
Testing Policy Making Theory through Practice: The Development of an Urban Agriculture Strategy for the City of Gold Coast

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Abstract

Cities have always been dependent on a variety of resources not only for their survival, but also to enable them to serve as places of innovation and civilisation. One of the most important of these resources is food, which recently has been threatened by actual and anticipated concerns surrounding climate change, peak oil, economic crises and environmental degradation. Attention has focused in recent years on the potential to supply a greater proportion of the food requirements of cities by producing and processing more food locally, either within or close by the city in question. Consequently, gradually, food is reappearing on the agenda of a growing number of local governments, as municipalities engage directly with food systems as an integral part of their responsibilities.

In the City of Gold Coast, up to 95% of the fresh food consumed comes from somewhere else. Recently, perhaps as a consequence of natural events that have severely interrupted the supply of food to the city, both political and community interest in local food has grown. On the community side, demand for locally grown and produced food seems to be on the rise, politically, the release and implementation of the Gold Coast Climate Change Strategy 2009 – 2014 suggested a political commitment to increase local food production and purchase.

One route taken by many municipalities to facilitating urban agricultural practices involves the development of new policies and strategies. In this sense, the field of policy making research provides a plethora of theoretical explanations of policy making processes, and these can be divided broadly into two traditions – descriptive and prescriptive. These two different representations of the policy making process are employed differently analytically. While the prescriptive model provides a framework for the analysis of different elements (i.e. evidence-based, forward looking, and participatory) within a strategic document itself, the descriptive model has a broader stance, focusing on the peculiarities surrounding the policy making process from its inception through to its appraisal.

Practically however, the literature does not provide such a full account of policy making processes, instead it seems to either focus on the political and descriptive aspects or on the internal processes surrounding policy development, never combining the two. Additionally, all accounts that attempt to test policy making theory are done through the analysis of policies that have already been developed and implemented, rarely while the policy idea is being turned into a strategic document. Thus, it is a post-mortem examination rather than a constructive assessment.

In a novel manner, following a case study approach, this research applies and tests a descriptive and prescriptive theory of policy making through the development of an urban agriculture strategy for the City of Gold Coast. Guided by the UK Government's publication titled 'Professional Policy Making for the Twenty First Century', an attempt is made to incorporate all elements of professional policy making into the development of a strategic document that could facilitate the uptake and growth of a sustainable urban agriculture industry in the city.

This research demonstrated that policy development is a complex process and it is unlikely that it can be explained by a single theory, for there are too many points of view and circumstances to take into account. Nevertheless, through the application of different lens, a greater understanding of the policy making process was possible, some answers were facilitated, and a relatively coherent, realistic and feasible strategic policy document was created.

Although much of the literature portrays policy making through two seemingly opposing approaches, both prescriptive and descriptive theories of policy making have important contributions to make, and they will seldom be separated clearly in practice. Prescriptive theory has demonstrated its value for the development of strategic documents, however its possible lack of political awareness is a concern that must be accounted for in order to minimise the risk of developing politically unfeasible policies. Descriptive theory has provided ways to understand some of the intricacies that govern the background of policy development, however they can lack direction or accountability in relation to the process of actually creating a strategic document, and therefore cannot entirely explicate the policy making process from agenda setting, policy implementation and review. Thus, although apparently antagonistic, these different viewpoints can indeed be complementary, and together they can facilitate a more comprehensive understanding of very complex processes of policy making.

In terms of urban agriculture, it is a rapidly evolving field of practice and research, one that can provide municipalities with cost effective and timely options for a number of urban food concerns. However, its uptake continues to be at best ad hoc, and more needs to be done for urban agricultural practices to be recognised as valuable urban land uses, contributing to cities of the future to become more resilient and pleasant places in which to live.

Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

(Signed) _____

Victor Wolthers de Lorena Pires

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Introduction

Cities have always been dependent on a variety of resources not only for their survival, but also to enable them to serve as places of innovation and civilisation. As those who in the past laid siege to cities knew all too well, one of the most important of these resources is food. Over the course of the last century cities have been supplied with their food from an increasingly wide range, indeed most Australian cities are now supplied with food from many different parts of the world as well as from different parts of Australia (Gaballa and Abraham, 2008). The security of these increasingly complex food supply systems is the product of a number of factors; in particular, reliance on a variety of sources can be seen to increase security as it overcomes dependency on a single source, whereas at the same time, dependence on long distance supply chains can increase the risk of disruption to those chains. There are of course other dimensions to food security, not least the affordability of food and our access to a variety of foods, both fresh and processed.

In response to actual and anticipated threats to the supply of food to cities and in light of emerging threats from climate change, peak oil and economic crises, attention has focused in recent years on the potential to supply a greater proportion of the food requirements of cities by producing and processing more food locally, either within or close by the city in question. In this sense, urban food security and urban agriculture have been seen as inextricably connected.

As a result, food is slowly reappearing on the agenda of a growing number of local governments. Across all continents, numerous municipalities are engaging directly with food systems as an integral part of their responsibilities. In this process, cities are creating their own ways of encouraging, permitting, regulating and controlling activities that aim to improve their food security. Through policies, strategies, ordinances and other mechanisms, decision makers are slowly laying the foundations for a shift in urban living, one that takes greater responsibility for one of our greatest needs – food.

In Australia, cities like Sydney, Melbourne and Brisbane are starting to grapple with issues surrounding urban agriculture, food security and food policy, but they are still lagging behind many of their counterparts in the Global North. The City of Gold Coast, sits a little further behind, but its community has demonstrated a desire to have some control of what is served on their table, and the Gold Coast City Council, at times, has also expressed an aspiration to plan, encourage and sustain an increasingly local, fresh and secure food system.

These characteristics – community desire, political inclination and global awareness – towards localising food systems have combined to give direction to this research. Urban agriculture and its myriad of ideas, actors, and actions have provided the framework to test policy making theory from a

new dimension – a constructive dimension. In other words, in most accounts of policy making theory application, the developmental process of an existing policy is often the subject of scrutiny and critical evaluation reveals if a particular theory correctly describes the policy making process followed for the realisation of the existing document. In this instance however, policy making theory is understood and utilized during the policy making process itself, rather than after the event. In this sense, this research provides a new focal point, or a new way for policy making theory to be applied – a more practical and constructive way.

Gold Coast and Food Planning

Before the 1960s the Gold Coast region had a strong culture in agriculture, being host to numerous farms that cultivated sugar cane, cattle, cotton and dairy products. From the 1960s however that started to change, with the decline in the dairy industry farmers were allowed to subdivide their land, giving rise to suburban expansion and an increase in hobby farming that opened up the area to a greater diversification of land uses, produce and activities.

With subdivision came the present situation, where large scale agricultural activities within the Gold Coast local government area are almost extinct, with only a few hobby farms and small commercial growers remaining – but these tend not to contribute significantly to the Gold Coast's food requirements. As a result, up to 95% of the fresh food being consumed in this area comes from somewhere else (AECOM, 2011b), distributed mainly via the Brisbane Central Markets at Rocklea, which sources its produce from all over Australia and the globe.

Despite this scenario, demand for locally grown food on the Gold Coast seems to be on the rise, with significant growth in the number of farmers markets, community gardens, school gardens as well as inspirational work being carried out by Gold Coast Permaculture and the Gold Coast Organic Growers Association, who are showcasing possibilities and educating the public on growing healthy, organic food.

This increased demand for locally produced, sourced and processed food on the Gold Coast may rapidly exceed current supply, indicating that there need to be mechanisms to:

- Support existing farmers to grow more organic food locally;
- Encourage community members to grow some of their food and purchase locally produced food;
- Provide avenues for local farmers to sell their produce directly to consumers;
- Expand and encourage processing, manufacturing and retailing of local food;
- Collect, compost and redistribute food waste; and

- Develop a distinctive local/regional food brand and identity, to help in marketing the area and its produce.

Politically, food, until recently had not gained significant momentum within the Gold Coast Council's agenda, however, this trend started to shift in the early 2000s. Specifically, the development, adoption and implementation of the Gold Coast Climate Change Strategy 2009 – 2014, signalled a political intention to increase local food production and purchase. Action 33 of the Gold Coast Climate Change Strategy (GCCC, 2009a, pg. 15), which is one of the key actions regarding planning and regulation, calls for the development of “a scoping study for local food production and purchase on the Gold Coast”. In addition, one of the key performance measures regarding the accomplishment of key climate change statutory responsibilities by Gold Coast Council refers to the “percentage of locally grown food available to the Gold Coast community”.

Building on community desire and political intent in the form of an official strategy, conversations with a number of Gold Coast Council officers and managers in the early stages of this research revealed that there was genuine commitment by both politicians and council staff to push the local food production and purchase agenda forward. This was further emphasised with the commissioning of AECOM in association with Think Food and LVO Architecture to conduct a scoping study for local food production and purchase on the Gold Coast (AECOM, 2011a). These proceedings paved the way for this research, which attempted to bridge a number of community and political intentions and develop possible solutions.

It is important to highlight here that despite a promising start, a formal partnership with Gold Coast City Council was not able to be established due to circumstances beyond the author's control, which provoked a significant change in research strategy. A detailed account of these circumstances is provided in Chapter 3.

Urban Agriculture, Food Security and Planning

Food security “exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996). On the Gold Coast, it has been estimated that over six percent of the population might be food insecure (Pollard et al., 2009).

Concerns over food security go beyond the individual level, affecting families and communities through reduced physical, mental, spiritual and social health and wellbeing (Booth and Smith, 2001). Hamelin and her colleagues (1999) showed that chronic food insecurity has numerous social implications, including impaired learning, loss of productivity, increased need for health care, erosion of conviviality, decreased constructive participation in life and threats to harmonious life in a

community. Additionally, at a larger scale, food insecurity contributes to socioeconomic inequalities and affects the potential for social and economic development (Hamelin et al., 1999). Studies have further demonstrated a link between food insecurity and obesity (Burns, 2004). This may be the result of households opting for cheaper and more palatable foods that are high in fat, salt and sugar, rather than fruits and vegetables (Davies, 2010). It may also be the result of a lack of fresh food stores while fast food outlets are present on every street corner – a phenomenon called ‘food deserts’, which describe areas characterized by poor access to healthy and affordable food (Beaulac et al., 2009).

Urban agriculture has the potential to both alleviate and help to prevent food security concerns. Larsen and Baker-Reid (2009) suggest that increasing production of perishable food in urban centres allows a greater diversity of food systems to flourish, and the system is able to resist different threats and meet different needs. They also claim that as “Australia continues to struggle with water scarcity and increasing climate extremes, food production in and around its cities can contribute to healthy and resilient communities” (pg. 22). On a similar note, Newman (2007) proposes that agriculture needs to be more localized if cities are to survive peak oil, and urban agriculture provides a system that “connects cities to their bioregions, creating surpluses that can be traded for the benefits of regional and urban opportunity” (pg. 24). This potential economic benefit has also been noted by the Sunshine Coast Regional Council, which says that “local [food] producers who supply for the local market will benefit from relatively lower transportation costs. Capitalising on this opportunity and taking a proactive approach to the promotion and ‘re-localisation’ of food production will build community resilience to future oil shocks” (SCRC, 2010; pg.44).

Urban agriculture has been defined in many ways, ranging from simply meaning “growing food within a city”, to complex narratives that describe what, when, where, who, why and other related characteristics. In this research urban agriculture is viewed as more than simply growing food within the city, rather it is envisioned as an urban industry that relates and depends upon the urban fabric and its members. Thus, this research defines urban agriculture using similar words as Mougeot (2001: pg. 10), who argues that urban agriculture is:

An industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, which grows and raises, processes and distributes a diversity of food and non-food products, (re)-using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area.

Accordingly, countless activities make up an urban agriculture industry, including home, school, rooftop, and community gardens, urban livestock and poultry keeping, beekeeping, urban farms, market gardens, farmers’ markets, composting as well as food manufacturers and processors. These

activities can also be of varied scales ranging from container and balcony gardening to broad acre city farms, from home canning to brewing companies, and from farm gate sales to wholesaling enterprises. Urban agriculture involves a number of urban planning issues including urban poverty, land use, waste management, food security, economic development, public health and community development and resilience. As such, there is a growing consensus on the significant role that urban agriculture can play in the sustainability and liveability of urban centres (Girardet, 2004). However, generally and until recently, there has been minimal support in urban planning policy for urban agriculture (Deelstra and Girardet, 2001, van Veenhuizen, 2006). In fact, Pothukuchi and Kaufman (2000) state that “it is difficult to believe that planners...disregard the food system...[when] clearly, it would be extraordinarily difficult to have high-quality human settlements without safe and adequate air, water, food, and shelter” (pg. 118).

This scenario is however slowly changing, and food system planning is gradually being tackled by local, regional and state governments across the globe. In this regard, researcher and practitioners have highlighted a few peculiarities for decision makers that are involved in urban agriculture planning. An important consideration regards the multiplicity and heterogeneity of urban agricultural practices, which tend to involve a wide range of stakeholders and actors that are often disconnected, but who must play a role and have a say in the planning and development of urban agriculture and its activities (Dubbeling and Merzthal, 2006, Mougeot, 2005a). Thus, multi-stakeholder participation in policy making is considered paramount for enhancing urban and peri-urban agriculture sustainability (van Veenhuizen, 2007).

Another consideration, or reminder, is that there are many opportunities for urban agriculture to be integrated into urban planning frameworks. Mubvami and Shingirayi (2006) have indicated that the most common planning tools that can be used to facilitate this includes master plans, local plans, subject plans and site plans. Similarly, a recent report by the American Planning Association showcases an abundance of options available to planners when looking to facilitate urban agriculture in the USA, including: food policy councils, food assessments and resource surveys, local comprehensive plans, sustainability plans, regional plans and zoning ordinances (Hodgson et al., 2011).

Lastly, urban planning is not only renowned for a lack of supportive measures regarding urban agriculture, but it is also notorious for a number of (intentional and unintentional) prohibitive policies and by-laws that directly or indirectly impact on food production, processing and marketing in cities. Thus, in order to successfully plan for urban agriculture, an in depth review of all planning guidance to remove potential impediments to its development, is strongly recommended by many researcher and practitioners (Broadway, 2009, De Zeeuw et al., 2001, Petts, 2003).

Opportunities for Municipal Policy

The increasing demand for locally produced, processed and retailed food by the Gold Coast community, coupled with the many potential benefits offered by a strong urban agriculture industry, highlight the importance of supporting local residents to produce their own food, purchase locally made products and services, and compost their food waste. Bearing in mind the risks and challenges associated with an agricultural industry, there is an important need also to alleviate the barriers and promote a healthy and safe industry that reduces the risk of negative outcomes.

In principle, there are ample opportunities for urban agriculture to flourish on the Gold Coast. Apart from high density areas in the coastal strip, most of the city's suburbs have relatively low population densities, and of the total land area, approximately 60% is in the form of green or open space (GCCC, 2008a). Yet, for urban agriculture to play a greater role in supplying our urban food needs, it must be recognised as a legitimate urban land use activity within city planning schemes, for urban land use planning can only encourage and support activities that are recognised.

The Gold Coast City Council has realised the importance of reintegrating a vibrant and colourful local food system back to the city, its climate change strategy clearly points out for the need to expand local food production and purchase (GCCC, 2009a). In addition, the Gold Coast is well positioned to reap the rewards presented by urban agriculture, because it enjoys (AECOM, 2011a):

- Significant amounts of good quality productive land and abundant water sources;
- A climate that is suitable for growing a range of crops;
- Expanding food tourism opportunities;
- A unique urban, peri-urban and rural landscape that is well connected;
- Proximity to Brisbane and regional markets in Northern NSW;
- A burgeoning food and beverage industry;
- A motivated and hardworking community; and
- A manageable population size.

Through greater understanding that urban agriculture is an important tool in the planners' tool box, more and more cities are revamping their planning ordinances, reviewing their zoning regulations and creating educational programs. In Australia, cities like Melbourne and Sydney are leading the way, however they are lagging far behind cities like Vancouver, San Francisco, New York, London and many others. This is therefore a great opportunity for the Gold Coast to become a leader, an opportunity that not only ensures food security, but that also signals the commitment that the city has to its environment, community and economic prosperity.

Policy Making Theory and Practice

The term policy is well known for having numerous meanings and uses. However, although (and because) the term is widely used, it does not have a clear and accurate definition. Colebatch (2002) points out that “policy may be used to mean a broad orientation, an indication of normal practice, a specific commitment or a statement of values” (pg. 6). The policy making process experiences a similar broadness of definition and description, being often described as either the result of a rational process where governments make decisions, or the result of interactions among various political participants, where government is seen as the arena where such interactions take place. These different views (rational vs. emotional/interactive) of the process give rise to numerous explanations of how policies are made.

In that regard, the literature can be broadly divided into two traditions of policy making. On the one hand researcher attempt to describe how the policy making process occurs in practice – the descriptive narrative of policy making. Here, players, rules, settings, mechanisms, interactions and other peculiarities of the process, and how they interplay, are the objects of theories, frameworks and models that attempt to portray how policy is made. On the other hand sits the prescriptive stance, where rather than describing how policy making actually takes place, it takes the approach of prescribing how policy making ought to be in order to be effective, or professional, or holistic, or sustainable, etc. Essentially, the prescriptive approach provides a ‘recipe’ for how policies should be done, and highlights what are the ‘important’ characteristics of a strategic document.

Since the early 1990s the descriptive narrative surrounding policy making and policy change has been dominated by three major approaches – the advocacy coalition framework, the punctuated equilibrium theory and the multiple streams approach (Real-Dato, 2009). However other theories, models and frameworks have also been important in fostering the development of theoretical explanations to policy making, including social construction theory, institutional analysis and development framework as well as the ever-criticized stages approach. However, despite numerous attempts by theoreticians and policy researcher to come up with ‘the best’ explanation, the reality is that the literature on policy making and change is surrounded by controversies and contradictory findings (Wilson, 2001), where no single theory or framework is capable of addressing the policy process in its entirety (Cairney, 2007, Schlager and Blomquist, 1996). This occurs as different studies focus on different aspects of the policy process, different dimensions of state and political activities, different types of policy change (Wilson, 2001), different roles played by ideas, values and knowledge (Dudley et al., 2000), different actors and different stages (Schlager and Blomquist, 1996). Nevertheless, developing logically consistent empirical theories of the policy process remains an important venture in fostering a better understanding of these intricate processes.

Prescriptively, the literature on policy making focuses on different components that are 'paramount' for the development of 'good' policy. Elements such as evidence-based, outward looking, inclusive and adaptive have been associated with professional, successful and holistic policy making. Of particular interest to this research is the publication by the UK Cabinet Office titled 'Professional Policy Making for the Twenty First Century' (1999b) that attempts to steer the policy making process into a new, professional and modern era by acknowledging various competencies that policymakers must have. These competencies, as the document suggests, can also be interpreted as essential elements or procedures of policy making rather than solely a professional skill. However, despite its practicality, this prescriptive model has also been criticised. A major critique is its inability to take into consideration the political and democratic processes surrounding policy making, while also ignoring the role of values and ideas (Parsons, 2001, 2002, 2004). Nevertheless, the model has been praised for its ability to shift the policy making debate from a narrow concern with systems and idealised processes, to the skills and competencies that policymakers ought to have when attempting to create effective policies (Burton, 2006).

In practice, these two different representations of the policy making process are employed differently analytically. The prescriptive model provides a framework for the analysis of different elements (i.e. evidence-based, forward looking, and participatory) within a strategic document itself. In other words, based on the 'perfect recipe', researcher and practitioners are able to analyse whether, and the extent to which, a particular policy has incorporated specific elements in its development and implementation. On the other hand, the descriptive model typically ignores the internal content (or elements) of the strategic document itself, to focus on the external peculiarities surrounding the policy making process from its inception through to its appraisal. In this sense, although seemingly opposing in nature, these two standpoints of policy making are actually complementary when the entire policy making process is considered.

Practically however, the literature does not seem to provide such a full account of policy making processes, instead it tends to either focus on the political and descriptive aspects or on the internal components surrounding policy development, rarely combining the two. Additionally, as far as the author is aware, all accounts that attempt to test policy making theory are done retrospectively through the analysis of policies that have already been developed and implemented, never while the policy idea is being turned into a strategic document. Thus, it is a post-mortem examination rather than a constructive assessment.

For instance, the Advocacy Coalition Framework has been tested in more than 80 settings in the last twenty years, where the most commonly tested hypotheses involve policy change, learning and

coalition stability always scrutinizing the process of an existing and implemented policy, and without regard for policy content and quality (Weible et al., 2009).

In terms of food policy, a similar scenario exists, where analyses are carried out on developed policies without consideration to important elements within the policy content. As an example, Mitchel (2012) employs and refines the Multiple Stream Framework to understand and explain the recent (2007 to 2011) policy making process undertaken by Cleveland on food security issues. Whereas Mendes employs the Stages Model to analyse the ways that food policy, as a sustainability issue, came to find a place on the Vancouver Government's agenda (Mendes, 2006).

Research Questions, Aim and Contribution

The literature on agriculture and urban planning, clearly indicates that, generally, there is minimal support through urban policies for urban food production (Deelstra and Girardet, 2001, van Veenhuizen, 2006), while also suggesting that planners often disregard the food system altogether when planning for developed cities (Pothukuchi and Kaufman, 2000). Nevertheless, it also suggests that this trend is slowly reversing, and more cities are taking up the challenge of food planning. In this sense, it is noted that in order to develop urban agricultural policies, some consideration must be taken, including: the need to understand and showcase urban agriculture as a valuable, sustainable and feasible land use; the need for a multi-stakeholder participation process; the need to integrate urban agriculture into the existing planning framework; and the need to revise current planning guidance to remove potential impediments to its development (Broadway, 2009, De Zeeuw et al., 2001, Dubbeling and Merzthal, 2006, Mougeot, 2005b, Petts, 2003, van Veenhuizen, 2007).

The policy making literature broadly divides its processes into two seemingly different standpoints – prescriptive and descriptive and these two stances are seldom combined to make a thorough analysis of a policy making process. They are almost exclusively employed on the analysis of existing and implemented strategic documents, rather than throughout their developmental stages. Consequently, this research aims to apply and test descriptive and prescriptive theories of policy making through the development of a holistic multi-stakeholder urban agriculture policy for the City of Gold Coast. In doing so, it is envisaged that this will contribute the following points to the urban agriculture, food policy and policy making literature:

1. Provide an account of a policy development process that attempts to incorporate all recommendations from the urban agriculture policy making literature;
2. Provide an account of a policy development process that incorporates both prescriptive and descriptive stances of policy making; and
3. Test prescriptive and descriptive policy making theories through the development of a strategic document, rather than an examination of existing policy.

In order to fulfil its aims and contributions, this investigation developed the following specific research questions:

- How do the statutory planning system and other regulatory regimes operating in the City of Gold Coast support or restrict urban agricultural practices?
- Who are the direct and indirect stakeholders within the Gold Coast region? What are their needs, priorities, difficulties and desires when putting into practice urban agricultural activities on the Gold Coast?
- What examples of urban agriculture policy exist in Australia and overseas at the local government level? What lessons can be learned from these policies?
- To what extent can the literature, lessons from policies, and stakeholder information regarding their perceptions, needs and difficulties be incorporated in to the development of an urban agriculture policy for the Gold Coast?
- How does the developed policy fare in terms of its theory, content and implementability? Could it be improved and if so, how?
- How have theories of policy making fared in developing an urban agriculture policy for the Gold Coast? Could they be improved and if so, how?

Methods and Data Gathering

This research has been developed on the basis of a number of factors. First and foremost there was an inherited interest by the researcher to immerse into food planning and urban agriculture realms following recent threats to food security imposed by climatic variations, oil shortages and financial crises. Second there was an understanding that the field of food planning was gaining momentum overseas but there was still a lack of equivalent progress in Australia. And thirdly, there was a great opportunity to forge a win-win partnership with Gold Coast City Council, that could help the city to put in practice some of its policy priorities and political aspirations, while providing a rare occasion to test both prescriptive and descriptive theories throughout a policy making process.

The research followed a qualitative form of inquiry. This qualitative approach has been chosen as it is the most appropriate way to answer rigorously the proposed research questions. That is, the proposed research questions are embedded in the social realm of the Gold Coast city, and to answer those questions, opinions, feelings and perceptions will have to be explored, which is only possible through intensive and qualitative methods of inquiry. In addition, the research will also analyse policy documents developed in Australia and overseas, but, the research is not concerned with the number of policies found, or any quantitative pattern that can be explored by combining these policies. Rather, the research is attempting to learn social, political and environmental lessons on a case by case basis.

Within the qualitative form of inquiry, different research strategies exist, including biographical life history or narratives, phenomenology, grounded theory, ethnography, case study, among others (Creswell, 1998, 2009). Based on their distinct rules and characteristics, the case study approach has been chosen, because it, generally, is the preferred framework to answer 'how' and 'why' questions, which often follow some 'what' questions, when the researcher has little control over events, and when the focus is on contemporary situations within a real-life context (Yin, 2003).

One of the advantages of the case study approach is that it allows researcher to understand complex social situations by retaining the holistic and meaningful characteristics of real life events. However, case studies also rely heavily on multiple sources of evidence, with data triangulation being essential. Dooley (2002) points out that one of the major strengths of the case study approach is its ability to use multiple sources and techniques of gathering evidence. In fact, case studies can use both qualitative and quantitative forms of inquiry, while permitting the use of different data collection methods such as interviews, document analysis and direct/participant observations (Burns, 2000, Dooley, 2002, Yin, 2003).

In this sense, a multi-method approach to evidence gathering has been chosen as a way to strengthen the triangulation of the results, to ensure the internal validity of the investigation and to produce a more holistic study. The methods chosen in this investigation include literature review, document analysis, participatory observation, questionnaires, semi-structured interviews and focus groups.

Organisation of the Dissertation

Chapter one provides an in-depth literature review of food security and urban agriculture while Chapter two presents a comprehensive account of the different stances in policy making theory. Chapter three provides an analytical and conceptual framework of the thesis. Chapter four showcases the methods employed in this research. Chapter five presents the results obtained through the various methods of inquiry and their application to the development of the Gold Coast Urban Agriculture Strategy, while Chapter six reflects and discusses the theoretical frameworks employed as well as the content and implementability of the developed strategy. Lastly, the conclusion (chapter seven) summarises the findings of this investigation and outlines future research directions.

Chapter 1: Urban Agriculture and Food Security

Introduction

This chapter provides a comprehensive overview of the literature on urban agriculture and traces a brief parallel between its practices and its potential to mitigate food security concerns while bringing

a range of environmental, social and economic benefits to cities. In addition, it portrays the often non-supportive, but slowly changing, relationship between urban agriculture and town planning, emphasising on the need to recognise urban agricultural practices as valuable land uses in order for its potential benefits to be realised in practice.

Food Security

Food security “exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996). Therefore, food insecurity may arise from a lack of financial capabilities as well as from a lack of physical access, such as a lack of food on supermarket shelves driven by a cut off of food supply.

There is evidence that in food secure countries like Australia, some people do experience food insecurity. Food insecurity in Australia might reach over 5% of the general population, and much higher levels exist among disadvantaged groups (Booth and Smith, 2001, Nolan et al., 2006, Temple, 2008). In Queensland, health surveys conducted in 13 regions in 1993, demonstrated that 9.7% of households and 6.4 % of individuals reported to have experienced food insufficiency (Radimer et al., 1997). On the Gold Coast, a recent Queensland Health survey showed that 6.7% of the population was food insecure (Pollard et al., 2009). Similar estimates are available for other states and cities, but all are likely to underestimate the true prevalence of food insecurity in Australia (Innes-Hughes et al., 2010).

Of particular concern is the level of food security among disadvantaged groups in our society. Food security overlaps considerably with poverty. In an Australian study in 1996, 12% of respondents in the lowest quintile of annual household income (\$0-\$14,000) reported having run out of food at some time in the past year, and had insufficient money to buy more food (Carter and Taylor, 2007). In other studies, higher prevalence of food insecurity was associated with lower income, unemployment and single parent households (Nolan et al., 2006, Radimer et al., 1997, Temple, 2006).

Given the close relationship between food security and poverty levels, food prices are an important determinant of food insecurity. Alarming, food prices are rising considerably across Australia. In 2006 the price of a ‘healthy food basket’ to feed a family of six costed \$457.46, an increase of over 12% from 2004 (Queensland Government, 2006). Furthermore, in Queensland, the cost of fresh food over the past decade has increased over and above the Consumer Price Index (CPI) in the order of 20-40% (Burns and Friel, 2007), and in only six years (from 2000 to 2006) the price of food increased by approximately 50% (Harrison et al., 2010).

Food insecurity concerns can potentially affect not only individuals but entire families and communities (Booth and Smith, 2001). Specifically, chronic food insecurity has been linked to a vast array of social and cognitive implications such as impaired learning, loss of productivity and increased need for health care (Hamelin et al., 1999). At the community level, lack of food security can damage social and economic development and drive socioeconomic inequalities (Hamelin et al., 1999).

Food security on the Gold Coast and in Australia is also likely to be significantly aggravated by issues surrounding climate change, peak oil, food miles, and demographic changes.

Expected climatic changes are likely to severely impact food availability and accessibility on the Gold Coast and other cities of Australia. This situation arises because agriculture is one of the most vulnerable sectors to climate change (Padgham, 2009). While very difficult to quantify precisely how much impact climate change might have on food security locally and globally, a growing body of literature is emerging around the likelihood of these impacts. Increased extreme weather events, changes in the water cycle and increased temperatures are likely to reduce soil moisture and increase heat stress on crops and livestock, leading to reduced yield and disruptions in food production. Also, agricultural systems are likely to face increasing risks of soil erosion, runoff, landslides and pest invasions, magnifying production losses (Larsen et al., 2008, Maunsell Australia, 2007, Padgham, 2009).

In addition to direct impacts on food production, climate change may also impact food systems indirectly through market change, increased food prices and disruptions to supply chain infrastructure (Gregory et al., 2005). Food supply to the Gold Coast is likely to be adversely impacted by climate change. Extreme weather events could not only have a major impact on agricultural lands that produce food that supply the Gold Coast – similar to the devastating effects that Cyclone Larry had on banana plantations in northern Australia that significantly reduced the availability of bananas on the coast – but these events may also disrupt the transport network (for example flood damage to roads and buckling of rail lines in heat waves) as well as electricity transmission lines (from storms and fire), potentially cutting the Gold Coast City off from its food suppliers.

A major component of food accessibility relates to the price of food, and climate change is already impacting on food costs locally, nationally and globally. Larsen et al. (2008) point out that in 2007, as a result of poor wheat harvest driven by drought in European countries, the price of bread increased significantly in many parts of the world. Drought in Australia has also driven the price of wheat and dairy products up around the world, and predictions suggest that continuing dry spells associated with climate change would mean frequent price spikes, particularly for fresh fruit and vegetables supplied by Australian producers (Quiggin, 2007). Concerns over greenhouse gas emissions could also indirectly impact on food prices, in particular where food production strategies redirect agricultural efforts away

from human food and towards biofuel production and/or through the introduction of carbon taxing schemes (Larsen, 2009).

Significant food security issues may also arise from oil scarcity driven by 'peak oil'. The literature indicates that the biggest impact of peak oil is going to be on conventional agricultural practices, for agriculture has become very dependent on petrol and diesel (Newman, 2007). There are three main reasons why the Australian agricultural system is vulnerable to higher petrol and diesel prices. Firstly, current broadscale production methods rely heavily on diesel-thirsty machinery for all daily tasks such as ploughing, planting, fertilizer and pesticide spreading, irrigation and transport. Secondly, the sparse distribution of the Australian population and food growing regions demands long transportation distances of perishable products on refrigerated trucks and planes. Thirdly, the food system is highly dependent on increasing use of oil in the manufacturing, packaging and distribution sectors (SCRC, 2010). Consequently, food prices are directly related to oil prices, and an increase in oil prices will certainly result in an increase in food prices. Such scenario was observed in 2008, where a spike in oil price contributed to a doubling of food commodity prices (Heinberg and Bomford, 2009).

Concerns with peak oil also direct our attention to the origins of our food and the issue of 'food miles'. Food miles, or the distance that food travels from 'paddock to plate' has increased in Australia over the past twenty or so years, and according to Fagan (2008), there are four key reasons for it. Firstly, food imports have increased substantially over the past 20 years, despite many being produced here. Secondly, energy intensive refrigeration has allowed perishable foods to travel longer distances, thus allowing salad vegetables from South America to cross the Pacific. Thirdly, Australian supermarket chains, which control 70-80% of total food retail sales, rely largely on centralised distribution centres. Lastly, consumers have developed a taste for fresh foods from Australia and overseas, and demand that these be available throughout the year.

Despite a lack of studies measuring food miles in Queensland and on the Gold Coast, a study by Gaballa and Abraham (2008) provide insightful information on the topic in Australia. Reporting on the food miles associated with a 'healthy food basket' of 29 items purchased in Melbourne, Gaballa and Abraham found that the food basket travelled a total of 70,800 km. Of these, 21,000 km involved road transport and approximately 50,000 km were associated with food imports.

Food mile is further exacerbated when 'car miles' are added to the equation (Shelton and Frieser, 2009). Trips to supermarkets can considerably increase food miles and greenhouse gas emissions. The dispersed urban form of the Gold Coast and many other Australian cities coupled with a tendency to acquire the vast majority of groceries from centralised suburban supermarkets, may significantly add to oil scarcity issues and food security concerns (Shelton and Frieser, 2009).

Demographic changes may also have an impact on food security on the Gold Coast. Firstly, the Gold Coast is the fastest growing city in Australia, and in the last few years the city grew by an average of 15,000 residents per year, or 3.4% (GCCC, 2005). Population projections suggest that the population will continue to grow at a rate of 13,000 – 14,000 people per year and by 2021 it is expected that Gold Coast City will be home to over 700,000 residents (GCCC, 2005)⁵. Worrisome is that these figures do not include the 60,000 visitors per night and six million day trip visitors each year (Translink, 2007).

An increasing population not only require more food, but may also exacerbate other problems. Of particular concern to food security is the number of disadvantaged people living on the Gold Coast, which is relatively higher than both Queensland and Australia. This situation is often attributed to the tourism industry, which is associated with lower levels of pay and higher rates of part-time/casual employment. In 2001 over 38% of households on the Gold Coast received less than \$600 per week, compared to 34.1% Australia wide (ABS, 2006). Unemployment rates are also greater than in Queensland or Australia, and parts of the Gold Coast have significantly higher unemployment rates, such as Coolangatta and Biggera Waters where almost 8% of the labour force was unemployed in 2006 (ABS, 2006). In addition, reports from the Australian Bureau of Statistics suggests that the northern part of the Gold Coast City may have an unemployment rate above 10% (ABS, 2010). Furthermore, housing affordability has significantly decreased in the past decade, and at least 22,500 households were under housing stress in 2005 (GCCC, 2005). Upton and Cuthill (2004) estimated that in 2004 over 3,000 people were homeless, and they suggest that by 2021 this figure may rise to 4,700 if current trends persist.

After combing all these forces, it is possible to see that food accessibility and availability on the Gold Coast may well change adversely in the near future. The city already has considerable problems with housing affordability, low incomes and higher rates of disadvantage people. These trends will likely change to a scenario where housing will become even less accessible, more lone households will emerge, and the number of disadvantaged people will increase, further decreasing accessibility to healthy food. External events related to climate change, peak oil and food mileage will likely exacerbate the problem, by reducing food production, increasing food prices and potentially temporarily cutting the Gold Coast City from its national and international food suppliers.

Urban agriculture offers viable solutions to these anticipated threats, and when recognized and encouraged, it contributes to an increase in local food production and positively facilitate the development of healthier and more resilient cities (Larsen and Baker-Reid, 2009). Urban agriculture can also help cities to cope with a future of reduced oil access by ensuring that foodstuff travels the shortest distance, connecting bioregions and creating regional and urban economic opportunities (Newman, 2007, SCRC, 2010). In terms of climate change, urban agriculture can be an important

adaptive and mitigative tool that contributes to the resilience of urban centres through diversification and decentralization of growing methods and distribution networks.

Realms of Urban Agriculture

Agriculture in Cities

Agriculture in cities is often viewed as an oxymoron (Mougeot, 2005b), despite agriculture being a common practice in cities since the beginning of human agglomeration. The first cities settled on fertile grounds and their survival depended on their ability to grow their own food (Nasr, 1996). In fact, Jacobs (1972) argues that agriculture is an urban invention, for the first medieval systems of crop rotation took place around towns. Thus, agriculture and urbanization have always gone hand in hand in historical terms.

Yet, agriculture in urban regions has been on the decline since the industrial revolution. Partly because it has been neglected, forgotten and discouraged (Esrey and Andersson, 2001). Partly because of the globalization and internationalization of agricultural trade coupled with sharp rises in land prices after World War II, which have helped to squeeze agriculture out of cities, but managed to squeeze international tastes into city residents' palates (Bodlovich, 2001). And partly because of technological developments and cheap energy, which reduced the cost of transportation dramatically, and allowed cities to become dependent on external sources of food (Halweil and Nierenberg, 2007). This scenario has resulted in a disproportional impact of cities on the earth's natural systems, where cities occupy only 2% of the earth's surface, but account for over 75% of resource use (Garnett, 1996). This is reflected on the ecological footprint of cities, which is growing uncontrollably. The city of London for example, has a footprint that extends 125 times its area (Garnett, 2001). Worryingly, this scenario is likely to be very similar in many other cities of the developed world.

The internationalization of agriculture has also 'forced' the separation of consumers from producers, and a consequent loss in understanding of the food chain. This lack of understanding has become so severe that researchers are being exposed to situations where school kids are under the impression that apples come from supermarkets rather than from trees (Balfour, 2010). Policymakers, also, seem to be embedded in that false sense of security, where food production is perceived as a rural issue, and given little attention (Budge and Slade, 2009). Consequently, what used to be a common practice within urban suburbs, has become a novel topic; urban agriculture has become a relatively new subject in urban areas, requiring the development of new planning practices and the adaptation of existing ones (Mubvami and Shingirayi, 2006).

Urban agriculture has become a way of tackling the non-sustainable path that cities are travelling as well as increasing resilience to external forces such as climate change and peak oil. The reality is that

cities could produce a greater proportion of their food and recycle more of their food waste, while fostering social and environmental responsibility. Urban agriculture, can be considered as the new (old) way of solving urban problems and ‘future proof’ cities (Girardet, 2004). Urban agriculture has the potential to contribute to sustainable urban development on many fronts, but, specifically, it is in a strong position to promote “inclusive, food-secure, productive and environmentally healthy cities” (van Veenhuizen, 2006; pg. 17).

Characterizing Urban Agriculture

There has been considerable effort to define the term ‘urban agriculture’ (UA), and there is still an understanding that more work needs to be done to bring the concept to maturity. Mougeot (2001) emphasises that understanding what urban agriculture means and what it encapsulates will allow greater internal coherence and external distinctiveness, and in turn will make UA a more useful tool for researcher and practitioners to understand and intervene.

Urban agriculture is a dynamic term that involves a variety of livelihood systems, ranging from subsistence to commercialized large scale agriculture (van Veenhuizen, 2007). Many authors, researcher and practitioners have attempted to define urban agriculture, and definitions are as wide ranging as the term implies. Urban agriculture has been defined simply by Maxwell and Armar-Klemesu (1998) as “farming or livestock keeping within the municipal boundaries” (pg. 13). More encompassing, Mougeot (2001) has proposed a revised definition, which states that:

“UA is an industry located within (intra-urban) or the fringe (peri-urban) of a town, a city or a metropolis, which grows and raises, processes and distributes a diversity of food and non-food products, (re)-using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area” (p10).

Others have gone a step further to also consider the benefits and services that accompany urban agricultural practices, and urban agriculture is framed as:

“A complex system encompassing a spectrum of interests, from a traditional core of activities associated with the production, processing, marketing, distribution, and consumption, to a multiplicity of other benefits and services that are less widely acknowledged and documented. These include recreation and leisure; economic vitality and business entrepreneurship, individual health and well-being; community health and well-being; landscape beautification; and environmental restoration and remediation” (Butler and Maronek, 2002).

Additionally, there is a distinction between the roles of agriculture in cities of developing compared to developed countries. Mougeot (2005a), explains that in developing countries, urban agriculture is

often driven by two forces, food security and income generation. On the other hand, in developed countries, UA is more likely embedded in recreational or educational activities (Drescher et al., 2000). These trends however, do not mean that developing countries do not practice UA for recreational or educational purposes, or that developed countries are not seeking food security and income generation through UA practices. Nevertheless, it is important to consider these differences, for different outcomes will emerge accordingly with the practises, policies, actions and definitions pursued.

There are numerous key dimensions that need to be considered when proposing a definition of urban agriculture. However, the most critical aspect of this identification lies within the ties between agriculture and urbanization, a tie so often downplayed by many (Mougeot, 2001). Perhaps the most identifiable feature of urban agriculture, which distinguishes it from rural agriculture, is that urban agriculture is integrated into the urban economic, social and ecological fabric (De Zeeuw, 2004, Mougeot, 2001) and “unless this dimension is enhanced and made operational, the concept will remain of little use on the scientific, technology and policy fronts” (Mougeot, 2001, pg. 1). It is not the location or the practises of urban agriculture that distinguishes it from rural agriculture, but the fact that it is part of the urban network, interacting with the urban system and its people. Such interaction includes, but is not limited to: the use of urban resources (e.g. organic waste and wastewater); the use of urban residents as labourers and consumers; a direct urban retail link; competition for land with other urban functions; being influenced by urban policies and plans; and other urban peculiarities (De Zeeuw, 2004). Conversely, rural agriculture, apart from exporting its food production to urban centres nationally and internationally, is completely independent of the urban setting in terms of inputs, labour and land use (see Table 1). Therefore, independent of the urban framework, urban agriculture must interact and be part of the urban fabric. Simply put, urban agriculture is an urban phenomenon and not a rural relict.

