriculture activities will have to come from communities themselves, rather than as a political directive. However supportive policies can create access to resources and skills and address any legalistic obstacles preventing unused land being made available for urban agriculture activity.

Although Cardiff has yet to formally consider the concept of urban agriculture in its planning process, several residents’ and voluntary sector groups in the city have started to look at the potential for establishing some food growing projects within the city. There is other evidence of an evolution of ‘gardening consciousness’ already occurring in Cardiff. It is timely, for example, that the Federation of City Farms and Community Gardens, a national umbrella organisation coordinating and advocating for urban agriculture activities across the UK, has recently employed a Wales development worker who is based in Cardiff. The Cardiff Transition Project, which reflects the aims of the national Transition Town movement, has made local food growing a key platform of its mission statement and its aims. It remains to be seen what role other local community organisations can play and whether they will champion food growing as a tool for health and community development. Meanwhile Plaid Cymru, the Welsh political party that currently shares the job of governing Wales with the Labour party as part of a coalition, has made it a key part of their current manifesto that ten per cent of all public land should be made available for the growing of food. If this proposal was enacted in Cardiff, it would require significant amounts of what is now parkland to be planted – a drastic step which did in fact take place during the First and Second World War when the urgent need for local food production food was apparent to everyone.

Urban agriculture would not necessarily have to be considered as a permanent function for any vacant land within the city. As is the case in Cuba, empty urban land could be made available for food growing until such time as it is needed by its owners or by the Council for other activity. Access to such land could be offered at a peppercorn rent to interest groups or social enterprises which would undertake to manage and look after it.
productively for a fixed period of time. Through the use of raised beds or other intensive growing technologies, any risk of ground contamination or inadequate soil fertility would be avoided.

To complement this approach, and to help create a permanent role for local food growing activity, urban agriculture should be included as a topic at all levels of the education system to help create a culture of agriculture among younger generations. Schools would be encouraged to establish small vegetable growing gardens, so that children would become familiar with the enjoyment, the skills and the benefits of growing and cooking their own food.

Urban agriculture can contribute to the development of an economically viable local produce sector in the longer term. The starting place for this conclusion is evidence of the increasing demand for local produce on the part of the public and of institutions – as indicated by the current success of farmers markets and box schemes and the increasing interest in local public procurement. However, there needs to be an increase in the study of urban agriculture, and the publication of the research results through various means, as a means of supporting urban producers and also in order to assure the future place of local food growing in future land planning exercises. From a purely economic point of view, there needs to be a more in-depth analysis of elements such as: choice of product, means of production, and the kind of marketing strategies and outlets, which would enable small scale horticultural enterprises to be developed in a sustainable and financially viable way. More research is therefore needed to inform decisions at the local authority level regarding how local food growing should best be developed in the city.

Establishing and managing urban agriculture projects will need to involve collaboration between relevant local organisations and projects, particularly those targeting underrepresented groups such as lone parents, older people, and ethnic minorities. The food produced will be available to people who are involved, while at the same time local food growing activities can contribute significantly to spreading information and knowledge about the links between health and nutrition, and enabling and encouraging people on a low income to enjoy a healthier diet.

Many inner city agriculture projects will require a subsidy, grant or non-profit status to have a chance of becoming commercially viable, at least in their initial stages. However, as
indicated earlier, such projects would have multiple social benefits in terms of job training and community outreach which increase the benefits which result from the outlay of initial capital. For example, an urban farming operation may enable inner city youth to gain job skills that they can apply in other circumstances.

For urban agriculture to flourish in Cardiff, the local government and community groups would need to address a number of existing and emerging challenges. For example, Cardiff Council could help ensure the viability of urban agriculture initiatives, including community and rooftop gardening among others, by ensuring that land was set aside for food growing in Land Use Plans, by designating public space in parklands for the purpose of producing food, and requiring development projects to integrate food producing space into their programmes.

The example of how targeted planning legislation in Havana facilitated a speedy and highly productive urban agriculture programme across the city indicates how, with the right level of incentive and political will, such apparently radical changes in the land use planning for a city can actually be taken. Changes in the world economic climate may means that the concept of urban agriculture becomes more appealing, and potentially more viable in Wales. City-based food production will not meet all our nutritional needs, let alone our food wants, but it could play a part in ensuring access to fresh food for residents, and could bring a wide range of benefits to a city such as Cardiff, provided appropriate planning legislation and government support mechanisms, coupled with the right kind of public incentives, are in place.

