

**THE SOCIO ECONOMIC IMPACT OF URBAN AGRICULTURE IN A NORTH AND SOUTH URBAN
CENTRE**

A Dissertation submitted for

MSc in Urban Design
University of Edinburgh

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2009-2010

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Title:

The Socio-economic Impact of Urban Agriculture in a North and South Urban Centre.

Question:

“How does the socio-economic impact of Urban Agriculture viewed through its implementation and management compare in a developed and developing urban centre: Chicago and Sao Paulo?”

Abstract:

This research uses the case study methodology to compare the feasibility, implementation and development of Urban Agriculture in the developing South (Sao Paulo) and the developed North (Chicago). A literature review examines the existing knowledge as a basis for the ensuing case studies and evaluations. Areas explored include political receptivity, land usage trends, community empowerment and food security to name a few. From the comparison of evaluations key principles were distilled indicating several similarities between the two. These include the need for greater representation of UA at the local and national government level, the significant role UA can play in addressing vacant land issues and the need for talented and visionary leaderships to name but a few. The research points towards the potential for greater collaboration between the North and South and the many benefits this could yield.

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List of Acronyms:

- (APROUNI) Associação dos Produtores Unificados (*Association of Unified Producers*)
- (AGUILA) Latin American Urban Agriculture Research Network
- (AUAC) Advocates For Urban Agriculture Chicago
- (CFSC) Community Food Security Coalition
- (CGIAR) Consultative Group on International Agriculture Research
- (CSA) Community Supported Agriculture
- (EPA) The Environmental Protection Agency
- (HUD) The Department of Housing and Development
- (IDRC) International Development Research Centre's
- (IPES) Institute for Sustainable Development
- (NGO) Non Government Organisation
- (NPO) Not For Profit
- (PROAURP) Programa de Agricultura Urbana e Periurbana do Município de São Paulo
Program of Urban Agriculture and Peri Urban Agriculture of Sao Paulo City
- (PROVE) Small Agriculture Production Verticalisation Programme
- (SGUA) Support Group on Urban Agriculture
- (TUAN) The Support Group on Urban Agriculture
- (UA) Urban Agriculture
- (UAN) Urban Agricultural Network
- (UMP-LAC) Urban Management for Latin America and the Caribbean
- (USCM) United States Conference of Mayors
- (USDA) The Department of Agriculture

CHAPTER 1: INTRODUCTION

Background and Context:

History: For several decades research and practice of contemporary urban agriculture has been gaining momentum. The International Development Research Centre's (IDRC) launch of the first international research program solely dedicated to Urban Agriculture was the catalyst for several other international and regional organisations to dedicate funding and resources (Mougeot 2006). These include: The Support Group on Urban Agriculture (TUAN), Consultative Group on International Agriculture Research (CGIAR), Latin American Urban Agriculture Research Network AGUILA and UN Habitat to name a few. Agropolis was set up by the IDRC to award international research grants for field research connected with urban agriculture in regards to its social, political and environmental dimensions. UA is continually gaining importance due to recognition of the environmental implications of a rapidly urbanising global population but also due to the awareness that to maintain a socially stable urban population people must have access to food.

Policy: Urban Agriculture has encountered several issues at the local and regional policy level, indeed in several countries UA is illegal (Mougeot 2006). The issues of land ownership and usage have created several challenges in both the north and south. However, with growing awareness of the socio-economic benefits of urban agriculture many northern and southern governments are adapting their policies. Indeed, Mayor of Chicago Richard Daley's goal of making Chicago the "greenest in America" (Schneider 2006) and President Obama's national fight to cut carbon emissions and empower underserved communities (Doster 2008) indicate key policies where urban agriculture could play a significant role. Within Brazil recent legislations have seen a greater amount of citizen involvement at the decision making level that have improved community empowerment and funding and encouragement of UA projects. In addition, large business marketing is keen to be seen supporting the 'green' trend and social initiatives and thus greater funding and resources are becoming available than ever before. However, many land use/ownership obstacles still exist that require creative solutions such as temporary occupancy permits or public private partnerships to name a couple.

New Initiatives: The rise in social entrepreneurship and funding bodies willing to support urban agriculture projects has created several new initiatives. In the US the department of Homeland Security has put an emphasis on food security looking at ways that communities can provide a third of their food needs (Brown 2003). In addition to wide spread farmer's markets there are many Community Supported Agriculture initiatives (CSAs), community empowerment UA initiatives and nutrition education initiatives. Additionally, the general trend of industries moving out of the urban areas leaving behind derelict empty lots throughout the urban fabric has inspired communities to take up urban agriculture as documented in Julien Temple's BBC 2 documentary '*Requiem for Detroit*'.

Past Research: In addition to the Agropolis graduate research papers the Urban Agricultural Network (UAN), an international leader in the field, has published several books that address some of the challenges and possible solutions UA faces in the future. Topics related

to my proposed research include papers on urban agricultural projects as local development tools in Argentina (Spiaggi 2005), A case study of urban agriculture in Belem, Brazil (Madaleno 2002), challenges and opportunities of UA in the United States by the Community Food Security Coalition (CFSC) (Brown 2003) and community orientated initiatives in various post industrial US cities (Birch 2008).

Justification of research: the above highlights challenges and opportunities within the field of urban agriculture for integration into policy, issues of land usage rights, food security and community empowerment. However, there is a lack of comparisons between Urban Agriculture projects and practices in the northern and southern hemispheres and how they can inform each other. There could be valuable lessons in how UA has evolved in the north and south urban centres and that a comparison can yield key insights into some of the challenges and opportunities highlighted above.

Definition of North and South

In this paper the term North is used in referral to Developed Countries and South in referral to developing countries regardless their hemispherical location.

Aim and Objectives of the Research

The overall aim is to compare the socio economic impact of urban agriculture in a major southern and northern urban centre, in this case, Sao Paulo and Chicago. The focus will be on the feasibility, implementation and development of Urban Agriculture and its socio economic implications. Thus, the framework to compare in further detail:

1. Feasibility: the policy and institutional climate:

The political receptivity towards urban agriculture and the relationships between various levels and departments of government is investigated. At the regional and municipal level land use strategy, land tenure issues, demographics and the communities' perception towards UA are important aspects to take into consideration.

2. Implementation: start up constraints and opportunities:

Public and private awareness of the importance of urban agriculture is growing, therefore, the type of startup assistance, be it public-private partnerships, non government organisations, city assistance etc is investigated. The scale, ambition and resource capacity of urban agriculture projects is looked at to determine possible constraints and opportunities. In addition, the interaction with fellow practitioners, networks and various agencies at the ground level is considered.

3. Development: long term management and training:

The successful longevity of UA projects require management and technical training combined with long term funding assistance and local community support. Therefore, the various entities that can provide such outreach services and support and what role the community plays at this stage of a project is investigated. UA's job creation, skills teaching, fringe group assimilation and long term food access qualities are areas of particular focus.

Research Methods:

The primary research method of the investigation will be the case study methodology. As indicated by Yin this method “investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident” (2002. p.13). This is well suited to my research that looks into the different contextual conditions that the phenomenon (urban agriculture) is found in and how that affects it and those around it at various levels.

As opposed to merely field research the case study’s ability to “study a case in relation to the complex dynamics within which it intersects” is appealing (Groat & Wang 2002 p.347). The multi faceted dynamics of how urban agriculture intertwines with its context thus requiring multiple sources of interpretation would benefit from the case study method. The ability of the case study methodology to accommodate combined strategies, be it quantitative, historical interpretative and qualitative to name a few, is another important aspect.

Within this primary case study methodology there are multiple secondary methods that can create combined strategies to receive and interpret data regarding urban agriculture and community enrichment. These include quantitative, historical interpretive and qualitative.

The techniques used to carry out the investigation consist of desktop based review of secondary data, archival research, spatial analysis, statistical analysis and email correspondences. Certain methodologies are more suited to certain research techniques. For example:

Qualitative: data will be gained via email correspondence, archival research and human interest magazine and news article interviews. This qualitative data helps in distilling the multi faceted impact UA has had in the two urban centres, in particularly in the development section.

Interpretive: within the qualitative three sub categories this interpretive is important due to its “goal of understanding the complex world of lived experiences from the point of view of those who live it” as stated by Schwandt (Groat & Wang 2002 p.186). This is of particular importance in the implementation section with the communities’ and practitioners perceptions of land usages.

Quantitative: This includes statistical data on types of public and private funding available, existing policies and legislation, demographic statistics of a specific areas, urban farm profit margins and neighborhood crime statistics to name a few. This is of particular use in the feasibility and implementation sections.

Interpretative-Historical: archival research of the regional/municipal historical relationship with urban agriculture and how it has evolved provides key insights into contemporary conditions found in the case studies today. This is very informative within the feasibility section.

Personal Experience: First hand observation and personal experience are important aspects to bring to the qualitative research (Jick 1979). Experience in visiting Sao Paulo and living in Chicago contributed to the research of each urban centre.

A key characteristic of case study methodology is the triangulation of data (Groat & Wang 2002), thus with the multiple sources of data collection stated above triangulation will be a useful tool in highlighting truths and trends distilled from the data.

Finally, the case study methodology's potential to generalise findings to theory (Yin 2002) could be useful in trying to distil key principles from the comparison of the two urban centres.

Summary of the Chapters:

I intend to use the Linear Analytic Structure for the research. The main contents of the research and logical linkage are proposed as follows:

Chapter 1. Introduction.

Chapter 2. Literature Review of Urban Agriculture's general application and North/South specific applications.