Despite the fundamental need to define urban agriculture, it is obvious that it is a very difficult task to perform given the many variables involved. Many researcher and practitioners have defined, and will continue to define, urban agriculture differently, and a rapid examination of the literature demonstrates that there are numerous definitions depending on the urban setting, conditions and roles (see Quon (1999) for a list of definitions found in the literature). However, what is important is not to find a perfect definition that will encompass all the varied forms of UA found throughout the world, rather it is more valuable to understand the factors that compose this practice. Theory suggests that characterising urban agriculture is a better approach than attempting to define it. Schiere et al. (2006) suggest that strict definitions do not do justice to the variety of systems that can be employed

in urban agricultural settings, rather, by understanding the different components that make up urban agriculture, it is possible to understand its strengths, weaknesses, opportunities and threats.

Surprisingly, there is strong agreement, almost a consensus, as to what should be taken into consideration in order to characterise urban agriculture. A number of authors agree that the large variety of urban agricultural practices can be broken down into the following factors (see Figure 1) (De Zeeuw et al., 2001, Kaufman and Bailkey, 2000, Mougeot, 2001, Quon, 1999):

- Type of location and tenancy;
- Type of economic activity;
- Type of products;
- Scale of production and technology used;
- Product destination / degree of market orientation; and
- Type of people involved.

Location and Tenancy

Urban Agriculture may take place in different locations within a city. Generally there are two broad categories that define UA in terms of its location, i) intra-urban and ii) peri-urban. Intra-urban agriculture takes place within the built up core of cities. In most towns there are vacant and/or underutilized land areas that can be used for UA, including areas not suited for building (along streams, close to airports or underneath electricity grid infrastructure), public or private lands not being utilized that can have a temporary use (lands awaiting construction approvals), community lands and household lands (van Veenhuizen, 2007). More often than not, intra-urban agriculture tends to be of smaller scale and requires relatively higher financial inputs than peri-urban agriculture.

Table 1: Comparison of rural and urban agriculture (Source: De Zeeuw, 2004).

	Rural agriculture	Urban agriculture
Farm Types	Conventional; farms consisting of interdependent sub-units.	Unconventional; partly without soil (rooftop, hydroponics, etc.); more specialized independent units acting in clusters.
Livelihood	Farming is a primary livelihood, engaged full-time.	Farming is often a secondary livelihood, engaged on a part-time basis.
Farmer Type	Usually 'born farmers', strong traditional farming knowledge.	In part 'beginners': urban citizens engaging in agriculture by necessity or by choice (entrepreneurs); in part recent migrants. Weak traditional farming knowledge (that does not apply well under urban conditions).
Products	Staple crops mainly, cattle, sheep.	Perishable products especially green vegetables, dairy products, poultry and pigs, mushrooms, ornamental plants, herbs and fish.
Cropping Calendar	Seasonal periods.	More year-round growing of crops (multiple crop cycles, irrigated, under cover, etc.).

Production Organization	Low land price. Lower costs of labor. High costs of commercial inputs. Variable cost of water.	High land price, land scarcity. Higher costs of labor. Lower costs of commercial inputs. High cost of (drinking) water. Availability of low cost organic wastes and wastewater.
Farmer Organization	Often already in place and more easy to accomplish, since farmers share same social background.	Often lacking and more difficult to accomplish, since farmers are dispersed and have strong variation in social backgrounds.
Social Context	Majority of families engaged in farming and shared social background. More homogeneous. Relatively stable. Few external stakeholders. Farmers are more organized.	Urban farmers do not often undertake activities outside their own neighborhood. The percentage of households engaged in farming in a neighborhood is highly variable. Urban farmers vary in socio-cultural backgrounds. Highly dynamic environment with strong fluctuations. Many external stakeholders with different interests and contrasting views on Urban Agriculture. Farmers are hardly organized.
Environmental Context	Relatively stable; land and water resources rarely polluted.	Fragile, often polluted land and water resources.
Availability of Research and Extension Services	More likely (although in many countries declining).	Hardly available (but individuals may gain direct access to libraries, research organizations, market information, etc.).
Availability of Credit Services	More likely (although maybe for larger farmers).	Hardly available (but credit services for the informal sector are available and these might attend farmers too).
Market	Distant markets. Marketing through middlemen and marketing organizations. Low degree of local processing	Closeness to markets. Direct marketing to customers is possible and informal chain. High degree of local processing (including street foods).
Land Security	Relatively high.	Insecure, often informal use of public land, competitive land uses.

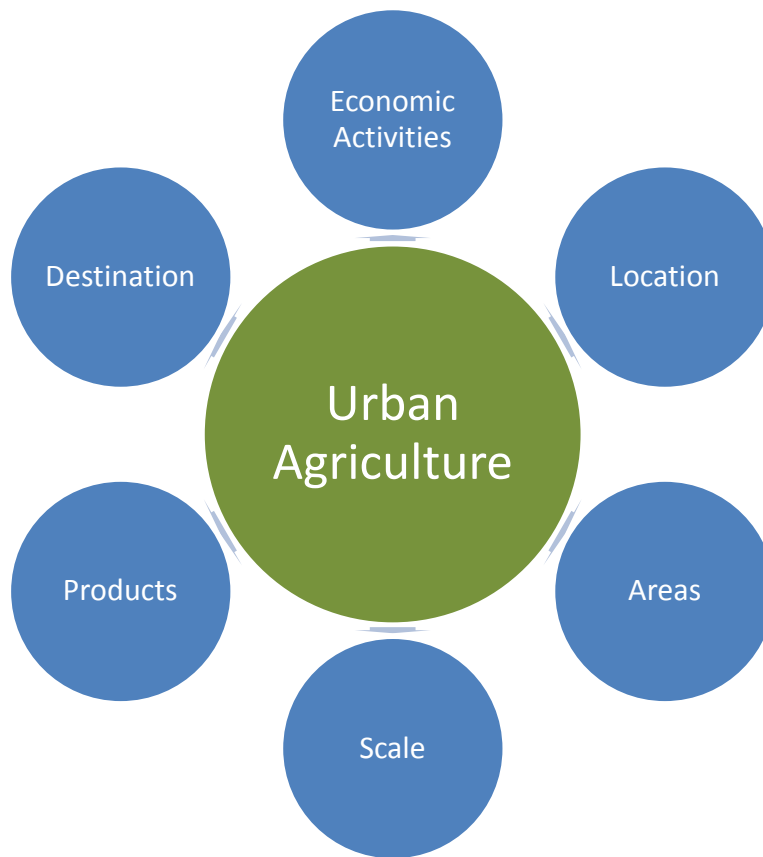


Figure 1: Factors of Urban Agriculture (Source: Mougeot, 2001).

Peri-urban agriculture takes place in the urban periphery or the outskirts of a city. Given the constant changes of peri-urban areas driven by city expansion, agricultural production systems in these areas tend to become smaller and more intensive. Nevertheless, urban production located at the fringe is often commercially driven and tends to be on average larger than inner city practises (van Veenhuizen, 2007).

In terms of tenancy, intra and peri-urban farming can occur in a variety of places and under different contractual agreements. These activities may take place on private residencies (on-plot), on land away from homes (off-plot), on private land (owned, leased, informal use of vacant land), on public land (formal or informal use of idle public lands in parks, along roads and land reserved for future uses) or on “semi-public” land (schoolyards, hospital grounds and other public buildings) (De Zeeuw, 2004, Smit and Nasr, 1992). These different tenancy regimes are an important concept of urban agricultural practices as they often impact on what can or should be produced.

Economic Activities

Urban agriculture not only entails the production of food, but also includes processing and marketing activities, input production, services delivery, etc. (De Zeeuw et al., 2001). Therefore, it is important to consider these activities and how they interact with urban agriculture, as opposed to rural

agriculture, due to its proximity to markets and quicker resource flow. Production, marketing and processing tend to be strongly interrelated, both in terms of space and time. As noted by De Zeeuw et al. (2001), economies of agglomeration often prevail over those of scale when considering urban agricultural practices.

Products

Food production in urban areas includes different types of crops (grains, vegetables, fruits, mushrooms), animals (cattle, goats, sheep, pigs, fish, etc.), or a combination of both. Often, given the close proximity to markets, more perishable and relatively high-valued vegetables and animals products and by-products are chosen (De Zeeuw et al., 2001). These also include non-food and medicinal herbs, ornamental plants, tree products, tree seedlings, and so on. UA also tends to be more specialised than rural agriculture (De Zeeuw, 2004).

Scale of Production and Technology Used

Scale of production is an important factor as it can vary dramatically from one place to another and can impact on the level of planning and regulation. Within city boundaries it is possible to encounter individual and family farms, group of cooperative farms, enterprises of various sizes as well as large undertakings. This diverse group of urban farmers with diverse approaches to farming also differentiate themselves according to the physical space that they utilise in the production stage. Given the disparities in scale, there are different requirements needed to successfully promote and undertake urban agriculture, where an individual farm or a family plot will require considerable less space, technology and regulation than a large commercially driven enterprise.

Table 2: Scales of urban agriculture (Source: Pearson et al., 2010).

Scale	Examples of scale	Broad ownership categories of UA land and produce
Micro	<ul style="list-style-type: none"> • Green roofs, walls, courtyards; • Backyards; • Street verges. 	<ul style="list-style-type: none"> • Private, corporate; • Private; • Public.
Meso	<ul style="list-style-type: none"> • Community gardens; • Allotments; • Urban parks. 	<ul style="list-style-type: none"> • Private, on public land; • Private; • Public.
Macro	<ul style="list-style-type: none"> • Commercial-scale farms, e.g. turf, dairy, orchard, grazing (e.g. horses); • Nurseries; • Greenhouses: floriculture and vegetables. 	<ul style="list-style-type: none"> • Private, corporate; • Private, corporate; • Private, corporate.

Depending on the scale of production there will be an associated degree of technological inputs. For example, a family plot will usually be operating under very low levels of technological inputs, while a medium size enterprise at the heart of a large city might be using the latest available technology on

hydroponics, vertical stacking, crop rotation and integration with other systems, and these significant differences must be considered in policy making and regulatory systems.

Product Destination / Degree of Market Orientation

This factor is perhaps the most defining one within urban agriculture. Many authors have attempted to define the different types of agricultural systems. Moustier and Danso (2006), have proposed four different types of urban farmers, including subsistence home farmers, family-type commercial farmers, urban and peri-urban agricultural entrepreneurs and multi-cropping peri-urban farmers, where their level of market orientation is strongly distinguishable, from subsistence, to partially market driven to fully market oriented.

Cabannes (2006) suggested a more generalised typology, in which three main types of urban agriculture were identified; subsistence, leisure and market. The author suggests that subsistence urban agriculture does not generate income directly, but provides food and medicinal plants that reduce family expenses. Leisure oriented is most commonly found in developed countries and it is seen as a way of maintaining and restoring the relationship between urban residents and the environment as well as educating and raising awareness for environmental issues. Lastly, market-oriented agriculture ranges from individuals through to larger cooperatives or producer associations. It often includes the entire food chain (production, processing, marketing), and the products are sold directly to consumers at markets or through intermediaries.

People/Actors Involved

Certainly there are different groups of people involved in urban farming, ranging from people in the poorer strata of the population (pensioners, unemployed), mid-level income groups (school teachers and labourers) and recent immigrants to the city. The reasons behind taking up farming are varied, ranging from subsistence, through cultural links to income generation. Although there is a belief that urban farmers, in their majority, have come from rural settings, more often than not, urban farmers have chosen agriculture as one of their livelihood strategies, and they have lived in the city for long periods of time and gained access to urban land, water and other resources (van Veenhuizen, 2007).

Other than individuals, public institutions and private enterprises can also have significant roles within urban agriculture. Directly, by allowing urban agriculture activities on their land, or indirectly, through leasing land and/or being part of the value chain (purchasing/distributing urban agricultural products).

Table 3: Types of urban agriculture (Source: Moustier and Danso, 2006).

	Home Subsistence Farmers	Family-Type Commercial Farmers	Entrepreneurs	Multicropping Peri-urban Farmers
Location	Urban (Peri)	Urban + Peri	Peri-urban	Peri-urban
Outlets	Home	Urban Market	Urban Market + Export	Home + Urban Market
Objective	Home Consumption	Income Subsistence	Additional Income, Leisure	Home Consumption and Income Subsistence
Size	Usually < 100m ²	Usually < 1000m ²	Usually > 2000m ²	Usually > 5000m ²
Products	Leafy vegetables, cassava, plantain, maize, rice, goats and sheep, poultry, fruits	Leafy vegetables, temperate vegetables, poultry, sheep and milk	Temperate vegetables, fruits, poultry, livestock, fish	Staple food crops, local vegetables
Intensification (inputs/ha)	2	2-3	4	1
Gender	Female	Female + Male	Male	Female + Male
Limiting Factor	Size	Size, land insecurity, access to inputs, water and services, marketing risks	Technical expertise, marketing risks	Access to inputs Fertility

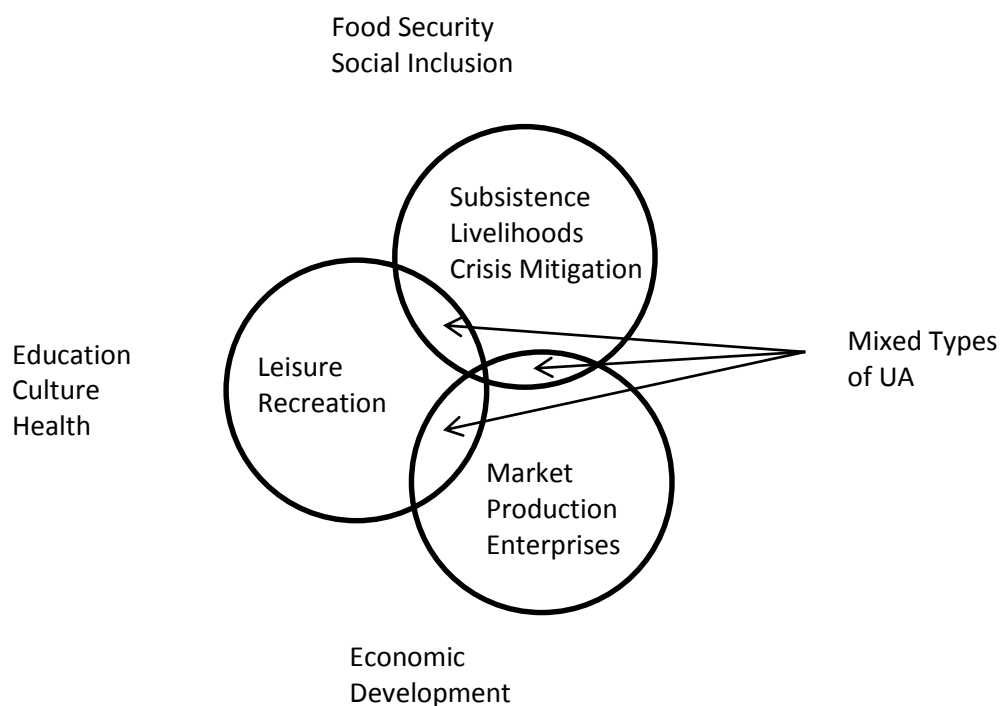


Figure 2: Types of urban agriculture (Source: Cabannes, 2006).

Need for Urban Agriculture Characterization

Mougeot (2001) noted the importance of having a good understanding of what urban agriculture is and how it differs from other forms of agriculture. As he suggests, understanding what urban agriculture means and what it encapsulates allows greater internal coherence and external distinctiveness, which in turn makes UA a more useful tool for researcher and practitioners. The variety of scales, actors, orientation and economic activities allow urban agriculture to play different roles in sustainable city development, and an understanding of its characteristics facilitates the discussion of policy options.

Figure 3 provides a graphical representation of how urban agriculture and its dimensions can be classified (van Veenhuizen, 2007).

With an understanding of this framework and the dimensions of urban agriculture within a particular city, it is possible to emphasize where specific policy options might be targeted. For example, a local government concerned about food insecurity may choose to focus on the social dimensions of urban agriculture, whereas a government that is concerned with waste management or negative environmental effects should concentrate on the environmental dimensions of UA (van Veenhuizen, 2007). By understanding the factors and dimensions involved, regardless of an all-encompassing definition, it is possible to propose and discuss policy options that might strengthen the role of urban agriculture in sustainable city development, and sustainable development in general.

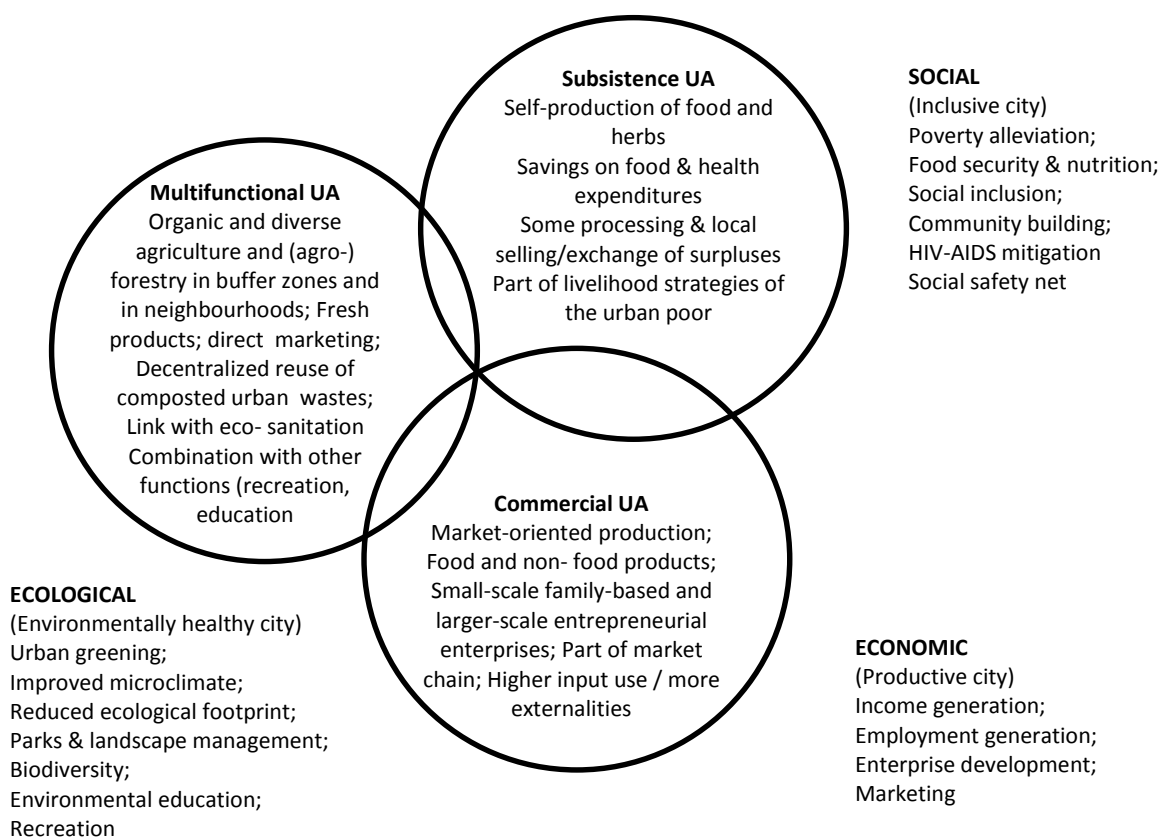


Figure 3: Policy dimensions and main types of urban farming (Source: van Veenhuizen, 2007).

Potential Benefits of Urban Agriculture

The benefits of urban agriculture are wide ranging. Many researcher and advocates have explored these potential benefits, which can be broadly divided into social, environmental and economic.

Social Benefits

There are numerous potential benefits to cities that may arise from urban agricultural practices, perhaps the most important of them relate to food security and access to food. However, other important benefits such as diet and health as well as gender equity may also prevail. Other benefits relate to personal wellbeing, sense of place, aesthetics, social interactions and community building, urban planning and employment (Pearson et al., 2010).

Food Security

Food insecurity, malnutrition and over nutrition are re-occurring themes in an increasingly populated and urbanized world where misconceptions of hunger and overeating abound (Esrey et al., 2001). Hunger is an acute problem that needs to be, and should be, of the highest concern. Overeating is a fast growing form of malnutrition in both developed and developing countries and also needs to be tackled. These two faces of the same coin relate to the overarching theme of food security. Food security has been defined numerous and it not only relates to the supply of food in the community but also on whether people have adequate means to acquire and use that food.

There are many determinants of food security that can be identified and targeted by policy interventions. In Figure 4, Rychetnik et al. (2003) have provided a schematic representation of these determinants.

By comparing urban agriculture with determinants of food security in Figure 4, it becomes clear that UA has the potential to bring a variety benefits to cities. On the supply side, UA can provide good quality, diverse and affordable vegetables, fruits, mushrooms, poultry and dairy products (Moustier and Danso, 2006). This scenario has been suggested by Barbolet et al. (2009), where UA has helped community gardeners in the British Columbia to increase their consumption of fresh vegetables and organic foods. In addition, a Canadian study from the city of Kingston found that urban agriculture could meet the fresh fruit and vegetable needs of up to 76% of the metropolitan population (Lam, 2007). Metropolitan regions can also benefit from urban agricultural practices when the availability of fresh food in outlets is in question. Through local food production, urban agriculture does not depend on extensive transport routes to deliver good quality food to remote communities (Barbolet et al., 2009).

By looking at the accessibility issue, UA can also provide city dwellers with a number of benefits. For example, by allowing and promoting urban agriculture, city farmers will be able to generate income which will help them to have financial resources to access other foodstuffs (refer to potential

economic benefits of urban agriculture for more details). Also, given the locality of urban agriculture, distance and transport to shops is likely to become a negligible determinant. Other determinants such as social support, preparation and cooking facilities/ability as well as knowledge skills can be fostered by the strong community orientation of urban agricultural practices (refer to community building and educational benefits for more details).

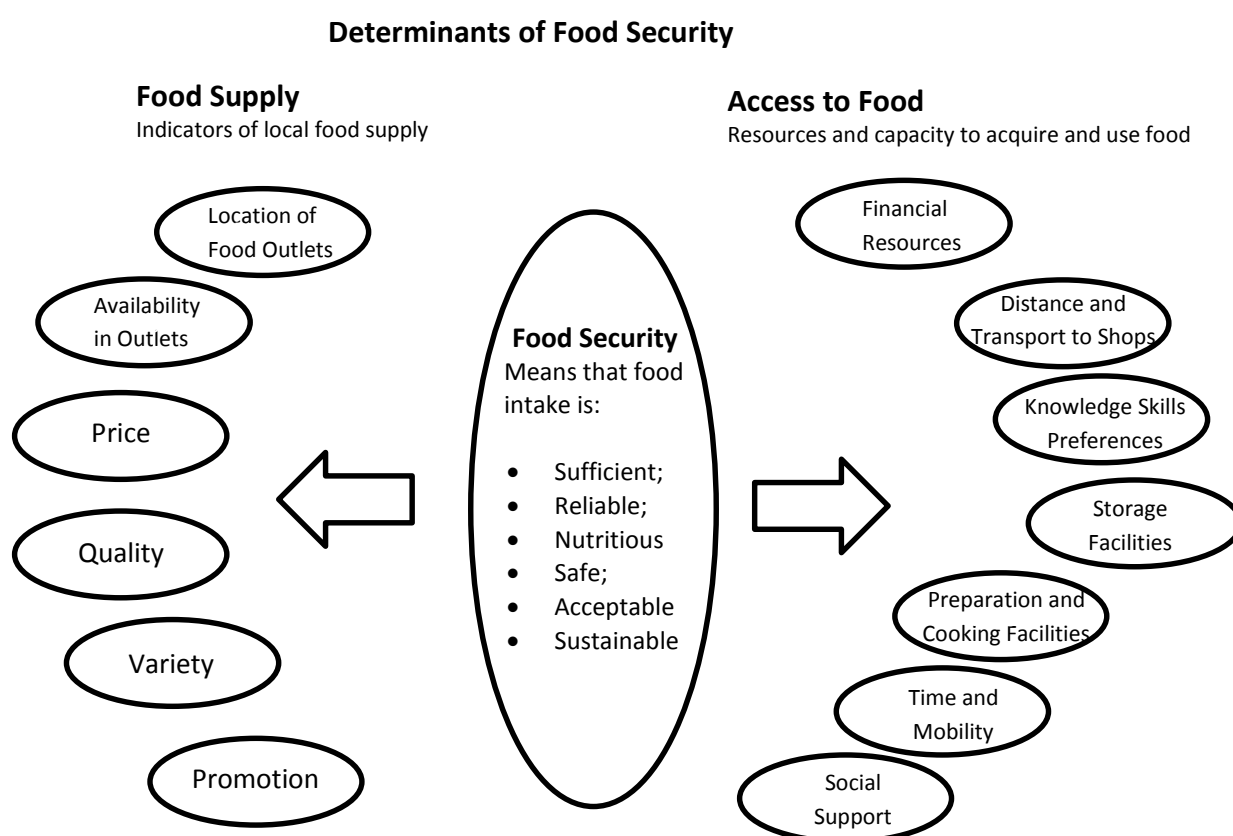


Figure 4: Determinants of food security (Source: Rychetnik et al., 2003).

Diet and Health

Apart from addressing food security concerns, urban agriculture has the ability to provide social benefits related to diet and nutrition as well as health, which are intrinsically linked. It has been reported that increased access to fresh fruit contributes to improved health (van Veenhuizen, 2006), and that community gardening has been associated with increased consumption of fresh fruits and vegetables (Dixon et al., 2009). Pothukuchi (2004) has studied a community garden project that aimed to improve nutritional knowledge and habits among Latin American migrants and their families. The result demonstrated that urban agriculture, through community gardening, enhanced knowledge of healthy and nutritional eating, and encouraged this community to consume more fresh food. This potential benefit has been explained by Bellows et al. (2003), who suggest that the experience of

growing food is correlated with its consumption, that is, the more experience people have growing food, the more likely they are to eat it.

Alaimo et al. (2008) indicated that higher intake of fruits and vegetables has been connected with reducing the risks associated with the three leading causes of death in the United States (cardiovascular disease, cancer and ischemic stroke). Research has also connected gardening to reducing risks of obesity, heart disease, diabetes, and occupational injuries (Halweil and Nierenberg, 2007), while the therapeutic value of community gardening has also been recognized (Dixon et al., 2009).

The mental health benefits of urban agriculture have also been emphasised by many. For example, Bellows et al. (2003) have noted that working outdoors and with plants benefits mental health, mental outlook and personal wellness. This is suggested to be the result of cultivation activities triggering both illness prevention and healing responses.

Another dimension of the health benefits promoted by urban agriculture refers to physical activities. It is well known that gardening and food production is a good source of exercise, however this relationship is often unrecognized (Bellows et al., 2003). UA related exercise ranges from light work when cutting flowers, to the aerobic tasks of turning compost piles. Despite the lack of recognition as a form of exercise, gardening has been associated with reduced rates of obesity, coronary heart disease, diabetes and occupational injuries (Reynolds and Anderson, 2004). In addition, research has shown that gardening is the preferred form of exercise across age, gender and ethnicity (Wood, 2004).

Community Building and Education

A significant role of urban agriculture refers to community building. Social inclusion is an important aspect of this realm, and urban agriculture can function as an important strategy for poverty alleviation and social integration of disadvantaged groups, such as immigrants, disabled people, elderly and unemployed youngsters (van Veenhuizen, 2006). Urban agriculture can contribute to community building through recognition of community meetings, community leadership, community activism or political connections (Wang, 2006). Community gardening promotes the interaction between diverse residents along common interests such as beautification, local food production, personal safety, health and group projects (Schukoske, 2000), encouraging the community to build, unite and grow on the basis of common interests. A survey of community gardens in New York found that having urban agricultural initiatives improved the resident's attitude towards the neighbourhood and increased neighbourhood pride (Halweil and Nierenberg, 2007). A study in Barcelona also found that allotment gardens provided an opportunity to use the skills and knowledge of retirees from rural areas, allowing their inclusion in the social fabric (Domene and Sauri, 2007).

Education is another facet of UA. Of particular benefit is the role that UA can play in educating school children. According to Bellows et al. (2003), there is extensive evidence suggesting that school-based garden programs have significant health effects on young people. This occurs as school gardens not only teach the knowledge but also teach a skill and a lifetime hobby that provides exercise, mental stimulation and social interaction. UA can also change the perception of people in cities regarding food, where, by connecting food production with processing, marketing and retailing, urban residents understand the intricacies involved in their food habits, which might influence their eating behaviour towards a more sustainable pattern (Deelstra and Girardet, 2001). This is especially significant in the case of education around seasonal availability of specific foodstuffs (Larsen et al., 2008).

Crime reduction is another potential social benefit resulting from urban agriculture. Samuels et al. (2004), have conducted research on nine public housing estates in NSW, Australia, and have found that community gardening is effective in reducing crime. Similarly, another report has suggested that community gardens have reduced vandalism and other opportunistic crimes while reducing the fear of crime and allowing people to feel safer when around the gardens (UKY, 2004). The reasons behind the observed reduced crime rates are many, including increased surveillance, creating a sense of place, giving marginalized people something useful and meaningful to do, encouraging respect to public goods, etc. (UKY, 2004). Sommers and Smit (1994) have also described a successful program in San Francisco, United States, where food production is part of a prisoner's training program, helping marginalized people to avoid going back to their criminal past.

Environmental Benefits

UA has the potential to provide various environmental benefits to cities across the world. These include water and waste management, urban heat and air quality, reduced carbon emissions, biodiversity conservation, environmental education, nutrient recycling and others.

Water Management

An important aspect of cities that encourage urban agriculture is their capacity to manage water more sustainably. Girardet (2004) points out that the organic food cultivation within towns can significantly increase the capacity of soils to absorb water, thus reducing run-off after rainstorms. This, in turn, allows urban centres to reduce expenditure in stormwater facilities and operation while improving soil fertility and reducing flooding events.

More significantly is the opportunity of recycling water within urban agriculture, specifically Greywater can easily be diverted from sewage pipes to urban farming. Although it is not recommended for direct use on vegetable production, its utilization for the cultivation of fruit trees and ornamental species is encouraged (Larsen et al., 2008). Water reutilization may have enormous benefits for countries that are under water restrictions, such as Australia, for the re-use of greywater

in food production not only takes pressure off the potable water system, but facilitates effluent management.

Waste Management

UA agriculture has enormous potential to turn common urban wastes into a productive resource through a number of initiatives such as vermiculture, composting and wastewater re-use. In both developing and developed countries, waste management is a growing challenge, and the rapid growth of urban populations implies an upward trend in waste generation.

The main reason behind a general lack of management towards urban wastes seems to be the lack of understanding that waste is a valuable resource, and without that understanding the bulk of nutrients contained in these wastes are lost, causing pollution and environmental degradation. Thus, metropolitan areas need to evolve from a linear, one-way flow of resource consumption to a closed one, where the definition of waste and resources are narrowly aligned (Smit and Nasr, 1992).

UA can play an important role in waste management. According to Deelstra and Girardet (2001), waste management or waste reduction requires three different approaches: reducing the amount of waste; re-using what can be re-used; and, recycling the remainder. All of which can be met by urban agricultural practices. UA can reduce the amount of packaging, can be a site for waste recycling through composting and vermiculture, and much household waste can be re-used within the garden, including food, old carpets, wood, glass, tyres and clothing material.

Cofie et al. (2006) suggest that the greatest part of urban waste consists of biodegradable material, be it in solid or liquid form, with enormous potential for recycling and re-using. This waste can be easily employed, often with low technological advancements, into urban food production. A simple solution to household organic wastes is composting and vermiculture, which, if done correctly, can eliminate any threat of contamination and the breeding of diseases. Furthermore, human waste can also be turned into food nutrients. Through a combination of composting and vermiculture human sewage or 'nightsoil', becomes a rich fertilizer (Esrey et al., 2001). This practice is extensively carried out in China and India. For example, in China human waste is treated and sold to farmers as fertilizers, while in India sewage fed lagoons produce roughly ten percent of the fish consumed in Calcutta (Nelson, 1996)

Urban Heat and Air Quality

It is widely advocated that urban agriculture can help urban centres to manage their heat and air quality (Deelstra and Girardet, 2001). One approach is the use of planted roofs to produce food. Such practice has the potential to insulate homes and offices by absorbing and reflecting great quantities of solar energy, as well as through evaporation (Eumorfopoulou and Aravantinos, 1998). Although this

depends on the circumstances of the building and the species used, it has the potential to save vast amounts of energy by reducing air-conditioning needs. Through absorption and evaporation, urban agriculture in densely built areas can also help to improve the heat island effect, which may be further reduced by planting trees that provide shade and food (Heisler et al., 1995). Air quality at the local level can also be improved as plant species help to reduce carbon dioxide and ozone concentrations (Bellows et al., 2003).

If appropriately planned and integrated in the urban fabric, urban agriculture can contribute to the comfort and wellbeing of citizens. Through greening spaces around and on top of apartment blocks and houses as well as neglected spaces in the city, the physical climate can be improved (Deelstra and Girardet, 2001).

Reduced Carbon Emissions

The emergence of climate change has resulted in a worldwide effort to curb carbon emissions. UA has potential to significantly support a 'low-carb(on)' diet by encouraging less food miles as well as less packaging requirements (Gleeson, 2010). Through increased food miles, carbon emissions are exacerbated. A study on the UK food system has found that a meal from imported ingredients generates nearly 650 times the CO² emissions than when made from locally sourced ingredients (Halweil, 2002). Similarly, Jones (2001) has calculated that each kilogram of imported food is responsible for 5485g of CO² emissions, whereas locally grown food has only between 17g to 187g of CO² emitted for every kilogram, depending on the mode of acquisition (home delivery, farmer's market or farm shop). In this sense, urban agriculture can, through the provision of local produce, encourage the sourcing of local ingredients, reduce food miles and indirectly reduce the need to transport foodstuff long distances, thus contribute to a reduction in carbon emissions. It can also be argued that by producing its own food, urban residents will not need to use the car as often to buy fresh produce at the supermarket, which further contributes to reducing carbon emissions.

Agricultural practices also have an impact on carbon emissions. Large amounts of fossil energy is consumed in the manufacture and supply of farm machinery, fertilizers and pesticides as well as through the operation of broadacre farms, and, with the current increase of agrochemical and machinery use, greenhouse gas emissions are a great concern (Jones, 2001). One of the benefits of urban agriculture (often undertaken organically), is that fossil fuel consumption and carbon emissions are significantly less than in industrialized systems. A study comparing organic and conventional farming of livestock, dairy and vegetables in the UK, found that energy savings from organic production range from 0.14 MJ/Kg to 1.79 MJ/Kg (ADAS Consulting, 2001). Also, a US study has shown that the conventional cultivation of maize uses 4MJ/KG of crop compared to 1.49MJ in organic settings (Pretty, 1995).

Biodiversity and Conservation

UA provides opportunities to enhance and preserve urban biodiversity (Deelstra and Girardet, 2001, Girardet, 2004). A range of small animals as well as assorted plant communities help to enhance local urban biodiversity, as well as attract beneficial soil microorganisms, insects, birds, reptiles and other animals (Bellows et al., 2003). Urban gardens also play a role in species preservation by providing food, resting places and protection along migratory flight paths (Towle, 1996).

Economic Benefits

Economic development is a strong benefit arising from urban agricultural practices. These include employment and income generation, development of microenterprises, productive use of land, increased access to markets, increased multiplier effect, energy savings from reduced food miles as well as the possible monetary value that can be associated with environmental management and social benefits (Quon, 1999, van Veenhuizen, 2006).

In terms of income, research demonstrates that UA can be a considerable source of employment, especially in developing countries. This is particularly the case when UA is part of the employment strategies of municipalities (Mougeot, 2005a). Through farmers' markets, urban agriculture provides a platform for farmers to diversify their income and gain greater control over their economic lives, while also increasing networking and learning opportunities with other farmers and customers, and allowing for the commercialisation of value added products (FOE, 2000, Petts, 2003). For the local economy, UA encourages economic multipliers (Taylor et al., 2005). Studies have demonstrated that in regions where more local food is sourced, a greater percentage of the value of production remains in the community, representing greater long-term financial benefits (TFPC, 1999). This has been noted by Mason (1998), who suggested that the annual farm gate value of produce in regional NSW reaches A\$1 billion, but it has flow on effects to the economy of A\$2 to A\$3 billion. In Australia, Houston (2005) suggests that agriculture occurring at the urban fringe, which is estimated to occupy only 3% of the land used for agriculture, contributes to as much as 25% of the total agricultural production in financial terms. Similarly, a study in Cornwall, UK, demonstrated that £10 spent on food from local sources is worth £25 to the local economy, whereas £10 spent at the supermarket is only worth £14 to the municipality (Boyde, 2001). Urban farming has also the potential to provide urban farmers with indirect economic advantages, such as savings of households' 'food dollars' – money that was supposed to be spent on foodstuff can be saved and applied in other sectors of the economy.

A common misunderstanding regarding urban agriculture is that it is not a profitable activity (van Veenhuizen, 2007). By cultivating products that are in high demand and that have a comparative advantage over rural foodstuff, such as perishable products, mushrooms and flowers, urban agriculture can be very profitable at the household level. This can be particularly true if using intensive

systems like SPIN farming. SPIN stands for Small Plot Intensive system, which outlines a process of growing commercially on sub-acre plots (Christensen, 2007a). A SPIN farming success story is described by Christensen (2007b), who reports that a half-acre plot managed by a couple in Philadelphia, USA, produced US\$ 120,000 annually, with a net income for the farmer couple of US\$60,000, which is above the median household income for the city. Similarly, a study suggests that a micro-farm located on a Mt Gravatt commercial rooftop could be profitable after only 17 months of operation, providing a return of around 20% a year on investment capital (Wilson, 2002).

Highest productive use of land is another economic benefit facilitated by urban agriculture. For example, Wang (2006) cites that UA can contribute positively to increasing property values. This occurs as residential properties that surround gardening venues obtain the amenity values of being close to a healthy and productive open green space, which may also (depending on contractual agreement) provide the security that there will not be further development. In addition, unlike parks and other green infrastructure, urban farming can be a functioning business that pays for itself and do not draw from taxpayers contributions (Halweil and Nierenberg, 2007).

Due to deindustrialization and decreasing urban populations in many cities in developed countries, there is an increasing stock of abandoned residential, commercial and manufacturing structures (Kaufman and Bailkey, 2000). A study reports that as much as one-fifth of all land in American cities is classified as vacant (Bowman and Pagano, 1998). An oversupply of urban vacant land can drive land prices, property values and tax revenues down (Schilling and Logan, 2008), as well as attract anti-social behaviour, endanger public health and safety and become illegal dumps (Schukoske, 2000). As an alternative to urban vacant land, urban agriculture can, not only revitalize centres, but also transform a costly piece of land into a profitable one. The US Environmental Protection Agency has revealed that a study in Philadelphia has shown that vacant land improvements through urban agriculture have resulted in an increase of 30% in the prices of surrounding properties (EPA, n.d.). Additionally, urban agriculture can be practiced on areas that are not suitable for built up uses, such as steep slopes, flood plains and underneath power lines, utilizing an otherwise financially redundant land (Smit and Nasr, 1992).

UA can also facilitate the development of microenterprises. This occurs through the production of necessary agricultural inputs, such as fodder, compost and earthworms as well as through the processing, packaging and marketing of products and the provision of services such as veterinary and transportation (Moustier and Danso, 2006).

Another economic advantage of growing food in metropolitan centres refer to the shortening of the food chain, where producers are encouraged to directly retail their products or sell directly to small retailers. This strong involvement of farmers, in the processing and marketing of their produce, often

referred as 'vertical integration', has a positive impact on the reduction of transaction costs, which is reflected in a reduction of the final price of goods (Moustier and Danso, 2006), or higher quality of produce at the same price as supermarket food.

Alternative distribution networks are another economic benefit that arises from shortening the food chain. This economic advantage might be particularly valuable in Australia, where over 50% of fresh produce is sold through two supermarket chains (James, 2009). Alternative distribution networks have the potential to not only reduce the price of fresh food, but also ensure the access of it to local consumers. There are many alternative options that can be used to distribute food, these involve community supported agriculture, box schemes, consumer co-ops, producer co-ops, local shops, farmers' markets, among others (Sustain, 2002).

A good example of alternative options for food distribution and income comes from Queens, New York, where in the last few years a group of local advocates have started a farm on a one-acre block with a primary goal of establishing a financially sustainable business. The farm employs a full time staff, and its main revenue stems primarily from selling produce at farmers' markets and through a community supported agriculture (CSA) program. The CSA model has shown to be an effective way to generate regular income while also connecting urban farms with suburban and urban operations (Rich, 2012).

Multifunctionality and Sustainability

Multifunctionality reflects the positive externalities derived from the inclusion of agriculture into urban regions. It is perhaps the greatest asset of urban agriculture, as it can deliver a variety of potential benefits simultaneously (van den Berg, 2000). Multifunctionality relates to diversification and pluriactivity, which suggests a capacity to conduct a variety of activities while improving economic returns of production factors (Fleury, 2005). Multifunctionality, it has been argued, has the potential to further the prosperity of agriculture in urban centres (Mubvami and Shingirayi, 2006), mainly because it makes a 'cheap' producer of public goods, compared with other urban sectors (Moustier and Danso, 2006).