With the right support, especially in terms of access to vacant land and other support mechanisms of the kind provided in Cuba to help people get started in local food growing, urban agriculture could deliver similar levels of social and environmental benefits, economic activity, employment and food production that would make it a cost-effective, popular and 'sustainable' planning objective. As such, urban agriculture could have a key role to play in the future planning for land use in Cardiff and in enabling it to become a sustainable and healthy city.
BIBLIOGRAPHY


American Community Gardening Association (1998) *National Community Gardening Survey*, Monograph, ACGA, Columbus, OH.


Cardiff City Council (2005) *Cardiff’s Ecological Footprint*, Interim report, BRASS Centre for Business Relationships, Accountability, Sustainability and Society, Cardiff University.


Cruz, M.C. and Medina, R.S. (2001) *Agriculture in the City: A Key to Sustainability in Havana, Cuba*, IDRC, Ottawa, Canada.


Pretty, J. (2001) *Some Benefits and Drawbacks of Local Food Systems*, University of Essex.


WEB SITES VISITED

(Visit dates: 19/10/08 and 20/10/08)

Urban Agriculture

City Farmer - Canada’s Office of Urban Agriculture, http://www.cityfarmer.org/
Community Food Security Coalition, http://www.foodsecurity.org/
ETC Urban Agriculture, http://www.etc-urbanagriculture.org/
Food and Climate Change Research Network, http://www.fcrn.org.uk
Oregon Tilth, http://www.tilth.org/
Sierra Club National Sustainable Consumption Committee, http://www.truecostoffood.org/
Sustain, http://www.sustainweb.org/
Urban agriculture (New Agriculturalist), http://www.new-agri.co.uk/00-2/pov.html


City Planning for Sustainability

Cities Feeding People, http://www.ruaf.org/node/1139
Edible Landscaping, http://www.ediblelandscaping.co.uk/
Sustainable Cities Net, http://www.sustainablecitiesnet.com

**Urban Agriculture in Cuba**

City Farmer News: ‘Cubans hope urban gardens will solve food shortages caused by hurricane damage’, http://www.cityfarmer.info/category/cuba/
Cuba Solidarity Campaign: Feeding the Nation, http://www.cubasolidarity.org.uk/cubasi_article.asp?ArticleID=75
Fundación Antonio Núñez Jiménez de la Naturaleza y el Hombre, http://www.fanj.org/
APPENDIX 1:
INTERVIEWS IN HAVANA – EDITED TRANSCRIPTIONS

Interviewees:
Maria Caridad Cruz, Programme Co-ordinator, Fundación Antonio Núñez Jiménez de la Naturaleza y el Hombre - FANJ (www.fanj.org)
Roberto Perez, Environmental, Education and Biodiversity Conservation Program Director, Fundación Antonio Núñez Jiménez de la Naturaleza y el Hombre.
Roberto Sánchez, Specialist in Small Scale Production, Fundación Antonio Núñez Jiménez de la Naturaleza y el Hombre.
Otto Manuel Andares Ranas, Ministry of Agricultura/INIFAT, Manager of Soil Fertility and Production.

Interviewer: Stephen Garrett (SG); Location: Havana, various locations: 6/11/08 – 12/11/08

1. Maria Caridad Cruz (MCC) and Roberto Perez Rivero (RPR): 6/11/08

SG: “Has anyone done a recent cost benefit analysis of urban agriculture in Havana?”

MCC: “Some smaller studies have been undertaken but there is a need for a larger studies. The government publishes regular statistics on levels of urban agriculture production, and there are other studies undertaken by various NGO’s working in the area. Now would be a good time to do an updated research into costs/benefits of urban agriculture in Havana. Some things are especially hard to measure. For example, the cost of water to a set is charged at a basic tariff no matter how much water is used. There are also new growing techniques whose effectiveness needs to be measured. It is also important that not all urban agriculture areas should try to follow the same model of production. However, what they have in common is a wish to combine design, efficiency, productivity and aesthetic appeal”.