Chapter 3. Case Study of Sao Paulo: Focus on individual objectives numbered 3.2-.3.4 with an evaluation at the end.

Chapter 4. Case Study of Chicago: Focus on individual objectives numbered 4.2-.4.4 with an evaluation at the end.

Chapter 5. Case Study Comparison: comparison of city evaluations

Chapter 6. Conclusion: Distilling of key principles.

CHAPTER 2: LITERATURE REVIEW

2.1: Introduction

A review of literature on Urban Agriculture has highlighted a significant amount of data in a variety of media. UA's occurrence in main stream published books is surprisingly limited and usually relegated to a chapter or handful of paragraphs. However, there is a significant amount of online papers and publications available from various organisations' websites and links. These have been a key source for this research. Additionally, significant information was found directly on, blogs official web sites and online newspaper articles relating to the human interest aspect of urban agriculture. Much of the qualitative data gathered was taken from these sources. No case study comparison between urban agriculture practices in North and South urban centres was found. Indeed, the majority of the literature I found concerned itself with either the North or South exclusively.

Following a review of the mainstream publications the structure is organised into Sao Paulo and Chicago categories with sub categories corresponding to different forms of media.

2.2: Review

1. Main Stream Books.

Worth particular mention is the United Nations Development Programs publication Urban Agriculture: Food, Jobs and Sustainable Cities (Smit. 1996). Researchers have noted it is extremely difficult to come across a copy and I have been unable to acquire a digital or hard copy. Nonetheless, it is regarded as one of the cornerstones of UA research and its author, Jac Smit, is the current president of the TUAN which has played a significant role in sharing and publishing papers related to UA.

Within the various national, city and universities libraries the books concerned with urban agriculture were:

- Cities People Planet (Girardet. 2008). From a southern perspective this book brings to light various socio economic challenges faced by major emerging markets such as Brazil and their rapid economic growth including the automation of traditional labour and a rising disparity between social classes. In addition, it highlights the importance of central and municipal government collaborations in promoting UA to ensure a food access in urban centres. From a northern perspective it highlights UA strengthening role in post industrial cities, including Chicago. Social inclusion is explored with UA school projects for inner city youth and UA skills training initiatives for prison inmates. Marketing techniques that embrace evolving technologies are explored in conjunction with rise of public interest in organic and locally grown products as consumers become more attentive to the source of their food. Finally, it envisions future urban centres where diverse inner city lands use from innovative urban planning and resource management are complimented by greater public private partnerships to create the sustainable urban centres of the future.

- Growing Greener Cities (Birch. 2008). UA finds a place in several chapters concerned with Urban Greening and a chapter fully dedicated UA. Although it focuses primarily on

Philadelphia it is a fascinating with a good summary of UA in the USA and the similarities of Philadelphia and Chicago's urban conditions. Within the frame work of urban greening the book highlighted four main areas applicable to UA: advocacy of environmental justice, promotion of community economic development, addressing health disparity through community, advance equity in urban infrastructure (p.187). These are of concern to both Chicago and Sao Paulo and provided part of the basis for subsequent. The power of new media models for maintaining public support are highlighted with examples from Chicago and other post industrial US cities cited. Finally, the emphasis of a holistic approach to implementing UA projects with multiple agencies provides guidance for further research for such a trend in Sao Paulo and Chicago.

- CPULs Continuous Producing Urban Landscapes (Viljoen. 2005) Dedicated to "designing urban agriculture for sustainable cities" the chapters within the book are a variety of global case studies, theoretical proposals and historical analyses amongst others. Although there is no mention of Chicago or Sao Paulo it provides valuable information regarding UA's benefits other north and south cities thus providing a good basis to develop further research specific to Sao Paulo and Chicago. A chapter on Sandwell's community food access and social geographical factors highlight the multiple contextual issues UA can address. Additionally, a chapter documenting farmer's markets and changing consumer behaviour highlights UA's distribution and marketing trends.

2. Urban Agriculture Specific Books.

There are several IDRC books dedicated to UA that can be acquired online including:

-Growing Better Cities (Mougeot. 2006) Primarily concerned with the South this online book's *City Partners in Latin America, Population Shift* and *Women's Role* and *Building Capacity* chapters are of particular use. These highlight the UA support networks in Latin America, recent rural to urban migration trends and the UA's socio economic benefits of social inclusion. In addition, the major problem tenureship and access to urban land are explored and provide guidance to Sao Paulo and Chicago specific research on the issues.

-Agropolis: The Social, Political and Environmental Dimensions of Urban Agriculture (Mougeot 2005) Compiling various research findings by IDRC grant recipients this provides a good overview of the opportunities and constraints of UA in recent years. Informative sections on UA's role in food security, public policy, sustainable urbanisation and the UN's millennium goals are a few of the areas explored.

-For Hunger Proof Cities (Koc. 1999) This brings to light the range of issues concerning UA in a variety of international locations. Chapters on *Urban Food Production in a Globalizing South, Promoting Sustainable Local Food Systems in the United States* and *Urban Agriculture as Food Access Policy* are of particular interest to this research. The promotion of Brazil as a pro UA location and the exploration of CSA food box programs in North America were good starting points for subsequent research.

From the above it can be seen that there is a limited amount of UA information in main stream print and usually as a sub category of Urban Ecology. However, that which does exist is very informative and provides a good general knowledge of UA in both North and South contexts. This is complimented by the IDRC's UA specific publications that provide a far broader and detailed perspective of UA in a regional or country context. They highlight the importance of government collaboration, food access, social inclusion and CSAs food baskets to name a few. This provides the basis to conduct further Sao Paulo (Brazil)/ Chicago

(US) specific research. Much of this context specific research came from government, NGO and academic papers.

3. Government, NGO and Academic Papers.

A larger amount of UA data was available from Government, NGO's, Research Institutes and Online Journals online including:

US and Chicago:

-Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States (Kaufman. 2000) an excellent document from the Lincoln Land institute of Land Policy that compares UA in three US cities, Philadelphia, Chicago and Los Angeles. This provides a fascinating insight into the many obstacles and potentials for UA in the US with a particular focus on entrepreneurial UA. The cataloguing of the success and failures of a variety of UA projects within each city provides a diverse picture of the work underway in the USA.

- Urban Agriculture and Community Food Security in the United States: (Brown 2003) Published by the CFSC this extremely informative paper explores issues of land tenure, start up costs and access to distribution markets for US projects. In addition, it highlights the importance of forming urban farmer associations, the opportunity for integrating UA into planning policies and the dynamics of crime and vandalism in certain areas.

-Good Food: Examining the Impact of Food Deserts on Public Health in Chicago (Gallagher 2006) Produced by the Mari Gallagher Research & Consulting group this highlights the severe food access issues certain areas of Chicago face. Using several forms of data analysis it creates a clear picture of who, where and what is effected by the presence of food deserts. A series of graphs and maps further enforce the papers points.

Food Urbanism: a sustainable design option for urban communities (Grimm 2009) Published by the University of Iowa this project looks at different UA typologies and there possible design and integration into the city fabric. It provides useful textual and graphical indications of the partners and locations UA could be applied in urban centres throughout the US.

Urban Agriculture: A Literature Review (Leshner) published by the US Department of this document provides useful research information on UA. However, the reviewed works on Latin America date from the mid nineties with two of the four focused on Cuba, a socio economic situation that is difficult to compare as noted by the author.

For Brazil and Sao Paulo these include:

-Planning for Urban Agriculture: A Review of Tools and Strategies for Urban Planners (Quon 1999) Published by the IDRC this paper gives a good overview of the challenges of integrating UA into developing countries' master plans and the complex relationship between authorities and practitioners.

- Urban Agriculture and Feeding the Latin American: Good Practices and City Consultation (Dubbeling 2001) Published by the UN it highlights the process of integrating UA into the regions different levels of government with the assistance of international aid organisations. Several inspiring public participation and knowledge sharing practices were of use for this research.

- Urban and Peri-Urban Agriculture (Drescher 2001) Published by the FAO this paper highlights a good series of steps for implementing UA projects with a focus on development

via extension services training locals in a range of life skills and the creation of farmers associations.

- Vacant Land in Latin America: Challenges and Opportunities (Larangeira 2003) a Lincoln Institute of Land Policy paper with fascinating information and statistics regarding Sao Paulo's vacant land situation, flexible planning policies and the need for Public Private Sector Partnerships. All of which were beneficial to this research.

- Sustainable Human Settlements Development in Latin America and the Caribbean (Winchester 2005) A very informative paper that highlights issues of particular interest such as land tenure, inner city land use, gender equality and reforms in Brazil's planning policies. All of which indicate a socio economic environment in which UA could flourish.

- Financing and Investment for Urban Agriculture (Cabannes 2006) An IDRC document that provides an excellent three part break down of the UA typologies, funding available, and funding process followed by a cross referencing. In addition, it explores Brazil's participatory budgeting initiative that gives the citizen's a direct impact on funding allocation.

The above provides a greater overview of UA's development in the US and Brazil and indicates the direction of its potential growth. It indicates the similarities that can be found in the constraints and opportunities of UA in each region/city.

4. Human Interest Electronic Articles and Documentaries

There is a significant amount of information regarding UA in the form of electronic articles and blogs. These include articles and newsletters in The New York Times, Los Angeles Times, Chicago Tribune, New Village Journal, UA magazine, Globalpost.com and Green Guerrillas News Letters to name a few. Examples include

- A Garden Flourishes Amid Chicago's Projects (Davey 2003) This online New York Times article highlights many of the qualitative benefits this UA project in a low income part of the city provides.