This multifunctionality has been valued by societies that have been exposed to urban agriculture. For example, the West Sydney Regional Organization of Councils has indicated that the multifunction of agriculture in their urban region through the improvement of aesthetic and heritage values and cultivation of a sense of place while producing food, has contributed to the community desire to retain agriculture (WSROC, 2000).

In terms of sustainability, urban agriculture is considered an acceptable, affordable and effective tool for sustainable urbanization (Deelstra and Girardet, 2001). In particular, its potential for linking cities

with the environment has been emphasized as significant in achieving sustainability goals (Mougeot, 2005a). Martin and Marsden (1999) argue that urban agriculture, especially community gardens, act as 'change-agents' to attain sustainability in three different ways: i) promote physical and ecological sustainability through the cultivation of local, fresh and safe foods; ii) enable socio-cultural sustainability by providing a community place for social interactions; and iii) provide a place for development, education and research that can aid economical sustainability.

Given the potential benefits of urban agriculture and its multifunctionality, it can be argued that agriculture is a sound urban policy that improves the life and wellbeing of city residents while supporting the sustainable development agenda and increasing the resilience of towns to climate change and other global and local issues that might disrupt food production, processing, distribution and retailing. However, urban agriculture does pose some risks and challenges to urban regions, and these threats need to be addressed in order to fully achieve its capabilities.

Risks and Obstacles of Urban Agriculture

There are very few studies that attempt to review or measure all the negative impacts and challenges of urban agriculture (Nugent, 2001). However, numerous documents point out to a number of potential risks associated with agricultural practices in urban regions, these include mainly health and environmentally related risks, such as the breeding of diseases, contamination, pollution, nuisance and pest management. In addition, UA faces a number of challenges in attempting to become mainstream, these involve lack of organization, theft, issues of accessibility and legality, financial constraints, lack of information and a general negative perception.

Risks of Urban Agriculture

Despite all the advantages discussed earlier, agriculture may have some adverse impacts on cities and towns. A common concern is the potential impact that it may have on the health of city farmers and consumers of city produce. Detailed information on the actual impact to health is still scant, but there are real concerns that need to be acknowledged in order to be managed and minimised (van Veenhuizen, 2006). In terms of health, the main potential risk regards the contamination of crops with pathogenic organisms and agrochemicals, contamination of soils and produce with heavy metals from traffic emissions and industrial waste, and the breeding and spreading of human diseases by mosquitoes and other animals (van Veenhuizen, 2006, Buechler et al., 2006).

The contamination of crops with pathogenic organisms may result from the use of wastewater and other solid wastes as nutrients. Direct contact with effluent water may lead to increased helminthic (mainly roundworm, whipworm and hookworm) infection (Buechler et al., 2006). For instance, Ensink et al. (2004), through an assessment of the use of wastewater in Pakistan, have shown that there were

higher infection levels of hookworm in farmers who used untreated wastewater compared to those who did not. Regarding consumers, the main risks arise when vegetables or salad crops, grown with untreated wastewater, are consumed raw. This can be linked to faecal bacterial diseases, cholera, typhoid, bacterial diarrhoea and dysentery (Buechler et al., 2006). The combination of high density living and animals may also increase the risk of diseases and pathogenic contamination. Diseases can be transmitted from animals to humans in many ways, direct contact and consumption are the main concerns, but epidemics (e.g. SARS and yellow fever) may also occur (Schiere et al., 2006).

Industry, traffic and high population density may all cause pollution to water, soil and air. Thus, a major challenge for agriculture practices in urbanized regions is to produce safe products. Main pollutants of horticultural crops are heavy metals, pesticide residues and biological contaminants (Tixier and de Bon, 2006). These contaminants are mainly found in areas close to industrial states, waste disposal sites, and by inappropriate operational procedures.

These threats are not restricted to urban agricultural production, as rural agriculture also has to deal with similar issues. Appropriate management strategies can be put in place to minimise these hazards. Simple strategies like wastewater treatment, choice of irrigation techniques, selection of appropriate crops, education and control to human exposure can minimise these risks (Buechler et al., 2006, Tixier and de Bon, 2006).

Environmental degradation is another facet posed by urban agriculture. UA can contaminate water sources through over use of agrochemicals, and groundwater might be contaminated by the utilization of nitrate-rich manure, such as from chickens or pigs. Given its illegal status in many developing countries and competition with other land uses, agriculture can be marginalised to sensitive environmental areas within cities, such as wetlands and hill slopes, where it may negatively impact fragile ecosystems (van Veenhuizen, 2007). Inappropriate farming operations may also lead to a reduction of vegetation as well as silting of water bodies (Bowyer-Bower and Drakakis-Smith, 1996). Lastly, urban agriculture raises the issue of local pests that may thrive in the green and fertile plots, such as possums, crows and others.

Despite the lack of studies that review and/or measure the negative impacts and challenges of urban agriculture, municipalities often attempt to minimise these risks through education, training, monitoring of compliances and making resources available. One such municipality is Boston, where over the years numerous community gardens have been tested for lead and other soil contaminants. Recently, the city has delivered numerous truckloads of municipal compost to these gardens, which not only supplies nutrients to crops, but also dilutes contaminants and binds them to soil particles, reducing the risk of human exposure (Kessler, 2013).

A common approach to minimise risk is to develop growing guidelines, the City of Sydney Community Gardens Policy (2014) for example, dictates that no chemical pesticides or fertilizers are to be used, and only organic methods of cultivation are allowed and enforced. Similarly, the Australian City Farms & Community Gardens Network provides a brochure to all its members and interested parties that educates about safety measures in the garden (ACFCGN, 2011).

Obstacles to Urban Agriculture

Around the world urban agriculture is assuming an increasingly important role in making cities more sustainable, however, it requires increased financial and political legitimacy for it to continue (Cabannes, 2006). It is understood that political support is on the increase, but financial support seems to be more limited, and most urban producers lack access to credit and investment opportunities. Lack of financial capability not only hinders farming production but may also aggravate environmental and health risks arising from bad practices (Cabannes, 2006). Lack of financial options may also pose a threat to the retailing of local produce, in particular, the realisation of farmers' markets involve a significant investment, which, without support from local authorities, may deem them unfeasible. This financial gap has been explored by Thompson (2008), who concluded that in the USA there is minimal Federal money going directly to urban agricultural programs, rather, the majority of funds are delivered indirectly and piecemeal through land grants and community support programs as well as subsidies associated with local food production and small farms.

Another challenge faced by urban agriculturalists is theft and vandalism, along with nuisance, such as the noise and odour associated with the rearing of animals (Ellis and Sumberg, 1998). This situation is so severe that in many countries livestock has been banned, in Singapore, for example, nuisance and pollution have been nominated as the reasons for banning all forms of livestock keeping (Schiere et al., 2006). In Australia, the Gold Coast City Council has established that properties under 600m² are not allowed to keep chickens, properties of 600m² to 4000m² can have up to six chickens but no roosters, and properties bigger than 4000m² can have up to thirty chickens and no roosters (GCCC, 2008f).

Despite theft and vandalism being considered more of an irritant than a deterrent (Kaufman and Bailkey, 2000), research has suggested that these predatory activities are a significant issue among urban agricultural systems (Bouraoui, 2005, Perez-Vasquez et al., 2005). Theft and vandalism may include trampling on plants, pilfering vegetables, damaging or stealing signs, disposing of garbage and empty alcohol containers, among others. Bunting and Leschen (2006) suggest that the open nature of urban agriculture may attract delinquent behaviour.

Research shows that a major challenge to urban agriculture refers to land availability, accessibility, and usability. Urban farming requires some land space regardless of whether the farming system is

soil based or not. Both public and private land can be made available for the practice of urban agriculture, including institutional land (hospitals, churches and schools), roadsides, park areas, lands that are unfit for building, etc. However, it is important to assess the availability of these lands in the short, medium and long term (Mubvami and Shingirayi, 2006). An important aspect of land availability relates to urban growth and densification, or the competition for the use of land and water between agricultural practices and other economic activities (Tixier and de Bon, 2006). With densification, land prices increase, forcing UA to move further out in order to respond to the demand of housing and related economic opportunities (Velez-Guerra, 2004, Quon, 1999). This situation not only affects the localization of UA (which might impact on its accessibility) but also the type of production. In high density areas, UA tend to be more space intensive and oriented towards high profit goods (Velez-Guerra, 2004).

A second issue is land accessibility. Land might, and usually is available for the practice of urban agriculture, but it may not be accessible because of social and political reasons. Reasons for inaccessibility could be the distance from where farmers live, cost of rent/purchase, lack of knowledge/connections to know where land is available and discrimination, as well as planning policies and legislation that deem the practice of agriculture an illegal or undesirable activity (Mubvami and Shingirayi, 2006, van Veenhuizen, 2006). Access to land is often constrained by zoning designations and by-laws, especially regarding livestock keeping in intra-urban areas (Velez-Guerra, 2004).

A third issue is the usability of available and accessible land. This might be dictated by topography, size of plots, soil quality, availability of water and other resources, and security of tenure. Even though land might be available and accessible, without the necessary resources and conditions its usage may be hindered. An important usability matter refers to land tenure, which includes the system of rights and institutions that govern access to, and use of, land and other resources on that land (Mubvami and Shingirayi, 2006). Thus, it ultimately determines who can use the land and how, which indirectly dictates the level of investment that a tenant might be willing to make. By allowing farmers to use a specific piece of land for a short time only (or doing so illegally), will constrain what kind of agricultural activity can occur and what technologies might be applicable (Quon, 1999). Land tenure is particularly controversial in developing countries, where only 20% of urban agriculture is cultivated on land owned by farmers (Bryld, 2003).

A final and often underestimated challenge relates to the negative perceptions of farmers, residents, consumers and authorities towards cultivating food within cities. Perceptions of urban agriculture as unsafe, unprofitable and not belonging to the urban area have been suggested (Kaufman and Bailkey, 2000, Quon, 1999). The attitude of residents is very important to the flourishing of UA, as community

perceptions can go a long way in influencing politicians and government staff, which may in turn play a significant role in hindering or favouring UA (Quon, 1999). Given that agriculture is a low priority issue in the urban planner's mind, there is still scepticism on the part of planners and a general perception that agriculture does not belong in the city (Kaethler, 2006), and should be kept to rural areas, as it can interfere with more productive uses of land through other economic activities (Mougeot, 2001). Religion can also play a role in marginalising UA, Smit and Nasr (1992) mentioned that Muslim countries are particularly reticent to the use of wastewater for aquaculture and irrigating crops, which may impose additional hurdles in many developing countries.

Risks and challenges will be present in any urban activity, and as such, health and environmental risks originating from UA need to be taken seriously, formal assessments need to be conducted and adequate regulatory and preventative measures must be in place (van Veenhuizen, 2006). However, the fear of these issues should not be exacerbated and needs to be contrasted with those from rural and conventional agriculture. Balancing the negative issues with the potential benefits derived from agriculture is the key to success, and, to a large extent, will depend on the measures taken by local authorities to enhance the benefits while reducing the risks. The challenges and barriers currently in place, especially regarding land accessibility need to be tackled in order to formally accept urban agriculture as a valid urban land use. A fundamental part of addressing land accessibility and legitimising urban agriculture is the understanding of how urban agriculture is considered in urban planning. This understanding can help to ameliorate and de-marginalise the practice to the benefit of the entire community.

Agriculture and Urban Planning

Urban agriculture relates to a number of urban planning issues including urban poverty, land use, waste management, food security, economic development, public health, community development and resilience, as such, there is growing consensus about the significant role that urban agriculture can play in the sustainability and liveability of urban centres (Girardet, 2004). However, generally, there has been zero to minimal support in urban planning policy for urban agriculture (Deelstra and Girardet, 2001, van Veenhuizen, 2006). In fact, Pothukuchi and Kaufman (2000) state that "it is difficult to believe that planners...disregard the food system...[when] clearly, it would be extraordinarily difficult to have high-quality human settlements without safe and adequate air, water, food, and shelter" (pg. 118).

Howe (2001, 2003) suggests that a lack of support for urban agriculture may arise from a combination of low awareness levels among land use planners and constraints by insufficient budgets. Mubvami and Shingirayi (2006) add that urban planners and other professionals lack the appropriate levels of information and technical know-how to facilitate the integration of urban agriculture into urban

planning and development, while Martin and Marsden (1999) noted a lack of political will as the main restraint. Sonnino (2009) goes a step further arguing that urban agriculture is not on the urban planning agenda for two main reasons: i) food is seen as an issue to be dealt with at higher governance levels (i.e. national and supra-national); and ii) the conventional definition of urban as 'non-agricultural' has distanced food production from city-wide discussions.

Other researcher have suggested that UA encounters stiff resistance within planning departments because planners tend to see it as a 'messy business' without a place in modern cities (Girardet, 2004). Kaufman and Bailkey (2000) have also noted that UA is not seen by planners and city authorities as the 'highest and best use' of vacant urban land, where agriculture is seen as an activity that takes place and belongs on rural land. Smit et al. (1996) adds another dimension by proposing that any non-built land use is seen as temporary and therefore are not valued. Lastly, perhaps the most comprehensive study to shed light on the reasons behind the lack of urban agricultural attention in planning departments has been conducted by Pothukuchi and Kaufman (2000), who surveyed planning departments in twenty-two US cities. Their research revealed that the main reasons given by planning officials with regards to the limited attention to food system issues are:

- The food system is not directly linked to the management of the built environment;
- Agriculture is seen as a rural issue;
- The food system is dominated by the private market;
- There is a lack of agency funding devoted to food planning;
- There is a perception that the food system is working well as it is;
- There are limited opportunities for collaboration between food and urban land use planning; and,
- There is insufficient understanding of urban food issues among planners.

Regardless of how urban agriculture is currently perceived by planners, local authorities and community members, UA needs to be understood as a sustainable and feasible land use, which is able to link environmental, social and economic issues. As discussed above, there are many potential benefits to changing this perception, and Nasr (1996) thoroughly explains two important dimensions that need to be appreciated and fostered. Firstly, urban agriculture can take the shape of a temporary or permanent activity, therefore, as cities grow and reshape, and land becomes more or less available (but never fully built up), the use of UA within the city lifecycle is always feasible and can be sustained permanently to the benefit of urban residents and the environment. Secondly, UA can occur in many different land types, from rooftops through street trees and parks, to large peri urban farms. Once all of these spaces are added up, a very extensive presence of agriculture can emerge, without impinging on the modernisation of cities.

Planning for Urban Agriculture

UA should be promoted and managed through policies and incentives that meet public needs, while encouraging social and environmental benefits (Dubbeling and Santandre, 2003). Therefore, municipalities should create a positive planning environment for urban agriculture, based on a facilitating framework built upon an extensive community consultation process (Velez-Guerra, 2004).

An important part of planning for urban agriculture is to take into account the multiplicity and heterogeneity of its practices. UA is seen as a cross cutting issue involving a wide range of stakeholders and actors that are often disconnected, but that must play a role and have a say in planning and development of UA and its activities (Dubbeling and Merzthal, 2006, Mougeot, 2005a). To be effective, UA planning should address the needs and priorities of various stakeholders while strengthening social, environmental and economic realms. Of particular relevance, Dubbeling and Merzthal (2006) point out that multi-stakeholder involvement should integrate elements of capacity building, awareness raising as well as policy making and joint action planning and implementation. Awareness and understanding of the roles and priorities of each stakeholder group as well as their relationships and associated strengths and weaknesses is an important consideration (Bunting et al., 2006). In this way, the process will contribute to the building of participatory and democratic governance and facilitate the acceptance of urban agriculture. Van Veenhuizen (2007) strongly affirms that multi-stakeholder participation in policy making is paramount for enhancing urban and peri-urban agriculture sustainability.

The San Francisco food strategy is a good example of a truly comprehensive and all-encompassing food policy. Morgan and Sonnino (2010) explain that this executive directive stands out in three areas: i) it was drawn up with widespread involvement of stakeholders; ii) it applies to all departments in the city government; and iii) it contains mandatory actions that are time limited. Among its guiding principles, urban agriculture is put in a strong position, as the strategy articulates that “food production and horticulture education will be encouraged within the city and, to the extent feasible, on city owned land, through urban agriculture including community, backyard, rooftop and school gardens: edible landscaping and agricultural incubator projects” (Newsom, 2009; guiding principle (E), pg.2).

There are many opportunities for urban agriculture to be integrated into the urban planning framework. Mubvami and Shingirayi (2006) have indicated that the most common planning tools to facilitate this inclusion comprise master plans, local plans, subject plans and site plans (Table 4). Master plans are used for land allocation at a broader scale, and despite its static nature, urban agriculture could be incorporated into its goals and spatial development structure. The City of Chicago provides a successful example of integration of urban agriculture into its Master Plan. Through its

CitySpace Plan, Chicago has established the goal of adding 1,300 acres of new open space in 10 years for the creation of new community gardens (Zimblar, 2001). Local plans are prepared for specific developmental zones and are considerably more detailed than master plans. Local plans thus provide opportunities for integration of UA by discussing on-plot and off-plot issues such as plot sizes, densities and tenure. The City of Seattle provides a good example, where community gardens have been incorporated into its comprehensive plan (Kaufman and Bailkey, 2000). Subject plans are prepared for specific subject matters, such as public transport or drainage, therefore opportunities exist for urban agriculture to be part of specific city concerns (i.e. housing) or to be the element of a specific subject plan. Site plans are the lowest level of land use planning and are applicable to specific individual plots, consequently, specific provision for urban agriculture could be made within individual sites to allow it to grow and develop.

Similarly, a recent report by the American Planning Association shows the abundance of options available to planners when facilitating urban agriculture in the USA, which include: food policy councils; food assessments and resource surveys, local comprehensive plans, sustainability plans, regional plans and zoning ordinances (Hodgson et al., 2011).

Table 4: Integration of UA through various planning tools (Source: Mubvami and Shingirayi, 2006).

Level of Planning	How to Integrate Urban Agriculture	Planning Authority
Master Plan	<ul style="list-style-type: none"> • State-wide policies and goals for planning • Designation of areas for urban agriculture by the city, municipality, town or board 	Local Authority
Local Plan	<ul style="list-style-type: none"> • Create zones for urban agriculture within specific areas that are part of the master plan 	Local Authority
Subject Plan	<ul style="list-style-type: none"> • Address issues of urban agriculture on a thematic basis 	Local Authority
Local/Layout Plan	<ul style="list-style-type: none"> • Create a map indicating land for urban agriculture, among other uses 	Local Authority

	<ul style="list-style-type: none"> • Show designated land in blocks and plots • Use by surveyors to peg urban agriculture plots 	
Site Plan	<ul style="list-style-type: none"> • Indicate areas for urban agriculture within an individual plot or stand 	Individual Developer

While considering how urban agriculture could be integrated into the planning framework, decision-making authorities must also reflect on the different policy responses and outcomes of this integration. Van Veenhuizen (2006) and Cabannes (2006) suggest that there are three different aspects of urban agriculture that need to be taken into account, which are social policy, economic policy and ecological policy (

Figure 3). These different policy responses are linked to specific outcomes. Social policy refers to subsistence types of urban agriculture, mainly focused towards the urban poor, aimed at providing food security and social inclusion. Economic policy encourages market oriented urban agricultural forms, ranging from small scale family-based enterprises to larger scale entrepreneurial farms, where the principal aim is to achieve a productive city. Ecological policy refers to agricultural practices that have a multifunctional nature, where, in addition to food and income, urban agriculture is promoted to yield environmental and social services, including waste and water management as well as community building. In terms of planning and policy making, there is a clear need to distinguish between profit-driven, subsistence and ecological urban agriculture.

Perhaps the first practical step towards planning for urban agriculture is to understand where there is vacant land that could be used for food production and associated activities. The use of Geographic Information Systems (GIS) for carrying out audits or land inventories can be relevant in facilitating the integration of UA into planning (Dongus and Drescher, n.d.). GIS is particularly useful as it avoids duplication and makes integration possible through a central source of information (Drescher et al., 2000). It is therefore able to not only identify available and contaminated lands, but also to enable registration, monitoring and evaluation activities. In this way, sites where remedial action is necessary or properties where urban agricultural practices could flourish are formally acknowledged, whilst urban agriculture is included into official land use categories, statistics and surveys that better inform local decision-making authorities (Mubvami and Shingirayi, 2006). The city of Vancouver has conducted a detailed inventory of its unoccupied properties, which itemised existing city activities and supportive policies as well as sites suitable for urban agriculture expansion. As a result, 77 potential sites have been identified and urban agriculture became fully integrated within the urban planning and policy making frameworks (Kaethler, 2006, Mendes et al., 2008).

Urban planning is not only renowned for a lack of supportive measures regarding urban agriculture, but is also notorious for a number of prohibitive policies and by-laws that directly or indirectly impact on food production, processing and marketing. In order to successfully plan for urban agriculture, an

in depth review of all planning guidance, to remove potential impediments to its development is strongly recommended by many researcher and practitioners (Broadway, 2009, De Zeeuw et al., 2001, Petts, 2003). For instance, Wisconsin's City Council, after reviewing its planning guidance on livestock keeping, reversed a ban on backyard chickens in 2004 and adopted an ordinance that allowed for up to four hens (but no roosters) per property (Broadway, 2009). Another significant policy issue regards the keeping of bees, which are crucial to food growing activities that require pollination, but bees are, in many cities, considered a threat to human health and therefore are banned from being kept. A review might support the need to allow beekeeping in urban regions, as was the case in New York City, which amended its health code to revert the prohibition of possessing, keeping, harbouring and selling of bees (Broadway, 2009), and in Vancouver, where in July 2005, it amended its health by-law to allow for hobby beekeeping (Kaethler, 2006). In addition, other types of livestock, including pigs, goats, cows and rabbits can also be part of agricultural practices in urban centres, but clear policies regarding the keeping of these animals must be formulated to avoid nuisance and misunderstandings.

Conclusion

Although Australia and the Gold Coast are not readily associated with food insecurity, there is evidence that there are a considerable number of people that do experience food hardship. Food security concerns are likely to be exacerbated in the near future due to a complex interaction between climatic changes, peak oil and demographic variations. Urban agriculture provides an outlet that can potentially ameliorate and mitigate some of these food security concerns. Through urban food production, processing and marketing as well as waste recovery and composting, urban agriculture offers an array of opportunities for local governments to pursue a more sustainable social, environmental and economic path.

Regardless of its definition, urban agriculture has enormous potential to become a widespread practice in urban regions, both commercially or for subsistence and recreation, and it will bring about a number of positive and beneficial outcomes. The City of Gold Coast is blessed with year round food growing weather and boasts a landscape that is rich in vacant and open land, which is suitable to all forms of urban agricultural practices. However, for urban agriculture to be realised on the ground, a greater acceptance of its role in planning has to be achieved.

Historically, urban agriculture has encountered stiff opposition, mainly arising from a lack of understanding and a belief that agriculture is a rural rather than an urban issue. This trend is slowly changing, and many cities in both developed and developing countries are starting to embrace urban agricultural practices. This shift emphasises that, if integrated into the urban fabric, urban agriculture has the potential to deliver economic, social and environmental outcomes that will facilitate sustainable urban development and community resilience.

There is yet a long road ahead for urban agriculture to become a mainstream planning practice, but lessons can be learnt from cities that have embarked on this paradigm shifting process. First of all, urban agriculture needs to be recognised as a strategic resource, deserving consideration by the planning world as an urban, not a rural, land use. Secondly, issues relating to land access and tenure, regulations, economic incentives, health impacts, resource access, waste and water recycling need to be understood and clarified in order to allow urban agriculture to achieve its full potential. Thirdly, urban agriculture is not risk-free, and problems associated with agricultural practices in cities must be dealt with accordingly in order to minimise health and land use impacts. Lastly, it is also important to understand that urban agriculture is not the solution for all urban problems, rather it is another strategy, among many, towards the substantial task of building sustainable, adaptable and resilient communities – the difference is that urban agriculture is a feasible strategy that is ready to be implemented now at relatively low costs.

The following chapter will discuss the intricacies surrounding the process of developing public policy, after all, policies do not simply appear on a decision-maker's table, rather there is a complex and politically charged process underpinning it, and different theories provide diverse viewpoints that facilitate its research and understanding.

Chapter 2: Policy Making in Theory and Practice

Introduction

Public policies are developed with the purpose of expressing intent to achieve specific goals. Policies are made at all levels of government and for an unimaginable numbers of issues. In this sense, it is difficult to believe that a single theoretical explanation of the policy making process would portray an incredibly complex and unique process. Indeed, the theory of policy making is multifaceted and intricate, comprising numerous standpoints that attempt to explain how policies are made in practice, and how an idea or aspiration undergoes a process of realisation through to its implementation. Simply stated, it seems that no theory, framework or viewpoint is capable of describing such a complex process in its entirety. Nevertheless, these theoretical explanations are important tools that facilitate the study and understanding of this politically charged but essential component of modern societies. This chapter thus reviews and discuss some key policy making theories, and it does so by dividing this literature into two broad stances that focus on different aspects of the policy making process – descriptive and prescriptive theories.

Policy and Policy making

The term policy is widely used across all sectors of the society and numerous interpretations of its meaning can be found. Hogwood and Gunn (1984) identified ten different uses for the terms policy, including: a label for an activity; an expression of general purpose or desired state of affairs; specific goals; decisions of government; formal authorisations; a programme; an output; an outcome; a theory model; and a process. Colebatch (2002) also points out that “policy may be used to mean a broad orientation, an indication of normal practice, a specific commitment or a statement of values” (pg. 6). At its broadest level, policy involves the interplay of values, interest and resources (Davis et al., 1993). Colebatch (2002) suggests that the term ‘policy’ encompasses three assumptions of social order – instrumentality, hierarchy and coherence. Instrumentality indicates that policy is to be understood in terms of objectives and ways of achieving particular organizational purposes. Hierarchy points to high level authoritative decisions, referring to what will be done in a particular area and ensuring the support of a single course of action. Coherence assumes that all the information fits together as a single system. Thus, policy refers to how the system is (or should be) coordinated towards the achievement of coherent objectives. In addition, policy must be understood in terms of commitment rather than of intent, where its value lies on the effect it has on the action rather than on its aspirations (Colebatch, 2002).

The term ‘policy’ has been defined by many. Easton (1965) for example defines policy as the mechanisms through which values are authoritatively allocated to society. Dye (1972; pg. 2) defines it as “what governments do, why they do it and what difference it makes”. Anderson (1984; pg. 3) says that policy is “a purposive course of action followed by an actor or a set of actors in dealing with a problem or matter of concern”. For Fischer (1995; pg. 2) policy is “a political agreement on a course of action (or inaction) designed to resolve or mitigate problems on the political agenda”. Policy has also been defined as “an authoritative statement by a government about its intentions...relying on hypotheses about cause and effect, and... structured around objectives” (Althaus et al., 2007; pg. 5).

Despite a vast range of definitions, it has been suggested by Maddison and Denniss (2009) that, based on how policy is made, definitions can be classified into two broad categories that reflect the understandings of what policy is. On the one hand, policy is viewed as the result of ‘authoritative choice’, whereby policy making occurs through a vertical and hierarchical process aimed at achieving a specified outcome. On the other hand, policy is viewed as the result of ‘structured interactions’, whereby policy is made through horizontal communication and the “end result is the product of compromise and the accommodation of competing interests” (Maddison and Denniss, 2009; pg. 4). In other words, policy is either the result of a rational process where governments make decisions, or policy is the result of interactions among various political participants, where government is seen as

the arena where such interactions take place. These different views on policy making give rise to numerous explanations of the policy making process.

The policy making literature can be broadly divided into two traditions, on one side, researchers describe how the policy making process occurs in practice – the descriptive. Here, players, rules, settings, mechanisms and other peculiarities, and how they interplay are the objects for theories, frameworks and models that attempt to portray how policy is made. These theories, models and frameworks are often tested by researchers and practitioners through the analysis of policy making processes in different jurisdictions.

On the other hand sits the prescriptive stance, which takes the approach of prescribing how policy making ought to be in order to be effective, or professional, or holistic, or sustainable, etc. Through prescriptive accounts of policy making, specific elements or competencies are suggested as being paramount for ‘good policy making’. The following sections within this chapter will elaborate further on the peculiarities of each of these approaches to describing the policy process.

Descriptive Narratives of Policy making and Policy Change

Since the early 1990s the descriptive narrative of policy making and policy change has been dominated by three major theories – the advocacy coalition framework, the punctuated equilibrium theory and the multiple streams approach (Real-Dato, 2009). However, other theories, models and frameworks have also been important in fostering the development of theoretical explanations of policy making, including the social construction theory, institutional analysis and development framework as well as the often criticized stages approach. Despite numerous attempts by theoreticians and policy researchers to come up with ‘the best’ explanation, the reality is that the literature on policy making and change is surrounded by controversy and contradictory findings (Wilson, 2001), where no single theory or framework is capable of addressing the policy process in its entirety (Schlager and Blomquist, 1996, Cairney, 2007). Rather, different explanations focus on different aspects of the policy process, such as the dimensions of state and political activities, types of policy change (Wilson, 2001), roles played by ideas, values and knowledge (Dudley et al., 2000) and actors and their stages (Schlager and Blomquist, 1996). Nevertheless, developing logically supported empirical theories of the policy process remains an important venture in fostering a greater understanding of this intricate process.

Before embarking into specific theories and frameworks about the policy process it is relevant to point out that there also are different conceptual models that attempt to describe the decision making process. In accordance with Knill and Tosun (2008), there are a number of conceptual models that help to explain the relationship between politics and public policies, including the (i) institutional model – emphasizes formal and legal aspects of government structures in decision making, (ii) the rational model - is a multi-step process for making logically sound decisions that aims to follow the

orderly path from problem identification through solution, (iii) the incremental model - builds on past policies, focusing on incremental rather than wholesale change, emphasizing on the plurality of actors, and (iv) the group model – is a type of participatory process in which multiple individuals acting collectively, analyse problems or situations, consider and evaluate alternative courses of action, and select from among the alternatives a solution or solutions. These models are complementary to each other rather than competitive, as they focus on particular aspects of political life (Dye, 2005). These conceptual models can be understood as the building blocks of a number of theories and frameworks that attempt to describe the process of policy making and policy change.

The following sections briefly present the major descriptive theoretical explanations of the policy making process, including the stages approach, the multiple streams approach, the advocacy coalition framework and the social construction theory. In addition, a brief discussion of a multiple lens approach is presented at the end.

The Stages Approach to the Policy Process

The traditional and (perhaps) most popular, simplified and convenient approach to studying and describing the policy process is to represent it through a series of discrete stages. Over half a century ago, Lasswell (1956), as part of his attempt to improve the rationality of the policy process (Burton, 2006) and to establish a multidisciplinary and prescriptive course for policy science (Jann and Wegrich, 2007), introduced a model of the policy process comprised of seven stages, including: intelligence, promotion, prescription, invocation, application, termination and appraisal. This model (despite some criticism) has been highly successful as a basic framework for the study of the policy process and has been the starting point of a variety of typologies (Jann and Wegrich, 2007).

The success of the model has been associated with its usefulness in: i) organizing and systematizing an increasing body of literature and research (Jann and Wegrich, 2007); ii) focusing the attention on the process of policy making rather than analysing institutions in charge of policy making; iii) allowing the evaluation of the consequences of policies to take place and be used as starting points for future policies; iv) breaking down the complexity of the policy making process into manageable, discrete and rational units that can be easily analysed (Porter, 1995); and, v) offering a way of thinking about public policy in concept and in operation (DeLeon, 1999).

Subsequent to its proposal and success, a number of variations of the stages model have been suggested, usually offering further differentiations of the stages, proposing new sub-stages (Jann and Wegrich, 2007) and representing it as a continuous process rather than as a linear one. With an Australian perspective, the stages model can be represented as a cycle that initiates with issues identification, and proceeds through policy analysis, policy instruments, consultation, coordination, decision, implementation and evaluation (Figure 5) (Althaus et al., 2007).

1. *Consultation*: refers to a range of methods employed to develop ideas, test the strength of the analysis and the feasibility of the proposed response. Consultation with other agencies and with non-government parties should take place to improve policy proposals, test ideas and gather support;
2. *Coordination*: refers to a step where many players are involved in testing the proposed policy in action, from financing to government directions. This stage starts once a policy is ready for consideration by the government;
3. *Decision*: in Australia, decision often involves the consideration of the cabinet, and a decision is made based on the information provided;
4. *Implementation*: if adopted, the policy is given expression through legislation in pursuit of the goals agreed by ministers; and
5. *Evaluation*: since policies in practice often drift from the objectives of the original submission or are imperfect in realizing their goals, evaluation is essential for government to gauge the effects of a policy and adjust or rethink policy design as appropriate (Althaus et al., 2007).

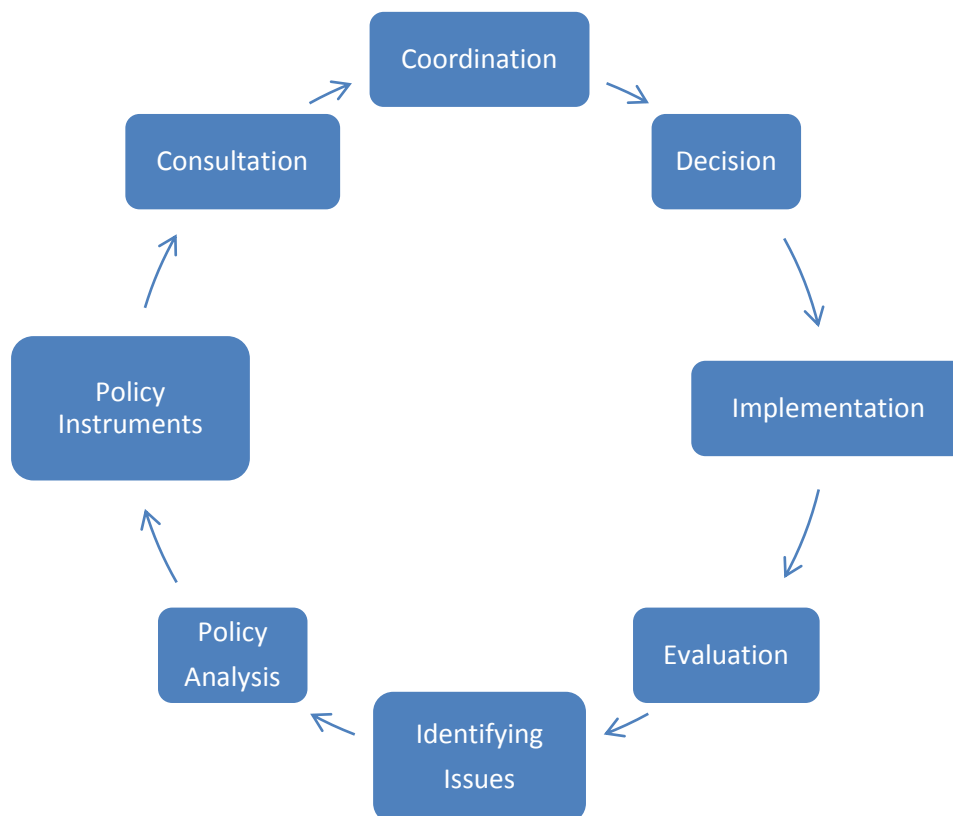


Figure 5: Australian stages of the policy process (adapted from Althaus et al., 2007).

The stages approach, regardless of labels and flow descriptions, entails at least four important features (Burton, 2006). First, it indicates that policy making flows through a series of distinct analytical (and

perhaps practical) steps. Secondly, it assumes that policy making has a clear beginning, middle and end. Thirdly, it treats values as exogenous to the process. And fourth, rationality is achieved by using exogenous values to compare solutions to a problem and choosing the appropriate solution.

Despite the usefulness and success of the stages model, by the 1980s it began to be heavily criticized. Robert Nakamura (1987) called the stages approach the 'textbook approach', and suggested that the extensive use of the model indicated that its stages were not precisely defined as the authors have claimed. Later Hank Jenkins-Smith in cooperation with Paul Sabatier (1993; pg. 3) entitled the model "stages heuristics", indicating that it has "serious limitations as a basis for research and teaching". In the same work, Jenkins-Smith and Sabatier made six strong criticisms of the traditional approach (Jenkins-Smith and Sabatier, 1993; pg. 3-4 - emphases in original work, Jenkins-Smith and Sabatier, 1994):

1. "The stages model is not really a *causal model at all*" – it lacks forces that drive the process from one stage to another;
2. "The stages model *does not provide a clear basis for empirical hypothesis testing*" – it fails to specify linkages and influences that form the essential core of theoretical models;
3. "The stages heuristic suffers from *descriptive inaccuracy* in posing a series of stages" – many deviations from the sequential stages have been, and are often found. For example, policy formulation often takes place at the same time as implementation (Smidt-Jensen, 2007);
4. "The stages metaphor suffers from a built-in *legalistic, top down focus*" – the stages model assumes a top down hierarchical process, and in doing so it neglects other important players, restricts the view of policy to a specific piece of legislation, and may be unsuitable when policy is devised by an array of actors (Sabatier, 1986);
5. "The stages metaphor inappropriately *emphasizes the policy cycle as the temporal unit of analysis*" – there is a common perception that policy is made through multiple interacting cycles at different levels of government rather than a single, almost linear, process;
6. "The stages metaphor fails to provide a good vehicle for integrating the roles of policy analysis and *policy oriented learning throughout the public policy process*".

Smidt-Jensen (2007) adds to the criticism by saying that the stages approach perceives the policy process as 'problem solving' and in that way it discards conflict between interest groups. He also noted that the stages model suggests that decisions from legislators are always implemented, which again downplays conflictual processes and bottom up forces in the policy formulation stage. Lastly, Teodorovic (2008; pg. 23) points out that many authors, including Kingdon (1984) and Porter (1995),

advise that the stages model is not realistic, as its rational and linear process does not conform with the often “unsystematic, disorderly, and politically charged” world of policy making.

These and other problems of the stages approach culminated in Sabatier (1991; pg. 147) declaring that the stage heuristic “has outlived its usefulness and must be replaced”, which encouraged the development of a number of theories and frameworks that attempt to ‘realistically’ describe the policy making and policy change processes. Nevertheless, the value of the stages model is still appreciated in practice, with governments finding it difficult to transcend it when attempting to modernise the process of policy making (Burton, 2006).

Multiple Streams Framework

The Multiple Streams Framework was introduced by John Kingdon in his publication titled “Agendas, Alternatives, and Public Policies” (1984), which was developed based on the ‘garbage can’ model (Cohen et al., 1972) of organizational behaviour (Sabatier, 1999). For Kingdon (1995; pg. 224), policy making is a “complex adaptive system” in which political actors react to changing environments. Upon observing that policymakers do not always know the origins of a policy, Kingdon proposes a framework that explains the fluidity and rapid change in the policy process based on a strong element of serendipity (John, 2003). The framework has been designed to explain how policies are made under conditions of ambiguity, with a focus on policy formation (although it could be extended to the entire policy process) (Zahariadis, 2007).

The Multiple Streams Framework explains both policy stability and change through political manipulation that assumes a temporal order, where the adoption of specific alternatives are highly dependent on when policies are made (Zahariadis, 2007). The policy process is characterised by three ‘streams’ – problems, policies and politics. Problems are public matters that require political attention. Policies, which can also be referred to as solutions, or proposals for change, arise from the accumulation of knowledge and the concern of specialists (John, 1999), and are often proposed by highly motivated people - ‘policy entrepreneurs’. Politics, or the political process, affects the receptivity of ideas through influencing how the media and other opinion formers define problems and evaluate proposed solutions.

Kingdon (1984) suggests that each stream acts independently, with its own dynamics and rules, to constrain or compel public policy by keeping a proposal on or off the agenda. At critical times, these three streams are linked by policy entrepreneurs, and a ‘policy window’ is created. At such times, the combination of the three streams significantly enhances the chances that a specific solution/policy will be adopted (Figure 6) (Zahariadis, 2007).

The critical element of Kingdon's framework is that the independent variables (problem, policy, and politics) are not additive but interactive, where the choice for a particular policy is not the result of the effects of each stream in isolation but the impact of one depending on critical values of the others (Travis and Zahariadis, 2002). Also important is the critical point in time where the variables are combined to form a policy window. Kingdon (1995; pg. 165) defines these moments as "fleeting opportunities for advocates of proposals to push their pet solutions, or to push attention to their special problems". Policy windows are of short duration, and policy entrepreneurs must seize the opportunity immediately by attaching problems to their solutions and finding receptive politicians for their ideas. When issues successfully interact with solutions and politics to produce a single package, they gain importance in the agenda and their chances of being accepted are enhanced. In other words, problems are mostly examined in light of existing solutions and politics. Thus, the problem is partially defined by the solutions available and whether politicians are willing to accept it (Travis and Zahariadis, 2002).