SG: “To what extent is urban agriculture included in the planning system for Havana?”

MCC: “Availability of land for urban agriculture in Havana is always at risk because the city requires land for other types of development as the economy grows: for housing, for example. So the value of urban agriculture should not just be determined in terms of food produced or employment, but has to be seen in terms of broader social and environmental benefits, including its role in dealing with organic waste from the city. In this way the relative value of urban agriculture, compared with other uses for the land, increases. However, this expanded view of the overall benefit is not yet appreciated by the city planners.

The quantity of private land in Havana is small, and it is mostly owned by the state. The government has a commitment to using empty land for agriculture where possible, but in some cases the have taken over land for construction”.

RPR: “Everyone agrees that the city needs green spaces. With the parks in Havana there was vandalism, theft and damage because of weather. Urban agriculture has shown that urban green spaces can be maintained, with no cost to the government whilst also creating employment. It has also helped with reforestation”.
MCC: “Traditional city planners don’t yet recognise all these benefits. However, urban agriculture is now included in the current land development plans for Havana, although it is seen as a temporary activity in the city, and only seen as a permanent activity on the periphery of the city”.

SG: “What is the level of food production in Havana?”

MCC: “More than 80 per cent of the leaf vegetables consumed in Havana are produced in the city. This is an increase over past years, because people are getting better at producing and because there is a better system of support for, e.g., production of seedlings”.

SG: “What do you think are the biggest risks and opportunities facing urban agriculture in Havana?”

MCC: “There is the risk of creating dependency by farmers on imported materials such as polytunnels and other equipment, as people try to improve production levels. There is also the temptation of going back to using chemicals, because there is more availability than before. However, a law has been passed outlawing the use of chemicals in organoponicos, and also the public are more sensitized to the benefits of eating organically, and that is what they now demand. This can also be important in terms of trade with visitors. The benefits of urban agriculture are not just about not using chemicals, but also less use tractors, electricity, water and so on. People do want to grow food in the city. Someone working on the land makes more money than a doctor or a professor. However, a big risk to urban agriculture is if a change in the economy leads to an increase of irresponsible tourism, and if the government starts to subsidise conventional agriculture. An opportunity is the rise in the costs of imported food, and the increased interest by the public in ecological and locally produced food. There is a need for those working in government to learn more about how urban agriculture functions and the Foundation (FANJ) is contributing to this. There have been many benefits to Havana from urban agriculture other than food production - benefits that were not part of the original plan. Urban agriculture in the city is now protected by the government because of its important contribution to the food chain. It has also become an important attraction for ‘responsible tourism’, because people know that the food here will be very safe”.

SG: “Has there been any interest in using ‘night soil’ (human waste) to fertilise plants?”

RPR: “There is not yet any use of human manure in the city. People need to be convinced that it is safe, and also there are cultural obstacles to overcome. But there is a hope that there can be more of this. You can’t force change in culture, but for example. night soil can be used for fertilising trees, and then later it may become more acceptable for food. There would be a saving to the city in terms of use of water and need to import animal manure”.

SG: “What plans are there to secure the involvement of children in urban agriculture?”

MCC: “All primary schools have a small vegetable garden in which children spend at least an hour each week. Young people now have access to a range of fresh produce that was not available before the arrival of urban agriculture, but it will be a challenge to get them involved. There is a need to think about what will be the right form of motivation”.
2. Maria Caridad Cruz (MCC): 10/11/08

SG: “Can you tell me more about how city planning in Havana supports urban agriculture?”

MCC: “The city planning policy of Cuba is well known and well respected in other countries of Latin America. Space has a particular importance in Havana because the city is not able to expand, due to geographical limitations. Agriculture is now included in the city land plan, but the guarantee of access to land is temporary, and this presents a risk to local growing. The challenge is to get urban agriculture recognised on a permanent basis within the city. This requires a clearer link between the value of the land, and the contribution that urban agriculture brings to the quality of life in the city. There needs to be better cross-departmental collaboration within the government. There is also an important role at the local council level, for recognition and incorporation of urban agriculture in their planning process”.

3. Roberto Sanchez Medina (RSM): 7/11/08 and 10/11/08

SG: “Has anyone undertaken a recent cost benefit analysis of urban agriculture?”