- Community Scale Economics, The Power of Planning (Lazarus 2005) This New Village online journal article brings to a diverse audience the activities of Chicago's UA NGOs highlighting the trials and tribulations involved in producing food in the city.

- The Importance of Legal and Political Support, the Case of PROVE in Brazil (Carvalho 2006) This UA magazine article highlights the benefits a UA support organisation has brought to communities and its vulnerability in times of political and fiscal change.

- Lets Hear it for Urban Agriculture (Franklin 2010) published on line by the Global Post, a champion of new models of sustainable journalism, this article provides a general overview and link to one of the most progressive UA project in Sao Paulo's east side.

The above indicate that such brief articles in well distributed papers/journals are powerful tools for educating and stimulating interest within the general public.

Furthermore, some DVDs/online documentaries related to 'urban greening' and UA can be found:

- PBS's (Public Broadcasting Service) Eden Lost and Found (2006) is a case study of the greening efforts in four US cities (Seattle, Chicago, Los Angeles, Philadelphia) with the initial DVD series resulting in an ongoing blog.

- Faith Morgan's The Power of Community: How Cuba Survived Peak Oil (2006). An hour long documentary charting how the embargoed country strove to become self sufficient via nationwide implementation of UA.

2.3: Conclusion

In conclusion, from the above it possible to see that there is a wide selection of academic research, political interest and public curiosity towards Urban Agriculture. The multiple media types containing information relating to urban agriculture is an interesting reflection of its multifaceted nature and the sectors of society it can influence.

Although informative there are a surprisingly limited number of main stream books exclusively devoted to the UA subject. IDRC's publications provided good background knowledge of UA however it is the collection of web based and policy literature that has provide the majority of the information used as this research's foundation.

The key lessons highlighted in the literature indicate that UA is gaining a greater role within both North and South urban communities. With the increasing role issues arise that can be seen as either constraints or opportunities. At the feasibility stage public private partnerships and integration into government policy at the regional and municipal level are issues of great importance. At the implementation stage food access, the promotion of strong knowledge sharing networks, the demographic patterns and vacant land patterns are key issues of concern. At the development stage UA's long term benefits of social inclusion, employment and training combined with the economic stimulus from marketing and distribution of products are areas of particular interest.

The above literature has explored these issues in various geographical locations and levels of detail. This paper has used the current state of knowledge as a starting point and built upon it in the frame work of feasibility, implementation and development to explore the case studies and comparison of Sao Paulo and Chicago in the following chapters.

CHAPTER 3: CASE STUDY SAO PAULO

3.1 Introduction (socioeconomic context)

Sao Paulo's growing importance as a gateway to Latin America and surge of millions of immigrants in the late 1800's helped create the third largest city on earth today and economic power base of Brazil (Levenston 2008). With a population of 19 million it is forecasted to continue growing significantly in the coming decades amplifying several socio economic issues (Urban Age 2008). Often a hot bed of political activity and rights movements in the seventies the Worker's Party was founded in the city providing the first and current working class president of the country (BBC 2010). Significant socio economic inequalities have plagued the city's history yet in recent years there has been several improvements towards a fairer more inclusive society promoted by new policies and practices. Nonetheless, Sao Paulo's issues are significant and require multiple solutions to address them. Continued migration from the north east, growing informal settlements, inconsistent employment and high levels of crime are raising concerns. It is within these issues that Urban Agriculture's multifaceted benefits can contribute to the economically and socially sustainable aspirations of the city.

3.2: Feasibility (The Policy and Institutional Climate)

Due to its versatility UA addresses multiple issues that are of concern to several government and international agencies. This section will look the historical and current receptivity towards UA in the region and city. Particular focus is given to the recent "political and social democratization" (Winchester 2005 p.38) that has created innovative multi partner initiatives including the Declaration of Quito and Sao Paulo's Statute of the City citizen participation

Regional / national level

Latin America is the most urbanised of all regions in the South with the last thirty years seeing a 240% urban growth rate dwarf a 6.5% rural growth rate. The majority of poverty is concentrated in the rapidly growing urban areas where increased unemployment rates have been exasperated due a greater reliance on technology over manual labour and recent economic turbulence with the low skills population being affected the hardest (Winchester 2005).

Concerned by this urban poverty several of the region's governments support the UN Regional Action Plan on Human Settlement for Latin America. This plan with its emphasis on social equality, increased productivity, improvement of the urban environment, promotion of good governance and citizen participation is one in which UA can greatly assist.

In addition to governments several International and regional organisations are increasing the presence and credibility of UA within the region. There are three organisations worth particular note that have given UA a strong frame work within the region by bringing various

governments and agencies together in a regional networks of expertise and local authorities to create a knowledge sharing database (Dubbeling 2001). These are SGUA, AGUILA and UMP-LAC. SGUA includes the UN Development Program and the international UA advocates IDRC, TUAN and UMP. It was instrumental in organising the influential 1997 UN Second International Mayor's Colloquium at which the benefits and challenges of implementing urban agriculture at the municipal level was a key topic (Drescher 2001). AGUILA is involved with 12 Latin American countries including Brazil and operates as part of the nonprofit IPES. The UMP-LAC is worth particular note for the seminars it holds with various local governments and civic stakeholders to draft plans of action and the creation of a network of cities sharing best practices of urban management.

The culmination of these seminars can be seen in the Declaration Quito. Endorsed by Brazilian municipal governments it urges "governments to include Urban Agriculture in their programs to alleviate poverty, food safety, promotion of local development and environmental and health improvement" (Habitat 2001). One of the seminars greatest outcomes was the implementation of the City Consultation program to create a greater public participatory process of urban management and the creation of the City Working Group of permanent knowledge sharing and political lobbying in support of Urban Agriculture. (Dubbeling 2001).

National civic support

At the national level the civic movement of Brazil's Landless Workers Movement has an extensive nationwide network it focusing on several issues including food security, access to land and an emphasis on the benefits of local organic farming (Blanc 2009).

Municipal level

At the municipal level the local government can be fragmented in its potential handling of UA projects. Several local departments are involved in the implementation and development stages. For example: The Planning Department is responsible for identifying the location appropriate for a project, the Municipal Council is responsible for permitting the project, the Health Department monitors the project and the Agriculture Department is responsible for providing the outreach and extension services (Drescher 2000). Therefore it is possible to see the many obstacles a project could encounter in trying to interact with so many dislocated departments. However the creation of Brazil's Ministry of Cities could address this issue. Established in 2003 to "fill the gap due to the absence of a national urban policy" (Habitat 2006) and consolidate the fragmented departments dealing with cities it deals with housing, urban land management, environmental sanitation and transportation amongst others. UA's ability to enhance all four of these areas suggests it could find a more holistic partnership with the Ministry of Cities than the previously fragmented system. The Ministry hosts a Conference of Cities that brings all Brazil's municipal representatives together for discussion of best practices and developments in urban management. Such platforms could provide valuable UA networking and development opportunities on a high profile national platform.

The notion of public participation in Latin America is a very important development in recent years (Stone 2010). Of particular note is Brazil's Federal Law 10.257 'The City Statute'. Passed in 2001 it is considered "a landmark piece of legislative achievements (...) which validate power sharing through participation of the population in the city management" (Habitat 2006). It ensures dwellers right to the city and has been hailed by the UN habitat for its "good governance and secure tenure for the urban poor" (Ottolenghi 2002 p.12). A key part of the Statute is that of creating mechanisms to reduce irregular settlements (*shanty towns or favelas*) of which the highest levels are found in Sao Paulo due to a massive influx of low income residents since the 1940's (Winchester 2005). Sao Paulo has been commended for its implementation of the statute and its approach to legalizing of informal settlements. Traditionally informal settlements have been forced to the underutilized land lacking basic infrastructure at the edge of the city. The 1990's saw efforts by the municipal government to create the 'urban regularisation' of these settlements to promote their inclusion into the city and the idea of the citizen's Right to the City (Ancona p.3). This was an innovative and flexible response to informal settlements enabling them to be serviced and subsequently taxed by the city. As a result, the process of urban regularisation has proven to be a far quicker and efficient process than that of full legal regularisation (Winchester 2005). This flexible and holistic approach seems more accommodating to the type of urban conditions found in Brazilian cities with rapid growth and multiple informal settlements.

Additionally, legislation 13,727 was passed in 2004 creating the Urban and Peri Urban Agriculture Program PROAURP to meet the city's aspirations to encourage, support and stimulate UA A joint venture between the Municipal Department of Labour, Secretary of the Environment and the Department of Supply (FEMA 2009) It created the city's first UA farmers association in the east side neighborhood of Saint Matthew and focuses on encouraging a self managed corporation with an emphasis on community participation. (PROAURP 2010).

3.3: Implementation (Start up Constraints and Opportunities)

This section will look at the key issues concerning the implementation of UA projects in Sao Paulo. In particular, it will focus on the municipal departments and planning policies, the variety of agencies involved in the start up of projects, the dynamics of the city's vacant lots and the benefits of PPPs.

Municipal planning and regulation

At the municipal level of urban management the master plan and planning enforcements are a powerful tool. Therefore the advances mentioned in Sao Paulo's planning and legislations are positive developments. However, in the south the credibility of master plans can vary a great deal with authorities often unable to enforce what has been put onto paper (Drescher 2000). This can be attributed to lack of internal resources, illicit land use, land speculation and rapid urban growth. Indeed, the conditions found in southern cities such as Sao Paulo are poorly served by the traditional planning ideals rooted in the "rational comprehensive European tradition" (Quon 1999 p.13). Well positioned to act as a bridge between the politicians and citizens the Planners have developed informal strategies and

networks to achieve goals where the formal tools have failed (Quon 1999). Given the flexible nature of UA projects and practitioners in South cities such as Sao Paulo this more informal planning approach seems more suited to the realities of the city and its UA practices.