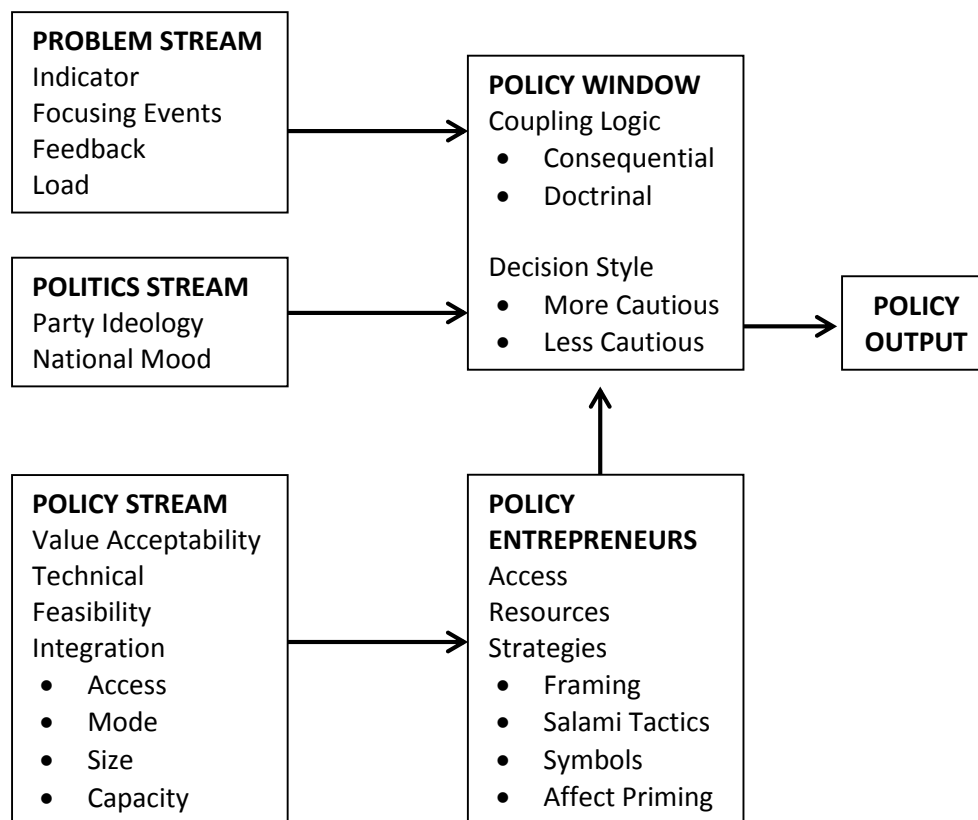


Figure 6: Diagram of the Multiple Streams Framework (Source: Zahariadis, 2007).

The success of the multiple streams framework is derived from its capacity to provide true causal explanation of the policy process (Sabatier, 1999), for it aims to uncover the drivers of policy change and stability (Real-Dato, 2009). In doing so, the framework effectively demonstrates how various elements of the policy process interact to create political action and inaction, and moves policy

analysis away from static models (John, 1999). An important consideration is also given to the framework because of its capacity to acknowledge the important role that serendipity plays within the policy process (Sabatier, 1991). Lastly, Teodorovic (2008) suggests that the model is capable of dissecting and analysing policies in broad, generalized terms (problems, policy and politics), which can be very helpful and valuable in educating students and other policymakers.

In terms of criticism, Real-Dato (2009) points out that the framework does not pay sufficient attention to the way that participant's actions affect the policy process. Specifically, he suggests that Multiple Streams overlook the problems of collective action and co-ordination among participants. Also, there is limited thought regarding the outputs of policy decisions (Real-Dato, 2009). Sabatier (1991) adds that Kingdon's framework neglects the role of advocacy analysis, that it separates too much the policy and the political streams and that more attention needs to be given to the conditions leading up to policy windows.

Advocacy Coalition Theory

Developed by Sabatier and Jenkins-Smith in the 1980s, the advocacy coalition framework was introduced as an attempt to overcome the shortcomings of the stages approach (Sabatier, 1999), as a way of putting the role of ideas into the theory of policy making (Compston, 2008), and to synthesize the best features of both top down and bottom up approaches (Jenkins-Smith and Sabatier, 1994). It borrows concepts from a number of policy making models and frameworks, including the multiple streams framework, the garbage can model and the punctuated equilibrium theory, to explain policy change with a stronger historical and contextualised dimension (Burton, 2006).

For Sabatier and Jenkins-Smith, policy making is to be analysed by taking a long term view (ten years or longer), by understanding policy subsystems as the key units of analysis, by giving a central role to scientific and technical information, and by conceptualizing public policies similarly to belief systems (Wilson, 2001). The advocacy coalition framework, thus, portrays public policy as the product of interactions between various coalitions within policy subsystems. According to Sabatier (1988; pg. 131), an advocacy coalition consists of actors who share a common 'belief system' – "i.e. a set of basic values, causal assumptions and problem perceptions, and who show a non-trivial degree of coordinated activity over time". The framework describes three levels of belief systems – i) 'deep core beliefs' are the highest level and specify fundamental norms and values; ii) 'policy core beliefs' represent the coalition's basic normative commitments and causal perceptions, which determine the appropriate distribution of resources and political authority in society; and, iii) 'secondary beliefs' specify causal connections and comprise narrower beliefs concerning the seriousness of problems. Generally, deep core beliefs are very resistant to change, policy core beliefs are somewhat less rigidly held, while secondary beliefs are assumed to be adjusted more readily depending on data, experience

and strategic considerations (Jenkins-Smith and Sabatier, 1994). In structures where coalitions are fully developed, competing coalitions battle to turn their belief systems into public policy. Through mobilization of political resources, coalitions “manipulate the rules of various governmental institutions to achieve” (Sabatier, 1991; pg. 153) support for their goals and to attack opposing ones (Jenkins-Smith, 1991).

Figure 7 provides an overview of the advocacy coalition framework. On the left hand side there are two sets of exogenous variables – one relatively stable and the other more dynamic – that affect the opportunities and constraints of subsystem actors. Stable exogenous factors rarely change within periods of a decade or so, therefore they do not provide avenues for policy change and are not the subject of coalition strategies (Sabatier, 1998). However, they are very important to establish resources and constraints within which subsystem actors must operate. By contrast, external (system) events are vulnerable to substantial change over periods of a decade or more, consequently they are often targeted by coalitions as mechanisms for policy change (Sabatier and Weible, 2007). The policy process is also affected by the degree of consensus needed for policy change and the openness of the political system, which will vary considerably between countries (Sabatier and Weible, 2007). Lastly, on the right hand side, the policy subsystem is portrayed, which depicts endogenous variables that affect policy coalitions.

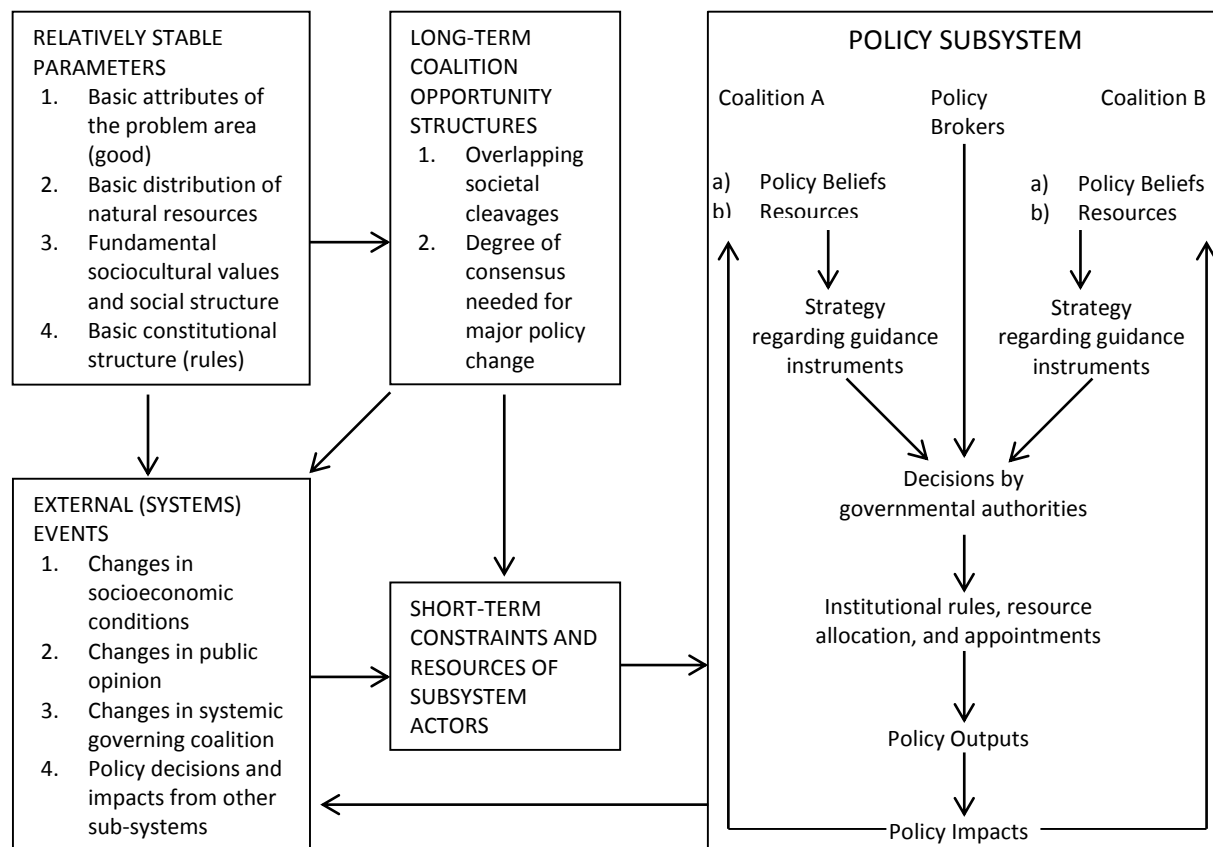


Figure 7: Advocacy Coalition Framework flow diagram (Source: Weible et al., 2009).

In early versions of the framework, major policy change was explained by only two main activities – policy learning and external perturbations. Policy-oriented learning within and between coalitions allows alliances to obtain a different perception to the appropriate instruments with which to implement their policy core (Compston, 2008). It is suggested that policy learning strongly affects secondary beliefs, while policy core beliefs are minimally affected and core beliefs rarely affected. External perturbations, which include changes in government, changes in socioeconomic conditions and turnover of personnel in key positions, may drive policy change by altering the composition and/or resources of competing coalitions, which may favour one over the other. Consequently, major policy change occurs in the following ways: i) coalitions engage in compromise (often mediated by a policy broker) to obtain the passage of their policies; ii) through external perturbations; iii) altering belief systems through trial and error learning from the adoption, implementation, and evaluation of policies; or iv) one or more coalitions belief systems change through the accumulation of information resulting in an ‘enlightenment’ episode (Schlager and Blomquist, 1996).

In the 2007 version of the framework, Sabatier and Weible added two other paths for major policy change – internal subsystem events and negotiated agreements. Internal subsystem events can be seen as disasters within policy subsystems, and relate to the highlighting of failures in current subsystem practice (Weible et al., 2009). Similar to external events, internal shocks redistribute political resources, which may tip the power structure from a dominant coalition to one or more minority coalitions. Internal shocks, through the highlighting of monumental failures, also affect the behaviour of policy participants – policy core beliefs in minority coalitions are confirmed and doubt within dominant coalitions increases (Sabatier and Weible, 2007). The fourth path to policy change is the result of negotiated agreements between two or more coalitions. This path flourished from the conditions of policy learning, where “professional forums provide an institutional setting that allows coalitions to safely negotiate, agree, and implement agreements” (Weible et al., 2009; pg. 124).

To sum up, the advocacy coalition framework suggests that public policy is the product of competition between coalitions, where participants of each coalition are united by a shared set of deep core and policy core beliefs. Each coalition seeks to enact policies that will allow its policy goals to be fulfilled. The success of a coalition in enacting policies will largely depend upon the strength of their political resources and the effectiveness of their strategies (Chanley, 2005). Policy change occurs through the tipping of power structures within the subsystem, which occurs as the result of policy learning, negotiated agreements and other events (internal and external).

The advocacy coalition theory has been widely used, with over 80 applications over the last 20 years being reported (Weible et al., 2009). The approach has been considered an attractive one as it

accounts for a greater variety of players in the policy making process than traditional methods (Burton, 2006), while capturing the interactions of actors across different governmental levels. It has also been praised for giving emphasis to the influence of external and internal shocks in policy making (Burton, 2006). John (2003) noted that by emphasising and demonstrating the importance of discourse in the political process, the advocacy theory is a cogent framework. In addition, Burton (2006; pg. 183) points out that the theory “does not treat the policy process as a discrete phenomenon with a clear beginning, middle and end and it ascribes some causal power to a combination of the intrinsic value of ideas”.

The theory, however, has faced some criticism. Burton (2006) suggests that it does not sufficiently acknowledge the social construction of reality in the policy process, while Schlager (1999) argues that the advocacy coalition theory ignores institutional structures and dynamics in explaining policy change. Lastly, Jenkins-Smith (1991) implies that there are significant difficulties in applying the framework because of the difficulty in obtaining reliable and valid measurements of belief systems over time.

Social Construction and Policy Design Theory

In the 1980s, policy theorists, concerned with the confusion surrounding the selection, content, implementation and evaluation of public policy, started to focus on issues of policy design (Ingram et al., 2007). Schneider and Ingram, in the late 1980s, introduced the concept of social construction of target population, which suggests that policymakers distribute benefits and burdens through policy to a target population according to their perceived social construction – i.e. positive or negative construction will dictate if target populations will incur benefits or burdens (Ingram et al., 2007).

Figure 8 lays out the basic thesis of the theory proposed by Schneider and Ingram. It acknowledges that past and current policies have been designed to distribute benefits and burdens to a target population, and these policies have a long term effect on how these populations are socially constructed. Through time, these policies (past and current) not only affect the target population but also shape institutions and the broader culture by sending implicit messages about how important the problems of the target groups are to government and how effective their political participation is. The social construction of populations and their political powers are then taken into account in the design of subsequent policies, which leads to the inclusion of distinct design elements, including the distribution of burdens and benefits, for the different types of target populations. Extant policy designs are able to structure future opportunities for participation and allocation of resources as well as shape the political orientation and participation patterns of target populations and other members of the public (Ingram et al., 2007). The theory, therefore, focuses on the interdependence of power and social constructions of target populations as a means of shaping the policy process (Weible, 2008).

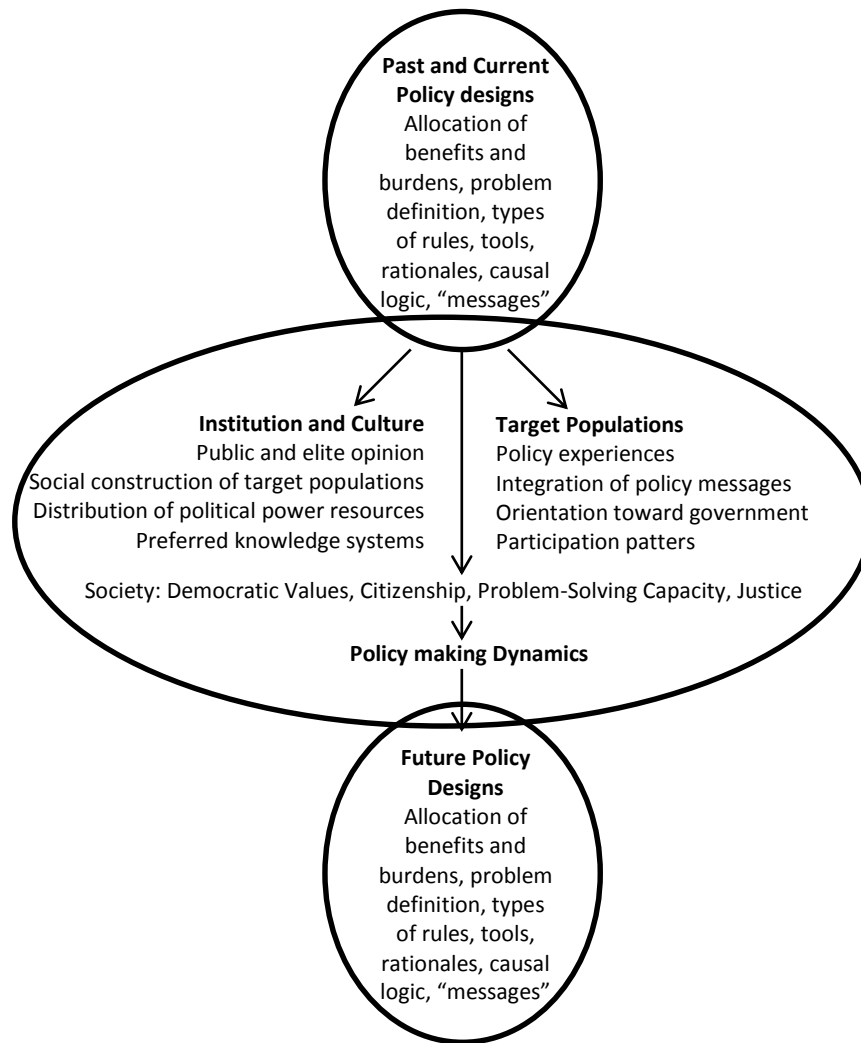


Figure 8: Schematic representation of the Social Construction and Policy Design Theory (Source: Ingram et al., 2007).

Social construction of target populations and their political power are the building blocks of Schneider and Ingram's theory. Social construction of target populations refers to "the recognition of the shared characteristics that distinguish a target population as socially meaningful, and the attribution of specific, valence-oriented values, symbols, and images to the characteristics" (Schneider and Ingram, 1993; pg. 335). Social constructions are stereotypes about particular groups, which can be positively or negatively created. Positive stereotypes include images such as deserving, intelligent, honest and public spirited, while negative constructions involves images such as un-deserving, stupid, dishonest and selfish. Political power, on the other hand, refers to how the targeted population is perceived by elected officials in terms of their ability to mobilize around policy proposals, which in turn depends on the political resources that they share, such as money, votes, knowledge and access to policy-makers. An important element of the political power dimension is the extent to which members of the public

will approve or disapprove the direction (groups targeted) that a policy has been proposed to take (Schneider and Ingram, 1993).

By converging social constructions and power structures a matrix of four broad types of target population has been constructed (Figure 9). Advantaged groups are perceived by policymakers as both politically powerful and positively constructed, such as the elderly and businesses. Contenders are politically powerful but are negatively stereotyped, examples are the rich and workers' unions. Dependents might refer to mothers and disabled people, which are positively constructed but have very limited political power. Deviants, such as criminals and drug addicts, are in the worst position, since they are powerless and negatively constructed.

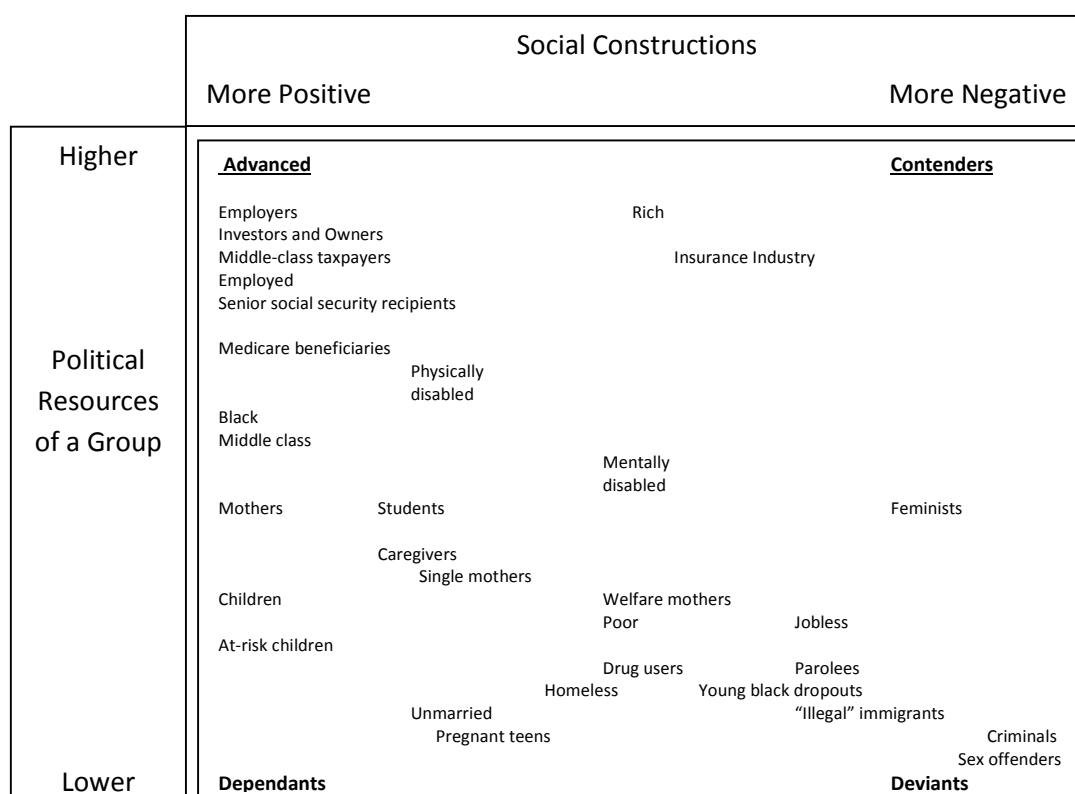


Figure 9: Types of target populations based on social constructions and political power (Source: Schneider and Ingram, 1993).

Because different target groups offer different political opportunities, policy design theory articulates that different target populations will receive different types of policy outcomes (Figure 10) (Chanley, 2005). It is to the advantage of elected officials to deliver beneficial policies to advantaged groups – they are positively constructed as deserving and politically powerful – which ensures that the group itself will react favourably, while members of the public will approve the decision to award deserving groups with beneficial policies. On the other extreme, in a similar fashion, it is also advantageous for politicians to design policies that punish the powerless and negatively constructed groups. With regard to contenders and dependents, public officials might be able to succeed in providing benefits to

dependents and burdens to contenders, but it will be a contentious issue (Schneider and Ingram, 2008).

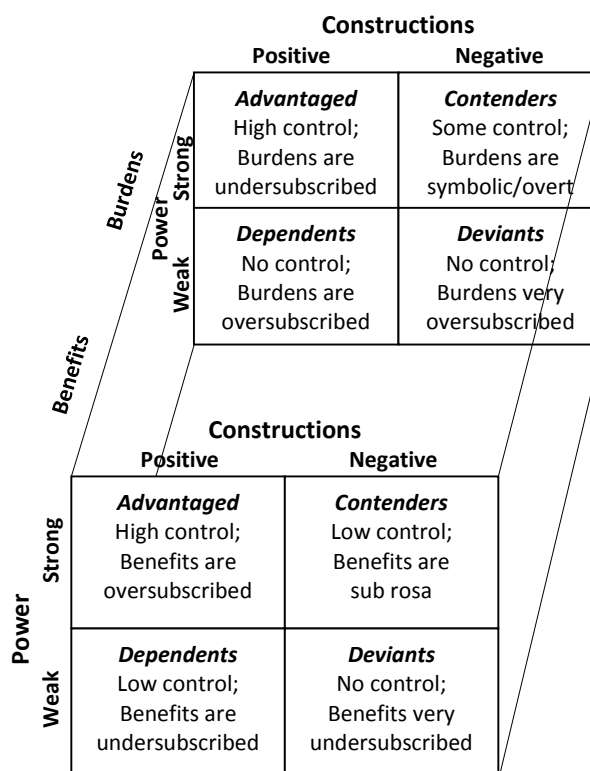


Figure 10: variations in the allocation of benefits and burdens to target populations (Source: Schneider and Ingram, 1993).

In the social construction and policy design theory the policy making process is centred on the creation of images of target populations, which are based on stereotypes and perceptions of political power, to justify the allocation of benefits and burdens (Schneider and Ingram, 2008). Through time, extant policies play a critical role in maintaining the social construction cycle as they have a long term effect on targeted population as well as on members of the public, who agree and support policies that conform to socially constructed images.

Multiple Lens Approach to the Policy Process

Different theories describe the policy making process by focusing on different dimensions of it, or by looking at it through a particular lens. Perhaps, rather than trying to identify which approach is the best, most scientific, or better at predicting outcomes, multiple narratives could be used to explain a particular policy process. Sabatier (2007; pg. 330) suggests that there are at least three advantages in explaining policy change through a multiple lens perspective. Firstly, it “provides some guarantee against assuming that a particular theory is the valid one”. Secondly, it allows the “appreciation that different theories may have comparative advantages in different settings”. Thirdly, the knowledge of

other approaches “should make one much more sensitive to some of the implicit assumptions in one’s favoured theory”.

Cairney (2009) argues that a multiple lens approach to the policy theory is easier promoted than taken. This difficulty arises from the different ways in which policy theories can be combined. Cairney (2009) suggests that there are three ways in which a multiple theoretical framework can emerge. The first involves ‘super-synthesis’, where a hybrid theory is created by combining the merits of two or more theories. The second approach would be to use each theory independently, to provide a more complete picture and highlight different aspects of the policy making process. The third approach, rather than assume complementarity between approaches, seeks to consider whether or not models are contradictory in explaining policy making (promoting competition between models).

Through an examination and comparison of insights from theories of multi-level governance, punctuated equilibrium, the advocacy coalition framework and multiple streams theory, Cairney (2009) concludes that, although difficult to be combined, these models have something in common and jointly they might enrich understandings of the policy process. However, he also points out that these approaches may also promote contradictory understandings. Additionally, Cairney reasons that research constraints may impose difficulties on researches in opting for a multiple lens approach, as it is more time and resource consuming.

Other authors have also acknowledged the complementarity of theories in explaining the policy process. Schneider and Sidney (2009) indicate that many aspects of the social construction and policy design theory can be integrated with other theories. For example, with regards to the Advocacy Coalition Framework, Schneider and Sidney suggest that social construction theory can be used to explore who benefits or loses when policy changes as a result of policy learning and how target populations are treated in policy design. Similarly, social construction theory can help the punctuated equilibrium theory to identify losers and winners, while it can assist the multiple streams framework to describe or analyse policy characteristics that emerge from a window of opportunity.

Real-Dato (2009: pg. 118) also indicates that “despite their differences the MS [Multiple Stream], the ACF [Advocacy Coalition Framework] and the PET [Punctuate Equilibrium Theory] share a number of common elements (a feature that facilitates their further integration in a synthetic framework)”. These shared elements – which include the subsystem as the basic level of analysis; the behaviour of rational actors as explanation for change; and the emphasis on the causal role played by ideational actors – allow for these theoretical explanations to be synthesised into a hybrid approach. Jenkins-Smith (1991; pg. 165) further suggests that “for research into relatively fluid policy issues...the AC [Advocacy Coalition] and IRC [Institutional Rational Choice] theories [can] be applied together... to take advantage of their relative strength”. The reasoning behind Jenkins-Smith’s suggestion lies in the

ability of the Advocacy Coalition to identify long-term characteristics of the policy subsystem, while the Institutional Rational Choice provides an approach to higher resolution problems.

Certainly, there are opportunities for theories to be combined, aggregated or compete with each other in search for better and more holistic explanations of the policy process. However, as pointed out by Cairney (2009), a multi-theoretical approach will not solve all problems in public policy research. In particular, there will still be a selection bias, and the use of multiple theories is unlikely to produce comprehensive analysis.

Lastly, it is important to note that the policy making literature is composed of numerous others descriptive accounts that were not discussed here. It is beyond the scope of this thesis to present in detail all possible theories of policy making. Nevertheless, it is important to point out that theories such as the punctuated equilibrium, institutional analysis and development framework, complexity theory, policy regime model and the policy network theory, were reviewed.

Prescribing Policy making

The literature on policy making also approaches the process through a prescriptive lens, in which different components are prescribed as being paramount for the development of 'good' policy. Elements such as evidence-based, outward looking, inclusive and adaptive have been associated with professional, successful and holistic policy making. Of particular interest is the publication by the UK Cabinet Office titled 'Professional Policy Making for the Twenty First Century' (1999b) that attempts to steer the policy making process into a new, professional and modernised era by acknowledging various competencies that policymakers must have. These competencies, as the document suggests, can also be interpreted as essential elements or procedures of policy making rather than solely a professional skill. The remainder of this chapter is devoted to the literature discussion on the various elements of policy making as prescribed by the UK Cabinet Office.

Professional Policy Making for the Twenty First Century

In an attempt to develop good policy on urban agriculture for the City of Gold Coast, many sources of policy making theory have been consulted. Despite criticisms, 'Professional Policy Making for the Twenty First Century' (Cabinet Office, 1999b) has been chosen as the guiding framework. The reasons behind choosing this document as a guide to policy development is four fold. Firstly, it is considered to be a genuine attempt by the UK Government, which shares many similarities with the Australian system, to 'modernise' policy making, as such, and given that the proposed urban agriculture policy is envisaged to be a modern and useful policy to be taken into consideration by a local government in Australia (Gold Coast City Council), it seems like a good place to start. Secondly, the attempted descriptive character of the framework, which acknowledges the inability of policy makers to follow

all steps on every occasion, and accepts that only some elements might apply or might be able to be fulfilled in a particular policy making process, appears to be an important aspect when embarking in a policy journey where little is known. Thirdly, the conceptualisation of policy making as a series of steps, stages or discrete elements, although unrealistic, has the advantage of enabling the researcher to focus on particular elements of policy making that should be fostered when formulating policy, and as such allows for greater understanding and development of these competencies. And, the last reason arises from the fact that no 'Australian version' of a Governmental document on how to approach policy making could be found.

The publication of 'Professional Policy Making for the Twenty First Century' by the Labour Government in England in 1999, represented an attempt to modernise policy making to "ensure that policies are strategic, outcome focused, joined-up (if necessary) inclusive, flexible, innovative and robust" (Cabinet Office, 1999b; pg. 3). The document aimed to provide a descriptive model of modernised policy making that is "forward looking in developing policies to deliver outcomes that matter, not simply reacting to short term pressures" (ibid, pg. 7). The model was developed after consultation with policymakers and the realisation that the traditional policy process (the stages approach) was not a realistic conception of how policy making develops in practice. The publication makes clear that effective policy making is also dependant on a broader understanding of the context in which it takes place. Suggesting that policy makers not only have to understand how organizational structures, processes and culture affect the process but also the political priorities and other 'real world' constraints and impacts (Cabinet Office, 1999b).

Despite its practicality, the model has been criticised. Burton (2006) and Parsons (2001) suggest that the attempt failed to provide a descriptive model as a response to the unrealistic conception of the traditional policy cycle approach. Burton says that the model "stopped short of being explicitly prescriptive" while still being deeply entrenched in the stages conception of policy making (pg. 176), while Parsons points out that the model does not attempt to describe the reality of policy making, rather it describes what it ought to be. The model has also been criticised for not taking into consideration "politics and the fact that policy making takes place in a democratic context" (Parsons, 2001; pg. 96), while also ignoring the role of values and ideas (Parsons, 2002). Moreover, Parsons (2001) argues that the model fails by differentiating between elected and non-elected policy makers as it lumps together civil servants and ministers in a single group of 'policy makers', and as such distances itself from a critical and defining feature of a democratic system. Nevertheless, the model has been praised for its ability to shift the policy making debate from a narrow concern with systems and idealised processes to the skills and competencies that policymakers ought to have in attempting to create effective policies (Burton, 2006).

Considering that the proposed model of policy making is neither perfect nor a realistic description of how policy making takes place in practice, the following sections in this chapter aim to discuss the different elements or competencies portrayed by the model. However, it is important to state that the discussion is solely about the prescribed elements and how the literature treats them in light of policy making, and not on the political system that proposed them, or an evaluation of the document.

Long Term Policy Making

The first element of modern policy making is coined as ‘forward-looking’, which refers to the development of flexible and adaptive policies where the emphasis lies beyond the short term and extends beyond 10 years into the future (Bochel and Shaxson, 2007, Voß et al., 2009). It emerged from the recognition that policymakers often have to make strategic decisions in the face of an uncertain future, where the outcomes depend on numerous unpredictable factors outside of the decision maker’s control (European Environment Agency, 2009, Volkery and Ribeiro, 2009). Scenario planning, foresight, visioning, futures thinking and horizon scanning are some of the concepts that describe how policy making proceeds under these circumstances. Instead of theoretical discussions about the need or the advantages and disadvantages of forward-looking policy making, research seems to focus on the instruments that are used to inform policy making about the future. Despite methodological differences, these instruments do not intend to forecast or predict what will happen in the future in a deterministic sense, rather they attempt to facilitate an understanding of what might happen and provide warning mechanisms to monitor emerging trends and opportunities (Asje Van Dijk, 1991). In the words of Weber (2006; pg. 197), forward-looking instruments “represent a mechanism with which to deal systematically with future risks, opportunities and options by drawing on a broad range of future expectations and by involving an equally broad range of actors in a participatory process”.

Providing long term policies is both important and difficult. Important because it requires an understanding of future issues that will shape the lives of future generations, and difficult because it opposes the short-termism that is inherent in political cycles (House of Commons Research Paper 02/35, cited in Bochel and Shaxson, 2007). Looking ahead is also necessary because the policy making process is slow, and, more importantly, because the full effects (both anticipated and unanticipated) of policies often take considerable time to be realized (Bochel and Shaxson, 2007).

Without going into detailed information regarding the different future-looking approaches and how they inform policy making, there is considerable agreement regarding the fundamental elements of the forward-looking process (Habegger, 2010, Popper, 2008, Sutherland and Woodroof, 2009). The process consists of three interconnected and complementary phases (Figure 11):

1. Early detection, scoping and analysis of information phase: addresses the identification and monitoring of issues, trends and changes as well as strategic decisions about the elements (objectives, outcomes, etc.) of the foresight exercise;
2. Generation phase: addresses the assessment and understanding of policy challenges. At this stage different methods are used to understand how the context, main issues and trends interact with one another, and to interpret the impact of various possible futures.
3. Developing policy options phase: the insights generated in the previous phase leads to development of policy options. As the future is uncertain, a variety of potential future scenarios are explored, and the preferable option is chosen (Habegger, 2010, Popper, 2008, Sutherland and Woodroof, 2009).

Phase	Early Detection Information (phase 1)	Generating Foresight Knowledge (phase 2)	Developing Policy Options (phase 3)
Description	Identification and Monitoring of Issues, Trends, Developments and Changes	Assessment and understanding of Policy Challenges	Envisioning Desired Futures and Policy Action
Value Chain	Information	Knowledge	Insight
Policy Tool	Horizon Scans	Future Projects	Scenarios

Figure 11: Three phases of the forward looking process (Source: Habegger, 2010).

The literature largely agrees with Volkery and Ribeiro (2009) when they suggest that “the main impacts of [long term policy making] often result more from the process of developing rather than from any published product describing the scenarios that were created” (pg. 1201).

There are many difficulties and limitations in attempting to understand what the future might hold and applying it to policy making. Bochel and Shaxson (2007) argue that difficulty may arise from using outdated data, from uncertainties about cause and effect and from large expenses and time consumption in predicting the future. A major barrier to the successful adoption of forward-looking policy making also relates to the lack of ‘futures’ expertise throughout government, which adds time and resource constraints on policy makers (Bochel and Shaxson, 2007). Weber (2006) also raises some critical questions regarding biases brought by the forward-looking exercise. Of particular concern are the level of trust that should be given to the expectations raised and the source of information for constructing scenarios, which often comes from scientific experts. Sutherland and Woodroof (2009) add to that concern by suggesting that a limitation of the process is the creation of complacency by the belief that the future is being thoroughly considered. Burton (personal communication, 2010) also

raises two practical concerns. Technically, the methods employed in the forward looking process remain poor or underutilised. Politically, elected officials rarely allow policy makers to think beyond their next term.

Briefly, long term policy making is not a new issue, for policies have always been formulated to tackle the future. Yet, the last decades have seen rapid growth in methodologies like scenario planning, foresight and visioning as tools to help policymakers to conceptualise and understand what may lie ahead of them in a time frame extended beyond 10 years. However, in spite of these advancements, it seems that future looking falls well short of its potential to influence public policy making, and the reason for that lies in the entrenched short-term thinking of political actors (Riedy, 2009). Nevertheless, given the complexities of today's problems, policy making will have to be forward looking if it is to be effective in responding to a world of rapid and uncertain change.

Outward-Looking Policy Making

Outward-looking policy making is described and debated in the literature under the headings of policy transfer, policy learning, policy convergence, and policy diffusion. Although the terminology, methods and focus vary, these studies are all concerned with "the process by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system" (Dolowitz and Marsh, 2000; pg.5). Despite greater attention being paid recently to the process and growth of policy transfer between jurisdictions, the process is not new (Dolowitz and Marsh, 1996, Dolowitz and Marsh, 2000, Levi-Faur and Vigoda-Gadot, 2006). What is new is the downsizing of geographical distances, which, facilitated by globalization, technological advances in communication, global economic forces and the emergence of international organizations, has enabled policymakers to be more exposed and know about others' experiences (Levi-Faur and Vigoda-Gadot, 2006). The growth of policy learning, convergence and transfer is also reinforced by the reality that "the major problems that face one government are often the same that face its neighbours" (Rose, 1988; pg. 219 cited in Wolman, 1992).

Obviously, there are attractions to the use of foreign experience in developing public policies. In short, rather than modelling or trying to predict how a policy works, it can be seen in action; mistakes can be learnt and improved upon; real operational data (e.g. costs and unintended consequences) can be identified; it can contribute to innovation; and, it can be used to shortcut lengthy policy formulation processes (Common, 2004, Page and Mark-Lawson, 2007, Rose, 1991, Schneider and Ingram, 1988).

The process can be driven by different political actors. The literature indicates that elected officials, political parties, bureaucrats/civil servants, pressure groups, policy entrepreneurs and experts, transnational corporations, think tanks, supra-national governmental and nongovernmental

institutions and consultants all partake in the process of transfer (Dolowitz and Marsh, 2000). In spite of suggestions that almost anything can be transferred in the process, Dolowitz and Marsh (2000) have identified eight different categories that are often transferred: policy goals, policy content, policy instruments, policy programs, institutions, ideologies, ideas and attitudes and negative lessons. Bennet (1991) adds to that list by suggesting that convergence may also involve the transfer of policy outcomes, impacts or consequences as well as policy style. Policymakers can also draw lessons from all levels of governance – international, national and local.

An important concept debated in the literature of policy transfer refers to the degree of transfer, as Dolowitz and Marsh (2000; pg. 13) state it “is not an all-or-nothing process”. Four different degrees of transfer are described: copying, which refers to the direct and complete transfer without modification, is the rarest; emulation, refers to the transfer of ideas behind a policy or program, and occurs when governments acknowledge that a foreign example is the best standard for designing a policy at home; hybridization or synthesis, is the most typical form of policy learning, and involves the mixture of two or more policies in the formulation of a culturally sensitive policy by the recipient; and, inspiration, where policymakers in one jurisdiction are inspired by policies solutions in others, but the final outcome does not draw upon the original (Dolowitz and Marsh, 2000, Evans, 2009, Rose, 1991).

There are many ways that policy transfer can be realised, ranging within a continuum from lesson-drawing to coercive transfer (Figure 12). There are at least three distinct forms in which policy transfer is realised in practice – voluntary, negotiated and direct coercive (Evans, 2009). Voluntary transfer progresses through a rational and action-oriented approach, which may include learning or emulation, and occurs when policy makers learn about reforms in other jurisdictions and feed this knowledge into the domestic policy making process (Dolowitz and Marsh, 1996, Evans, 2009). Negotiated transfer refers to a process in which governments are required to introduce policy change in order to secure benefits from other countries, institutions and organizations. In this process, although the recipient government is denied the freedom of choice, some negotiations do occur. Lastly, direct coercive transfer arises when a government is compelled by another country to introduce policy change against its will or the will of its people (Evans, 2009).

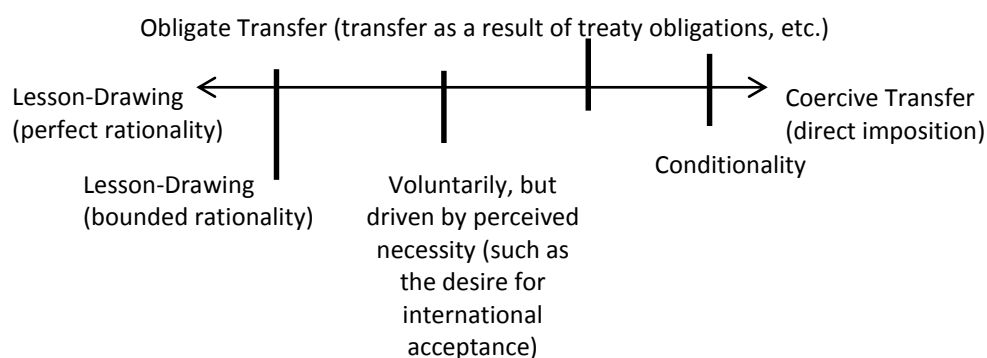


Figure 12: Policy transfer continuum (Source: Dolowitz and Marsh, 2000).

The process of policy transfer is future-oriented, evidence-based and requires professional judgement to decide to what extent a programme elsewhere can be adapted for use at home (Rose, 2001). Apart from professional skills, critical consideration must also be given to the feasibility and desirability of transfer, for the determination of what is possible and the articulation of what is desirable is central to the realisation of policy transfer (Rose, 1991). As illustrated in Figure 13, the combination of high desirability and positive feasibility results in satisfactory transfer, while low desirability and negative feasibility immediately rejects the transfer option.

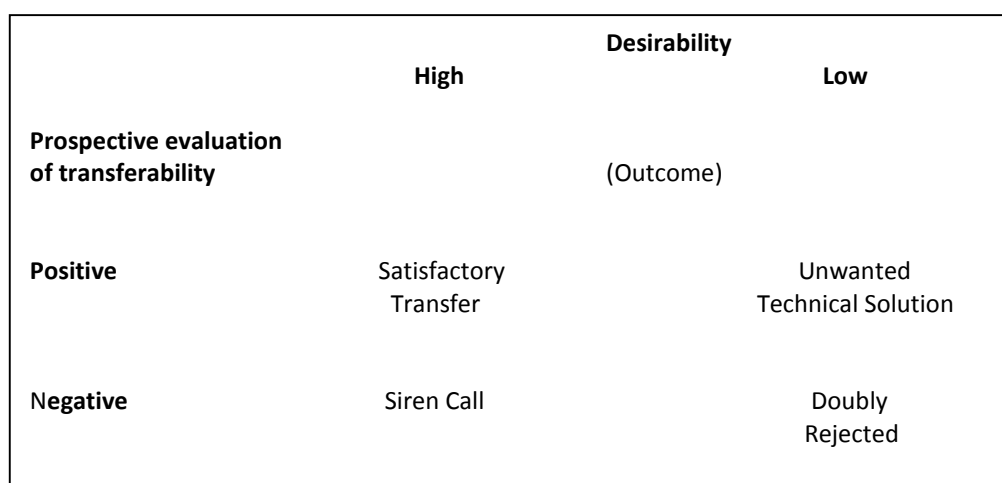


Figure 13: Desirability and feasibility of transferring policies (Source: Rose, 1991).