RSM: “We do know that the highest level of food production is in the home garden level, where people grow food for their own use, but this is hard to quantify. Most measurement of food production has been done at the more commercialised level. There is data about levels of production from different studies. The Foundation (FANJ) will be publishing a collection of papers on urban agriculture in the near future. In 2006, a study showed that eight to nine per cent of the food produced in Cuba comes from urban agriculture, and at least 60 per cent of the vegetables in Cuba are produced with urban agriculture. This high quality food contributes to the local economy, and Cubans are eating a much wider variety of vegetables than was available before. Some vegetables are still mainly grown outside of the city. Across Cuba, about 50 per cent of the food consumed is produced within cities. In terms of larger scale food production, there is not the same commitment to organic methods. But the Association of Small Producers is committed to producing food in as green a way as possible. At the farm level, the main government drive is towards greater productivity, using mechanisation and chemicals if necessary. All the food that is produced gets sold. There is no organic certification programme in Cuba, so it is difficult for producers to charge a premium for organic products. Most small producers bring in compost from outside and don’t make full use of local materials. Their produce is to some extent subsidised by the government, which buys seeds, for example, with convertible currency”.

SG: “What would you say are the biggest risks and opportunities facing urban agriculture in Havana?”

RSM: “We have fifteen years experience of growing food in Havana, but there is still a need for local food production to be complemented by the broader aims and benefits of urban agriculture. The price of food imports is going up, so there is increasing motivation for local production. As a result the Cuban economy will be stronger to the extent that it is not dependant on imports. However, if there is a greater opportunity to buy chemical based fertilisers, for example, it will be a political decision whether to go that way”. Urban agriculture still has a low status in society, so that even though growers can earn more money than professors, there is still a lot of land available for growing in Havana which is not used. All schools have some kind of garden, and at least all children know
where their food comes from. They also get to meet people involved in growing, and this can influence them to consider taking it up. Growing food is not just about earning money, it’s also about a particular relationship with the land. There are many capacity-building centres in Cuba where people can learn more about how to grow food. There is a distinction between the ‘Department for the Development of urban agriculture’, a government department, and the ‘urban agriculture movement’ which is a much broader grouping which includes NGOs. The Foundation is an example of the latter. These non-governmental groups have a much larger vision of the role of urban agriculture. They see urban agriculture as playing a role in achieving sustainability, and all of them have teaching/support centres. Some people are involved with government and NGO bodies. There is an urban agriculture representative in each local organising committee in the city. All these groups share experiences and interrelated, and there are regular reviews of techniques and learning – not only about production but other aspects of sustainability, such as dry toilets. To begin with, urban agriculture in Cuba was a necessity. With little employment and little money, people had time on their hands and a need to eat. As the economic situation has improved, people have found other work, and a lot of empty land has also been developed for other functions.”

SG: “Can you tell me more about how city planning in Havana supports urban agriculture?”

RSM: “The main level of support from the state is in making state-owned city land available for urban agriculture. There is an institutionalisation of support for urban agriculture at the planning level. However, Cuba still imports 60 per cent of its protein, and the main drive to increase Cuba’s food production will be in the country not in the city. In Havana, there is a state group for development of the city which has produced a land development plan. In the plan of 1998 urban agriculture was considered only as a temporary use of empty land, and as a permanent activity in the periphery. By 2002 it was included, although still on a temporary basis, in the Land Use Plan for Havana. This has added strength to the organisations and government departments providing support for the development of urban agriculture.

There has been an evolution of coordination and support, from an informal grouping of organoponicos and market gardens to what has become a Department of urban agriculture. This represents an important evolution in the acceptance of the role of urban agriculture with clearer strategies for support and development. There are now more than 20 programmes of state support for urban agriculture, including nine for fish production. These programmes are mainly concerned with technology, production and commercialisation. As a part of this process, urban agriculture has began to be seen as more of a profession. At the moment urban agriculture is not in the process of increasing the space it uses, but is about consolidation of existing space and increasing levels of production in existing spaces, because the level of production is still a lot less than the demand. Since the 1960’s, there have been small market gardens in every school which has available land. The government requires that urban producers prioritise selling food to schools, centres for pregnant women and hospitals. Where there has been an emergency such as a hurricane, the state ensures that food produced goes to these areas first, and buys it from producers at a fixed price.