NGO's also play a crucial role in bridging the divide between the politics of policies and masters plans to the common practitioner on the ground. One of their greatest strengths is in assisting urban farmers to organise themselves into associations to articulate and assert their interests at the municipal level. As a result, they can gain the confidence to see planners and policies as tools in addressing major concerns rather than enforcers and obstacles to avoid (Quon 1999). The formation of such associations has been one of the key goals for Sao Paulo's UA initiatives such as Cities Without Hunger, Horta & Arte and PROAURP.

Agencies involved, PPPs, start up funding,

A good example of such NGO activity in Sao Paulo can be found with Cities Without Hunger. Active since 2004 on a 10 hectare plot of previously vacant land it primarily serves recent migrants from Brazil's poor north east and socially endangered groups. It operates in the city's high crime and low education east side with a network of thirteen gardens. PROAURP, in addition to coordinating 256 urban projects of varying size, is in collaboration with the State Environment Secretary's has helped create Project Caoby to share best practices with a nearby rural sustainable agriculture project (Caoby 2010).

Although ongoing the seminars held by MetroAgriculture to explore how UA can be better implemented in the city is a good example of the multiple stake holders coming together to brain storm solutions. These stakeholders include a diverse groups including local NGO's, urban farmers associations, city and state government, universities and food retailers including the biggest Carefour and Pao de Acucar. It has succeeded in creating serious debate amongst key groups at the heart of Sao Paulo's UA movement agreeing on a collective goal to push for greater innovation in UA and a higher level of collaboration amongst themselves. Another result was the call for the creation of a municipal level department of Agriculture to give UA more direction and clarity within city policy and practice. (MetroAgriculture 2010)

Collaboration with the private sector can be seen with several farmers associations partnership with large super markets. Notably is Horta and Arte that has supplied organic products to some of the city's largest super markets chains (Blanc 2009). The degree of these partnerships are quite advanced and encouraged by the rise in demand for organic produce from the consumer in recent years. This combination of local organic produce and the large, sophisticated marketing abilities of supermarkets is an interesting development in the distribution of UA. What is more it requires farmers associations to become more organized, competitive and efficient to operate in such a commercial environment.

Of great benefit to the implementation of UA is strong leadership and vision (Kaufman 2008). Han's Dieter, the Director of Cities Without Hunger, is a good example of this leadership with a diverse skills base. From a Brazilian rural farming family with a degree in environmental politics and technical agricultural skills from Germany and experience in the

Sao Paulo's agriculture and international relations offices he is well experienced to navigate the challenges of implementing UA projects (Cities Without Hunger 2010) (see fig.3.1). His work in expanding the NGO into other urban and rural areas along with a research centre to host international visitors indicates an impressive level of vision (Dieter 2010). Additionally, the leadership behind APROUNI is provided by a farmer and political activist whom, although non native to the community, provides a great investment of time and energy into the project (Blanc 2009).

Municipal land analysis

A major issue in Sao Paulo related to land usage is the city's large amounts of vacant land. It has been observed that "whereas in the United States the majority of vacant land tends to be centrally located (...) in Latin America the majority of vacant sites lie in the outskirts of the cities" (Clichevsky 1999). This issue has been particularly severe in Sao Paulo with a long history of small vacant lots at the mid and periphery areas deemed to be "too expensive for families willing to live there, or too distant for those who could afford them" (Larangeira 2003). As a result, the increase of informal settlements in these areas continued. (see fig.3.2)

However, this problem is being viewed as an opportunity as the "creative reuse of vacant land could be beneficial to all social sectors, if its management forms part of society's broader policies of urban equity." (Clichevsky 2002). Indeed, the call for a "special approach" (Larangeria 2003 p.4) to Sao Paulo's small plots that are too small for large scale development and too expensive for lower income families indicates great potential for UA and the benefits it can offer to vacant land issues.

Agua Branca example

In summary, a good example of the above topics (flexible planning policies, municipal vision, vacant lands latent potential and PPPs) coming together can be seen with Sao Paulo's Agua Branca neighbourhood: Previously a west side area of low density and brown fields a Public Private Partnership resulted in the city offering flexible building controls to encourage private development to rehabilitate the area and renovate several buildings for civic and cultural purposes (Larangeria 2003). Today the area has a large park with initiatives to educate the public in farming and nature educational facilities and a large farmers market (see fig3.3) creating the benefits of urban greening, citizen education and food access in a previously underutilised part of the city (see fig.3.4). Additionally, the State's Ministry of Agriculture and Sao Paulo Office's of Agricultural Defense are located in the same area (ParqueBranca 2010). As a result, this provides a good example of urban management flexibility and strength in multiple partnerships in developing unused land for socioeconomic good.

3.4: Development (Long term management and training)

UA requires long term management and development to ensure a successful longevity. This process can provide key socio economic benefits including community empowerment through training, inclusion, employment and greater interaction between producers and

consumers. There is a variety of assistance available at this stage including extension services to provide technical and business training, equipment lending, media coverage and food distribution networks.

Community empowerment (inclusion/training/employment)

By enabling the citizens to become self sufficient they can circumnavigate the aid agencies and create a sense of self dignity and recognition within the community. What is more, the social and psychological support UA provides can be valuable in time were regionally the traditional nuclear family is breaking into fragmented families with high levels of the young, elderly and single mothers on society's edge (Winchester 2005). UA can provide a common ground for these groups of the community to participate and find social inclusion. This solidarity building is particularly important in Brazil with its long history of political and economic instability.

Neighborhood Upgrading Programs in which the authorities supplement the initial investment communities put into their informal settlements is a note worthy tool in empowering communities. These upgrades come in the form of municipal services and infrastructure with the community participation in the allocation of such services. (Winchester 2005). In such an initiative UA could be seen as a tool for neighborhood improvement and gain upgrading assistance towards the goal of creating a greater sense of civic pride and ownership within the community. Indeed, Cities Without Hunger has focused specifically on integrating women and teens in its aim to "utilizes the very same residents of these areas as actors for social transformation" (Dieter 2010 p.6).

UA's employment generation is a key benefit to the community especially given the informal nature of the work offered. Within the region the informal employment is an important part of the job market with over two thirds of all jobs created since 1990 being in the informal sector and set to grow. What is more, the informal sector is the main source of employment for fringe groups such as low income households and accommodates a very high share of females (Winchester 2005). Given that several stages of a UA project can be seasonal the temporary form of employment it offers can fit in well to this informal employment trend. Furthermore, if located in the areas where low income families are most common the close proximity can reduce commuting time and costs associated with undertaking multiple forms of employment throughout the city.

UA can reduce crime and vandalism with its training and employment benefits providing individuals with an alternative to criminal activities (Levenston 2010). As a result of reduction in crime it makes the community a safer place therefore creating a more empowering environment (see fig.3.5). This is of particular interest in Sao Paulo given the high crime rate and that seventy percent of violent crimes occur within its periphery areas and informal settlements (Ancona 2007).

Extension services

A key aspect to realising the goal of empowerment and self esteem is long term skills training. This includes not just training in the technicalities of UA cultivation but also the business management, leadership and marketing skills that are essential for a projects

longevity. Extension services are important in providing this kind of training and include Universities amongst other organisations. Cities Without Hunger has formed a successful partnership with the city's Getulio University in the form of 'The Technological Incubator of Popular Cooperatives of the Getulio Vargas Foundation' creating a frame work of academic research and practitioner training (Dieter). In addition, their training on how to produce year round crops via rotation and the construction of simple green houses and automated irrigation systems are valuable skills in improving farmer's efficiency and yield. For the processing and distribution phase they have constructed several small processing units and training to further assist farmers beyond the cultivation stage (Dieter 2010). PROAURP has been active in creating a network of technical assistance and access to tools for practitioners via its Support Centre for Urban Agriculture in conjunction with the Ministry of Social Development (Riberio 2009).

Access to the public (media exposure, CSA and food baskets.)

The importance of creating public awareness to gain support and create a consumer base for UA's products is a crucial for project longevity. As well as being publicised in a variety of national and international media 'Cities Without Hunger' teamed up with 'Web Station' who provided the NGO with a high quality web site design as part of their support for social initiatives (Webstation 2010). Additionally, Horta & Arte's collaboration with large supermarket chains in Sao Paulo is a good example of main stream marketing for farmer association's products. The interest in UA and power of marketing was fully demonstrated with PROVE's pilot program in Brasilia in which good television coverage and thousands of site visits created substantial regional and international interest thus providing a good role model for Sao Paulo initiatives (Carvalho 2006a). As well as media the creation of a network of buyer's clubs or food baskets expands UA's outreach to the public. Recognising this marketing potential of food baskets APROUNI has been developing a network within Sao Paulo's residential neighborhoods since 2008 with aims to expand (Blanc 2009). Additionally, Set up with the support of local business individuals the charitable organisation ABCare has assembled and distributed food baskets to poverty stricken areas of the city providing greater access to nutritional food within the city. (ABCare 2010) (see fig.3.6).

3.5: Evaluation of Sao Paulo

From the above it is possible to see that Sao Paulo sits within a fascinating context. The city's dynamic social, economic and political changes have produced some very interesting developments in which UA plays an important role.