Despite its attractiveness, policy transfer is not an easy process and many constraints have been identified. Firstly, to pursue all the steps identified by Rose (2001), it requires substantial amounts of information, intellectual effort, time and resources, which may hinder the process (Page and Mark-Lawson, 2007). Stone (1999) also suggests that considerable constraint may arise from the institutional architecture, political culture and state structure of the recipient country. Also, despite the advent of the internet, globalisation and considerable capabilities to disseminate information, it may not be very easy to find out how a particular country deals with a specific policy problem, and when such information is available it may lack sufficient details to make it useful to policy development elsewhere (Page and Mark-Lawson, 2007). Past policies may also restrict policymakers with regard to what can be transferred and what to look for when engaging in policy transfer (Dolowitz and Marsh, 1996). Stone (1999) adds to the political debate by suggesting that policy transfer is not politically neutral and that a compromise is likely to emerge when choosing policy lessons, resulting in non-optimal solutions being adopted. Lastly, Evans (2009) provides a thorough examination of possible obstacles to the process of policy transfer, and categorises these obstacles within three domains – cognitive, environmental and public opinion - represented in Figure 14.

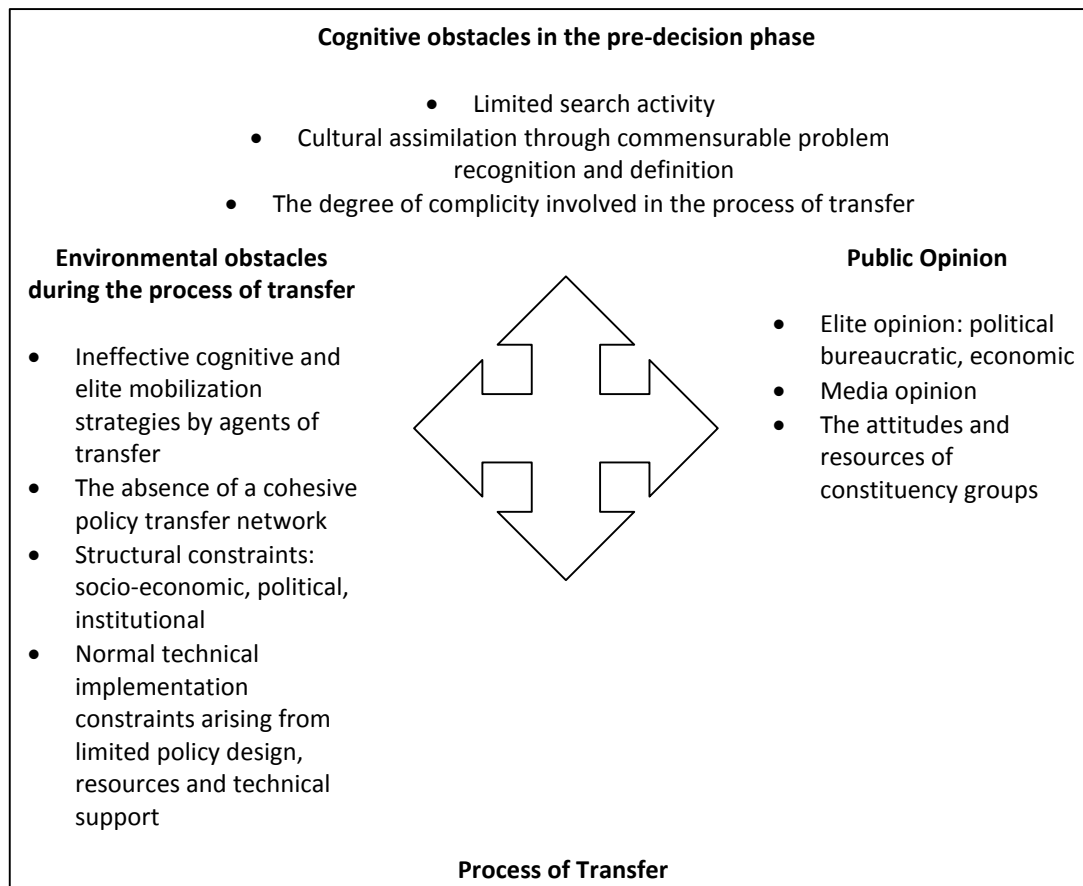


Figure 14: Obstacles to the process of policy transfer (Source: Evans, 2009).

Looking elsewhere for lessons in policy making is long standing, widespread and a feasible practice. However, it seems that the process is neither easy nor straight forward, policy failure is a real possibility, and attention should be given to transfers that are uninformed, incomplete and inappropriate (Dolowitz and Marsh, 2000) to prevent embarking indiscriminately into an unsuccessful transfer on the basis of prevailing trends (Stone, 1999). It is also important to keep an open mind when contemplating policy transfer and pay particular attention to potential biases (especially regarding the source of information) and other plausible solutions (Dolowitz, 2003). Policy transfer does not occur independently, rather it is part of a broader policy making process, and considerations of how the wider social and political context operate is paramount. Nevertheless, the process does have numerous benefits and, if fostered carefully, can provide governments with significant shortcuts to successful policy delivery.

Innovative, Flexible and Creative Policy Making

Innovative, flexible and creative competencies proposed in 'Professional Policy Making for the Twenty-First Century' (Cabinet Office, 1999b) encompass a variety of ideas and stimuli that are reflected in other competencies explored in previous and forthcoming sections. For instance, the development of joined-up policies requires a high degree of flexibility from the agencies and actors

involved. Also, when dealing with complex problems in complex societies, policy makers need to be creative in the way that they gather evidence, look forward and learn lessons (Massey and Rentoul, 2007). The intention of encouraging innovative, flexible and creative competencies is to foster the questioning of “established ways of dealing with things and to create an environment in which new ideas can emerge and be tested” (Cabinet Office, 1999b; para 6.1), thus, attention should be given to the concept of innovation in policy making and in the public sector.

Innovation in the public sector has been recognized as paramount in meeting the challenges posed by globalization and demographic changes, to increase the responsiveness of services to local and individual needs, to contain cost pressures and increase efficiency as well as in sustaining high levels of public services, keeping up with public needs and aspirations and improving outcomes (Bloch et al., 2010, Mulgan and Albury, 2003, Perry, 2010). However, there is not an agreed definition of what innovation entails and often definitions vary depending on the purpose for which it is being used (Patel, 2005). Nevertheless, Von Stamm (2003) suggests that there is a general agreement regarding the essential components of innovation, namely creativity and implementation. Creativity is the starting point, for “all innovation begins with creative ideas” (Amabile et al., 1996; pg. 1154), but creative ideas can only turn into innovation when they are successfully implemented, where successful implementation implies that “creative ideas have to move beyond the prototype or the trial phase and be adopted by an organisation in its daily usage or practice” (Perry, 2010; pg. 6).

Innovation in the public sector can be radical, systemic or incremental. Albury (2005; pg. 52) defines radical innovation to be the “development of new services or a fundamentally new way of organising and delivering a service”. Incremental innovation on the other hand refers to “relatively minor changes and adaptation to existing services or processes – brought about by public service professionals to improve performance and the lives of service users” (Albury, 2005; pg. 52). Systemic innovations are driven by changes in mindsets or new policies (Mulgan and Albury, 2003), and “result from the development of new underpinning technologies or organizational forms” (Albury, 2005; pg. 52). Of these, incremental innovation is the most common (Albury, 2005), while radical innovation might not be as popular due to its increased likelihood of failure compared to incremental changes (Baker et al., 1985).

Regarding the process of innovation, Mulgan and Albury (2003) have formulated a framework that attempts to clarify and help to understand how innovation can be fostered (Figure 15). The framework is composed of four elements in a nonlinear process that require different skills, resources, organisational methods, leadership and culture. The first element of the framework refers to the processes of stimulating and supporting ideas for innovation (generating possibilities). Secondly, the framework discusses the mechanisms that need to be present in developing promising ideas and

managing risks (incubating and prototyping). The third element is replicating and scaling up, which focuses on promoting rapid and effective diffusion of successful innovations. Lastly, the framework embarks on a process of evaluating what works and promoting continuous learning and improvement (analysing and learning).

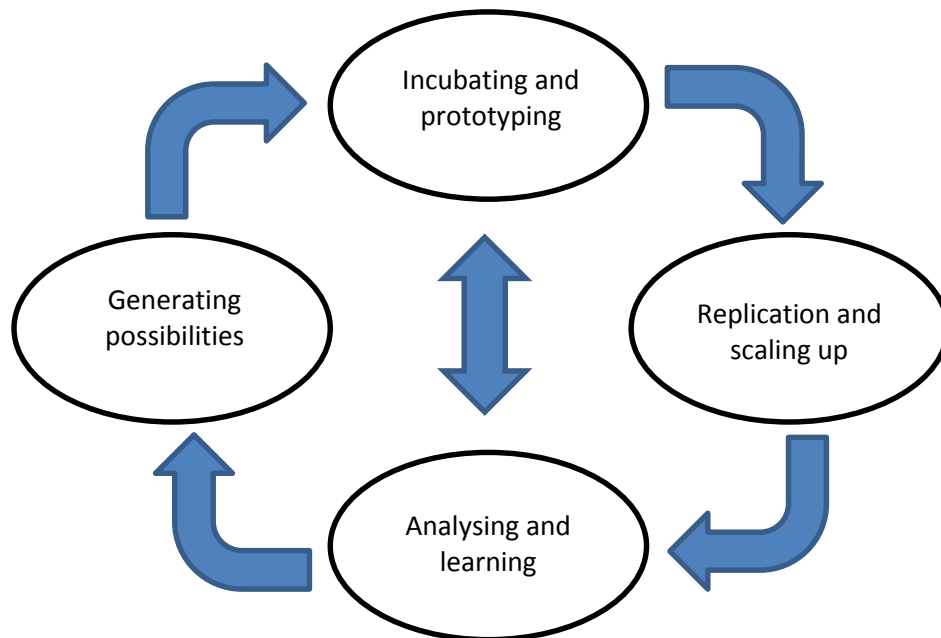


Figure 15: Framework for fostering innovation (Source: Mulgan and Albury, 2003).

Despite the need and advantages of fostering innovation in the public sector, there are many barriers that have to be overcome. These include pressures and burdens of political actors in their day-to-day activity, short-termism of planning horizons and budgets, paucity of skills in change and risk management, lack of incentives and organisational arrangements as well as a culture of risk aversion (Albury, 2005, Mulgan and Albury, 2003). Patel (2005) also suggests that the lack of understanding about how to initiate innovation or what to do with new ideas, the inability to attract funding for long term implementation and difficulties in replicating and mainstreaming innovations further exacerbate the problem.

Evidence-Based Policy making

Evidence-based policy making is not a new concept and it is, perhaps, the element of professional policy making that receives most attention from research. It seems obvious that policy making should incorporate the best available evidence, as Laycock and Tilley (Laycock and Tilley, 2000; pg. 213) suggest, evidence-based policy making “has all the appeal of motherhood and apple pie. The rhetoric is cheap and easy”. Following the UK Government, the concept of evidence-based policy gained momentum within governmental departments across the globe (Marston and Watts, 2003), in Australia, the then Prime Minister Kevin Rudd called it a key element of the Government’s agenda for

the public service, where policy design should be driven by analysis of all available options rather than by ideology (Banks, 2009).

Evidence-based policy has been defined as an approach that “helps people make well informed decisions about policies, programmes and projects by putting the best available evidence from research at the heart of policy development and implementation” (Davies, 2004; pg. 3). It advocates that the policy process can be improved by forging stronger ties between researcher and public policy decision makers and between research and practice (Althaus et al., 2007). As such, this approach opposes the opinion-based policy, which is based upon untested views of individuals or groups often driven by intuition, ideology, tradition, politics, extension of existing practice, conventional wisdom, or, at best, theory alone (Banks, 2009, O’Dwyer, 2004).

Evidence can be an useful tool in assisting policy making, it can help when not enough information is known, through knowledge creation, and when too much research has been undertaken, through screening out irrelevant or discursive information (Althaus et al., 2007). Evidence influences policy in different ways, often through gradual changes rather than direct policy innovation (Bulmer et al., 2007). Davies et al. (2000) suggest and describe four ways in which evidence impacts on policy: i) research leading directly to a policy decision – Instrumental evidence ; ii) research leading to a gradual change in knowledge, understanding or attitude – Conceptual evidence; iii) research stimulating action (e.g. through media stories or events that catch public imagination) – Mobilisation evidence; and, iv) research leading to a large scale shift in thinking – Wider evidence.

Despite all the opportunities that evidence and research have to influence policy and practice, this relationship is far from being uncontentious. A major debate concerns the relative value that evidence has as inputs in the policy process. Through a continuous representation, evidence can be seen, at one end, as paramount (i.e. through the eyes of a rational actor) or, at the other end, simply as another component among many others – i.e. through the eyes of the political model (Marston and Watts, 2003). A significant factor in the assimilation of evidence within the policy process refers to the need for research findings to confront four pre-existing I’s – ideology, interests, institutional norms and practices and prior information (Weiss, 2001). Thus, regardless of the strength of the evidence, it will have to confront institutional and individual values, interest, traditions and prior information, which may or may not restrict its impact. Leicester (1999) argues that there are ‘seven enemies’ to the establishment of the evidence-based policy model, including: bureaucratic logic, the bottom line, consensus, politics, civil service culture, cynicism, and time (or lack of it).

Further problems to the implementation of evidence-based policy arise from the often tenuous and fraught relationship between research and practice. Stone et al. (2001) clarify this relationship by pointing out that sometimes research is simply not designed to be relevant to policy, whereas in other

times, even if it is so designed, it may fail to impact the policy making process because of problems with timeliness, presentation or communication as well as a lack of perception by policymakers to the centrality that research findings might have on their decision making. Faludi and Waterhout (2006) explain these discrepancies by focusing on the different dynamics of the policy making and research processes, which are quite distinct. Edwards (2005; pg. 68) explicates this tenuous relationship by suggesting that practitioners and researcher live in different worlds, have different sets of interests and concerns, have different perspectives on what the problem is, and “unrealistic expectations of each other”. Additionally, it is suggested that practitioners and policymakers often want knowledge that is precise, gives clear guidance and can be directly applied, whereas research outputs are often imprecise, inconclusive, complex and contingent (Nutley and Davies, 2000).

Another problem of the evidence-based model stems from policymakers attempting to work in a scenario of information overload rather than insufficient information. The problem, as suggested by Perry (2002), is not that no evidence will be used at all, but that policy makers use the most readily available and perhaps inappropriate evidence. Hence, policy judgement becomes a significant concern, as what constitutes relevant evidence will vary according to contexts and politics. Policymakers have to conciliate between all interests and institutions of society, and between the interests and institutions represented in the policy making process (Perry, 2002). In reality, knowledge utilisation is almost exclusively context dependent, where one particular research result may be used differently by different users (Nilsson and Sunesson, 1993). The form of evidence may also pose further problems to its utilisation, as Böhme (2002; pg. 101) concludes from his assessment of policy examples, forms of evidence vary between “heavily academic research materials, more or less quantifiable evaluations, and punchy policy messages”.

The evidence-based model has also been heavily criticised for not providing for an inclusive process. Parsons (2001) suggests that the conception of evidence is often rather narrow, implying a managerial, top-down, technocrat and expert-driven process, which does not conform with a commitment to inclusiveness in policy making. Sanderson (2009) and Parsons (2001) argue that evidence-based policy should not be about the collection of hard facts or just a technical exercise of harnessing evidence and expertise, but should be a process of understanding the context and clarifying values, which requires an open and democratic process of deliberation and public learning. Contrastingly however, research also suggests that a broad and all-encompassing definition of evidence-based policy is unhelpful, for it allows policymakers to simply offer a plain justification or rationalization of a pre-existing position (Davoudi, 2006).

The omission of the role that politics and other factors play in the policy making process is perhaps one of the greatest criticisms of a pure evidence-based model of policy making. As Nutley et al. (2000;

pg. 3) suggest, “evidence will always need to be considered alongside other factors, and should not be thought of as a substitute for judgement or politics”. Given that political factors will always play a role in public policy making, Nutley et al. (2002) propose that the term ‘evidence-based’ be understood as ‘evidence informed’ or ‘evidence aware’, which offers a more realistic description of how evidence impacts the process of policy making.

The complexity of issues tackled by policy makers places another difficulty in the path of creating evidence-based policy. ‘Big’ or ‘wicked’ problems such as climate change, health reforms, financial crisis, and food security among others are currently being simultaneously addressed, and pose numerous challenges for evidence use. Brian Head (2010) suggests that these ‘wicked’ problems are often characterised by knowledge gaps, uncertainties and complex relationships with other problems that cannot always be tackled by detailed research, and often fall through the cracks of political requirements of ‘broad-brush’ responses. In addition, these complex issues are often surrounded by clashes of values that are difficult to recognise and address. Even when scientific knowledge exists, many groups can be sceptical about it, not only because ‘knowledge is power’ but also because scientific disputes are often present when ambiguity and conflicting values exist (Stone et al., 2001).

Regardless of all criticism and scepticism about evidence-based policy, research widely agrees that evidence-informed policy is better than policy based on no evidence at all, and that evidence itself is a good thing, so long as it is meaningful, reliable and trustworthy (O’Dwyer, 2004). Weiss (1998) advocates that there are four conditions that, if present, can facilitate the use of evidence by policymakers. The first condition is a relatively non-controversial research finding, which does not provoke conflicts of interest. Secondly, evidence is more likely to be accepted if it implies changes that are relatively small-scale and preferably within a programme’s existing capacity. A stable environment, without big changes in leadership, is the third condition that helps the use of evidence. Lastly, when there is a crisis where no one knows what to do, evidence is more likely to be taken up. Edwards (2005) proposes numerous measures that governments could follow to assist in bridging the policy and research divide. These suggestions surround five overarching themes – build internal capacity; encourage external capacity; encourage committed leadership; build up policy learning organizations; and improve socio-cultural links – with the aim of using research as a systematic and sustained process rather than a “post hoc justification for a predetermined policy position” (pg. 73).

Inclusive Policy Making

An inclusive approach to policy making, as suggested by ‘Professional Policy Making for the Twenty First Century’ (Cabinet Office, 1999b; para 8.1), is “concerned with ensuring that policy makers take as full account as possible of the impact the policy will have on different groups – families, business, ethnic minorities, older people, disabled people, women – who are affected by the policy...[which is

achieved] by involving a wide range of interested parties – such as those who will be affected, service deliverer/implementers, academic and voluntary organisations in the policy process”. An inclusive approach is concerned with opportunities for individuals, organisations and groups from the community as well as from within the policy process (e.g. implementers, evaluators, front line staff, etc.) to get involved and to be able to influence the policy making process (Bochel and Evans, 2007).

Inclusive policy making is a process by which public concerns, needs and values are incorporated into the decision making practice of governmental institutions (Creighton, 2005). In an inclusive policy process, interested parties are invited to participate at an early stage, aiming to collaborate in design of policy and to deliberate about policy problems and potential solutions (Edelenbos, 1999). The idea is to allow citizens, interest groups and political actors to interact in order to design the content of the policy, rather than simply react to a policy decision once it has been made.

The main argument for fostering a more participative process of policy making is based upon the assumption that there are many benefits to be derived from increased levels of participation. Bochel (2006) argues that by including citizens in public life, there is the potential to improve the ways in which policies are formulated and implemented. Edelenbos (1999) also points to two important arguments for the improvement of policy formulation and implementation – policy support and policy quality. Accordingly, a more inclusive process leads to policy that will be supported by the involved parties, which, given the reduced amount of opposition, facilitates its implementation. Similarly, a more participatory approach can lead to policies of better quality, as the knowledge and experience of more actors are used in its design.

Other benefits have also been linked with participatory approaches, with one of the most cited benefits being public education through the process of participation. Participants not only have the opportunity to learn about the policy issue, but they also learn how decisions are made and why. Creighton (2005) argues that participatory processes allow contributors to learn and develop valuable skills, including how to influence others, how to build coalitions and how to work efficiently, which ultimately promotes the development of future leaders.

A significant theme within the participation debate relates to the types of public participation in the policy making process. The classical model – Arnstein’s ladder of participation – recognizes eight levels of citizen involvement. The lowest levels are *manipulation* and *therapy*, which basically describe a process of non-participation, where the objective is not to enable participation but to enable power holders to educate participants. The next stage is *informing*, *consulting* and *placation*, which refers to a level of participation where participants hear and have the opportunity to be heard, but no assurance is given that their views will be heeded. Further up the ladder, increased degrees of decision-making are given to citizens. Within the *partnership* level, citizens can negotiate with power

holders, whereas at the top (*delegated power* and *citizen control*), participants obtain full managerial and decision making power (Arnstein, 1969).

Although most would agree that participation is a good thing, in practice, participation is frequently complex, challenging and increasingly costly (Bochel, 2006). Research suggest that the main challenges of an inclusive process refer to the costs involved, complacency of participants, the degree of participation, lack of representation, tensions between the role of elected officials and the public, lack of authority and the dangers of tokenism (Bochel, 2006, Irvin and John, 2004).

Joined-up Policy Making

Joining-up government and policy making is high on the agenda of public sectors in many parts of the world, particularly within Anglophone countries (Pollitt, 2003), but it seems not to have permeated deeply within policy making departments (Russel and Jordan, 2007). Research is not entirely clear and does not provide an overarching definition of what joined-up policy making entails. This ambiguity may arise from the numerous, more or less synonymous, concepts that attempt to describe the 'joined-up theme', which include coherent policy making, cross cutting policy making, policy coordination, concerted decision making, joined-up government, whole of government and joined-up policy (Stead and Meijers, 2004). Largely, these concepts attempt to describe and debate a process that seeks to align the activities of separate organizations towards an integrated approach to policy development and service delivery (Hyde, 2008), which involves the coordination of activities across organizational boundaries (Ling, 2002).

The needs or motives for policy integration have arisen from the perception that services have become fragmented and were preventing the achievements of public policy goals (Ling, 2002), along with the problems associated with departmentalism, tunnel vision and vertical silos (Christensen and Laegreid, 2007). Pollitt (2003) identifies four underlying goals of joining-up. Firstly, it aims to eliminate contradictions and tensions between different policies, and as such it attempts to increase policy effectiveness. Secondly, integration aspires to make better use of resources through the elimination of duplication and/or contradiction between different policies and programmes. The third goal is to improve co-operation and the flow of ideas between stakeholders, facilitating synergy and smarter ways of working. Lastly, from the point of view of service users, it endeavours to produce a more integrated set of services – a 'one stop shop'.

The pursuit of policy integration is a complex and multidimensional task (Cowell and Martin, 2003) and it refers to the integration of horizontal and vertical linkages. Horizontal integration across policy sectors involves both strategic integration and operational integration, while vertical integration includes the strengthening of links down to the neighbourhood level and up to higher tiers of government (Lambert, 2006).

Despite the benefits of policy integration there are many challenges, risks and costs that need to be overcome and considered. A major challenge refers to the organizational and institutional contexts in which the policy process is embedded. Pollitt (2003) argues that organizations (including sub-units of larger policy organizations) tend to behave in protective ways towards their autonomy, and as a consequence the understanding of integration may be very different from other organizational perspectives. Different policy sectors are built and maintained around the concerns of specific policy communities, and an attempt to join them up might prove a significant challenge (Lambert, 2006). In terms of planning policy, the social and economic conditions of different localities as well as the local politics of spatial development can also contribute to the slow progression of joining-up.

In terms of risks and costs, the 'Wiring It Up' report produced by the Cabinet Office (2000) identified numerous potential costs, including: blurred lines of accountability for policy and service delivery; greater difficulty in measuring effectiveness and impact, because of the need to develop and maintain more sophisticated performance measurement systems; direct and opportunity costs of management and staff time spent establishing and sustaining cross-cutting working arrangements; and organizational and transitional costs of introducing cross-cutting approaches and structures.

Continuous Improvement

The last three elements suggested in 'Professional Policy Making for the Twenty First Century' (Cabinet Office, 1999b) – review, evaluation and learning lessons – all fit under the umbrella of continuous improvement. These elements are concerned with broad understandings of whether a policy would, is, or has worked as well as how policies can be improved in light of knowledge and evidence.

Policy review is a mechanism that can help address unanticipated circumstances and emerging issues as well as facilitate important policy adjustments, even when policy is performing well (Swanson et al., 2010). The term policy review, however, covers a large variety of studies (Powell and Maynard, 2007), and researchers suggest that there are three basic, but important, dimensions that help to understand and explore such diversity (Powell and Maynard, 2007). The first dimension tackles the question of who initiates and conducts the review process, which is important as it relates to the issue of stakeholders' involvement and complex problems of inclusiveness. An understanding of who is involved may provide an indication of the outcome of the review, that is, internal reviews are more likely to produce relatively predictable conclusions compared with external reviews. The second dimension revolves around the temporal question at which stage of the policy cycle the review process takes place. Here, there is a broad differentiation between review *for* policy and review *of* policy, where review for policy focuses on the problems that need to be solved and is undertaken throughout the policy making process, while review of policy focuses on the analysis of established policies, and

thus refers to a process after implementation. The last dimension relates to the type of evidence to be used in the review process.

Evaluation also plays a critical part within the political system, as evaluation not only allows an understanding of whether policies work, but it also allows the public to see that they do work, facilitating both public and internal accountabilities. Walker and Duncan (2007) argue that the evaluation procedures plays a bigger role in the policy process, suggesting that evaluative processes require policymakers to; be specific about policy objectives, assign priorities to objectives, articulate a theory of change (cause and effect) and consider possible unintended consequences, which enhances policy making. Furthermore, evaluation, through the examination of competing alternatives and cost benefit analysis, can contribute to effective resource allocation (Walker and Duncan, 2007).

Similar to the temporal dimensions of policy review, research differentiates between formative and summative evaluation, where formative evaluation occurs at different stages of the policy cycle, while summative evaluation takes place at the impact stage, with the aim of examining the degree to which the policy has impacted on the problems it was created to address (Powell and Maynard, 2007, Spicker, 2006). There are different types of evaluation aimed at addressing different questions and suiting different tasks. Walker (2004) differentiates between these evaluative approaches based on the nature and timing of the evaluative question being asked. Table 5 shows this categorisation and illustrates the complex relationship between policy and evaluation while depicting the role of evaluation at different stages of the policy process.

Table 5: Evaluation types (Source: Walker, 2004).

Time perspective	Evaluation question	Illustrative evaluation method (s)	Counterpart formative evaluation question	Illustrative formative evaluation approaches
Extensive past	What worked?	Meta-analysis Systematic review	How did it work?	Systematic review
Past	Did the policy work?	Retrospective evaluation	How did it work/not work?	Retrospective interviews Participative judgment Retrospective case study
Present	Is this policy working?	Monitoring <ul style="list-style-type: none"> • Interrupted time series • Natural experiments 	How is it working/not working?	Process study Implementation evaluation Ethnography
Present to future	Is there a problem?	Basic research Policy analysis	What is the problem?	Basic research Rapid reconnaissance

Close future	Can we make this policy work?	Prototypes Micro-simulation	How can we make this policy work?	Theory of change Participative research Action research
Future	Will this policy work?	Program evaluation (impact or summative evaluation) <ul style="list-style-type: none"> • Random assignment • Matched designs • Cohort designs • Statistical controls 	How will it work/not work?	Theory of change Laboratory evaluation
Expansive future	What policy would work?	Prospective evaluation <ul style="list-style-type: none"> • Micro simulation • Laboratory experimentation • Gaming 	How would it work?	Laboratory evaluation Delphi consultation Gaming

In terms of learning, the New Labour British Government that took office in 1997 understood that the process of policy making could be improved by ‘learning from experience...[by seeing] policy making as a continuous, learning process, not a series of one-off initiatives” (Cabinet Office, 1999a; pg. 17). However, as suggested by Hudson (2007), the ‘learning lessons’ process is poorly defined and it depends on the review and evaluative processes, for evaluation and review provide evidence about specific policies that can be learned by policy makers. Research also suggest that because the process of policy learning is time consuming and intellectually challenging, policymakers rarely engage in a genuine learning process (Frantz and Sato, 2005).

The process of policy learning occurs when individuals or organizations assimilate new information and apply it to subsequent policy decisions, therefore learning is recognised to have occurred when policy changes as a result of a learning process (Busenberg, 2001, Hall, 1993). Researcher also distinguish between different types (Johnson, 1998) and levels (Hall, 1993) of learning, which explain different ways that evaluative evidence is utilised and the magnitudes of policy change. Hudson (2007; pg. 210) does emphasise however that the learning process has to be conceptualised as a “continual learning process rather than the periodic input of lessons”, and it should be an open and participatory process that encourages experimentation and is tolerant to failures and dead ends.

Despite the benefits of a continuous improvement process, there are a number of barriers to the establishment of effective evaluative and learning procedures, and timing is one of the greatest barriers to both. On the one hand, timetables of research and policy seldom coincide, which does not always make the evaluative process feasible as politicians cannot afford to wait for the results of evaluations (Walker, 2000, 2004). On the other hand, policymakers, more often than not, lack sufficient time to undergo a meaningful learning process (Frantz and Sato, 2005, Kemp and Weehuizen, 2005). Furthermore, Walker (2004) argues that issues related to the power of politicians,

complexity of governmental structures, policy amnesia and policy characteristics can pose significant barriers for policy evaluation. Similarly, Kemp and Weehuizen (2005) point out that policy learning is hampered by a culture of risk aversion, pressures of uniformity, lack of policy evaluation and a tradition of secrecy within departments.

A process of continuous improvement is both important and difficult. It is difficult because it is time consuming and requires skills and considerable effort on the behalf of policymakers, which is not always available. On the other hand it is important as it facilitates a process of policy making that does not reward erroneous past decisions and is able to cope with complex and changing issues.

Conclusion

The field of public policy theory is characterised by multiple theories of the policy making process. Different dimensions, lens and stages are emphasised by particular theories, frameworks and models. Multi-theoretical approaches have emerged as an attempt to provide a more holistic description. Still, despite all that effort, all that can be agreed is that the literature on policy making and change is surrounded by controversies and contradictory findings (Wilson, 2001), where no single theory or framework is capable of addressing the policy process in its entirety (Cairney, 2007, Schlager and Blomquist, 1996). The reality is that policy making is extremely complex and varies from one jurisdiction to another, which may make it impossible to be explained by a 'universal' theory of the policy process. As a result, it seems that Meier's (2009) insights regarding public policy research will continue to flourish, where empirical researcher will continue to cheat, as they will continue to "pick the theory because it makes a nice frame for [their] empirical study and that theory allows [them] to sneak policy work into political science journals" (pg. 6).

The discussion above has highlighted the complexities involved in attempting to foster a 'modern', professional and adaptive policy making process. It is not an easy and straight forward task to develop policies under these prescriptive guidelines, however, the acknowledgement that these elements can contribute to better policy making needs to be made. It is also necessary to point out that policy making is not only about following the steps of a recipe book, rather, through different descriptions of the policy making process, it is apparent that policies are also the result of clever, opportunistic and sustained political actions.

Although this chapter presented two seemingly different approaches to the policy making process (descriptive and prescriptive), discussion about these representations has revealed that both approaches are in fact embedded in one another, where prescriptive and descriptive elements will be always present within each other. For instance, Politicians and politics will always play a role in even the most evidence-informed, forward-looking and inclusive processes, while essential plan-making competencies will certainly be present when different models describe how 'windows of opportunity'

are formed and acted upon, or how advocacy coalitions attempt to influence the policy making process.

Based on these reviews, the next chapter presents the analytical and conceptual framework that forms the back bone of this investigation. It not only visually showcases the roadmap of this research, but it also discusses the circumstances that shaped this inquiry, from aspiration to execution.

Chapter 3: Analytical and conceptual framework

Introduction

The review of urban agriculture, local food security and policy making literature has opened up a range of possibilities around the study of policy development and food system planning. In particular, it has highlighted that urban agriculture planning is more often than not a piecemeal process that seldom receives the attention it deserves and needs. It also suggested that the study of the policy making process is skewed towards the application of theories to the investigation of implemented policies. These realisations have paved the way to this investigation, and this chapter discusses the circumstances that have informed the analytical path undertaken, while presenting the conceptual framework that represents the backbone of this research.

A case for Food (Urban Agriculture) Policy on the Gold Coast

Australia is not renowned for its food policies. Despite its well know capacity to provide substantial amounts of food to the internal and external markets, the food system has largely travelled without any governmental intervention in terms of its planning. Historically, there have been a number of attempts at Federal and State levels to develop comprehensive food policies, but these have

essentially failed to deliver a sustainable pathway (Caraher et al., 2013). Failures have been attributed to a general lack of political support or on inherited biases that led food policies to favour powerful industries, agricultural interests and economic development, rather than social and environmental outcomes (Caraher et al., 2013).

The latest attempt to provide a national framework for food policy was initiated by the then Prime Minister Julia Gillard, who announced its development in 2010, and released the National Food Plan in May 2013. Since its release, and following the election of the new federal government led by Tony Abbott, the status of Australia's National Food Plan is unclear, and suggestions indicate that the new government intends to commission a new study – an Agriculture White Paper (Food Alliance, 2013). At a State level, Queensland, Western Australia and Tasmania have recently developed or revised their food oriented policies, however they tend to focus on the economic development of the food industry (Queensland and Western Australia), although Tasmania has attempted to provide solutions for its food insecurity (Ministry of Food and Agriculture, 2009, Queensland Government, 2011, Tasmanian Food Security Council, 2012). At the local government level, after conducting a thorough research of all Councils within Brisbane, Melbourne, Sydney, Adelaide and Perth metropolitan areas, no comprehensive food policy was found, rather, a piecemeal approach to food planning was observed, where sporadic strategic directions are embedded in a cumbersome and highly politicised environment (Pires, 2011).

On the Gold Coast, food policy making has never been attempted (as far as the author understands), but the town has a rich history of food production prior to its urban expansion after the 1960s. Since then, the city has experienced a shift in its food system – from producer to consumer. As a result, up to 95% of the fresh food currently being consumed on the Gold Coast comes from somewhere else (AECOM, 2011b), mainly the Brisbane Central Markets at Rocklea, which source produce from all over Australia and the globe. It has also been suggested that over six percent of the Gold Coast population might be food insecure (Pollard et al., 2009), and this trend might be on the rise, due to climate change, peak oil, and demographic changes.

The City of Gold Coast could also have its food security threatened by climatic changes, peak oil and local demographics as discussed in Chapter 1. The Gold Coast only produces a miniscule amount of its food requirements, being very vulnerable to global disturbances to the food production and distribution networks, which are likely to be impacted severely by changes in climatic conditions in the near future as well as an increase in oil prices driven by 'peak oil' (Gregory et al., 2005, Heinberg and Bomford, 2009, Maunsell Australia, 2007, Newman, 2007, Padgham, 2009). Demographically, a rapidly growing population adds pressure to the supply and distribution networks, while also

potentially aggravating other social factors that may impact on food security, such as the levels of disadvantage, unemployment rates, housing affordability and aging.

This scenario provides a great opportunity for the City of Gold Coast to take some control over its food, and this research intended to start this dialogue. The development of a comprehensive urban agriculture (or food) strategy for the City of Gold Coast is seen as an avenue to allow Gold Coast residents to take ownership of their food, while providing mechanisms for a safe, sustainable and local food industry, that will create jobs, preserve the environment and build communities.

Policy Development Process

The literature on urban agriculture, food security and policy making theories have paved the way to the development of an urban agriculture policy/strategy for the City of Gold Coast. However, policy development is a task usually undertaken by public decision makers, or by institutions commissioned by a government. In that sense, in order to complete this task in a realistic manner, a partnership with the Gold Coast City Council was sought.

At the time of conception of this research, the Gold Coast City Council had recently released its Climate Change Strategy (GCCC, 2009a), indicating within it its intention to increase local food production and purchase. Action 33 of the Gold Coast Climate Change Strategy (GCCC, 2009a, pg. 15), confirms such intention by requiring the development of “a scoping study for local food production and purchase on the Gold Coast”. In addition, as a key performance indicator, Council intended to measure and improve the “percentage of locally grown food available to the Gold Coast community”. This political intention provided the missing link to forge a partnership with Gold Coast City Council and a good starting point for the development of an urban agriculture strategy.

At this stage, the envisioned research would test both prescriptive and descriptive theories of policy making through the development, in partnership with Council, of an urban agriculture or food policy for the City of Gold Coast. In this regard, although the area of the policy would sit under urban agriculture or food, it was foreseen that the specific focus/content of the document would be determined in consultation with council, and would provide a realistic solution to current and anticipated problems. Prescriptive theories of policy making would be put to test throughout the development of the strategic document itself. This would be done by attempting to apply all elements presented in the ‘Professional Policy Making for the Twenty First Century’ (Cabinet Office, 1999b). Descriptive theories on the other hand, would be tested through an understanding of the political background that would surround the policy development process, from its inceptions through to its approval and release.

In order to be able to test descriptive theories of this policy process it was understood that the researcher would need to be fully accepted by political actors and decision makers, and that it would only be possible by actually working with Gold Coast Council in one of their branches. A formal process to develop and cement a partnership between Griffith University and the Gold Coast City Council was initiated in September 2010. At this stage, researcher contacted two council officers who were responsible for the delivery of Action 33 of the Climate Change Strategy and presented a proposed research and partnership intent.

In October 2010, a meeting with the two responsible Council officers was arranged, in which a project proposal was presented and discussed, which enumerated what was required by Council in this partnership, including:

- To proactively engage and support the research process;
- To provide technical assistance (e.g. GIS maps) if required; and
- To involve the researcher in one or more of Council's strategic planning projects through a work-experience position, this would allow the researcher to fully understand the practice and culture of policy making currently established at the Gold Coast City Council.

At the end of the meeting, it was agreed that the two Council officers would take the research proposal to Council for approval, whereas the researcher would need to finalise this partnership with Griffith University and its Ethical Department.

On the 26th of October 2010, the researcher received the following e-mail, confirming Council's intent to forge this policy making partnership:

"I have spoken to my management and they are generally supportive of having you come in to Council to undertake your work. Once you have things rolling on your end give me a call and we can start working out the logistics (insurance/computer/no days etc.)."

On the 14th of February 2011, after successfully obtaining ethical approval for this research, a new meeting with Council officers was organized in order to finalize the partnership. In that meeting, it was made clear by Council officers that they required a formal research proposal for its final approval. This research proposal was sent on the 28th of February.

On the 4th of March, researcher was informed that this research approval would be delayed because "we are really busy at the moment with the last push to finish the draft Planning Scheme". Subsequently, after a long delay, on the 25th of March 2011 the following statement was sent:

"In relation to the research proposal, we have recently had a process change in regards to research partnerships, which is not great timing. We are now required to go before Council for all research partnerships. We were planning to go to Council with a research partnership request on behalf of

this project, however Council have just recently slashed the budget for this work and it has been totally removed for next financial year, unfortunately urban agriculture has not been widely embraced as a priority issue with the political arm of GCCC."

Following this statement, other attempts were made to try and forge a partnership, but the calling of the Mayoral election in early 2012 suppressed all hopes. Unfortunately, there was not enough time to start a new research project, and 'plan B' had to be put into practice. The only available and feasible option to continue this research was to develop the strategy without Council support or input, through the application of prescriptive theories of policy making.

A compromise was made regarding the assessment of descriptive theories of the policy making process. The partnership with City of Gold Coast was paramount to gain an understanding of the politics surrounding policy making within Council, and would allow a critical reflection upon different theories of policy making and how these explain the peculiarities of the Gold Coast policy process. Council officers were still encouraged to play a significant role in this policy development process, however they would have the role of assessor and evaluator rather than developer. This new stand point would still provide the research with data regarding the politics of policy making, but not as complete as if the researcher was actively engaged with political actors.

The lack of support from Gold Coast City Council meant that the development of the strategy would not follow 'normal Council procedures', but it would be purely guided by prescriptive theories of policy making (i.e. Professional Policy Making for the Twenty First Century). In this regard, it was difficult to evaluate what aspects of urban agriculture policy should be emphasised or prioritized. The approach to develop an urban agriculture policy as comprehensively as possible was therefore taken, and was seen as a way of presenting a full range of possibilities that council could implement if it deemed necessary and politically feasible.

In order to include as much as possible to what was prescribed by the 'Professional Policy Making for the Twenty First Century' the following activities were conducted in the development of the Gold Coast Urban Agriculture Strategy:

- Reviewing existing and emerging Planning Scheme and other policy constraints on urban agriculture (documentary analysis);
- Understanding the needs, priorities, aspirations and difficulties of urban agriculture stakeholders on the Gold Coast (semi-structured interviews).
- Reviewing existing urban agriculture policies found elsewhere in Australia and overseas (documentary analysis); and

- Evaluating the content and implementability of the proposed policy by urban agriculture stakeholders and Gold Coast Council officers (questionnaire and focus groups).