There is an interest in using more household rubbish for compost, but a concern that it may be contaminated. In Guantanamo, for example, there is a programme of collecting waste for compost, but this is only used for fertilising flower production or larger plants such as bananas. The Foundation (FANJ) is in the process of acquiring a piece of land on which to
run urban agriculture pilots and trials, and where exchanges could be facilitated with other
groups and institutions in Latin America and elsewhere.”

3. Otto Manuel Andares Ranas (OMAR): 11/10/09

SG: “Tell about your role in promoting Urban Agricultura in Havana”

OMAR: “The Cuban government does have a commitment to supporting urban agriculture
. If there had not been the necessity for growing food in the city, probably there would not
have been so many people willing or able to do it”. (OMAR refers here to the ‘Special
Period’ in the late 1980’s when Cuba had to adapt to drastically reduced imports of
resources from the collapsed Soviet Union – which has been described in a Chapter 4 of
this paper). “In terms of food production, urban agriculture complements food brought
into the city from the countryside, especially leaf vegetables. It clearly makes good
economic sense for production to be as close as possible to the point of consumption.”
(Here OMAR describes the difference between the design of ‘Market Gardens’ and
‘Organoponicos’, which has been referred to earlier). “The level of production is much
higher in an Organoponico than in a Market Garden, but they are much more labour
intensive. The design of Organoponicos is very important in making them productive, and
much has been learned by producers in the past ten years.
The main support provided by the government to urban agriculture in providing access to
land for producers, which they can occupy in “usufruct” (i.e. as long as they are using it
productively), aiming to ensure that there is sufficient food for schools and hospitals. The
government also guarantees to purchase a proportion of food produced at a fixed price. The
people who do the hard work establishing organoponicos earn a bit more than those who
come more recently.
The government decided to allow those who produce more food to earn more, in order to
stimulate the level of production. In effect, they supported the setting up of private
enterprises. Urban growing in the summer is hard work, so extra motivation is needed.
Enterprises usually run as cooperatives, some of which are private and some owned by the
state. From the perspective of Cuba as a socialist country, the important thing is not the
ownership of the land, but the destination of the food it produces. That is to say food is not
sold on the open market at the highest price, but rather it goes to where it is most needed.
In countries with strong economies, there are programmes to develop organic production
because organic growers can get a premium price. This is not the case in Cuba, but a key
step will be to raise the level of production and improve the general quality of local food,
and especially to link prices to quality. The quality of food from state-run food growing
enterprises can be poor, but everyone in Cuba has access to sufficient basic food”. (OMAR
refers here to the work of Julia Wright at the Henry Doubleday Research Association, who
have done some work in Cuba).
The most effective methods for supporting the development of urban agriculture in Cuba
have been: information sharing and capacity building networks; support from government;
access to land; guaranteed prices; and an ongoing programme of evaluation at the municipal
level. In essence, urban agriculture is still seen in Cuba as an ongoing part of the July 26th
‘revolutionary spirit’”.

66
APPENDIX 2:
URBAN AGRICULTURE IN HAVANA: A PERSONAL PICTORIAL OVERVIEW

Figure 3: A typical ‘organoponico’ close to central Havana.

Figure 4: Small scale commercial herb garden.

Figure 5: A small urban organoponico.

Figure 6: Small organoponico run as a private enterprise on state-owned land.

Figure 7: Larger cooperative state-run organoponico.
Figure 8: Typical organoponico shop.

Figure 9: Another organoponico shop.

Figure 10: Fixed prices at the local market.

Figure 11: Limited range of produce at the market.

Figure 12: Queuing at a local vegetable stall in Old Havana.
APPENDIX 3:
IMAGES OF URBAN AGRICULTURE IN THE ‘DEVELOPED WORLD’

Figure 13: Allotments in Roath Park, Cardiff, c.1945.

Figure 14: Weeding the crops in Roath Park, c. 1945.

Figure 15: From a lawn....

Figure 16: …to an edible garden (Australia).

Figure 17: Park garden in Middlesbrough.

Figure 18: Roof garden (Chicago).