In terms of feasibility, at the regional and national level initiatives such as the Declaration of Quito and the Statute of the City indicate a strong and growing support for UA from both government and development organisations. However, the lack of a specific institute devoted to UA leaves it vulnerable to political change and the multiple departments it can encounter.

The impressive citizen's participation policies such as the Statute of the City offer a way for the public to press for greater UA in the management and development of the city, as was the case in nearby Porto Alegre (Sauliere 2006). In addition, the 'Ministry of Cities' and its 'Conference of Cities' is a great platform to highlight the benefits of UA and promote its

incorporation into policy and best practices amongst municipal governments. However, for UA to be realised in either it depends on the citizen's desire for UA in the participation process or the political will of municipal governments at the conference level. An encouraging sign to the likelihood of this is the strong interest from several civic groups including the Workers Without Land movement and Sao Paulo's municipal legislation 13,727 encouraging and supporting UA. Additionally, the city's PROAURP set up to meet this goal is a powerful sign that the climate towards UA in Sao Paulo is continually improving.

In regards to implementation, the evolution of more flexible planning policies within the city play to the strengths of UA's flexibility to adapt and thrive in a variety of urban circumstances. This has been utilised by several established NGOs and farmer's associations which along with the benefits of strong leadership and vision have been able to expand their work within the city and beyond. In addition, a level of greater collaboration amongst the city's various stakeholders is an exciting development most notable in MetroAgriculture's recent seminars. Such initiatives are key in promoting greater communication and efficiency amongst stakeholders and will hopefully forge more productive ties between the diverse groups including supermarkets, NGOs, politicians, farmers and researchers.

The city's edge condition of vacant land issues and informal settlements creates an interesting relationship where UA can have a big impact. In such conditions UA can create lasting solutions to the vacant land and informal settlement problem by reducing spatial segregation and economic vulnerability through its land rehabilitation and income generation properties.

In addition, PPPs can play an important role with the development of UA and its products. The Agua branca collaboration offering an excellent example of the greater role UA can play via a Public Private Partnership producing the joint benefits of urban greening, citizen education and food access.

Regarding development, the numbers of obstacles UA practitioners are faced with in the city are significant. However, the community empowering benefits of social inclusion, employment and training through UA can be clearly seen with the works of Cities Without Hunger and PROAURP amongst others. The rise of informal employment trends within the city's lower income population is disconcerting. However, UAs ability to provide additional support and incorporate itself into this informal work pattern is one of the key benefits it offers a community with an uncertain source of income generation. Additionally, by focusing their efforts on employing women, youth and migrants they address social exclusion issue specifically found within the city.

The Neighborhood Upgrade Programs aiming to instill a sense of civic pride and ownership within communities is an important tool. In informal settlements this installing of a sense of civic pride and ownership is particularly relevant and can help to reduce crime and vandalism, both of which UA can play an important role in.

Cities Without Hunger's ability to create a network of researchers and practitioners to share knowledge under the umbrella of Getulio University is a powerful insight into the role of universities in UA. It highlights that universities' roles in providing extension services are

very important and it would be encouraging to see more of the city's research institutes engaged in UA project. In addition, the replication of PROAURP's extension service success in the St Matthew neighborhood to other areas of the city would be of great benefit.

Finally, of particular interest in Sao Paulo is UA's long running commercial partnership with the city's supermarkets for expanding their marketing and distribution reach. A relationship that seems set for continued growth with the city resident's continued desire for organic local produce (Blanc 2009). Although less advanced, the APROUNI's aspirations and development of its food basket/CSA network indicates a promising interest and potential expansion for this form of marketing and food access to the general public. Given Sao Paulo's large consumer base it seems this is an avenue that could accommodate several associations ideally formed in a network to supply and stimulate demand.



FIG 3.1 Ciities Without Hunger Director H. Dieter on site (far right)



FIG 3.2: Informal Settlnent at Sao Paulo's Periphery



FIG 3.3 Agua Branca park and neighbourhood, Sao Paulo



FIG 3.4 Agua Branca Farmers Market, Sao Paulo



FIG 3.5 Urban Farmers on a Cities Without Hunger urban Farm



FIG 3.6 Preparation of Food Baskets for ABCare

CHAPTER 4: CHICAGO CASE STUDY

4.1 Introduction (Socioeconomic Context)

Located within the Mid West of the United State's Chicago has a long history of food cultivation, processing and distribution (I.D.A 2001). As a gateway to millions of immigrants in the 1800's the city maintains a diverse socio economic mix within its many neighborhoods and land usages. It has seen much social and economic activity including a dramatic loss of its industrial base and a history of race riots sparked off by geographical and urban conditions (Essig 2005). In recent years investments in innovation, technology and ecology have seen the city trade its 'meat packing', heavy work horse image to a more refined image appropriate for its post industrial status (McDonough 2002). Indeed, Mayor Daley has pushed for Chicago to become the "greenest city in America" (Schneider 2006) and in doing so has implemented several impressive projects that have served as models for other US cities. It is within these aspirations and challenges that Urban Agriculture with its many benefits can create a more socially and fiscally productive urban environment within the city.

4.2: Feasibility (The Policy and Institutional Climate)

Due to its multiple benefits UA can have effect in a variety of areas that are the concerns of multiple federal, state, municipal departments and non government organisations. This section will look at the historical and current receptivity towards UA in the US and Chicago and the mechanisms involved.

Regional / National level

There is a lack of an all encompassing department that manages the practice of UA and it is instead left to a variety of departments with potentially conflicting agendas. Indeed, the lack of a clear national policy on urban agriculture has been one of the main concerns of practitioners.

Nonetheless, the main federal departments involved with UA include: The Department of Housing and Development (HUD), The Department of Agriculture (USDA), The Department of Health and Human Services, The Environmental Protection Agency (EPA) and The Department of Labour (Kaufman 2000). UA's ability to revitalise housing and development projects, promote local farming, improve general health and access to nutrition, champion environmental justice and create employment are some of the main aspects that concern the above departments.

As a result, there is a variety of support provided by these Federal departments towards realising UA projects. At the forefront is the USDA with its 'Community Foods Projects Fund' which has been used to assist UA projects in Chicago. Although HUD doesn't directly support UA its Community Development Block Grants have been utilised to fund projects in Chicago related to UA (Kaufman 2000). Further indirect HUD funding could potentially be

found in their recently established Sustainable Communities Regional Planning Grant Program with its focus on health, environment and social inclusion (Hoy 2010). In addition, the Department of Homeland Security recognises the importance of food production for the nation's security. Although current support is limited to large agro defense research projects (Allen 2009) it does indicate that there is future potential for the department to play a more active role in supporting smaller local UA initiatives providing food security.

State level departments share similar roles and views to the federal. However the Illinois State University system is a useful tool, especially in providing extension services during project implementation stage as will be seen later.

National Civic Support

At the national level UA finds one of its closest allies in the CFSC. Believing that a "a hungry world is a dangerous place" their view is that food security is crucial and that every community should be able to produce 30% of its overall food requirements (Brown 2003). Aspiring to this goal they have documented and promoted UA's socio economic benefits through various initiatives and papers aimed at policy makers (Kaufman 2000).

Municipal level

The United States Conference of Mayors (USCM) is the official non partisan organisation of cities in the United States. As a platform for city leaders to network ideas and goals they create policies that respond to their needs and concerns via committees and taskforces. Worth particular note is its sub organisation the 'Mayors Climate Protection Centre' with its the intent of reaching or surpassing the Kyoto Protocol targets at the municipal level (Girardet 2008). Although UA isn't explicitly mentioned their land use and energy consumption concerns and policies could make good use of UA's multiple benefits in those areas. The Centre's goal of embracing the federally rejected Kyoto Protocol at a municipal level is impressive. Indeed, much of the future socio-economic-environmental issues that UA seeks to address will be created in large urban centres. Therefore, it is inspiring to see a network of proactive municipal government leaders asserting their concerns and ambitions where the Federal government has fallen short. In addition, Chicago has been very active within the organisation with its various greening policies (Birch 2008).

Another initiative that works with the Mayor's Conference is the The Mayors Institute on City Design in Washington DC. It runs seminars in which Mayors and leaders in the private and academic sectors collaborate in identifying issues and solution to the individual contexts of each mayor's city. Within these seminars an increasing interest in the benefits of UA has been observed (Bellows 2010). Cross fertilisation of interest in UA occurring at this high level of public and private sector collaboration is an encouraging sign. Indeed, the organisation is well placed to provide a development network and act in a long term support capacity to city leaders sharing UA practices with other cities throughout the US.

Within Chicago itself Mayor Daley has endeavored to make the city the "greenest city in America" (Schneider 2006) resulting in several initiatives aimed at realising this goal. However, several bodies involved in this greening process maintain their own interpretation

of what greening means and compete for the land and funds available. Nonetheless, this interest in greening the city provides opportunity for UA to be integrated into the urban fabric. Two main greening projects involved in beautification of the Chicago's streets and spaces are the Transport Department's Green Streets project and the Planning Department's City Space Program (Kaufman 2000). Given the flexibility and multi benefits of UA in those areas it can play an effective role in realising the program aspirations.

In addition to greening and recreation UA's ability to create jobs is of interest to municipal departments and fund allocations. This can be seen with the city announcing the allocation of \$7 million in Economic Stimulus Funds to generate 'green collar jobs' (Merritt 2009) in which at least two urban agriculture projects received funding. These included the Department of the Environment's GreenCorp Chicago program that promotes skills and job training for low income groups and convicted felons as a way to integrate back into society. (Greencorp 2010).