Policy Evaluation and Reflection

An important component of this policy development and theory testing research refers to the formative evaluation of the proposed Gold Coast Urban Agriculture Strategy by urban agriculture stakeholders and Gold Coast Council officers. Formative evaluation is a process that takes place while the policy is still in its development cycle, which studies the operationalization and implementation of policy, and makes an assessment of its emerging quality (Leroy and Crabbe, 2008). This evaluation technique aims to formulate recommendations on the basis of which the policy can be improved. Simply put, formative evaluation is a “disciplined approach to ensuring that a programme is well constructed” (Duignan, 2003; pg. 85). The approach aims to reveal divergences that might exist between the document and the practice, through the identification of strengths and weakness, elucidation of bottlenecks and opportunities, and suggestions for content improvement and better implementation (Leroy and Crabbe, 2008). This systemic approach to evaluation stems from the awareness of the complex relationship between knowledge creation and the diversity of actors involved in the process (Molas-Gallart and Davies, 2006).

Formative evaluation was originally intended to satisfy the need of policy makers, but it is increasingly assuming a participatory shape. It has been suggested that inclusionary and participative evaluations bring practical benefits while enhancing professional capacity (European Commission, 2003). In this sense, stakeholders play an active role in policy evaluation, while the researcher is in charge of involving a variety of actors in the study (Leroy and Crabbe, 2008). Like other forms of evaluation, both qualitative and quantitative forms of inquiry can be utilised, some common approaches are in-depth interviews, surveys (questionnaires) and focus groups (Fitzgerald and Davidson, 2005).

Formative evaluation of the proposed strategy was carried out on two distinct fronts. Firstly, all urban agriculture stakeholders involved in this research (twenty nine interviewees) were contacted and asked to complete a questionnaire after reading the proposed strategy. The questionnaire (Appendix 1) asked questions surrounding the applied theory of policy (i.e. the elements of professional policy making) as well as the content and implementability of the strategy. Secondly, a focus group exercise with five key Gold Coast Council officers that represented five different departments of Council (Environment and Climate Change, Economic Development, Parks, Waste and Community Services) was conducted. In this evaluative workshop Council officers were encouraged to debate not only the content, theory and implementability of the proposed strategy, but also the political ramifications that it would receive if formally presented to current political leaders.

These two evaluative exercises are of summative importance to the aims of this research – test theories of policy making. They provide an opportunity to critically reflect on the procedures proposed by both prescriptive and descriptive (to some extent) theories. Through the evaluation of policy content and its elements, critical reflections on the procedural nature of prescriptive theories of policy making would be possible, and analysis of policy implementability and political ramification will provide invaluable data to reflect upon descriptive theories of policy making.

Conceptual Framework

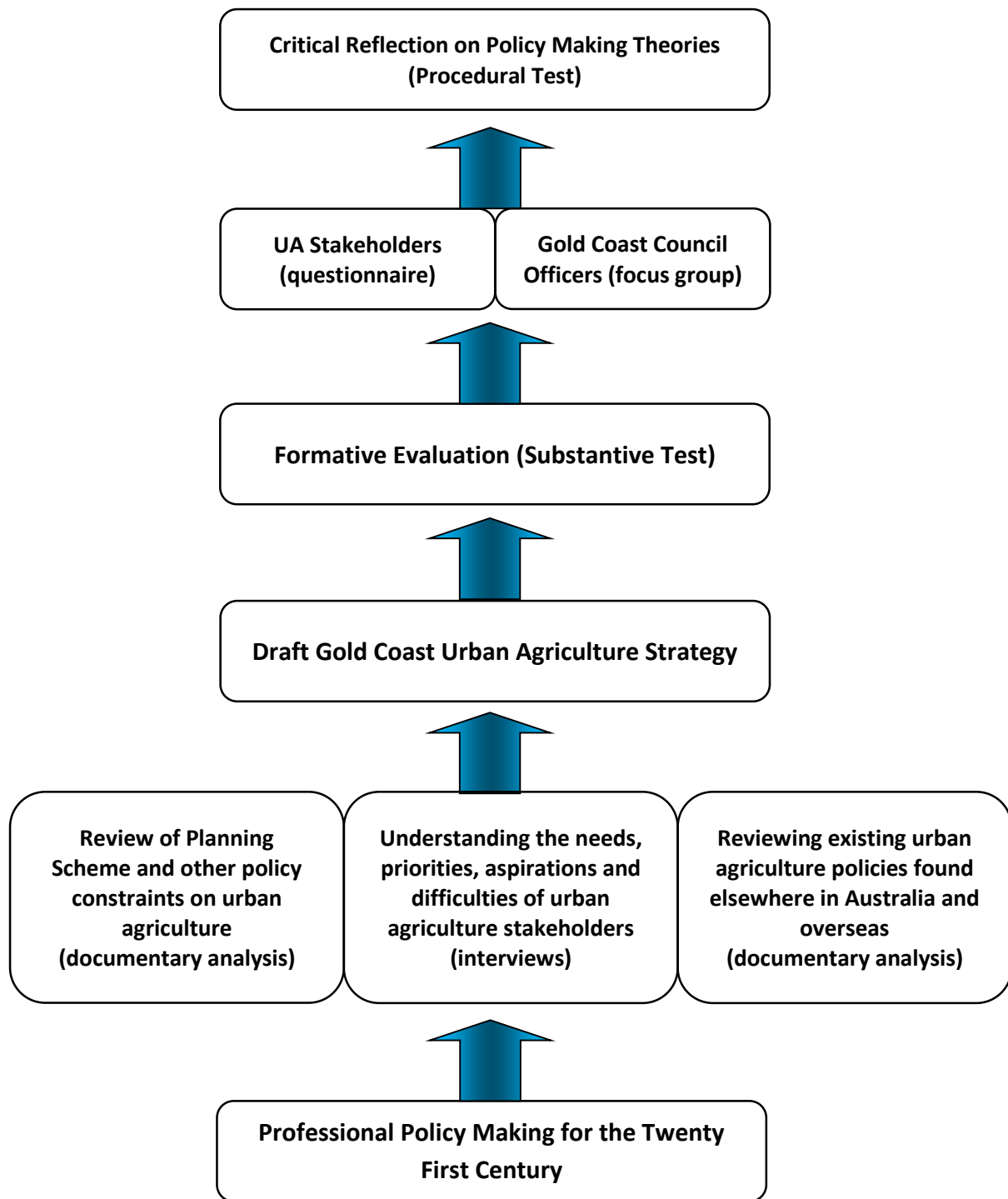


Figure 16: Conceptual framework of the research.

Conclusion

Research, just like life, does not necessarily follow an orderly path, and more often than not circumstantial adjustments have to be made. Fortunately, there was a very plausible and attainable 'Plan B' that allowed the realisation of this research without a major re-shuffle or delay.

Of particular importance is the fact that the City of Gold Coast, just like other major cities in Australia and overseas, should start thinking and acting on ways to improve their food security amid an unpredictable future plagued by climate change, peak oil, economic crises and demographic changes.

As previously discussed, research on policy making and urban agriculture has revealed a piecemeal approach to food policy development and a simplistic application of theoretical explanations. A novel approach to policy theory application has been proposed, one that attempts to not only put in practice, simultaneously, prescriptive and descriptive theories of policy making, but also to do so through the development of a strategic document, rather than through the study of an existing policy.

Although novel and noble, this approach was affected by the political circumstances surrounding Gold Coast City Council and the proposed partnership arrangement. An alternative strategy has been devised and put into practice, which provided enough data to thoroughly test prescriptive theories of policy making while providing some enlightenment towards the descriptive stance. Specifically, a substantive and procedural policy theory testing arrangement has been proposed and adopted, one that is embedded in different methods of data collection and sound planning.

Chapter 4 will elaborate further on the methodological aspects of this research and the peculiarities surrounding each step of the conceptual framework.

Chapter 4: Research Questions, Design and Methods

Introduction

The design and data collection methods employed were developed based on the current state of research on urban agriculture and policy making fields as well as the political and procedural

circumstances previously presented, to ensure the gathering of sufficient and high quality data that would enable a systematic response to all research questions. This chapter presents the objectives, aims and questions of this study, while also discussing the research design and strategy adopted to achieve its aims and to answer its research questions as comprehensively as possible.

Research Objectives and Questions

Research on agriculture and urban planning suggest that, generally, there is minimal formal support for urban food production land uses (Deelstra and Girardet, 2001, van Veenhuizen, 2006), while also indicating that planners often disregard the food system altogether when planning for developed cities (Pothukuchi and Kaufman, 2000). It is also evident that planning for urban agriculture follows a piecemeal, rather than a comprehensive approach. These suggestions echo affirmatively in Australia and specifically on the Gold Coast, where no urban agriculture policy exists and, at first sight, minimal effort is being devoted to account for this important facet of planning. Policy making research has also revealed two major gaps in theory testing. Firstly, theory is almost exclusively applied to the study of existing and implemented policies and not throughout its development, and secondly, rarely (if at all) are different stances (i.e. prescriptive and descriptive) of the policy process combined to provide a truly comprehensive analysis of policy making.

Based on these findings, the main research question asks how different theories of policy making can be applied and tested through the development of an urban agriculture strategy for the City of Gold Coast, which is in its infancy regarding urban food production. From both fields of study (i.e. urban agriculture and policy making), it is understood that this can be achieved through: including as many elements of 'Professional Policy Making for the Twenty First Century' as possible; understanding the difficulties imposed by the local planning system; examining the perceptions and needs of stakeholders; drawing upon foreign examples; and thoroughly evaluating the proposed policy with regards to its theory, content and implementability. In addition, the process would be enriched by gathering evidence of the political background surrounding this policy development process.

Thus, this research has a number of objectives, including:

- i) To apply both prescriptive and descriptive (to a limited extend) policy making theory to the development of an urban agriculture strategy for the City of Gold Coast;
- ii) To understand and elucidate how the statutory planning system and other regulatory regimes operated within the City of Gold Coast support and/or restrict urban agricultural practices;
- iii) To identify direct and indirect urban agriculture stakeholders, and understand their needs, priorities, difficulties and desires;

- iv) To explore, analyse and synthesize local and foreign policies that deal with urban agricultural practices, and evaluate how they can inform urban agriculture policy making on the Gold Coast;
- v) To develop an urban agriculture strategy for the City of Gold Coast based on information gathered from local stakeholders, foreign policies and literature;
- vi) To formatively evaluate the proposed strategy in terms of its theory, content and implementability;
- vii) To critically reflect upon theories of policy making and their application to policy development.

These objectives and problem statements have led to a set of six research questions, including:

1. How do the statutory planning system and other regulatory regimes operating in the City of Gold Coast support or restrict urban agricultural practices?
2. Who are the direct and indirect stakeholders within the Gold Coast region? What are their needs, priorities, difficulties and desires when putting into practice urban agricultural activities on the Gold Coast?
3. What examples of urban agriculture policy exist in Australia and overseas at the local government level? What lessons can be learned from these policies?
4. To what extent can the literature, lessons from policies, and stakeholder information regarding their perceptions, needs and difficulties be incorporated in to the development of an urban agriculture policy for the Gold Coast?
5. How does the developed policy fare in terms of its theory, content and implementability? Could it be improved and if so, how?
6. How have theories of policy making fared in developing an urban agriculture policy for the Gold Coast? Could they be improved and if so, how?

Research Design

Research design is the logic that links the data to be collected and the conclusions to be made from the initial questions (Yin, 1984). Research design is more than a work plan that details what has to be done to complete the project (de Vaus, 2001), “the function of a research design is to ensure that the evidence obtained enables us to answer the initial question as unambiguously as possible”, consequently, when designing research it is paramount to ask: given these research questions what type of evidence is needed to answer them in a convincing way? (de Vaus, 2001: pg. 9). The purpose of research design is to reduce the ambiguity of research evidence and/or to provide the right kind of evidence to answer the stated questions.

An important element of research design refers to the definitions of concepts, as concepts do not have a fixed or correct meaning (de Vaus, 2001). For the purpose of this study three concepts need to be further defined – urban agriculture, policy and direct/indirect stakeholders. The concept of urban agriculture can be very wide ranging or quite restrictive, as explored in Chapter 1. In this study, urban agriculture follows the revised definition proposed by Mougeot (2001; pg. 10):

“UA is an industry located within (intra-urban) or the fringe (peri-urban) of a town, a city or a metropolis, which grows and raises, processes and distributes a diversity of food and non-food products, (re)-using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area.”

From this definition, urban agriculture is seen holistically, which not only involves the production of edible goods, but also considers the production of non-foodstuff (i.e. medicinal and ornamental plants), the processing, distribution and sale of these products as well as the reuse of organic waste and the supply of human and material resources.

Urban agriculture is understood as a cross cutting issue that involves a wide range of often disconnected actors, who should have a say in planning and development of urban agriculture policies and activities (Dubbeling and Merzthal, 2006, Mougeot, 2005a). Urban agriculture stakeholders not only refer to individuals, groups and organizations who are directly involved in urban agriculture activities including the production, processing, marketing, or distribution of food and disposal of food wastes within a city, but also refer to actors that do not directly participate in urban agriculture activities, but who might be affected or influence them. Examples of urban agriculture stakeholders are urban producers, consumers of urban produce and distributors of urban farm goods as well as landowners (including religious bodies, public and private owners), support organizations and public authorities.

As previously discussed, the term policy has a number of meanings and uses, and it does not have a universal definition. Chapter 2: Policy Making in Theory and Practice has explored some definitions of policy, concluding that different definitions may contribute to different explanations of the policy making process. For the purpose of this study, the adopted conceptual meaning of policy closely follows Fischer’s (1995; pg. 2) definition, which states that policy is “a political agreement on a course of action (or inaction) designed to resolve or mitigate problems”. Houghton (1987; pg. 180) adds by noting that “a policy, then, is something that concerns the public and assumes that there are wise and desirable outcomes that can be guaranteed”. In this sense, when searching for foreign examples, only political agreements at the local government level that clearly attempt to manage urban agricultural

practices in urban regions were explored, analysed and synthesized, while policies, programmes and practices that have not been adopted by governments were not considered.

Consideration has to be given to the fact that some published policies are not put into effect, while many unpublished documents are enforced and implemented. Although this scenario may limit the 'learning experience' obtained from only reviewing published policy examples, given that this study is not concerned in evaluating the extent of success or failure of these policies, but is interested in understanding what approaches have been taken by other jurisdictions to institutionalise and facilitate urban agricultural practices, this limitation will have a minor influence.

In terms of the aim of the study (to test theories of policy making through the development of an urban agriculture policy for the city of Gold Coast), urban agriculture policy is here defined as an agreement among stakeholders to a course of action designed to guide decision making to support and manage urban agriculture practices on the City of Gold Coast. Although a political agreement was sought, it was not realistic to expect that the finalised policy would have gone through the entire approval system prior to the end of this study.

Types of research design also need to be considered. Creswell (2009) identifies three types of design – qualitative, quantitative and mixed methods. The three approaches are not as distinct as they appear, and instead of representing dichotomies or polar opposites, they in fact represent points on a continuum. Nevertheless, differences do exist. Quantitative research is often employed as a means to objectively test hypotheses by examining the relationship between quantifiable variables through statistical analyses. Quantitative inquiry tests hypotheses deductively, builds in protection against biases, controls for alternative explanations and is able to generalize within known confidence levels and replicate the findings. Qualitative research is a means for exploring and understanding social problems and situations, through a process of inquiry that involves data being collected through questions and specific procedures. The engagement in qualitative research assumes an inductive approach to theory and hypothesis testing, a focus on individual meanings, and the importance of exposing complex situations. Mixed methods is an approach that uses both quantitative and qualitative forms of inquiry in tandem, in the belief that this will increase the overall strength of the study (Creswell, 2009).

Based on the above distinction, this research followed a qualitative form of inquiry. The qualitative approach has been chosen as it is considered to be the most appropriate to answer the proposed research questions, which are embedded in the social realm of the City of Gold Coast, and require the exploration of opinions, feelings and perceptions. This research also analysed policy documents developed in Australia and overseas, but, it was not interested in the number of policies found, or any quantitative pattern that can be explored by combining these policies. Rather, the research attempted

to gain social, political and environmental lessons on a case by case basis. In summary, the reasons for choosing a qualitative form of inquiry were: i) the study aimed to develop a policy that intervenes in a perceived social problem or situation; ii) there were no quantifiable variables of interest that could be statistically analysed; and iii) there was not a theory to be statistically tested.

Research Strategy

Different research strategies are found within a qualitative form of inquiry. Tesch (1990) identified 28 approaches, while Wolcott (2001) has indicated the existence of 19 strategies. More specifically, Creswell (1998, 2009) discusses five of the most popular strategies – what he calls the ‘five traditions’ of qualitative studies, - which include biographical life history or narratives, phenomenology, grounded theory, ethnography and case study. Very briefly, in narrative research the object of study is the lives of individuals, which the researcher retells through a chronological narrative. Phenomenological research relies on not one, but several individuals to describe human experiences about a phenomenon. Grounded theory aims to generate or discover a theory of a process, action or interaction based on the views of participants. Ethnography is a description and an interpretation of a cultural or social group that has been studied in a natural setting over a prolonged period of time. And, case studies (which can also be used to frame quantitative inquiries) offer an exploration of a program, event, activity, process, organization, or one or more individuals through in-depth data collection methods involving multiple sources of information rich in context (Creswell, 1998, 2009).

Through an exploration of these five traditions and other strategies, such as action research, and by analysing the peculiar advantages and disadvantages of each strategy against the three important conditions elucidated by Yin (2003) – 1) the type of research question; 2) the control an investigator has over actual behavioural events; and 3) the focus on contemporary as opposed to historical events, it is clear that the most appropriate qualitative research strategy to systematically answer the research questions is case study – although some elements of action research might also be illuminating.

The case study strategy, generally, is the preferred framework to answering ‘how’ and ‘why’ questions and these questions follow from some ‘what’ questions, when the researcher has little control over events and when the focus is on contemporary situations within a real-life context (Yin, 2003). This research fulfils all three conditions proposed by Yin (2003), that is, most of the questions being asked are of ‘how’ types which often followed from some exploratory ‘what’ questions. The researcher had little control over urban agricultural practices, the involvements of stakeholders and the restrictions imposed by the planning regime, and it is a contemporary situation rich in contextual elements.

Within the case study strategy, there are several appropriate designs including exploratory, explanatory and descriptive case studies (Berg, 2001, Yin, 2003). Within an exploratory framework, fieldwork and data collection often take place before research questions have been defined, and as

the name suggests, exploratory case studies are often seen as a pilot study to a more comprehensive investigation. Explanatory case studies are conducted when causal relationships are envisaged, and they are framed with a proposition to analyse different pieces of information in accordance to some theoretical proposition. Descriptive case studies are framed around a descriptive theory, which establishes the structure that the researcher will follow throughout the study. Such descriptive theory is not necessarily a 'grand theory' of policy making, but rather a theoretical framework that guides the research. From this, exploratory and explanatory types of case study were seen as unfit for this research as the aim of the study was not to conduct a pilot investigation or to test a causal relationship. Rather, a descriptive case study was employed, and was structured around the development of a multistakeholder urban agriculture strategy for the City of Gold Coast.

An essential component of case study strategies is the development of a study proposition (Yin, 2009) that directs the attention to something that needs to be examined. Even though previous chapters have framed the problem, its significance and the purpose of this study, descriptive case studies benefit immensely from the development of a theoretical framework to guide data collection and analysis (Yin, 2003). Such theory is not necessarily the grand theory of social sciences, but a blue print of the study that tells a hypothetical story of how and "why acts, events, structures, and thoughts occur" (Sutton and Staw, 1995, pg. 378, cited in Yin 2009). A diagrammatical representation of this theoretical framework for the study can be seen in Figure 17.

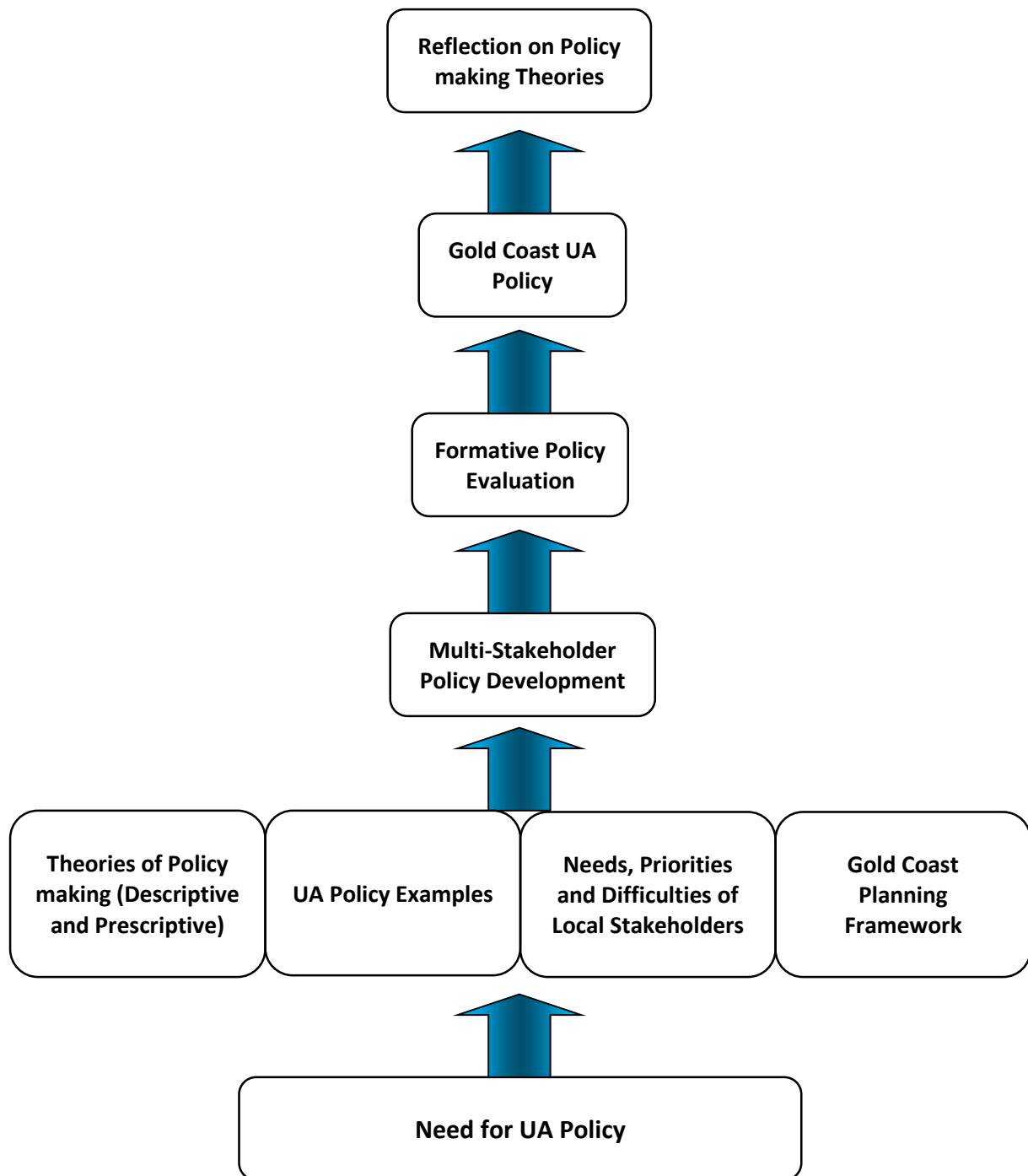


Figure 17: Theoretical representation of the research.

Research Methods

The case study strategy allows researcher to understand complex social situations while retaining the holistic and meaningful characteristics of real life events. The strategy relies heavily on multiple sources of evidence, with data triangulation being essential. Dooley (2002) adds emphasis by pointing out that one of the major strengths of the case study strategy is its ability to use multiple sources and techniques of gathering evidence. In fact, case studies can use both qualitative and quantitative forms

of inquiry, while permitting the use of different data collection methods such as interviews, document analysis and direct/participant observations (Burns, 2000, Dooley, 2002, Yin, 2003).

A multi-method approach to evidence gathering has been chosen as a mechanism to strengthen the triangulation of the results, to ensure the internal validity of the investigation and to produce a holistic study. The methods chosen in this investigation include literature review, document analysis, participatory observation, questionnaires, semi-structure interviews and focus groups (Figure 18).

Literature Review

Two distinct fields of research have been reviewed systematically – urban agriculture and policy making. Firstly, with regards to the literature on urban agriculture, there are no specialised journals that deal specifically with this issue. Consequently, the search for urban agriculture literature concentrated on research databases and search engines like Google Scholar, Google and the Griffith University's library catalogue. The main research databases used were Science Direct, Springerlink, ISI Web of Knowledge, ProQuest, Sage Publications, Informaworld and IngentaConnect. In terms of literature search through search engines, a number of key words were used, including 'urban agriculture', 'urban agriculture and policy making', 'urban agriculture and developed countries', 'urban food production', 'growing food in cities', 'urban farming' and 'urban planning and agriculture'. Given that urban agriculture literature is not mainstream, references were also obtained from major urban agriculture organizations such as the Resource Centres for Urban Agriculture and Food Security (RUAF Foundation) and the International Development Research Centre (IDRC).

The literature search on policy making also utilised the databases above, however, as there are specialised journals on the theory of policy making, these were individually searched. These journals included Public Policy and Administration, Policy & Politics, Journal of Public Policy, Journal of Public Administration Research and Theory, Journal of European Public Policy and Policy Studies Journal, which are among the most prominent journals in the policy making field. Similarly, key words such as 'public policy making', 'policy making theory', 'policy making and planning', 'policy making and food policy' and 'policy making in Australia' were used in the various search engines.

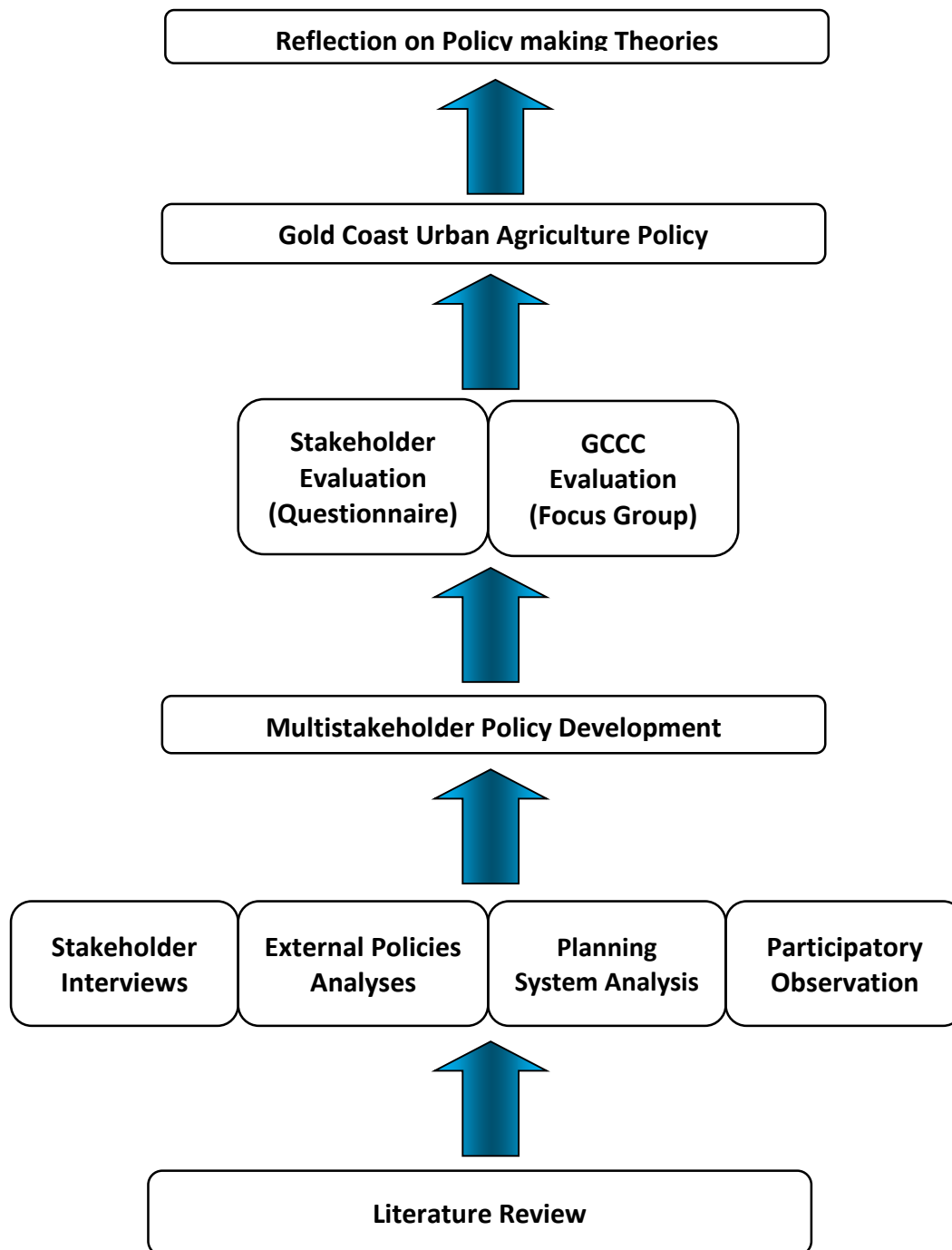


Figure 18: Research methods and their relation to the research objective.

Importantly, a significant amount of research articles and other publications was gathered through the reference lists of the retrieved journal articles, reports, books and manuscripts, which helped to distinguish the most important articles and authors in the field. Also, the literature on research design, strategy and methods was mainly searched and obtained through Griffith University's library catalogue, where areas such as research design, qualitative methods, case studies and policy evaluation were focused.

The resulting literature has been examined and analysed, and all pertinent records were stored into an EndNote library database. These have been broadly classified into Methods, Policy Making and Urban Agriculture, and then sub-classified into more specific sub groups such as Evidence-Based Policy Making, Formative Evaluation and Urban Agriculture Benefits & Risks.

Document Analysis

Almost all case studies find the need to examine documentary information (Stake, 1995). This type of evidence can take many forms, varying from letters and e-mails to formal studies and legislations. Within case study strategies, documents play an important role of corroborating and augmenting evidence from other sources, and as such they play an important role in data collection (Yin, 2009).

Two distinct document examinations were carried out. Firstly, an examination of the current planning system and other policy areas that operates in the Gold Coast and how they affect urban agricultural land uses was undertaken. This was a necessary first step as urban planning is not only renowned for a lack of supportive measures regarding urban agriculture, but it is also notorious for a number of prohibitive policies and by-laws that directly or indirectly impact food production, distribution, recycling and marketing in cities. In order to successfully plan for urban agriculture, an in depth review of all planning ordinances is strongly recommended by researcher and practitioners (Broadway, 2009, De Zeeuw et al., 2001, Petts, 2003).

In conducting an in-depth review of the planning system and relevant ordinances that operate in the Gold Coast, a number of documents were analysed in light of how they promote and support activities related to urban agriculture as well as to how they hinder or suppress these activities, even if unintentionally. Policies at the state and federal levels were also analysed to certify that these were not responsible for possible hindrances to an urban agriculture industry on the Gold Coast.

A fundamental part of the research project was the examination of policy examples from elsewhere that could be used to enrich and help frame the development of an urban agriculture strategy for the City of Gold Coast. The process of utilizing policies from other jurisdictions is not new, and it is debated in detail in the current literature. In particular, the literature defines it as “the process by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system” (Dolowitz and Marsh, 2000; pg. 5). There are many benefits from drawing lessons from policies developed elsewhere, some of which include the ability to see it in practice, learn from mistakes and improve upon them, identify real operational data (e.g. costs and unintended consequences), contribute to innovation, and, of particular importance to this study, it can be used to shortcut an otherwise lengthy policy formulation process (Common, 2004, Page and Mark-Lawson, 2007, Rose, 1991, Schneider and Ingram, 1988).

The documentary analysis looked at different governmental policies, programmes and strategies at regional and local levels within Australia and overseas. The criteria for choosing strategic documents were underpinned by the research design that focused on the development of an urban agriculture policy at the local government level. Consequently, mainly documents that have been endorsed by local governments as policies, programmes and strategies that specifically deal with any urban agriculture-related land use were utilised. Given the vast amount of documents found, priority was given to those that came from developed countries, for such countries have more similarities with Australia than developing ones and are more likely to be relevant.

Participatory Observation

Observation is a useful mode of data collection that helps the researcher to gain a greater understanding of the case (Stake, 1995). Participatory observation is a particular mode of observation in which the investigator is not only a passive observer, but may also assume a variety of roles within the case study and may even take part in the events that are being studied (Yin, 2009). The main benefits of undertaking this method of evidence gathering is the ability to gain access to events and groups that would otherwise be difficult to explore, to be able to see the reality from the view-point of someone inside the case study rather than from outside and the opportunity to manipulate minor events, such as convening meetings (Yin, 2009).

Participatory observation was mainly applied in this study to understand the perceptions, needs and difficulties experienced by urban agriculture stakeholders, as such a number of community gardens, city farms and composting operations were visited and observations noted. In particular, the researcher was a member of the Broadbeach Community Garden for over a year and attended numerous gardening events while tending community oriented plots.

Through participatory observation, the researcher was able to take note of important issues raised by stakeholders during these visits. The aim of these observations was to experience and provide a first-hand understanding of the diversity of opinions among stakeholders in their 'natural' setting rather than in formal interview occasions. For ethical reasons, members of the community garden were informed that I was conducting research on the development of an urban agriculture policy, and in fact a number of them were later invited to participate in this research as interviewees and evaluators of the proposed strategy.

Questionnaires

Direct questioning is a predominant approach in social inquiry, and questionnaire is one of the most common tools employed (Hoyle et al., 2002). Questionnaires contain a series of pre-determined questions that can be administered by mail, through the web, asked by interviewers or self-administered (Burns, 2000). The use of questionnaires is based on the assumption that the

respondents are both willing and able to give truthful answers. Within questionnaires three main types of questions exist – closed, open and scale. Closed questions allow respondents to choose from two or more fixed alternatives, aiming to achieve uniformity and reliability of response. Open ended questions simply provide a frame of reference for the participant's answer, and no restrictions are imposed on either content or manner of reply. Open questions are flexible, allowing researcher to make a richer assessment of what respondents really believe, but are more difficult to analyse. Scale questions are a set of items to which responses indicate the degree of agreement/disagreement, providing nominal answers that can be subject to statistical analysis (Hoyle et al., 2002).

Questionnaires fit the research design at the later stages – the evaluation stage. Within a formative evaluation framework, one of the recommended approaches to evaluation refers to 'expert review' (Tessmer, 1993). "Expert review involves an expert reviewing a rough version of the [policy] to determine its strengths and weaknesses" (Tessmer, 1993; pg. 47), thus it is an intrinsic review of the content, accuracy and technical quality of the developed urban agriculture policy. The purpose of such an evaluation is to improve the quality of the developed policy, as experts are not only able to alert the researcher to what is wrong, but they are also able to suggest how to fix and improve it.

Given the aims of this study, in which policy making theories were tested through the development of an urban agriculture strategy, the review of the draft policy gave emphasis on the policy making aspects, rather than purely on the urban agriculture content, although these are intrinsically related. As a result, experienced policy-makers within the Gold Coast Council were invited to review the policy and provide valuable feedback.

In terms of the evaluative questionnaire, a mixed of open ended and scale questions were used (Appendix 1). This questionnaire was sent to all urban agriculture stakeholders as well as a number of expert policy makers within Gold Coast City Council. Questionnaires were sent by e-mail and were accompanied by the latest version of the draft Gold Coast Urban Agriculture Strategy. Stakeholders and experts were given a limited time frame of one month to provide comments.

Interviews

Interviews are one of the most important sources of information in case studies where humans and behavioural events are targeted (Yin, 2009). Different types of interview exist, ranging from very informal exchanges to very structured, ordered sets of questions. Among the many options, three broad categories are used to describe the nature of interviews. Briefly, the first type relates to structured interviews, which consist of well structured, often closed ended questions, delivered in a rigorous, unbiased form. At the other end of the spectrum, there are unstructured interviews, where the researcher uses 'natural' conversation to ask research questions (Gillham, 2000). Somewhere in

between lie semi-structured interviews, which are carried out based on a set of research questions, but flexibility exists to go beyond these questions and explore other pertinent issues as they emerge. Due to the detailed and specific nature of this inquiry and the understanding that each participant has unique experiences and views regarding urban agriculture, a choice was made to utilize semi-structured interviews to elucidate the needs, perceptions and difficulties of urban agriculture stakeholders. This approach was chosen because it is able to provide in depth knowledge of different responses and expectations (Teddlie and Yu, 2008), which is essential to the development of a multistakeholder policy. Additionally, the open ended nature of the questions was selected to allow the researcher to seek clarification and follow up on answers during the interview.

Kvale (1996) argues that due to the amount of data obtained through in-depth semi-structured interviews, between 15 and 25 people should be selected. In this research, a total of 29 urban agriculture stakeholders were located and interviewed, providing a wide-based representation that included: growers, retailers, processors, waste workers and planners. The number of interviews was mainly dictated through theoretical saturation, or to a stage when diminishing marginal return became clear. That is, after conducting a number of interviews, there was a significant decline in new information, and after twenty nine interviews it was understood that the theoretical saturation stage had been reached. The informants were selected purposively through a snowballing or chain sampling method with the aim of gaining maximum variation (Miles and Huberman, 1994, Teddlie and Yu, 2008). Such purposive sampling is justified as it is often employed when the aim is to find a sample that is rather specific and small, and when the focus is on the narrative rather than statistical representation (Teddlie and Yu, 2008).

The snowballing procedure started by interviewing a few known urban agriculture stakeholders in the Gold Coast community, these early informants were involved with food production, retail and waste management. At the end of each interview, these informants were asked whether they knew someone who should take part in this research. This process continued until theoretical saturation had been achieved. In order to conduct the interviews, written consent was obtained and a thorough explanation of the research project and its aims was given. It was made explicitly clear that the informants remained anonymous and that they had the authority to leave or withdraw their views at any time. A copy of the research findings was offered to all participants. Interviews were conducted in public places, like community gardens, Council offices, libraries, coffee shops or other similar public locations.

As mentioned above, interviewees participated in this research on the basis that their confidentiality would be protected. The author has therefore adopted the following typology of interviewees to attribute direct quotes and opinions to them:

- Urban farmer
- Regional farmer
- Farmers' market organizer
- School Principal
- Community gardener
- Community garden manager
- Waste processor
- Academic researcher
- Food related NGO manager

The interviews were voice recorded and promptly transcribed after each session. Both recorded and written copies were analysed using the qualitative data management program NVivo, which allows for large amounts of data to be stored and analysed. Analysis was carried out through coding processes whereby data was broken down into concepts and categories that were given specific names. The coding process started as soon as data gathering begun.

Focus Group

Focus group is a research technique that collects verbal data on a particular topic, determined by the researcher, through interactions among a group of participants (Millward, 2012). In this sense, focus groups have three essential components: it is a valid research method; it sources data through the interaction of participants; and, it requires an active role from the researcher to create a group discussion that generates valuable data (Morgan, 1996). The focus of a research group can be anything, ranging from concrete to abstract ideas.

Focus groups aim to encourage conversation among participants rather than conversation between the facilitator (researcher) and individual contributors. It is this participatory interaction that allows focus groups to generate a very different type of verbal data than one-to-one interviews (Morgan, 2010). It is said that the discussion within focus groups equates to more than the sum of separate individual interviews, and this arises from the fact that participants both question each other and explain themselves to each other as part of the process (Morgan, 1996). Such an interactive process, as suggested by Morgan and Krueger (1993), also provides interesting data regarding the degree of consensus and diversity within the group.

Focus group can be used as a standalone research method, or in combination with other approaches, depending on what the research plan seeks. In practice, focus group is often applied as a first step to developing a research hypothesis or a questionnaire, or to check the validity of conceptual models, or as a supplement to other more traditional methods, or to generate conversation that is worthy of analysis (Millward, 2012).

An important consideration when planning for focus groups is the number of participants, with some authors advocating for a group size of between six and eight (Wilkinson, 2003). There are a number of reasons for keeping group size as small as possible whilst maintaining the breadth of responses. Principally, large groups tend to be difficult to manage while allowing for free-riding and the creation of fragmentation through the formation of subgroups. Also, on the technical side, it might be difficult

to obtain a clear recording of the session, due to participants interacting simultaneously (Millward, 2012).

In this research a single focus group event was conducted with the sole purpose of evaluating the draft urban agriculture strategy in light of its policy making credentials, content and implementability. A total of six participants from the Gold Coast City Council participated in the focus group, while two researcher steered the conversations. This event took place at Griffith University and lasted for approximately two and a half hours, in which four different topics (discussion on key theoretical elements of the proposed strategy, content assessment, political assessment and implementation assessment) were presented and debated. It was sound recorded and promptly analysed.

Case Study Area

The Gold Coast City is situated on the east coast of Australia, at the south-east corner of the State of Queensland (Figure 19). It has a total area of 1333.6 km² and a population of just over 515,000, which gives a dispersed population of about 386 residents/km² (GCCC, 2009b). A major concern in terms of infrastructure, housing and food security is the pace at which the city is growing, which is far greater than the average for South East Queensland, Queensland and Australia. The Gold Coast is the fastest growing city in Australia, and the city has been growing by an average of 15,000 residents per year, or 3.4% (GCCC, 2005). Population projections suggest that the population will continue to grow at a rate of 13,000 – 14,000 people per year, and by the year 2021 it is expected that the City of Gold Coast will be home to over 700,000 residents (GCCC, 2005).



Figure 19: Location of the Gold Coast City within Australia (Source: http://www.jazclass.aust.com/blog/files/gold_coast.htm).