4.3: Implementation (Start up Constraints and Opportunities)

This section will look at the key issues concerning the implementation of UA projects in Chicago. In particular, it will focus on the zoning and planning regulations, the variety of agencies that can assist in the start up of projects, problems related to the city's vacant lots and the benefits of PPPs.

Municipal planning and regulation

Although in UA's greening and employment benefits are recognised by various municipal departments the allocation of the vacant city land for UA can be problematic. Although the city may have a high number of vacant plots not all city departments believe it should be used for UA and ,as NGO Growing Home's founder asserts, "as much open space as there is here in Chicago much of it is already planned for"(Doster 2008). Therefore without strong leadership and vision a UA proposal can be voiced out by more organised and profitable land use advocates.

However, integration of UA into the city's planning policies is under way. The Department of Zoning and Planning have confirmed that zoning recommendations for inner city commercial plant growing and design guidelines and environmental standards for UA are being currently being developed (Dickhut 2010). This should give UA a stronger position within the municipal government level and compete more effectively for land use rights.

Agencies involved, PPPs, start up funding

The scale and form of a UA project is important since it will determine the location within the city, the amount of staff/volunteers required, its potential output and initial start up costs. This will influence its socio-economic impact and the types of assistance and funding it can secure. Organisations such as Churches, Educational Institutes, NGO's, philanthropic organisations and government departments have provided assistance to the implementation stage of UA projects in Chicago. The dynamics of such relationships have been well highlighted in Food Urbanism in which UA typologies are paired with the type of agencies and goals they aspire to (Grimm 2009).

In regards to implementation, Lazarus asserts that “the power of good planning and the importance of tapping into all possible allies and resources before sowing a single seed” is key to success of UA projects (2005). As a result, a successful project requires strong leadership and vision provided by a “dedicated, savvy, creative individual who understands the complicated urban context in which he operates, and accepts the various setbacks” (Kaufman 2000 p.17). The examples of Chicago’s UA project leaders Les Brown at Growing Home and Will Allen at Growing Power as successful, multi talented energetic individuals verifies this opinion.

At the government level, both local and federal, varying amounts of start up funds, land acquisition and assistance are available. Indeed, a complex land acquisition process saw the Growing Home UA project receive a variety of assistance including usage rights to Federal land held by the Department of Health and Services, a community development block grant from the municipal Planning and Development Department and soil remediation payment and free access to the city’s farmer’s market network (Lazarus).

Of particular note is the city’s Neighbor Space initiative. Set up as a Public Land Trust partnership between the Planning Department and Chicago Park District it acquires vacant land and distributes it to various community groups for ‘greening’ purposes (Neighbor Space 2010). Securing land ownership at an early stage for a high number of UA and ‘hybrid’ has been very beneficial in promoting confidence and security within the practitioners and the overall longevity of a project.

The Church and Educational Institutes in Chicago have played key roles in the implementation of UA projects. The Evangelical Lutheran Church is a large advocate of innovative food growing techniques that can be seen with their roof top farming project in Chicago (Ebenezer 2010) (see fig 4.1). In addition, Churches have been involved with the joint land leasing of a UA projects on the city’s west side and it was a church outreach group that pioneered the idea of God’s Gang UA project (Kaufman 2000). Both the Illinois institute of Technology and University of Illinois have donated equipment to assist in the start up of projects.

Additionally, Philanthropic organisations play an important funding role. Heifer International is a very active organisation in Chicago providing funding, training and materials to many of the city’s main projects including God’s Gang, Resource Centre 70th Street Farm, Growing Power and Growing Home (Heifer 2010).

The presence of established practitioners and projects that can provide support, share experiences and speak in a unified voice is an important asset at the implementation stage. The Advocates For Urban Agriculture Chicago (AUAC) fulfill this role well with their network of farmers and interest groups promoting policy and knowledge/advice sharing within city (AUA Chicago 2010).

UA can also benefit in a relationship with nearby by rural operations. Growing Home runs a ten acre rural operation that compliments the inner city operation with additional skills training and products for their CSA program (Williams 2007). In addition, rural farms such as Angelic Organics Farm assist UA projects through their Urban Initiative Program that exports

best practices from their rural expertise to projects into an urban contexts (Angelic Organics 2010).

Finally, collaboration with PPPs can benefit UA, in particularly with Supermarkets in the marketing UA products. This relationship has been realised by Chicago's Jewel supermarkets providing a free slot for certain Food from the Hood's UA project's products (Kaufman 2000). What is more, it provides Community Development Corporations with a beneficial scenario in which the "multi dimensional impact expected of successful community development" is realised with the supermarket whilst still gaining the socioeconomic benefits of a UA otherwise too risky to implement given CDCs underfunding and low risk tolerance. Indeed, it is an encouraging glimpse into the potential for a greater collaboration of UA, Super Market and CDCs in an effective, flexible partnership addressing the goals of all involved.

Another PPP collaboration with the can be seen in Growing Power's partnership with the Park District and Moore's Landscape firm to create the Art on the Farm UA project. Located on the land fill and previously derelict Grant Park the project provides training for youths (Growing Power 2010) (see fig 4.2). Due to its high profile location it is highly accessible and a great exposure to the public of UA many benefits. Another public exposure of UA's benefits can be found in nearby Lincoln Park's Green City Farmer's Market that sells, amongst others, Growing Home's UA products (see fig 4.3). Located next to the city's Urban Animal Farm hosting initiatives to educate the public in farming and nature this a good example of food access, urban greening and citizen education coming together in the heart of the city.

Municipal land analysis

As with many post industrial US cities Chicago witnessed an inner city to suburban migration. In the last 50 years the city has suffered a 50 percent decline in its income per capita due to the large loss of population and industrial base (Kaufman 2000).

This has created several problems including demographic division, loss of tax revenue, soil contamination and loss of fresh food grocers. Demographic divisions have been amplified with large portions of the city's 70,000 vacant lots suffering from neglect, vandalism and crime. This creates a strain on city's finances since these sites deny related tax revenue and they are a fiscal strain to maintain. In addition, the loss of industries has left concerns over soil contamination levels on previously industrial sites and the cost of site remediation measures. To compound this, the flight of capital has created 'food deserts' aggravating socio economic issues were certain neighborhoods have no access to fresh food, grocery stores or supermarkets (Landgren 2010). The majority of neighborhoods affected by this vacant land trend are found in the inner city's south and west sides (Kaufman 2000).

However, in recent years UA projects have sought to address this vacant land issue by providing a socially and fiscally productive land use for such areas that create jobs/training and better access to nutritional food for local residents. Issues of soil contamination have been addressed with innovative growing techniques and public assistance for soil remediation costs as seen with Home Grown and the City Hall (Lazarus 2005). In addressing the city's food desert phenomenon UA provides a several solutions that will be explored in more detail later.

4.4: Development (Long term management and training)

This section will look at the key issues concerning the development of UA projects, the socio economic gains to be had and the variety of entities that can assist. Community empowerment through training, inclusion, employment and a greater interaction between producers and consumers are crucial to successful longevity. These can be enhanced through collaborations with NGOs, extension services, external consultants, CSAs, Farmer's Markets and media exposure.

Community empowerment (inclusion/training/employment)

Of particular note in empowering the community and social inclusion are Growing Power's multiple projects for low income citizens, Food from the Hoods support for high school graduates and Growing Home's assistance to the homeless. Growing Home's projects have provided many homeless and poor with training, tools and transitional employment as a way to integrate back into society. This original mission has been very successful and they are looking at other ways they can branch out and bring further benefit to communities and interest groups within the city (Williams 2007).

Growing Power's 'Cabrini Green' project seeks to ensure the existing low income residents are incorporated into and benefit from the new mixed use development transforming that inner city area. Their 'Youth Corp' program has provided many youth after school training in UA techniques and a source of income. In addition, UA plays a role in assisting immigrants with employment and providing a way for them to establish a stronger ties to their new urban fabric. This can be seen with Heifer's Proyecto Pescado Program in the city's typically Latino Pilsen neighbourhood which employs recently arrived Latin American women (Brown 2003)

A major problem for Chicago's fringe groups are the city's Food Deserts created by "complex market forces related to the increasing impoverishment of their clientele and the deterioration and depopulation of once vibrant communities" (Brown 2003). Within these deserts large percentages of the city's adult disabled population, single mothers and grandparents as primary child carers are to be found (Gallagher 2006). Therefore, in the demographic makeup of the city's food deserts the presence of UA projects can play a vital role in creating healthy food access and the other socially empowering benefits that UA aspires to.

Finally, UA plays a role in addressing urban crime and vandalism (Levenston 2010). With projects in low income areas where high levels of crime and vandalism are common it is essential to encourage a "sense of civic "ownership" over a project site, either through direct participation in its creation or management, or by simply appreciating how the project improved the look of the area" (Kaufman 2000 p.69). This collective sense of pride and interest for ones local environment helps reduce vandalism and crime and creates a more empowering sense of community spirit that is of mutual benefit to both the UA project and community.

Extension services

Universities can be great assets to UA by providing technical research and development or conducting market research relevant to UA's business success. Research Institutes can supply quantitative data on niche markets and consumer spending to help UA projects to tailor their production and marketing techniques to meet demand (Brown 2003). Conversely, research data can determine who and where those most in need of UA's benefits are located i.e. the city's food deserts. By having knowledge of where their projects are needed the most the city's UA can ensure it is bringing its socio economic benefits to the appropriate areas. In addition, technical support and development is a valuable resource universities can supply as can be seen with the University of Illinois's equipment assistance to the 'God's Gang' project and the Illinois Institute of Technology's (IIT) strong involvement with 'The Plant' project concerning the research of efficient urban farming techniques. The latter is worth particular note given its reuse of the city's many derelict industrial buildings and use of internal growing techniques (Baker 2010) (see fig. 4.4 and 4.5)

Access to the public (media exposure, CSA and food baskets)

At the long term development stage of UA projects private sector marketing, whether pro bono or charged is a powerful tool (Kaufman 2000). This can come in the form of drafting long term development plans or the organisation of events. A good example is seen with the Chicago's Archeworks, an alternative design institute that works with nonprofits that address socio and environmental concerns. Their Mobile Food Collective project is a series of mobile structures that move around various UA sites in the city encouraging a participatory food culture via "interactive educational programs related to sustainable local food production and preparation" (Archeworks 2009) (see fig. 4.6). Such initiatives are crucial to the marketing and raising of public awareness of UA to create the political support and market interest for the long term growth and development of UA. Similar exposure to and education of the general public can be found in the "Eden's Lost and Found" TV series by the Public Broadcasting Service. Hailed as a "unique media model" this TV series of greening in US cities, including Chicago, used the initial momentum of the TV programs to publish a book followed by a series of online resources and blogs to create a "ripple effect" on the public's interest (Birch 2008 p.209). The exciting potential of such multimedia models are continuing to evolve with technology and can have large role in stimulating and maintaining the city's public interest and participation in UA.

In addition to the public having greater access to and knowledge about UA conversely the practitioners need to access to the public, be it consumers or groups seeking UA's socio economic benefits. For creating ties to consumers the Community Supported Agriculture (CSA) initiative plays a significant role. Hailed as the "newest type of farming enterprise" (Brown 2003 p.12) the commitment of the buyer in advance guarantees the supplier that their product will be routinely purchased and delivered. This provides a regular supply of fresh local food to consumers at a fair price ideally creating a mutually beneficial relationship between farmer and residents. Within Chicago at least seven CSAs are operating including ones by NGOs Growing Home and Growing Power (ecovian 2010). Furthermore, some CSAs have enabled participation by lower income residents via various subsidies. This is important since many lower income families may have limited access to transport and benefit from the CSAs home delivery option. Indeed, this restricted access to

healthy food is a serious issue in Chicago highlighted by the previously mentioned Food Deserts phenomenon.

4.5: Chicago Evaluation:

From the above it is possible to see that there is a wide variety of direct and indirect interest in urban agriculture at the national and municipal level. However, given the fragmented nature of the government's approach to UA its full potential has yet to be realised. Although this interest hasn't been fully articulated by the various levels of government promising developments do suggest that it may occur in the near future. Indeed, The CFSC's effort at pushing UA into the main stream agenda and the interest from several mayors within the USCM look set to give UA a higher profile at the national level.

Mayor Daley's impressive greening initiatives are promising areas that UA could find support within. Although UA advocates feel the greening is more focused on beautification rather than food production this will hopefully change with the increasing public interest in UA and successful projects such as Green Corp providing employment and training. The increase in successful projects and public awareness also serve to better educate and encourage support from the public.

In terms of implementation, the Planning Department's development of more favorable zoning regulations and design guide lines for UA is an exciting progression. Although not finalized yet and the outcome remain to be seen it indicates a clear sign of growing support from the city government. Furthermore, although the percentage of their UA projects could be higher the Neighbor Space public land trust is a great example of implementation support from the public sector.

Chicago is fortunate to have a number of experienced UA projects, several of which provide the multi talented leadership and vision regarded as vital to the success of UA projects. These and other stakeholders in the city's UA have come together to create the AUAC. The presence of such a network is vital in facilitating communication and provides an invaluable knowledge base and assistance to practitioners, NGOs or researchers looking to conduct UA within the city. In addition, the trend of some projects collaborating with nearby rural farms in the sharing of knowledge and techniques to broaden their capabilities within the city is a healthy sign of symbiotic relationships between rural and urban based practitioners that could be greater developed. Additionally, in regards to PPPs UA's ability to integrate into a variety of Chicago's public and/or private projects is well highlighted with the marketing collaboration with Jewel supermarkets and the education/food access examples found in the Grant Park cultivation area and Lincoln Park Farmer's Market.

Regarding long term development, the community empowerment of training, employment and social inclusion are invaluable and some of the most important benefits UA has brought to Chicago. In addition to assisting homeless, low income groups and recent immigrants to the city its ability to tackle vacant land issues are worth note. The Food Deserts within which a large portion of the city's fringe groups and vacant land resides can greatly benefit from UA's dual ability to create productive land and encourage social inclusion.

In regards to extension services IIT's research and development of growing techniques at the versatile PLANT project provides a broader scope to the more modest outreach programs in the city and indicate one possible exciting future for UA's development.

Finally, Chicago's well established CSA network indicates an encouraging level of active public support and a great tool in expanding the reach and public awareness of UA. In addition, the flexible and innovative value of projects such as Archeworks' Mobile Food Collective provide a glimpse into the great potential of similar projects to promote and educate the public of UA.



FIG 4.1: Lutheran Church innovative growing techniques



FIG 4.2: Growing Power's Grant Park youth training



FIG 4.3: Lincoln Park's Green Market



FIG 4.4: The PLANT's home in an ex meat processing facility.

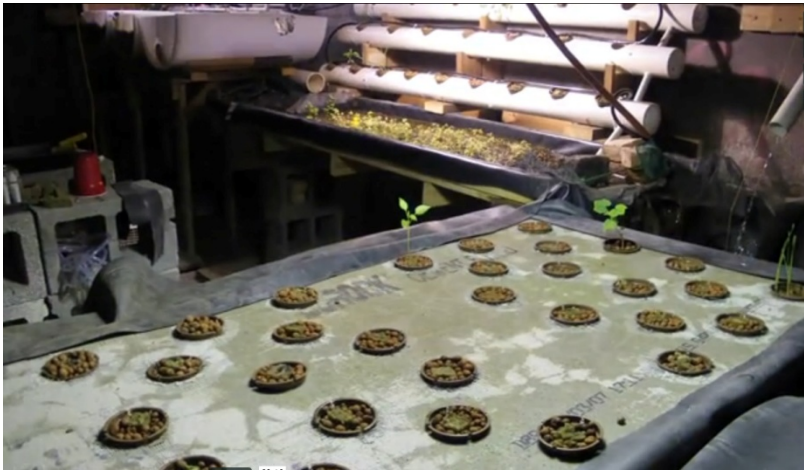


FIG 4.5: IIT and the PLANTs UA growing techniques research.



FIG 4.6: Archeworks *Mobile Food Collective Project*

CHAPTER 5: CASE STUDY COMPARISON

This section will compare and contrast the evaluations of each case study to see where similarities and dissimilarities occur. This will be laid out in the frame work of UA's feasibility, implementation and development in each city.

Feasibility:

The research has found that both Sao Paulo and Chicago sit within a policy and institutional climate that is increasing in its support for UA.

However, Sao Paulo has benefited from a longer running regional receptivity towards UA as seen with the long running agency and government efforts culminating with the Declaration of Quito. This can be attributed to Latin America's leaders expressing growing concern at the poor socio economic conditions in the region in recent years (Winchester 2005). Concerns in the US have also been expressed in areas UA can assist however the coordinated effort found in Latin America is still lacking. As opposed to nation/region wide it is usually focused on specific cities such as post industrial Detroit, Philadelphia and Chicago to name a few.

Both cities suffer from lack of a municipal and national level government institute dedicated to UA. This has been highlighted as one of UA's greatest obstacles in both cities due to the uncertainty of dealing with multiple departments and changing administration. Indeed, the dealing with multiple departments and the uncertainty this creates has been cause for concern amongst UA advocates in both cities. A more integrated ministry and strong platform to promote UA does exist in Brazil's 'Ministry of Cities' and its Conference of Cities. Although in the US there is on such ministry and cities are dealt with by multiple federal departments the US Conference of Mayor's is an organisation that can provide a similar value as Brazil's Conference of Cities. Additionally, these can be supplemented by the efforts of active social movements in both regions including the CFSC in the US and Landless Worker's Movement in Brazil.

Sao Paulo's recent drive for greater citizen participation in local government is well exemplified by its innovative use of the Statute of the City. Born out of historical social inequalities and opaque government this may not compare directly to Chicago. However, enhanced public participation of land use allocation is of benefit to both cities providing the citizens a greater voice against large developments or well orchestrated land use agencies and a greater opportunity for UA.

Sao Paulo's legislation 13,727 to encourage and support UA and the PROAURP program set up to meet this goal are a great asset to Sao Paulo's UA movement. Unfortunately, Chicago doesn't have such a legislation or program yet however UA design guidelines and zoning are currently being developed by the city.

Within both cities there are variety municipal government initiatives that UA finds recognition within. These include the Department of Environment's Green Corp and the

Planning department's Neighbour Space Program in Chicago and PROAURP's work and the Caoby Project in Sao Paulo. In addition, both cities have programs in which UA can play a greater greening and civic pride role including the City Space Program and the Transport department's Green Streets Program in Chicago and the Neighborhood Upgrading Programs in Sao Paulo.