Table 6 shows the housing characteristics of the Gold Coast. The structure of household types shows that the Gold Coast has similar proportions of lone households compared to Australia and Queensland, but higher percentages of group households and lower proportions of family households. In addition, the Gold Coast has significantly lower percentages of detached houses than Queensland or Australia, while displaying considerably higher proportion of semi-detached houses and flats, units or apartments. Housing affordability is also a major issue, as the City of Gold Coast has higher median rent and housing loan repayments than both Queensland and Australia. These housing characteristics, coupled with future population growth, lower incomes and higher levels of disadvantage, may limit the opportunities of households to grow their own food (as detached houses are being exchanged for flats and units) while increasing food insecurity.

Table 6: Housing in the Gold Coast (Source: GCCC, 2007).

	Gold Coast	Queensland	Australia
Household Type			
Family Households (%)	62.7	67.1	67.4
Lone Person Households (%)	20.4	21.0	22.9
Group Household (%)	5.0	4.2	3.7
Housing Cost (occupied private dwellings)			
Median Rent (\$ weekly)	260	200	190
Median Housing Loan Repayment (\$ monthly)	1,480	1,300	1,300
Dwelling Type			
Separate House (%)	58.9	76.5	74.8
Semi-Detached, Row Terrace House (%)	16.6	7.5	9.2
Flat, Unit or Apartment (%)	22.5	13.0	14.2

Although Gold Coast City Council is often criticised in the press for their parochialism and short-sightedness (Burton, 2009a), the Council has embarked on a new programme of strategic planning for its future. The ‘Bold Future’ was established in 2007 as a visioning project to guide planning and for managing the future growth of the city. Its vision expands 30 years into the future, where the Gold Coast is seen as increasingly green, with increased vegetation cover within the city and a more localised lifestyle (Burton, 2009a). The ‘Bold Future’, through its statement of proposal, acknowledges that “parks and community land play a significant role in supporting the establishment of sustainable food initiatives like community gardens, to promote healthy food choices and food security”. As such, it suggests that “land-use planning will support local food production and encourage local markets”, which should be achieved by “consider[ing] the role of the planning scheme to support localised food production in both urban and rural areas” (GCCC, 2010; pgs. 20, 22 and 24).

In addition, the Gold Coast City Council has also developed and adopted a Climate Change Strategy (GCCC, 2009a; pg. 15) that has as one of its main strategic outcomes (Strategic Outcome 7) to measure and increase the “percentage of locally grown food available to the Gold Coast community”.

Ethical Consent

Ethical consent for conducting this research has been granted by the Ethical Research Committee of Griffith University (Ethics Protocol Number ENV/28/10/HREC).

This research project involved a number of data collection methods and each one has its own ethical implications. As part of this project, voice recorded interviews were conducted (approximately 1 hour) and promptly transcribed. Interviews were conducted in public places, like community gardens,

Council offices and libraries, or other similar public locations if necessary. Prior to conducting interviews, written consent was obtained. The written consent procedure included a written information sheet that made clear that the informant remained anonymous and that s/he had the authority to leave or withdraw their views at any time. In addition, a consent form was also attached to the written information sheet, and informants were asked to sign two copies, one to be retained by the researcher, and the other to be kept by the participant. Upon request, informants would be sent a copy of the research results.

The results of the research were also disseminated through journal articles in urban planning, conference participation as well as through the PhD thesis. In these publications, quotes were used to illustrate particular aspects of the policy or policy making process, but the participants remained anonymous.

Conclusion

The identified gaps in the urban agriculture and policy making literature have framed this research, culminating in a research project that seeks to test theories of policy making through the development of a comprehensive urban agriculture policy for the City of Gold Coast. In order to achieve this aim, a range of research objectives and questions have been formulated. These objectives and questions are closely related, and they provide a guiding plan to successfully realize the aim of this research.

With the intention of obtaining answers to this diverse set of research questions, close attention has been paid to research design and strategy. In this sense, a qualitative design has been chosen, which is based on a descriptive single case study. An advantage of a qualitative single case research strategy is the use of a whole gamut of data collection approaches. Consequently, in order to facilitate triangulation and strengthen the quality of the evidence, numerous data gathering strategies were employed, including: semi-structured interviews; documentary analysis; participatory observation; focus groups; and questionnaires.

The application of these strategies has enabled a systematically response to all research questions, and these results are presented on the following chapters. Specifically, the following chapter (Chapter 5) presents the results of these investigations and describes the process of developing the urban agriculture strategy for the City of Gold Coast. Further, Chapter 6 discusses the substantive and procedural evaluation of this policy development process and reflects upon the theories of policy making applied.

Chapter 5: Development the Gold Coast Urban Agriculture Strategy

Introduction

The development of the Gold Coast Urban Agriculture Strategy was a gradual progressive exercise involving numerous steps. First and foremost, it was necessary to understand how the current planning and policy framework applicable on the Gold Coast treated urban agriculture-related land uses and activities. Even though there was not an urban agriculture policy or strategy, there could have been other mechanisms that would allow, or perhaps not interfere, with proposed urban agricultural practices. Following this assessment, an in-depth search of local and international policy and strategic documents concerning urban agricultural practices was carried out. This provided a range of tried and tested options that could be considered when attempting to solve some of issues that emerged.

Local and regional urban agriculture stakeholders were also identified and interviewed. This process aimed at elucidating problems and opportunities through the eyes of local communities, as an attempt to understand what was taking place, how these stakeholders where being affected and more importantly, what they would like to see in a comprehensive urban agriculture strategy. All this information was synthesised and used to develop a draft Gold Coast Urban Agriculture Strategy.

This chapter aims to answer the following research question:

- How do the statutory planning system and other regulatory regimes operating in the City of Gold Coast support or restrict urban agricultural practices?
- Who are the direct and indirect stakeholders within the Gold Coast region? What are their needs, priorities, difficulties and desires when putting into practice urban agricultural activities on the Gold Coast?
- What examples of urban agriculture policy exist in Australia and overseas at the local government level? What lessons can be learned from these policies?
- To what extent can the literature, lessons from policies, and stakeholder information regarding their perceptions, needs and difficulties be incorporated in to the development of an urban agriculture policy for the Gold Coast?

The next sections of this chapter provide an account of the results obtained in each of these policy making steps, as well as a summary of the draft Gold Coast Urban Agriculture Strategy, its recommendations and proposed actions.

Help or Hindrance? The Relationship between Land Use Planning and Urban Agriculture on the Gold Coast

To construct a comprehensive picture of how urban agriculture is perceived within the land use planning framework that applies in the City of Gold Coast, relevant State, regional and local land use provisions have been reviewed, including:

- Queensland State Planning Policies;
- South East Queensland Regional Plan 2009-2031;
- Gold Coast Planning Scheme 2003;
- Gold Coast Planning Scheme Policies;
- Gold Coast City Council Corporate Plan 2009-2014; and
- Other relevant Gold Coast City Council local laws, strategies, plans and programs.

State and regional provisions, in addition to local planning documents, were included in this research in context of the hierarchical framework established under the *Sustainable Planning Act, 2009* (Figure 20), which stipulates that state and regional requirements must be accounted for, and if discrepancies exist, state and regional provisions should prevail when planning Queensland's cities (Queensland Government, 2009).

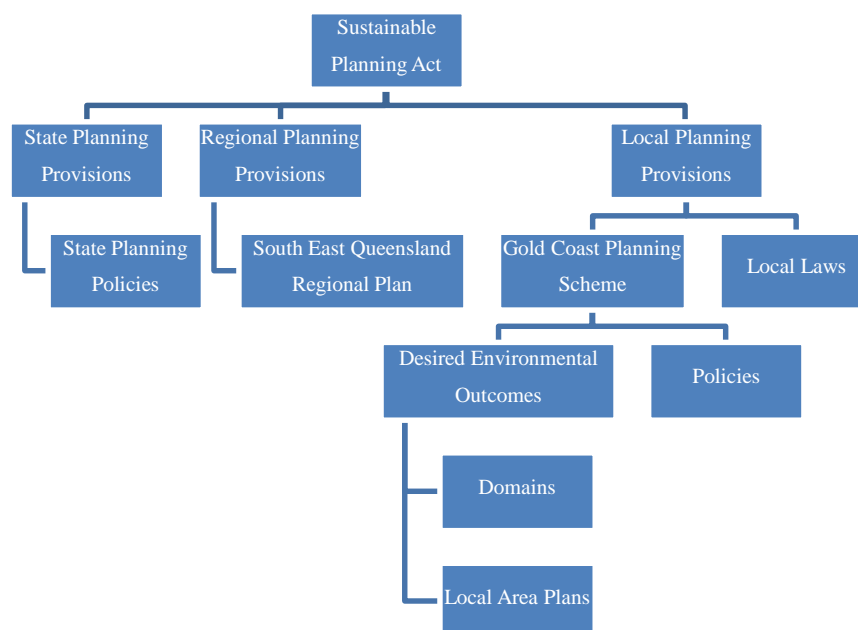


Figure 20: Conceptual diagram of the Gold Coast land use planning system.

Urban agriculture includes not only food production, but also food processing, marketing, distribution and resource recycle/reuse (Mougeot, 2001). Thus, there are numerous avenues for urban agricultural practices to be recognised in land use planning documents. To identify these opportunities in the context of the City of the Gold Coast, an analysis of the Gold Coast Planning Scheme Glossary took

place, revealing all formally recognised land uses that could relate to growing, harvesting, raising, processing, distributing and marketing urban produce as well as land uses related to food waste recycling and reuse.

These urban agriculture-related land uses were used to analyse the extent to which the current Gold Coast Planning Scheme (2003) and its associated policies restricted or encouraged urban agriculture developments. The analysis consisted of identifying these land uses, recognizing whether and where they were permissible, and classifying the level of restriction imposed on them - whether they were classified as exempt, self-assessable, code assessable or impact assessable development.

Documents that are not part of the local Planning Scheme were also analysed, and as these documents do not set out detailed regulations for specific parts of the city, the analysis focused on their content rather than the permissibility of a land use. A search for urban agriculture-related land uses and practices (e.g. farming, community gardening, composting, etc.) within these documents was carried out, and if an urban agriculture-related term was found, its content and implication for land use on the Gold Coast was analysed.

Urban Agriculture and Planning on the Gold Coast

State and Regional Provisions

The State of Queensland has the capacity to influence land use at the local level through state and regional provisions. These are seen as important to help Queensland to meet the challenges associated with managing growth, population change, economic development, protecting the environment and providing infrastructure. State Planning Policies and Regional Plans are of particular interest and have to be accounted for when considering applications for land use changes. However, none of the analysed State and regional planning documents had provisions relating to urban agriculture or its associated practices.

Gold Coast Planning Scheme 2003

In attempting to achieve ecological sustainability, the Gold Coast Planning Scheme is the overarching document for assessing land use change and other development proposals within the city, and the development approval process is guided by a set of Desired Environmental Outcomes. The Gold Coast Planning Scheme regulates land uses by dividing the city into land units that share a particular development character. These land units are grouped within Domains or Local Area Plans, which are used to classify the desirability of various land uses in specific parts of the city. To ensure that the planning scheme deals appropriately with matters of local planning detail, such as design standards, detailed Planning Scheme Policies have also been put in place.

Permissibility of Urban Agriculture-Related Land Uses

Based on the definitions of urban agriculture-related land uses, the Gold Coast Planning Scheme has been analysed regarding the extent to which various forms of urban agricultural practice are supported or hindered by its key elements, including its Desired Environmental Outcomes, Domain descriptions, Local Area Plans and Planning Scheme Policies.

From the one hundred and twelve land uses defined under the Gold Coast Planning Scheme (2003), only ten could have had some relationship to urban agriculture practices, including: Agriculture; Stall; Minor Aquaculture; Aquaculture; Market; Retail Plant Nursery; Animal Husbandry; Rural Industry; Community Purposes; and Bulk Garden Supply.

The analysis of the glossary of terms in the Gold Coast Planning Scheme revealed that the list of urban agriculture-related land uses is not extensive, suggesting that problems regarding urban agriculture practices may arise. For example, the land use defined under the term 'agriculture' makes no distinction between large, medium or small scale ventures. Consequently, if a small horticultural enterprise is proposed, it will trigger the same level of assessment as a large scale agricultural development, even though the risks and operations associated with each are substantially different. Similarly, if a household has surplus produce from fruit trees in their backyard and they wish to sell these in front of their property, it would be classified as a stall and be subject to a lengthy and costly land use approval and licensing process.

This analysis suggests that if urban agriculture is to be fostered on the Gold Coast, specific definitions would have to be developed and incorporated into the new Planning Scheme. For instance, the term 'agriculture' could be divided into different scales of agriculture (small, medium and large scale) with appropriate definition of each. In this way, the Planning Scheme would be able to permit some forms and scales of agriculture within higher density areas while excluding practices associated with larger scale operations, nuisance and pollution. In addition, terms such as 'composting station' and 'urban farmers' market could be introduced into the Planning Scheme as ways of expanding the opportunities for urban farmers and the community to exchange urban produce and close the waste loop, without being caught in complex and costly processes of land use regulation.

Desired Environmental Outcomes

Desired Environmental Outcomes (DEOs) provide the fundamental context for development assessment and other measures contained in the Planning Scheme, and therefore are a primary focus of the entire plan. A total of seventeen Desired Environmental Outcomes guide the development process on the Gold Coast, however, none of them recognise urban agriculture and hence do not, in principle, restrict or support these practices.






Domains

The term ‘Domain’ is used to identify land units with a common development character. Each domain identifies compatible and incompatible land uses, while providing specific information about development provisions for any proposed land use within a specific domain.

The ‘Table of Development’ is a fundamental part of every domain description, for it sets out the assessment requirements of land uses in the area covered by a domain. The table of development indicates that a development type may be classified as exempt, self-assessable, code assessable or impact assessable, which directly relates to its desirability and complexity. Thus, a land use that is identified as exempt, self-assessable or code assessable is generally a land use that is to be encouraged. Conversely, land uses that are classified as impact assessable, are either considered undesirable or are very complex in nature and require a much more detailed level of assessment. Any land use not listed in the table of development “should be considered as undesirable or inappropriate...[and] will be treated as impact assessable” (GCCC, 2003a: pg. 2). Therefore, there is a clear hierarchy of assessment processes which correlates with the scale and cost of the assessment task and implicitly with its relative desirability.

There are seventeen domains described in the Gold Coast Planning Scheme, with varying levels of relevance to urban agriculture-related land uses. Table 7 demonstrates the different domains and how tolerant they are of urban agriculture-related land uses.

Table 7 reveals that the only domain that accommodates all of the land uses associated with urban agricultural practices is the rural domain, indicating that urban agriculture-related land uses are only desirable in places where denser urban living is discouraged (i.e. rural and industrial areas). In fact, none of the domains designated to accommodate higher density living (i.e. detached dwelling, residential choice and tourist residential) allow for any urban agriculture-related land uses. This suggests that to foster urban agriculture practices on the Gold Coast, either the definitions of land uses have to be amended to allow for specific and small scale urban agriculture-related land uses, or domains need to recognise the benefits that urban agriculture can bring to areas that are not designated as rural or industrial.

Table 7: Permissibility of urban agriculture-related development within specific domains ( exempt;  self-assessable;  code assessable;  impact assessable development; and  development not included within the table of development).

	Agriculture	Stall	Minor Aquaculture	Aquaculture	Market	Retail Plant Nursery	Animal Husbandry	Rural Industry	Community Purposes	Bulk Garden Supply

Rural										
Park Living										
Village										
Detached Dwelling										
Residential Choice										
Tourist and Residential										
Integrated Business										
Local Business										
Fringe Business										
Industry 1										
Industry 2										
Extractive Industry										
Community Purposes										
Conservation										
Private Open Space										
Public Open Space										
Emerging Communities										

When looking at food production land uses (i.e. agriculture, animal husbandry, aquaculture and rural industry), they are also not described as desirable within the majority of domains. With the exception of agriculture (that is accepted under industry and conservation domains), all other food producing land uses are undesirable in more than 75% of all domains, hindering the ability of the Gold Coast to significantly increase its capacity for local food production, distribution and sale.

In terms of the level of assessment required by urban agriculture-related land uses, with the exception of agriculture in very specific domains, all other land uses require some level of assessment, most of which are code or impact assessable. This designation clearly signals that urban agriculture-related land uses are deemed to be relatively undesirable, for an application for impact assessable development is usually time consuming and costly, and serves in practice to discourage many, if not most, proposals.

With regards to defined domains, it is clear that the western part of the city is characterized mainly as rural, while the eastern side is acknowledged as a place of higher density urban living, which provides very limited opportunities for urban agriculture to flourish. Consequently, food production, which is allowed mainly in rural and park living domains, can only occur on the far western part of the city, where relatively few potential urban farmers and consumers inhabit.

The different scales and types of urban agricultural practices should grant it access to the denser and more urban parts of the city – especially at the small and micro scales. The domain analysis confirms that there are opportunities within the current layout of the city to take agriculture into higher density areas. One such opportunity could be the allocation of a proportion of the land parcels classified as open spaces, which are found throughout the city, to urban agricultural uses. Activities such as small scale food production and retailing, or composting could take place in these land parcels without compromising their primary function or the overall structure of the city. Smit and Nasr (1992) and De Zeeuw (2004) note that urban agriculture can successfully take place on public lands through the formal or informal use of idle public spaces such as parks, along roads, land reserved for future uses or on ‘semi-public’ land such as school fields and the grounds of hospitals and other public buildings.

Local Area Plans

Within domain maps, there are areas that have been assigned specific planning provisions through the development of Local Area Plans (LAPs). LAPs identify areas with a particular local identity, and similar to domains, they also identify desirable and undesirable land uses, while providing specific information for development proposals. For areas where a local area plan applies, the local plan replaces the function of the applicable domain (GCCC, 2003b).

The current Gold Coast Planning Scheme (2003) has thirty local area plans and most have precincts that define separate areas of distinct land use and development. Proposed land uses should accord with the intent and land use provisions for the precinct in which the part of the development is located (GCCC, 2003b). A total of 176 LAP precincts have been defined in this way. Table 8 shows the proportion of local area plans and precincts that allowed urban agriculture-related land uses within their table of development, and also indicates the prevalent level of assessment required.

Table 8: Proportion of urban agriculture-related land use allowed within local area plans, their precincts and prevalent level of assessment (E = exempt; SA = self-assessable; CA = code assessable; and IA = impact assessable development).

Land Use Type	Proportion of LAPs that allow urban agriculture-related land uses	Proportion of Precincts within LAPs that allow urban	Required Level of Assessment

		agriculture-related land uses	
Agriculture	23 %	11%	Mostly E or IA
Stall	6%	1%	SA
Minor Aquaculture	0%	0%	IA
Aquaculture	20%	6%	IA
Market	70%	33%	IA or CA
Retail Plant Nursery	40%	15%	CA or IA
Animal Husbandry	30%	7%	Mostly IA or SA
Rural Industry	20%	5%	Mostly IA
Community Purposes	60%	25%	Varied
Bulk Garden Supplies	36%	10%	CA

Similarly to Domains, the analysis of local area plans and their precincts also suggests a restrictive scenario, where very few opportunities for urban food production exist. However, one positive prospect for urban agriculture within LAPs relates to the marketing of urban produce, where 70% of all LAPs recognise markets as a desirable land use. This indicates that although difficulties exist in producing local food, there are opportunities within the Planning Scheme for retailing local produce directly to local consumers.

Planning Scheme Policies

Planning Scheme Policies have been formulated to support the Planning Scheme in dealing appropriately with matters of local planning detail. The version of the planning scheme analysed here (Version 1.2 – amended in October 2010) had twenty one such policies, none of which is directly related to urban agricultural practices.

Planning Scheme Policies could also serve as important tools in fostering urban agriculture on the Gold Coast. Despite the lack of specific urban agriculture policies, various existing strategies could recognise urban agriculture as a tool for its realization. For example, Planning Scheme Policy 4 (GCCC, 2003c) could allow urban agriculture to take place on land underneath, above and adjacent to electricity infrastructure. Such areas, as recognized by Policy 4, are unsuitable for other forms of development, and often incur high maintenance costs.

Another example is Planning Scheme Policy 18 (GCCC, 2003d), which allows for floor ratio bonuses to be granted for the inclusion of a public benefit facility in a proposed development. Urban agriculture practices (e.g. community gardens) could be classified as facilities for public benefit, and therefore could potentially be used as an incentive for bonus floor ratios. Alternatively, other economic benefits could also be introduced as shown by the example of the municipality of Governador Valadares in Brazil, which exempts (as per law N° 5.265) private landowners from land taxes if their land is put to productive use such as agriculture (Lovo and Costa, 2006).

Gold Coast City Council Local Laws

Under the Queensland *Local Government Act*, 2009 the Gold Coast City Council has the authority to make and enforce appropriate local laws. These laws are made to: “reflect community needs and to ensure safety, harmony and good rule” (GCCC, 2011). Numerous local laws have been prepared and are currently enforced, however, only a few of these have any relevance to urban agriculture, including:

- **Local Law N° 7** - mandates that no business can be carried on in a public place (GCCC, 2008b).
- **Local Law N° 8** - prohibits beekeeping without the supervision of a registered beekeeper under the *Apiaries Act* 1982 (GCCC, 2008c).
- **Local Law N° 9**- mandates that no business can be carried on parks or reserves (GCCC, 2008d).
- **Subordinate Local Law N° 11.3** - prohibits mobile or stationary roadside vending unless a conditional permit is obtained (GCCC, 2008e).
- **Local Law N° 12 and Subordinate Local Law N° 12** - regulates the keeping of animals, imposing the following restrictions (Table 9):

Table 9: Restrictions on the keeping of animals in the City of the Gold Coast (Source: GCCC, 2008f).

Animal	Lot size (m ²)	Allowance
Bees	N/A	Refer to Local Law n°8
Pigeons	< 800	Nil
	> 800	Up to 20
Roosters, peacocks, ostriches & emus	< 4000	Nil
	> 4000	No restrictions
Geese, ducks, chickens, turkeys & other poultry	< 600	Nil
	> 600	1 per 100m ²

Although these laws are not specific to urban agriculture, they impose restrictions on some of its practices. Through prohibitions, conditions or regulations, the keeping of animals, selling of urban produce and the use of open public space for urban agriculture can be severely constrained by these local laws. While some of these laws may be appropriate and necessary, it would be worth conducting a more systematic review of their rationale and effectiveness in achieving the aims of the city. For example, Local Law N° 9 could be revised to allow urban agricultural activities to take place on public open spaces, including many of the underutilized grassed open spaces found throughout the city. Local Law N° 9 could also offer opportunities for urban farmers to use public open spaces as venues to sell and/or exchange produce.

Local Law N° 12, which regulates the keeping of animals, serves as a major impediment to the development of some urban agriculture practices. It currently prohibits the keeping of chickens and other small animals that could provide food and many other environmental services such as

composting, fertilization and pollination. This law could also be reviewed in light of recognised best practice in Australia and overseas.

Gold Coast City Council Strategies, Plans and Programs

The Gold Coast City Council has also developed numerous strategies, plans and programs that are a public statement of how Council intends to achieve a particular objective or a set of objectives. There is no urban agriculture-specific strategy or plan, however there are official documents that relate directly or indirectly to various urban agricultural practices.

Planning Scheme Review Program

The preparation and approval of a new Planning Scheme is a strategic priority for the Council and a requirement under the *Sustainable Planning Act* 2009. To develop and draft the new Planning Scheme, a Planning Scheme Review Program has been established, which released a draft Statement of Proposal (GCCC, 2010) outlining key directions, some of which indicate that urban agriculture could play a role in the future of the city.

The Statement of Proposal (GCCC, 2010) makes a number of recommendations that are of relevance to urban agriculture. These include: the review and update of provisions to promote the flexible use of land for parks and community purposes, including market type events, and community gardens; measures to support local food production and encourage local markets through land use planning; the implementation of suitable planning measures to protect and promote a viable rural economy that supports a variety of sustainable rural activities, including local markets and to ensure a long-term production base to reduce food miles; the review and update of existing policies to protect good quality agricultural land and, consideration of the role of the planning scheme in supporting localised food production.

Climate Change Strategy 2009-2014

A Climate Change Strategy has been prepared by the Gold Coast City Council as a response to the many challenges imposed by an uncertain future. It aims to set directions and enable actions for both Council and community to achieve a climate resilient city. Of great interest, the Climate Change Strategy envisages an increase in the proportion of locally grown food available to the community (GCCC, 2009a, pg. 15).

Overall, the analysis of the Gold Coast planning framework revealed a somewhat confusing situation regarding urban agricultural practices on the Gold Coast. On the one hand, State and local governments express support for improving the sustainability of cities and recognise the need to increase local food production and consumption as well as reducing waste through recycling and re-use. On the other hand, the Gold Coast Planning Scheme (2003), which is the primary document that

regulates land use in the city, does not specifically recognise the benefits associated with urban agriculture. In fact, through a rather rigid regulatory approach, the current Planning Scheme inadvertently discourages urban agriculture-related land uses within most of its urban footprint, with the exception of a few land units classified as industrial or in relatively remote and peripheral parts of the city that are typically zoned for rural uses.

Learning from Abroad: Urban Agriculture Policy across Australia and the World

An important element of prescriptive policy making theory is outward looking, a process “by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system” (Dolowitz and Marsh, 2000; pg. 5). In this sense, extensive research was conducted in order to obtain relevant examples and understand how (if at all) other jurisdictions in Australia and overseas deal with urban agriculture issues, such as the ones presented in previous chapters. Two distinct explorations were conducted, one focused on the capital cities in Australia (Brisbane, Sydney, Melbourne, Adelaide and Perth), and the other on local governments across the globe. The results of these studies are presented below.

Planning for Urban Agriculture in Australian Cities

The state of urban agriculture planning in Australia was explored through a critical review of policies, strategic plans and regulations currently in place at the local government level within the five most populated and urbanised regions of Australia – Sydney, Melbourne, Brisbane, Adelaide and Perth. All local government areas within Metropolitan Sydney, Melbourne, Brisbane, Adelaide and Perth were investigated, rendering a total of 121 local governments (43 in Sydney, 31 in Melbourne, 1 in Brisbane, 19 in Adelaide and 27 in Perth).

Opportunisticly, all of these local governments actively maintained searchable websites, making this an obvious place to start the investigation. The policy register as well as web pages describing strategic plans and regulations were thoroughly searched for urban agriculture-related documents. In addition, the multifunctionality of urban agriculture required a broad search, where not only specific urban farming policies were sought but documents that dealt with urban farming, composting, the keeping of animals, street/verge vegetation, markets (outdoor, public and farmers) and community gardens were also analysed.

Numerous keyword searches were also performed within each Council’s website, these included: urban agriculture, agriculture, farming, green roof, rooftop, composting, keeping of animals, poultry, bees, street tree, garden bed, farmers’ market, outdoor market, market, public produce, local produce and community garden.

Although most councils attempt to actively maintain their website, in some instances not all documents are available or accessible. For example, draft policies are unlikely to be publically available. To circumvent this situation and to ensure that no relevant document has been overlooked, an email to each council was sent, briefly explaining the research, and requesting information regarding urban agriculture and its elements (e.g. community garden, animal keeping, composting etc.). Most councils replied to this e-mail promptly, providing copies and/ or web links to relevant documents and offered to clarify or expand on any issue or concern.

Following the collection of policies, strategic plans and regulations related to urban agriculture from local governments in Sydney, Melbourne, Brisbane, Adelaide and Perth, a critical analysis of these documents was conducted. This analysis aimed to understand how urban agricultural practices were being recognized, supported, regulated, encouraged or hindered. In order to facilitate the analytical process, different subgroups were created in accordance with the different aspects of urban agriculture that a policy or strategy might be concerned with, these included: animal keeping; community gardens; composting; markets; and streetscape.

Animal Keeping

The keeping of animals in urban areas of Australia is firmly regulated. Animal keeping regulation is however not part of an urban agriculture strategy or policy, rather, councils are usually required by state legislation to adopt a regulatory framework, which could be pursued through numerous platforms - local laws, guidelines and plans of management. These frameworks however do not perceive animals as food or environmental service providers, instead, they mostly “recognise and promote the value of animals as part of the community; to encourage and facilitate responsible pet ownership and environmental responsibility and to maximise public safety” (Adelaide Hills Council, 2006; pg. iii).

Given the constrained spaces of urban environments, this research focused mainly on the keeping of poultry and bees, and none of the researched councils prohibited the keeping of both poultry or bees, and in most cases both were allowed. Nevertheless, the analysis suggests that there is a distinction between states on the regulatory framework employed. For instance, local governments in Adelaide have a two-tier system, in which animal keepers must adhere to a set of guidelines aimed to minimise nuisance, and non-compliance attracts council intervention. In Melbourne and Perth, animal keeping is generally regulated through local laws, be it a general local law that addresses, among other things, animal keeping, or a specific animal keeping law. In Brisbane, the city council has a specific policy to the keeping of poultry, whereas in Sydney, keeping of all animals is covered under state legislation.

Poultry keeping is primarily regulated by local governments in Australia for its potential to cause nuisance, and although poultry keeping is mostly allowed, there are numerous regulatory provisions

that may preclude urban residents from keeping them. Of particular concern are the requirements referring to the location and specifications of the poultry enclosure, which suggest that only larger properties (a rarity in dense urban areas of Australia) have the physical capability to adhere to these. It seems that the 'one-size-fits-all' approach is typically taken by local governments, and since poultry keeping is mostly taken to be nuisance prone, strict regulatory provisions are enforced across the country, which may end up restricting the practice to most residents. The approach adopted in Perth is perhaps the one to be followed, where specific parts of the city have different provisions in accordance to their perceived purpose, allowing restrictions to be better tailored. By permitting qualified persons to keep more birds than 'regular' residents, there may be outcomes whereby people with poultry keeping training are more likely to look after the animals in a satisfactory and nuisance-free manner.

Beekeeping also seem to be perceived by local governments as an activity with high potential to cause nuisance, rather than an urban agriculture activity that can improve the food security of cities. As such, similar to poultry keeping, regulatory requirements may also preclude smaller households from undertaking the practice on their properties. Nevertheless, the development and application of State code to urban beekeeping is a positive learning outcome to arise from this research, especially as these codes tend to perceive beekeeping as a fruitful activity rather than a nuisance. The Victoria and NSW Code of Practice for Beekeeping (Government of Victoria, 1997, Somerville, 2009) are valuable guides that could contribute to the development of this practice in urban centres across Australia.

Community Gardens

Community gardens are, for most local governments in Australia, the only urban agriculture-related land use purposely recognised and regulated. However, only 15% of researched councils have endorsed or drafted a community gardens' policy, where local governments in metropolitan Sydney are overly represented, being responsible for over 60% of all community gardens policies found. A total of eighteen community gardens policies or strategic directions were found: three from Adelaide (Burnside, Norwood and West Torrens); two from Melbourne (Frankston and Yarra); two from Perth (Stirling and Subiaco); and eleven from Sydney (Blue Mountains, Hawkesbury, Kogarah, Manly, Marrickville, Randwick, Ryde, Sydney, Waverley, Willoughby and Woollahra).

Setting policy directions for community gardens in Australia seems to be a new venture for local governments, as the earliest document reviewed was the "Community Gardens: Policy Directions for Marrickville Council", endorsed in 2007 (Grayson, 2007). Norwood, Kogarah and Woollahra councils soon followed, releasing their intentions in 2008, and over 60% of policies have been released in 2010 or 2011, suggesting that urban agriculture planning in Australia is in the early stages of development, but also indicating the greater acceptance that it is now receiving.

Councils tend to define community gardens differently, but generally they are understood to be public open spaces operated by the community for personal food production, and which serve as sites for environmental activities and community education. Also, community gardens in Australia are exclusively not for profit and sale of their produce is most often than not prohibited.

Overall, many councils across Australia have developed their own community gardens policy or are starting to discuss the topic, indicating that urban agriculture is slowly creeping into mainstream planning. However, there seems to be a long way to go before community gardens' planning become a widespread practice, mainly because of the number of barriers that community groups need to overcome before the establishment of a garden, which may include insurance, incorporation, funding and often a long regulatory approval process. Councils should start to recognize the numerous benefits that community gardens can bring to their city, and try to ensure that they act as facilitators and enablers rather than simply as regulators.

Composting

Composting is an integral part of urban agricultural systems. Composting is the mechanism that closes the loop, allowing nutrients to go back into the natural system to facilitate the growth of the next crop. Unfortunately, none of the researched councils have endorsed a policy regarding the practice of composting in their community, but there were positive initiatives being pursued informally.

Councils generally seem to recognise the value of composting, in particular the role that it plays in reducing the amount of waste being sent to landfill. Without exception, local governments in metropolitan Australian cities provide incentives for their communities to pursue various composting practices. Commonly, workshops are offered by city councils to teach community members about the science and practice of composting and worm farming, and many councils provide incentives for their community to acquire composting equipment, either through donation, at cost or via rebate schemes. The West Torrens Council in Adelaide for instance, offers a 50% rebate on any worm farm or compost bin purchased from a local hardware store (West Torrens City Council, 2011), while Blacktown City Council offers a \$25 rebate to buyers of composting bins, worm farms or bokashi bins, and also incentivises residents to attend composting workshops through the donation of composting bins (Blacktown City Council, n.d.).

Composting is truly on the agenda of many local governments, probably more as a financial strategy (to reduce costs associated with waste management) rather than as an urban agriculture initiative, but most initiatives seem superficial and with minimal government participation. The introduction of green bins is probably the easiest (but most expensive) approach to increasing composting, allowing large quantities of food and garden waste to be processed. Education is also key, and more councils across Australia are providing this service, but more can be done, especially through the creation of

community composting sites, drop off stations or even encouraging residents to trade their organic waste for food – truly closing the loop.

Markets

The provision of farmers and produce markets is paramount to the development of a robust urban agriculture cycle. Within markets, community members can benefit from locally produced fresh food at affordable prices, and urban farmers can market their produce directly to consumers without unnecessary packaging and transport costs while also receiving the full retail price of their goods. These markets also provide avenues for community building through farmer-consumer interactions that educate consumers on the origin of their food and instruct farmers on the demands of consumers. Despite its significance, local governments in most metropolitan cities of Australia do not have policies or regulatory incentives to facilitate the occurrence of community and farmers' markets. In fact, most local governments seem to manage their market proposals on an ad-hoc basis.

Streetscape

Streets, verges and nature strips provide an almost endless supply of opportunities for cities to enhance local food production. Be it through edible fruit trees, garden beds or the cultivation of species as wood sources, streets can significantly increase the food resilience of cities. However, once again, local governments do not typically recognise the value of streetscapes for local food production, and even though most councils do have a street tree, verge, or nature strip policy/plan, virtually none of them encourage the planting and growth of edible varieties – in fact the contrary is usually found. This lack of incentive for edible street trees (particularly fruit trees) is briefly explained by Cambridge City Council's Treescape Plan (Cambridge City Council, 2010), which suggest that the management of edible plants is difficult to achieve due to their higher maintenance requirement. Local governments however do not seem to take account of the very maintenance, chemical and resource intensive practice of cultivating lawns, which, apart from looking tidy, do not bring many benefits to communities.

In conclusion, intentional urban agriculture planning in Australia is at a very early developmental stage, where comprehensive policies or strategies are virtually non-existent, while only a small proportion of local governments in capital cities have community gardens provisions. This analysis also suggests that most of the regulatory arrangements impacting on urban agriculture practices are often hindering rather than encouraging it, albeit unintentionally.

Perhaps the main hurdle to be overcome is to recognize urban agriculture and all of its practices as a desirable land use, rather than an incidental one. Through recognition and understanding of its practices, existing regulatory provisions could be altered to facilitate urban agriculture development.

This analysis suggests that most urban agriculture practices are regulated from a nuisance-causing perspective, which results in prohibitions, obstacles and impracticable conditions. To facilitate urban agriculture recognition, local governments should invest in education, in particular in educating decision-makers, planners and the community on its practices, benefits and risks.

Despite the accidental nature of urban agriculture planning in Australia, this study has revealed that there are numerous encouraging signs. In general, urban agriculture practices are well regarded and councils seem to be starting to grapple with issues like composting, animal keeping and food production. As it is often the case, more needs to be done, but it is encouraging to see that there are many avenues that could be taken.

Planning for Urban Agriculture across the Oceans

The international review of outward looking policy making carried out as part of this research focused on collecting official governmental documents related to urban agriculture from overseas jurisdictions. This was carried out mainly through web based searches and following up references from previously read articles. The criteria used for searching and analysing documents were limited to documents written in English, Spanish and Portuguese, and in order to focus on the most relevant and applicable documents that could be used through the development of a Gold Coast Urban Agriculture Strategy, there was a focus on policies and strategies from jurisdictions within 'first world countries'.

Given the breadth of this review, hundreds of urban agriculture-related policies were found and analysed. It is however beyond the scope of this section to present every single one of them, rather it aims to present the range of possible options currently being pursued by governments overseas, which could be considered as part of an urban agriculture policy for the City of Gold Coast. To aid the analysis, this extensive range of urban agriculture-related documents was subdivided into themes, and is presented through the following sub-headings: urban agriculture; community gardens; composting; keeping of animals; farmers' markets; streetscape; and land access. Although some overlap between these 'elements' of urban agriculture may occur, this separation attempts to cluster together policies that have one of these elements as their main objective.

Urban Agriculture

Although all policies in one way or another are urban agriculture-related, this section describes political actions that encourage urban agriculture in its entirety (or close to it) rather than specific elements of it (i.e. community garden or composting). There are numerous ways that cities across the globe have chosen to support, maintain or restrict urban agriculture practices, but they are mainly described under comprehensive policies, zoning arrangements or pilot projects.

Comprehensive policies provide the best framework for the development of a wide-ranging urban agriculture industry, but not many jurisdictions have gone down this path, but some have. Cities such as Southeast False Creek (Vancouver, Canada), Minneapolis (Minnesota, USA), Bulawayo (Zimbabwe) and Cape Town (South Africa), have all undertaken the long and rewarding process of developing a piece of legislation that fosters urban agriculture as an industry.

Within comprehensive policies, various aspects of urban agriculture are supported. For example, the planning for the Southeast False Creek (SEFC) neighbourhood in Vancouver, Canada, has culminated in the development of the Southeast False Creek Urban Agriculture Strategy (Holland Barrs Planning Group, 2002), which aimed “to address how food production, processing and distribution can most effectively address the issues of sustainability in a high density urban neighbourhood” (pg. 13). By understanding that urban agriculture involves not only food production, but also processing and distribution opportunities, the strategy adopts a holistic food system’s approach, and specifies nine goals and a number of strategic actions and policy directions. These goals are:

- Increase the physical capacity of the SEFC neighbourhood to support the growing of food;
- Increase the amount of food grown in SEFC, privately and commercially;
- Increase the amount of food consumed in SEFC that is produced both organically and as close to SEFC as possible;
- Increase food-related economic development initiatives, including increasing local processing of food consumed in SEFC;
- Increase the capacity of SEFC to provide or support basic food security initiatives for local Vancouver residents in need;
- Encourage urban agriculture practices as a strategic approach to managing waste flows in a more sustainable manner;
- Increase the technical capacity, skills and knowledge of all stakeholders relating to innovative urban agricultural systems;
- Encourage the celebration of food and the local food system; and,
- Encourage food consumed in SEFC that is produced in other regions or countries to be food produced through ethical and environmentally sustainable business practices.

On a similar note, in early 2011, following recommendations from *The Homegrown Minneapolis Report*, the City of Minneapolis adopted the *Urban Agriculture Policy Plan* (City of Minneapolis, 2011) to support local food production, processing, distribution and consumption within their urban land use. A steering committee was formed to oversee the project, and through a brainstorming exercise, topic areas were explored and crafted into policy goals, which included:

- Promote and support the local food system;
- Make more land available for urban agriculture;
- Ensure equal access to land for growing and to fresh food sources;
- Create economic opportunity for growers, processors, and distributors of food;
- Promote innovative design for food growing;
- Reduce unnecessary regulatory barriers and encourage better regulation where necessary;
- Encourage ecological sustainability; and
- Explore the role that animals play in the urban food system.

Through the *Urban Agriculture Policy Plan*, the City of Minneapolis introduced a number of new zoning regulations that intended to safeguard urban agriculture's place within the fabric of the city. This approach has been undertaken by many other jurisdictions across the globe, including, but not limited to: Beijing, China; Bloomington, Minnesota, USA; Oak Bay, British Columbia, Canada; Cleveland, Ohio, USA; Kansas, Kansas, USA; Kelowna, British Columbia, Canada; Madison, Wisconsin, USA; San Francisco, California, USA; and Seattle, Washington, USA.

New zoning regulations can provide an array of opportunities to support urban agriculture. Some of which comprise:

- Defining different urban agriculture land uses (i.e. community gardens, market gardens, urban farms, aquaculture, anaerobic digesters, etc.);
- Evaluating appropriate zoning districts for each urban agriculture land use. Some examples include:
 - Allowing market gardens in a variety of zoning districts, including low density residential areas;
 - Setting a maximum lot area and other performance standards for market gardens so the use fits into a neighbourhood context;
 - Establishing design standards for market gardens;
 - Allowing market gardens to be located on rooftops as well as on the ground;
 - Prohibiting market gardens on the ground in districts typically associated with high density development;
 - Allowing urban farms in industrial districts and some commercial districts;
 - Defining aquaculture as an urban farm related activity; and
 - Examining which industrial districts are appropriate for anaerobic digesters.
- Allowing signage, hoop houses, and sale of produce in community gardens;
- Allowing the planting of garden beds in front yards (upon height and setback considerations);

- Permitting hoop houses as an accessory use with development standards;
- Permitting small scale urban agriculture as a secondary use in all zones;
- Permitting the sale of produce from stalls in residential zones (upon conditions); and
- Permitting composting on urban farms (upon conditions).
- Using concentric spatial representation to determine and allocate urban agricultural activities (Figure 21).