Implementation:

Sao Paulo has had to be more innovative and flexible in its planning policies due to its unregulated growth and limited city resources. This is most notable in the regularisation of informal settlements on derelict land to better incorporate them into the city proper. It is in these areas that projects and initiatives are found using UA to enhance the quality of life and urban fabric. Although Chicago doesn't have the same issue of informal settlements it does have similar socioeconomic issue of vacant land and social exclusion exemplified by its food deserts. As a result, the innovative and flexible policies that Sao Paulo has developed could provide guidance to Chicago in how to deal with circumstances uncommon to regular urban managements such as its food desert. However, it is important to note that vacant land trends in both cities differ in location from city to periphery in Chicago and Sao Paulo respectively.

In both cities the presence of long running and experienced UA NGO's is a great asset. They have been crucial in bridging the gap between practitioners and authorities, especially where the practitioners have been at the lower end of the income spectrum as found with Growing Homes homeless and Cities without Hunger's low income groups. Additionally, in both cities NGOs with strong leadership and vision have been beneficial in navigating the complexity of farming in cities and have shown the ability to build relationship with nearby rural practitioners to enhance their urban capabilities is notable.

The forming of networks between multiple stakeholders of UA at the municipal level can be seen in both cities. In this respect Chicago is more advanced with the case of AUAC providing an good example of the many benefits of such networks. However, the ongoing seminars of MetroAgriculture indicate that a similar such network and benefits could be realised in Sao Paulo in the near future.

In both cities UA has played an important role in various public and/or private partnerships. Both have forged commercial ties with supermarkets to extend their marketing and distribution reach. However, the Sao Paulo relationship seems to be much more commercially advanced in this area indicating a business strategy Chicago could learn from. Indeed, increasing consumer interest in organic and local food noted in both cities indicates this kind of partnerships has large potential for growth. In addition, the examples of Agua Branca in Sao Paulo and Grant and Lincoln parks in Chicago indicate the cultivation and marketing of UA can contribute to a multi partnership goal of urban greening, citizen education and food access. However, it is worth note that neither combines the whole process of cultivation, processing, marketing and distribution UA produce on the public sites.

Development:

In both cities the community empowerment benefits of UA can be clearly seen. Social inclusion, employment opportunities and training are all present yet they are tailored to their specific context. In Sao Paulo the social inclusion is aimed towards informal settlements or groups living on the city's edge. In Chicago it can be found in long established neighbourhoods that have fallen into disrepair due to capital and employment loss in the city proper. In both cases crime and vandalism are an issue and UA has been seen as a way to help reduce this either by deterring illegal dumping on vacant land or providing alternate income for individuals that may otherwise resort to crime. In addition, UA provides a way to incorporate recent migrants into the city fabric and function as seen with arrivals from Brazil's north east or Chicago's Pilsen neighbourhood.

Sao Paulo's high rate of informal employment is not as common in Chicago with its developed economy and regulations. Nonetheless, although in different ways, both cities benefit from the informal nature of employment UA can provide. Two examples include: in Chicago it offers 'welfare to work' transitional employment providing homeless and lower income groups a stepping stone to upward mobility. In Sao Paulo it emphasises employing women with the goal of accommodating to their varied daily commitments and providing extra household income.

Both cities have Universities providing extension services to local UA projects. Whereas Sao Paulo's Getulio University provides simplified services specifically catered to the needs and capacities of low income urban farmers Chicago's IIT has pioneered hi tech research and development project within the PLANT UA project. The difference in service can be put down to the relevant needs, resources and context of each project however IIT's work does indicate a promising future for UA practices regardless of geographical context.

Access to consumers is an important part of UAs development stage and both cities enjoy the benefits of Farmer's Markets and food buying clubs/CSA. Chicago is particularly developed in both of these areas with its UA products incorporated into an advanced network of Farmer's Markets and CSA programs throughout the city. In comparison Sao Paulo is far less developed however APROUNI's recent start up a buyer's club in 2008 indicates a promising move towards tapping into the city's large consumer base.

Finally, utilizing external partners to help with marketing and media has been successful for UA in both cities. However, Chicago has been particularly innovative in this area with projects such as Archeworks education/promotional 'Mobile Food Collective' being examples Sao Paulo could gain inspiration from. Indeed, the continued development of such projects could greatly enhance UA's presence in both cities.

From the above comparison it is possible to see there are several key similarities and differences within all three UA's stages in both cities. These will be used to distill universal and case specific principles in the following chapter.

CHAPTER 6: CONCLUSION

In summary, this research has analysed the socio economic impact of urban agriculture in a North (developed) and South (developing) urban centre using the case study methodology comparing Chicago and Sao Paulo. The analysis has been structured around the feasibility, implementation and development of Urban Agriculture in each city. From this an evaluation of each city was drawn to highlight the key issues to be compared between the two cities. This comparison highlighted the similarities and dissimilarities between the two resulting in the distillation of case specific and general principles listed below.

Inevitably there were differences to be found in the impact of UA in each city due to their North and South context. Regardless, key similarities were found that provide general principles that could be applied to the broader topic of UA in both North and South urban centers.

1. The establishment of national and municipal level ministries/departments dedicated to UA will greatly benefit the credibility and longevity of the practice.
2. The diverse nature of UA has shown it can fit into existing city initiatives run by various municipal departments. However, the ideal is the creation of UA specific city initiatives providing the practice more autonomy within the city.
3. Municipal government level conferences such as the US Conference of Mayors and Brazil's Conference of Cities create high profile platforms where building enthusiasm for and sharing of best practices of UA have growing potential.
4. NGO's are vital to bridging the gap between practitioners and the authorities especially where practitioners have low income and education levels thus less equipped to navigate the multiple challenges involved in inner city food production.
5. Strong, multi skilled and experienced leadership within UA NGOs is a great asset. These skills can include the technical knowhow to farm, social ability to guide practitioners and the political skills to navigate urban policies and secure funding to name but a few.
6. The creation of a municipal network of UA stakeholders within a city is vital for encouraging greater communication, efficiency and productive ties between the diverse stakeholders including supermarkets, NGOs, politicians, farmers and researchers.
7. Nurturing ties with nearby rural operations is beneficial in the sharing of knowledge and techniques that can enhance the abilities of both parties.
8. UA can play an important role in PPPs aimed at urban greening, educating citizens and food access. This is a promising area for UA to play a much greater role in future developments.

9. UA's ability to empower the community is potent and although the technicalities vary with the specific socioeconomic context the overarching aim of creating social inclusion, training, employment and access to food remains constant.

10. UAs crime preventing quality is an important asset given that many of UA's sites are found in low income, underutilised areas often prone to crime and vandalism.

Additionally, there are several principles that can't be applied universally due to their context however they do offer best practices that could be tailored to suit their southern or northern counterpart's needs.

1. A strong collaboration and Declaration between multiple levels of government and international aid agencies at the regional level is important to the success of UA. Due to weaker economies and greater international aid assistance this has been more common in the South. However, a government and agency interregional partnerships would greatly benefit UA in the North even without the focus on international aid.

2. Increased citizen participation of urban management can give a stronger voice to UA within the land use allocation; provided the citizens are educated and aware of UA's benefits. Sao Paulo provides a good example of such citizen participation legislations tailored to the city's socio economic conditions. However, greater citizen participation in land use allocation and education of UA's benefits is something that UA everywhere could gain from.

3. In Sao Paulo's flexible planning policies UA can find an important role. Although these policies are tailored in response to the rapid urban growth found in the South it offers lessons for the North. In these times of economic and lifestyle change Northern cities could benefit from a flexibility in planning policy that accommodates unforeseen demographic and economic trends. These trends such as neighborhood abandonment or rising unemployment are areas in which UA can assist.

4. The trend of informal employment is rapidly on the rise in the South and, as seen with Sao Paulo, UA can play an important role in supplementing inconsistent income streams and diets. Given the economic volatility and increase of temporary employment in the North key lessons from Sao Paulo's UA could be tailored to provide similar support within the North.

6. The extension services universities provide UA in both the north and south are great assets. Some research and development cases in the North may be beyond the resources of many however the simplified, innovative and less expensive methods found in the south could be well utilised in Northern projects with limited financial means.

7. CSA and food markets create an important network of consumers. However, due to greater income per capita, access to transport and advanced marketing tools they are more developed in the North. Nonetheless, proven examples of success in the North could be viewed by the South as a source of inspiration and the goal of creating a similar high level of distribution networks something worth pursuing.

From the above principles it is possible to see that the socio economic impact of UA viewed through its feasibility, implementation and development in the north and south is significant. Much of this impact applies equally to the North and South and several differences found between them could be tailored to fit the others context where appropriate. Most importantly, it indicates that UA will play an increasingly important role in the future of the North and South building upon the trials and tribulations of its recent history that have been observed in this paper.

It has been seen that in a rapidly changing world flexibility in employment, land usage, marketing and social interaction are of growing importance in our urban centres. Projects such as the PLANT and Archeworks Mobile Food Collective indicate ways to adapt to these changing trends. The Plants flexibility in reusing existing structures and traditional growing techniques whilst pioneering new technologies and work/social patterns is impressive. Mobile Food Collective's ability to move throughout the urban fabric as a platform for social interaction whilst exposing communities to good nutrition from local sources seems a glimpse of more ambitious things to come. With both being relatively low budget and highly adaptable the transferability of their principles to other North and South urban centres is promising.

Indeed, the growth of a greater symbiotic relationship between the North and South would be of great benefit. Such a relationship would provide the key qualities of sharing knowledge, techniques and experiences to enrich one and others capabilities on a global scale. A truly international network of UA stakeholders collaborating between North and South providing best practices, guidance and inspiration to other urban centres. A network encouraging the spread of UA's multiple benefits within a coordinated and supportive global frame work during an era of increasing social, economic and environmental uncertainty.

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