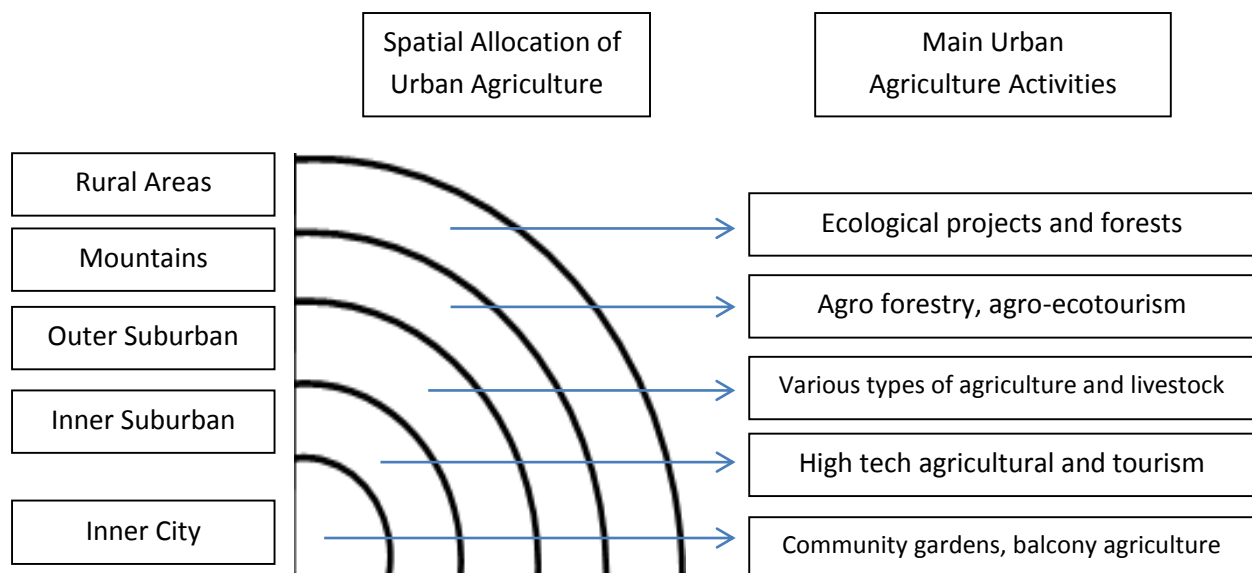


Figure 21: Spatial allocation of urban agriculture activities in Beijing (Adapted from Jianming et al., 2006).

In terms of pilot projects, a good example comes from Boston, Massachusetts, USA, where in a partnership between the Mayor's Office, the Redevelopment Authority and the Department of Neighbourhood Development, Boston has initiated its Pilot Urban Agriculture Project, which is divided into two distinct phases. In Phase I of the project, the city government has made available four parcels of city owned land, and have requested proposals from individuals, businesses and organizations to farm these lands in accordance to community needs and interests, with the objective of producing fresh and healthy food for sale to the local community. Initially, each property is leased for \$120 per year for a five years term, with a renewal option if farming is successful. Phase II was due to begin in mid-2011 and aimed to bring together the Boston community to discuss about how to modify the city zoning code to support different types of urban agriculture (Boston Mayor's Office et al., 2011, Boston Redevelopment Authority, 2010).

Community Gardens

Similar to the Australian analysis, community gardens were the most commonly targeted element of urban agriculture found in this research, and numerous policies and land use strategies were found

that encourage, support and regulate their existence. Within these documents common elements were found, such as a definition of community gardens, purpose for developing the document, role of government as well as land tenure arrangements. Interestingly, as part of land tenure arrangements, the majority of community gardens policies stipulate that food production must follow organic principles of cultivation and pest management.

In many cities community gardens have been very strongly encouraged and their growth has been almost exponential. One very exciting project comes from Seattle, Washington, where a very extensive community gardens program called P-Patch is organized by the City of Seattle's Department of Neighbourhoods and is open to all residents (Hanson and Marty, 2012). In partnership with the P-Patch Trust, Seattle Housing Authority, and other agencies, the program manages over 75 community gardens, which are allocated based on waiting lists (for existing gardens) or interest lists (for gardens under development), and they typically range from 40 to 2500 ft². Plot rental fees are structured around the size of the plot, in which participants need to pay \$25 for the application and an extra \$12 for each 100ft² garden. Plot fee assistance is provided for participants that cannot afford it (City of Seattle, n.d.). Although sale of produce is not permitted in P-Patch community gardens, Seattle also runs the P-Patch Market Garden Program, which is a partnership between city gardeners and consumers that results in the delivery of produce on a weekly basis throughout the growing season and a weekly on-site farm stand. The program currently has two community supported agriculture (CSA) gardens from which food is grown and delivered to subscribers or sold at the farm stand (City of Seattle, n.d.).

Cities have also gone through the zoning path to ensure the presence of community gardens in specific parts of the urban area. In Boston, Massachusetts, the Boston Redevelopment Agency recently altered the Boston Zoning Code and established a specific community garden sub-district category that can be zoned within an open space zoning district. The open space zoning district in conjunction with nine sub-districts (one of which being community gardens) provide means to conserve and protect open spaces, while introducing flexibility through zoning regulations. This zoning arrangement functions on the basis that land can be designated simply as open space, where no further restrictions to its use applies, or it can be designated as open space and community garden sub-district (or any other sub-district) together, thus establishing particular restrictions regarding the chosen sub-district to that parcel of land (Boston Redevelopment Authority).

In late 2010 Chicago introduced new legislation to the Chicago Zoning Ordinance, legalizing community gardens and commercial urban farms as permitted uses within city boundaries, provided that they adhered to regulations regarding size, location and operational requirements. Community gardens became an allowed land use in all but one zoning district (manufacturing), and on site

processing, storage and sale of plant or plant products are prohibited (City of Chicago, 2010). In terms of commercial gardens, the ordinance defines them as sites for the “propagation, processing and storage of plant products for wholesale or retail sales”(City of Chicago, 2010; pg. 5). Commercial gardens are permitted activities in commercial and some business and manufacturing districts, and are required to comply with composting standards that limit composting to only materials that are generated on site (City of Chicago, 2010).

Composting

There are numerous examples from cities overseas surrounding composting initiatives, these were grouped into backyard and home composting, collections strategies, and zoning mechanisms.

In terms of backyard and home composting, many local governments in the USA and Canada have recently approved composting ordinances. The cities of Chicago (Illinois), Burnsville, Minneapolis, New Hope (Minnesota) and Clayton (Missouri) have all recognised home composting as a valuable activity in the management of organic wastes (not necessarily as an urban agriculture practice), and have approved ordinances that regulate its practice.

The City of Burnsville for example encourages all householders to compost in an environmentally sound manner by meeting certain standards, which include (City of Burnsville, 2003):

- Compostable objects shall be placed in a container made of durable material;
- Containers shall not be located in the front yard, and must be at least five feet from the property line or twenty feet from a pond, lake, river, swale or ditch;
- Depending on lot size, composting containers cannot exceed thirty to fifty square feet;
- Compost containers should be maintained so as not to create odours, harbor rodents or be a fire hazard; and
- Only acceptable materials that are generated on site can be composted.

Collection initiatives are becoming more and more popular both in Australia and overseas, involving the collection of food scraps, yard trimmings and other compostable materials in the same way that ‘regular’ garbage is collected. The organic material is however taken to a composting station rather than to a land fill, where compost will be made and sold or given to the community.

The City of Toronto, Ontario provides a good example. Toronto has an extensive Green Bin Organics Program, which collects organic waste and turns into compost. This program is very successful because it maximises convenience for residents, allowing the usage of plastic bags and the disposal of hard to process materials such as diapers. The primary processing of all organic waste ensures that all plastic material is separated prior to composting and diverted to landfills. The remaining material is

composted to a Class A unrestricted-use compost and given back to the community free of charge (City of Toronto, n.d.).

The City and County of San Francisco have gone a step further and passed the Mandatory Recycling and Composting Ordinance in 2009. The ordinance requires all residents and businesses to separate recyclables, compostable and landfill waste, while providing enforcement mechanisms and penalties for violations. Basically, all residents and businesses have to subscribe to adequate trash, composting and recycling services and must separate their waste accordingly, fines may apply in cases of on-going non-compliance (City and County of San Francisco, 2009).

An alternative to kerbside collection is drop-off collection and community composting. Drop-off collection can play a crucial role in waste recycling in a practical and cost effective manner (US EPA, 1994). Cities may establish fixed or mobile collection points where residents and business may drop-off their compostable waste at a cheaper rate than if disposed at a landfill site or collected through kerbside collection. The City of Bowdoinham, Maine, for example, has a drop off site where residents can dispose both of their compostable and non-compostable trash. Residents pay a volume-based rate for trash, but yard trimmings and compostable materials attract no fee (US EPA, 1994). In another instance, West Linn, Oregon, residents have the choice to drop-off or have their yard and compostable waste collected at the kerbside. The drop-off service attracts significantly lower fees (US EPA, 1994).

Community composting is another alternative, providing a cheap and convenient method to encourage composting. New York City, started its community composting program in 1990, where community participants drop-off their kitchen scraps at different markets in the city. The collected material is then transported, processed in-vessel and after three months the finished compost makes its way back to the market where it is sold (Grow NYC, n.d.). South Gloucestershire Council, Bristol, also supports four community composting sites that are run by volunteers, where local residents can drop-off their garden waste and food scraps. Compost that is produced at these sites is taken away by local residents and a small donation is expected to help keep the service going (South Gloucestershire Council, 2011).

Alternatively, a business model adopted by a Canadian company could be adopted by local governments. Community Composting Inc. charges an annual fee to subscribers for its services, in return, subscribers are given a durable container to deposit organic household and yard waste, and every four weeks Community Composting Inc. empties the container and transports it to the community compost, in exchange, every four weeks the subscriber receives a 20L bag of fresh compost (Community Composting Inc., n.d.).

Composting initiatives have also attracted special zoning conditions. For instance, the Municipality of Trent Hills, Ontario, Canada has recently enacted a zoning by-law that regulates and provides guidance in relation to composting land uses. By-law 2011-24 introduces three levels of community land uses – individual composting, municipal composting facility and industrial/private composting facility (Municipality of Trent Hills, 2011b). Individual composting refers to small composting activities that are ancillary to the primary land use and that utilize materials generated on site, being permitted as an accessory use in all zoning districts. Municipal composting facilities are part of the management network of solid waste of the municipality, which aim to divert waste from landfills. The level of regulation is dependent on the material to be composted, but the proposed activity must be approved by the municipality and adjacent land owners. Industrial/private composting facilities are defined as “composting activities that import raw materials and produce a product to be sold and/or utilized off-site” (pg.3). This land use is only permitted in a separate zone category called Waste Disposal Industrial Composting (M3-C), and must be approved by the municipality (Municipality of Trent Hills, 2011a, 2011b).

Farmers’ Market

Farmers’ markets are an integral part of a sustainable urban agriculture system, for they allow urban farmers to market their product directly to consumers and educate consumers about the origins and practices adopted in the cultivation of their food. Cities across the world are starting to recognise the benefits associated with farmers’ markets and have developed regulatory policies to guide and support their existence. Two regulatory approaches to farmers’ markets are commonly adopted: zoning and licensing (or a combination of both).

Licensing is often chosen by cities that either run their own farmers’ markets or in cities where farmers’ markets have a fixed, permanent spot. The City of Philadelphia, Pennsylvania, for example, devotes a section of its Municipal Code to the regulation of farmers’ markets, defining them as “an area where on designated days and times, growers and producers of horticultural and agricultural products sell those products directly to the public” (City of Philadelphia, n.d.; Section 9-213), and specifying thirty eight locations where a farmers’ market can exist. In order for a person to operate a farmers’ market he/she must obtain a license from the city, and each vendor in the market must also obtain and display a copy of this license.

Through this licensing process the City of Philadelphia enforces numerous rules and regulation regarding the size of stands and maintenance of these areas. It also stipulates the appropriate conduct to be expected, trading hours, while prohibiting the sale of reheated or cooked food. Any violation of these provisions attract fines, suspension or revocation of license (City of Philadelphia, n.d.).

Similarly, vendors of the City of Green Bay Farmers' Market must obtain a permit from the City Council to be able to commercialize their products. Council reserves the right to only offer rent stalls to growers and producers that can prove that their product is locally grown or produced. The city also determines what products can and cannot be sold at the markets, and any violation of these rules and regulations may result in termination of the permit and/or a fine of US\$100 (City of Green Bay, 2010).

City of Minneapolis, Minnesota also imposes a licensing system for the operation of farmers' markets. However, in order to bring fresh food to low income neighbourhoods that lack healthy food options, the city has developed the Mini Farmers' Market project, which simplifies the licensing process for markets of up to five vendors. Instead of requiring a full licensing process that takes time and resources, mini farmers' markets only require a Local Produce Market permit. To obtain this permit, operators need only to show that the proposed mini market site has: access to a bathroom and hand washing facility; access to a building and phone in case of emergency; a 10 x 10 feet space of a 'cleanable surface' for each vendor; and, the ability to promptly remove all trash and debris (City of Minneapolis, n.d., IATP, 2010).

Mini market vendors can only sell locally grown flowers, herbs, fruits and vegetables, and the sale of arts, craft or added value products is prohibited. Upon receipt of the local produce permit, mini markets can operate at any time of the year that local produce is available. These markets typically run in the afternoons so as to allow producers to sell in bigger farmers' markets in the morning, and they usually last between two to four hours (City of Minneapolis, n.d., IATP, 2010).

Zoning is another approach opted by local governments to regulate, encourage and support farmers' markets in their municipality. Zoning allow cities to prioritize appropriate locations for farmers' markets and help the planning of new markets (PHLP, 2009). The City of Atlanta, Georgia for example altered its zoning ordinances after the approval of the Farmers' Market Ordinance in 2010 (City of Atlanta, 2010). The ordinance amended the zoning code to introduce a definition of farmers' market, to identify zoning districts where it would be permitted and to establish minimum criteria for their operation. Farmers' markets are defined by the City of Atlanta as "an outdoor market open to the public, operated by a governmental agency, a non-profit corporation, or one or more producers where: a) at least 75 percent of the displayed inventory is farm products or value-added farm products; b) at least 75 percent of the booths open during the market's hours of operation are producers, or family members or employees or agents of producers; and c) if a booth sells farm products or value-added farm products that are not produced by the vendor, the booth must explicitly disclose the producer's name and location in writing with lettering that is at least 2 inches tall and visible to the consumer" (pg. 1-2). Farmers' markets are a permitted land use in commercial, office, industrial and planned developed districts, while in residential zones markets are limited to land used

for religious worship and schools. Operators must apply for a special administrative permit prior to establishing the market, which last for twelve months and oblige the operator to some rules and regulations regarding hours of operation, maintenance, security, parking and the appointment of a market manager (City of Atlanta, 2010).

The City of Fresno, California provides yet another example of a city that in its definition of a farmers' market sets a limit for the sale of non-agricultural products, stating that "farmers' market shall mean a commercial use with an organized display, indoors or outdoors, of agricultural products, in their natural state, for retail sale. Such agricultural products shall comprise at least 75% of the retail space available" (City of Fresno, n.d.; Subsection 12-105-F-4.5). Farmers' markets are a permitted land use in all commercial zones, and, upon approval, in all residential areas. Similarly, the Township of Lower Merion, Pennsylvania and the City of Wichita, Kansas have recently recognised farmers' market as an important land use and have permitted their occurrence in most zoning districts (City of Wichita, 2006, Township of Lower Merion, 2010).

Lastly, the City and County of San Francisco has amended its Park Code through the passing of the Farmers' Market Ordinance in 2007 (City and County of San Francisco, 2007). The ordinance authorizes farmers' markets to be located in park land if such use would not interfere with the use of the park and not damage the park's ground and facilities. In order to encourage farmers' markets in low income areas, the ordinance requires that the Agriculture Commissioner conducts annual needs assessment of neighbourhoods to identify suitable locations for future farmers' markets in underserved neighbourhoods.

Animal Keeping

The keeping of animals is an integral part of urban agricultural practices, for animals are not only a source of food but they also play a critical role in the garden through pollination, pest control and composting. This analysis revealed that the majority of policies analysed regarding animal keeping tend to allow at least a few poultry animals and a bee hive to be kept in all residential areas (with the exception of apartment units). Although rules and guidelines are paramount to avoiding nuisances from animal keeping practices, cities mainly adopt two broad approaches to animal keeping regulation – zoning and licensing (and a combination of both).

Zoning tend to specify different regulatory requirements for residential and non-residential properties. The City of Cleveland, Ohio, provides a good example. Its Zoning Code has been updated in 2009 to introduce restrictions on the keeping of animals. Basically, it spells out that chickens, ducks, rabbits and similar small animals are permitted in all zones. In residential zones it permits one such animal for every 800 square feet of land, while for non-residential districts the ratio is one animal for each 400 square feet (City of Cleveland, 2009).

Licensing and permitting regulation is an alternative to zoning, one that gives more control to local governments on animal keeping practices. Numerous cities have licensing requirements for residents that wish to keep animals such as poultry and bees. The City of Cape Town, South Africa for instance requires animal keepers in residential areas to apply for a chicken or beekeeping permit (City of Cape Town, 2005).

Edible Streetscape

Local governments are usually responsible for the care and maintenance of city streets, and part of this role is the requirement to develop street planting guidelines that set out the plant species that are or not allowed to be planted. These guidelines provide enormous potential for city governments to plan and encourage urban agriculture through the usage of kerbs, right-of-ways, alleys and street verges, however, very few policies have been found regarding edible streetscaping, nevertheless there are some encouraging initiatives.

The City of Calgary, Alberta provides the most comprehensive program found in this analysis. In 2009 the city initiated its Community Orchard project, which has been planting fruit trees and shrubs in numerous locations around the city as part of a five year pilot project. The project aims to encourage local food production, foster community involvement, educate about fruit tree management and preservation of fruits, demonstrate and test a range of fruit trees, and evaluate the success of different orchard models (City of Calgary, 2009).

There are two main categories of orchard in this pilot project – city run and community run. In city run orchards, the local government is responsible for maintenance, including pruning, monitoring and harvesting, whereas in community run orchards, local residents become the stewards and are responsible for looking after them.

An alternative to community orchards is the use of edible plant species for general streetscaping, where instead of planting the usual ornamental varieties, city governments plant and maintain edible varieties for the benefits of its residents. Although, this review did not find any local government program or policy that obliges the use of edible varieties in their streetscaping, there were a few initiatives where the city authorizes property owners to plant, maintain and harvest food plants on street verges.

The City of Des Moines, Iowa for example has introduced in its Municipal Code a term called ‘garden leases’, which allow people to apply for a permit to plant or place flowers on any city right-of-way or city property. As a condition for a garden lease, proponents must abide by the terms of the lease, including insurance and indemnification responsibilities (City of Des Moines, n.d.). Similarly, the Seattle Department of Transport (SDOT) recently changed its rules regarding food growing along city

streets. In a recent report, SDOT highlights that city residents are encouraged to take up food gardening activities that meet set back and height requirements by eliminating the need for most food gardeners to obtain a Street Use permit and by providing free Street Use permits for tree plantings and hardscape installations (Seattle Department of Transportation, 2009).

Land Access

City governments can support and foster local food production by encouraging agriculture on private land, in doing so, not only more food is capable of being produced but it also tackles the issue of land access. Most cities, and the Gold Coast is no exception, have large amounts of vacant land in private ownership, and these could be put to productive use temporarily. Three broad schemes are being pursued by governments to encourage a more productive use of these private lands – tax incentives, peer-to-peer agriculture and aggregated urban micro farms.

The provision of tax and other incentives to private land owners is an initiative being used in a few cities to facilitate access to land to urban farmers. In Brazil, two municipalities (City of Apiacas and City of Governador Valadares) have instituted laws to initiate their Municipal Urban Agriculture Program. These programs aim to optimize the use of urban spaces for the cultivation of food with the intention of generating income to complement family budgets, while improving food security and environmental management of urban communities (Camara Municipal de Apiacas, 2009, Camara Municipal de Governador Valadares, 2003). In order to incentivize private land owners to be part of the Municipal Urban Agriculture Program, these Municipalities offer land tax discounts and exemptions from other tariffs. Upon joining the program, landowners are granted significant land tax reduction from 0.6% to 3%, are not subjected to progressive land tax adjustments and are exempt from paying sanitation, water and sewer tariffs (Dubbeling and Huber, 2004).

Another example comes from Maryland, USA, where in 2010, the Maryland Senate approved House Bill 1062 (Property Tax Credit - Urban Agricultural Property), which authorized local governments to give a five year tax credit for urban agricultural properties (Maryland Senate, 2010). As a means to curb sprawl and the negative impacts of green field development, sites that are between one-eighth of an acre and two acres qualify for a tax credit, if it is exclusively used for urban agricultural purposes.

Peer-to-peer agriculture refers to networks that share and exchange land that exists in people's backyards or in private vacant lots for food production. Through these networks, property owners who have available land, but are not using it, are matched with landless residents who are interested in growing food. These are often non-financial relationships that aim to achieve mutual benefits. Although these networks are usually run by non-profit organizations, there is no reason why local governments could not also facilitate these land sharing relationships.

One of these peer-to-peer agriculture programs is the Adopt a Garden Scheme run by the Footprint Trust in the United Kingdom, which tries to match up would-be gardeners with people who own too much land in close proximity. In this scheme, the property owner allows the gardener to use all, or parts of the garden to grow food or flowers, and in return the garden is cared for and part of the produce is shared. Rules for the program are minimal, but include: garden access, no exchange of money, minimum six weeks' notice to end the agreement; and criminal background check for all participants (Footprint Trust, 2009).

Similarly, the Genesee County Land Bank Authority, Michigan, runs the Adopt-a-Lot Program, where businesses and residents are matched with vacant lots, which in turn are put to productive uses. These vacant lots are owned by the Land Bank as a result of the tax foreclosure process (GCLBA, n.d.). Another example comes from Vancouver, British Columbia, where the NeighbourGardens scheme operates with the aim to capitalize on the underutilized private garden spaces spread around the city. The scheme was first introduced in 1999 to match private land owners with landless gardeners, and between 1999 and 2002, the scheme formed over 2,000 partnerships specifically targeting elder and disable land owners with local gardeners (Mulvin et al., 2006).

A more commercially oriented scheme is the Aggregated Urban Micro Farms, where entrepreneurs are able to put to productive use significant amounts of land that are divided into backyards of varying sizes and shapes. By grouping numerous backyards and turning them into productive lands through the cultivation of fruits, vegetables and animals, profitable urban agriculture structures may result. Often these aggregated micro farms operate on a community supported agriculture model (CSA), where backyard owners and city residents subscribe to a weekly box of local produce for a fee – the larger the donor backyard is, the smaller the fee for the vegetable box. Urban Patchwork in Austin, Texas is one such urban agriculture business, which cultivates over four plots of land and has 40 subscribers, each of whom pays about \$20 a week for a box of vegetables. The plots used by Urban Patchwork have to be of a minimum of 1,000 square feet (Urban Patchwork, n.d.).

Gold Coast Urban Agriculture Stakeholders: Perceived Problems, Envisioned Solutions

This section presents a summary of the views from numerous urban agriculture stakeholders regarding their experiences endeavouring with urban agriculture, and what solutions or improvements they would like to see tackled by a Gold Coast Urban Agriculture Strategy. A total of twenty nine local and regional farmers, community gardeners, composters, retailers and processors were interviewed using a semi-structured framework. Stakeholders were invited to say as much or as little as they wanted in order to answer three very broad questions:

1. Do you currently experience any problems when carrying out urban agriculture practices on the Gold Coast? If yes, what are they, and how do they affect you?

2. Do you have any possible solution for these problems?
3. What else would you like to see improved in the near future that this strategy could help to foster?

In addition to these broad questions, there were also a number of questions that were developed to guide the interview if necessary; these can be seen in Appendix 5. From these broad questions, numerous hours of recorded data was obtained and analysed. Twelve themes covering existing issues and possible solutions emerged from this analysis, including: council communication and resourcing; planning for urban agriculture; education of consumers and producers; children learning; community gardens; city farms and market gardens; animal husbandry; land access; food processing; produce marketing; urban food forestry; and, waste management. These are briefly discussed in turn below.

Council Communication and Resourcing

As expected there were many comments made about the Gold Coast City Council, most of which highlighted problems. In particular, stakeholders were concerned with the difficulty in communicating with Council, their lack of guidance and regulation towards urban agricultural practices as well as a shortage of resources. These concerns seem to have escalated since the Community Gardens Officer position was made redundant in early 2011. Apparently, the Community Gardens Officer role was a very difficult one, and many candidates had experienced difficulties in the role. This was possibly the result of a role with very limited powers, and candidates possibly feeling harassed by all sides – stakeholders and higher ranked officers. Nevertheless, the position did provide an avenue for urban gardeners to not only communicate with council, but also to obtain valuable information regarding grants, horticulture advice, and networking. Statements like these were made by numerous stakeholders:

“We have a real problem in communicating with [Gold Coast] Council.” [Community Garden Manager]

“The community gardens officer was just a kicking post, it was!!! That person couldn’t actually do anything.” [Community Gardener]

“I definitely think that it’s important to have a community garden or urban agriculture officer within council, somebody who could help new groups setting up and provide advice on council grants and regulations.” [Academic Researcher]

There was consensus among stakeholders that they were not expecting Council to simply provide land, funds and resources towards their urban agriculture ventures. However, they did expect to be able to communicate with council and at least obtain relevant and reliable information regarding the terms, conditions and procedures that they would have to follow if they wanted to proceed, and that was

not being provided. In many instances, stakeholders (particularly community gardeners) were given either insufficient or wrong information that severely impacted their ability to organize and run their activities successfully.

To deal with this situation, the creation of a community-council committee could help drive urban agriculture holistically, democratically and practically. What has been proposed is not something new, as Food Policy Councils have existed in North America and Europe for some time and play an important role in linking community and government interests when shaping food related policies. The idea of the committee is to not only bring community stakeholders together, but to also draw on the experience of a number of Council departments to provide a holistic view of the subject and possible solutions. This view is exemplified in the following:

“There could be also something similar to the Food Policy Council in the States, where people from different backgrounds and interests come together to discuss some issues and they have their own budget and power - that will be a bonus.” [Urban Farmer]

“What would be ideal would be to sit down [different Gold Coast Council Departments such as] parks, asset management, waste and property, all together and get them in line and see where they can move and where they need to write new policies.” [Academic Researcher]

Planning for Urban Agriculture

Urban agriculture planning refers to Gold Coast City Council’s rules and regulations that either fail to promote and support urban agriculture development or impose significant barriers. There were many comments regarding specific urban agricultural practices, and how they are currently dealt with by the planning framework on the Gold Coast, but this will be addressed within the discussion of appropriate themes. In this instance, stakeholders were concerned with the general attitude of council that is “solely focused on regulation and revenue raising” and does not provide an environment where urban agriculture could flourish, even without Council’s input. For example, a stakeholder that was looking into turning his half acre block into a market garden was faced with an enormous regulatory burden.

“One of the big issues is the cost of having a retail outlet in this place [a market garden], and I was told that I needed a materials change of use application that would change this land from village residential to commercial outlet and it would cost me 40 to 50 grand, then we had to fund parking, and I said "are you kidding me there is 50 parking spots just there in the front, so why do I need more parking" [and the answer he was given was] "oh no you need to have your own parking for your own clients"... and that means that it is 5 grand for each parking spot so it is an extra 25 to 40 grand. And on top of that they would charge a one off fee of a thousand

bucks for every customer that walk into your site in a day. So it was just a bit over 100 grand. That is just an insult. And I know they are short of money and all that, but what you don't do is hit a young business operation, we've got to encourage risk, but this is not risk, it's just rape."
[Urban Farmer]

Similarly, another young entrepreneur commented that:

"The council should be propagating business, like myself, or Peter or the Permaculture boys, but if you want to build a composting yard, the Council puts all these policies in place, that's \$70,000 environmental impact study. All these things make things just not feasible. Agriculture is the same, they make it that hard with all these type of things and the costs are just too high. So there is no one here growing, there are very few horticulturalists that grow here on the Gold Coast." [Waste Processor]

Many also believed that there is a lack of rules and regulations that support, protect and even encourage the industry. A common request was for Council to start looking at ways that prime agricultural soils could be protected, and stakeholders were interested to see whether council could change some of the zoning restrictions to facilitate urban agricultural practices within the core urban areas, and not be restricted to rural zones.

"We really need to enforce that prime agricultural land must be protected at all costs." [Regional Farmer]

"Urban agriculture is its own thing ... and it's important to let the people who want to do urban agriculture to have a few open doors. So if they find a suitable place, then under this policy, it can be ticketed off, because you don't want the council guy scratching his head saying, but you are residential plus here..." [Urban Farmer]

Education of Consumers and Producers

Education was the most talked about theme. From all interviews, it was made clear that education is where everything should start and emanate from, it should definitely be the first priority if change is to be realised. Statements such as "education is key", or "education must be a top priority", or "the first step is education", highlight this omnipresent understanding.

There were however different needs for an education agenda. Firstly, the general public and public officials should be educated about urban agriculture, what it is, what it is not, its benefits and risks. In this way urban agriculture would be better understood, and more likely to be accepted. There was also suggestions that consumers should be educated about seasonality and what is involved in organic food cultivation. This was seen as paramount, because our modern society has distanced itself from food growing, and does not seem to understand that it is not possible to have everything at all times,

and that there are numerous environmental factors that dictate what is producible and when it is available. Without this knowledge, people will continue to expect local farmers to produce foods that are neither grown in the region, nor available at certain times of the year.

“It would be down to consumer education, people find it difficult to rock up at a sale outlet and half of the stuff they want is not there and they have to go somewhere else. So you have to break that supermarket mentality that everything I want is under one roof, and I just go there and that is that. We need to educate people about seasons, not to expect pumpkins in the middle of winter. So once you’ve got a population that accepts these limitations then you have the success.” [Farmers’ Market Organiser]

“Another important thing is understanding what is right for this climate, without educating the consumers with what they are eating, we will go nowhere.” [Food Related NGO Manager]

The knowledge to produce food is also missing in our time-poor society, and according to stakeholders, that understanding must come back, for there are numerous ways that people can easily and cheaply produce some of their own food organically. However, there are important rules or procedures that people must know before they start digging up their backyards in order to avoid disillusion. This scenario was observed continually:

“The amount of information [about growing food] out there is ridiculous, but people are not prepared to put in the work, they are not prepared to wait three months for something to happen, they think it’s easy and it is not. So, the training side of it is incredibly important.” [Urban Farmer]

“People like the idea [of growing food] but the knowledge is not there and it’s actually getting lost. So I think that the knowledge is very important, but proper knowledge, and a bit of practice.” [Food Related NGO Manager]

“Take a person who is willing and keen to learn, and you tell them the wrong thing, they go home and try to do it, if it fails, they will give up. They will feel like they are failures that it just does not work. But, give a person who is not even that keen the right information, they will not fail and you have a convert for life.” [Food Related NGO Manager]

Food events, labelling and trails have also been suggested as great educational tools that the Gold Coast City Council could develop, encourage and promote, which would not only facilitate the nurturing of knowledge but could also be used as tourist attractions.

“We should have food events across the region to sort of educate people about their food and the importance of protecting agricultural land.” [Community Gardener]

“We do farm walks which gives an extension of that [education], and that is very important. If you get someone to come out and go for a walk in the farm, they lock in as a customer, they might just buy a bit of stuff and know you a bit, but when they come out and see your property, they feel so connected and when they hear your stories about the good stuff and the difficulties of producing food they become really loyal and they buy every week – it’s very important.”

[Regional Farmer]

“It would be great to have food labels that say where that food was grown, it helps people to understand what is happening around them, and connects them to their region.” [Urban Farmer]

Children Learning

Within the educational umbrella, stakeholders emphasised that children should be given the highest priority. Children should be taught about the importance of food, where it comes from and how food is cultivated and used. This was seen as paramount to change our fast-food culture, and to breed the next generation of people that value good quality organic produce. Children were also seen as the quickest link to changing adult behaviour, for children are enthusiastic about what they learn, they share with their parents and they demand what they like.

“As an educational strategy we should definitely start with schools, as the children spread the word and push their parents to grow food, and they are the next generation.” [School Principal]

“What is interesting about the kitchen garden program is that the kids are going home and they are cooking and they are getting their parents to try things that they haven’t tried before. They are also starting to grow stuff at home.” [Food Related NGO Manager]

The above quote brings another common perception, that schools are the best place for children to get this vital education. The schoolyard is often highlighted as a key location to promote healthy eating behaviours because children spend a lot of their time there (New South Wales Centre for Public Health Nutrition, 2005). Schools also offer a range of infrastructure needed to implement healthy eating programs, providing opportunities to positively change behaviours through structural learning and practical activities, such as cooking, gardening and composting (Knai et al., 2006). The initiatives brought about by the Stephanie Alexander’s Kitchen Garden Program (Block et al., 2012) were noted and praised on numerous occasions, but it was also understood that only a limited number of Gold Coast schools were part of this program.

“We think it is worth it, we see what the kids get out of it, the interactions they have, the increase of their willingness to try different foods, we see them appreciating that you can have food that taste good.” [School Principal]

“When kids have that process of the seed in the ground, tending the plant, harvesting, bringing into the table, and it looks great in the table all this produce, and then cooking a meal and sharing it, that whole process really help kids seeing some parts of food consumption that in the fast food world or the packet food they may not see it at home or other places.” [Food Related NGO Manager]

Community Gardens

Community gardens can also play an educational role within the community, for they allow members of different ethnic groups to come together, share their experiences and learn with one another. The experience of community gardening on the Gold Coast has not always been a positive one, and some of the existing gardens have struggled in their development stage as well as in their ongoing existence. There are numerous tales that go beyond the scope of this paper, but suffice to say that many stakeholders have had enough and they are demanding change. Perhaps the largest complaint (beside the incredible difficulty and uncertainty imposed by Council to set up new community gardens) is the increasing financial pressure that these community gardens are under. Not only do gardens have to pay for insurance, water and electricity, but Council is now requiring that all gardens sign a lease agreement and pay for the cost of setting up the lease as well as yearly payments for the right to use public land. In addition, Council prohibits community gardens from selling any of their surplus produce, or anything else, in order to raise funds. Consequently, all community gardens on the Gold Coast are in a situation where they have to come up with large amounts of money in order to exist, and this pressure is becoming unbearable for some. Thus, stakeholders are demanding that council reduce their financial pressure and/or allow them to conduct fund raising activities within their land. These views can be recognized on the following comments:

“Where do you get the money to pay all those bills? [...] we have these things hanging over our heads, and I believe we will have some very serious costs pressure if we are to have these leases, and insurances and rates...” [Community Garden Manager]

“There are major costs involved and then you only have 40 beds, with 35 members you just can't expect those 35 members to raise 10,000 or even 5,000, because you know we will be far better off just to buy stuff at the market rather than growing.” [Community Garden Manager]

“It's alright if you are a sporting club and you are selling beer and junk food, but if you are a community garden and you want to sell vegetables and gardening stuff, you can't do it at the moment. So that stops these community gardens from making any sort of income from their excess produce. So they can't put a sign up the front saying “Lettuce is 50c”, you know 5 dollars a week times 52 weeks, its 260 dollars which is the cost of their insurance.” [Urban Farmer]

“I think community gardens should be able to sell some stuff as fundraising events, sell produce, or jams and pickles or some other products from people that might come and do a workshop or a lecture. This would make community gardens a lot more sustainable if they could sell a bit of produce.” [Academic Researcher]

Community gardeners have also raised their dissatisfaction with Council that does not recognise any of the social, environmental and economic benefits that these gardens add to the Gold Coast community. In numerous ways, community gardens save the Council money through lower maintenance costs, contributing excess produce to communal kitchens, providing a safe environment for children and disabled people to be outdoors, while being a place where residents can exercise, learn, socialise and eat healthily. Stakeholders have mentioned that they need more recognition and an improved system that encourages and facilitates the development of more community gardens on the Gold Coast.

“Clearly they [Gold Coast City Council] do not recognize the services that community gardens provide, as we keep this area clean, we encourage people to eat healthy, socialize and educate themselves.” [Community Garden Manager]

“Community gardens provide so many benefits for the council...it provides a place for workshops and education and having a sense of community, or even social aspects.” [Community Gardener]

“Having a good application process is crucial, and to have good information through a streamlined and informative process – maybe similar to a DA approval. It has to be a two way road, you know, we’ve done everything that was required from us, but we are still waiting in limbo.” [Community Garden Manager]

City Farms and Market Gardens

City farms and market gardens are increasingly seen in major cities throughout the world. In Australia, both Melbourne and Brisbane have well-established city farms, while Sydney is planning for one in the heart of town. The Gold Coast does not currently have a city farm, and is therefore missing out on the potential to not only provide local food but also to showcase what is possible and foment greater interest. Markets gardens could play a similar role, but would be more focused on the commercial side of food growing. Stakeholders noted that these two food producing enterprises were lacking and needed to be encouraged and supported, for they would contribute to education and food resilience.

“A good model would be to have a community farm and some training on the sideline, and currently there is a demand for things like that, it’s a good opportunity for people to learn and have feedback.” [Regional Farmer]

“This is not a big scale farm, because land up here is so expensive, frightfully expensive. So essentially we are setting up a market garden designed around the European model. There will be about 65 beds when we are fully operational, and this small 1 hectare of land will produce enough to have one full time wage, which is quite a lot for such a small area.” [Urban Farmer]

“That is why Council has to support these urban farms, they employ people, they provide an amenity for people to come, it’s another place to meet and they can be economically profitable, if they are allowed (like a soccer club) to sell products like veggies, worm farms, seedlings, coffee, etc.” [Urban Farmer]

Animal Husbandry

Animal husbandry plays a great role in urban agricultural systems, where animals provide not only a source of food, through meat, eggs and honey, but they also offer environmental benefits such as pollination, pest control and fertilization. There has been some controversy surrounding animal husbandry, especially chicken-keeping, on the Gold Coast, and stakeholders believe that more needs to be done to allow people to keep small animals such as chickens and bees in their properties.

“Another thing that needs to stop is the prohibitions on chooks, if you are allowed to have a cat and a dog, you should be allowed to have two chooks, as long as you don’t have a rooster. Council really need to relax these laws, you might only be allowed to have 6 bantam hens or six full sizes hens, obviously no roosters.” [Community Gardener]

“This chicken regulation is just a joke, I think it is only on the Gold Coast that we have them, what is the reason for not allowing chickens in smaller blocks, and we are not even talking about units. Especially given the price of land here, most people are and will be living in smaller houses and they should be able to have chickens if they want to.” [Food Related NGO Manager]

“We have a couple of hives from the native stingless bees here and they are just fantastic, they don’t produce much honey but they do a great job for us with their pollination, they are so easy to look after and the kids love them.” [School Principal]

“Bees are great we definitely need more of them, and funny enough bees that live in cities are actually better off than the ones in the country.” [Community Gardener]

Land Access

Access to land is becoming increasingly difficult in most Australian cities, and the Gold Coast is no different, but there are many opportunities for residents to access sufficient land to either grow their own food or even to have a small scale commercial enterprise. Land is definitely not in short supply on the Gold Coast, but accessing it has been very difficult, if not impossible. The Gold Coast community has acknowledged that something needs to be done to free up these lands, even if only for a short

time. One option is to put underutilized public land, be it parks, floodplains or utility land, into productive use: all could be used for food growing or composting initiatives temporarily or permanently.

“There is so much land around, not only on private hands but also Council land, for example all the parks spread around the city, they are just not utilized enough, they become a burden to the Council, who has to mow and fertilize them.” [Urban Farmer]

There should also be more incentives for private land to become productive. There are many landsharing schemes operating overseas that encourage people with land to share their plot with willing gardeners and farmers. On a similar note, developers could be encouraged to allow urban agriculture to take place on their land while waiting for it be developed or sold. Also, several cities in the global South are currently experimenting with temporary occupancy permits, which are usually mediated by NGOs, and could be an opportunity for Gold Coast urban farmers to access land. Some of these ideas were expressed in many interviews.

“There must be developers sitting on a whole bunch of land that as long as it was cleared they could give a year’s notice that they would eventually turn into a state. And there are hundreds of hundreds of acres and given the current real estate market they are not going to develop it, and they have to keep mowing every two months, it’s a burden, so why not let somebody grow something on it?” [Urban Farmer]

“I think landsharing is a really good idea, yes it could be problematic, and so is having a tenant, but if you had some great contracts, some really good screening process, that people just don’t take the first person that comes along, have some sensible ideas worked out, the guidelines are down, and really engage with that person, which would generally be a younger person. I think it’s a fantastic idea and it’s just what we need in these areas.” [Food Related NGO Manager]

“There should be a requirement that says that all development land that is going through a DA should at least be used proactively as either a composting sites, or seedling sites, or food production site, you know, to use the resources that we’ve got.” [Academic Researcher]

“That is something else that we would like to see them [Gold Coast City Council] do, when they are approving a development, if they know that it’s going to be vacant land for a couple of years, the developer can have an extra tick to allow the community to use it for the mean time. Or have some incentive, a tax break, whatever.” [Urban Farmer]

A good opportunity for land access on the Gold Coast could also come from land owned by the municipal government and public utilities companies. In a number of cities overseas, urban farmers have been allowed to use floodplain areas (Rosario, Argentina) as well as right-of-way (Rio de

Janeiro, Brazil) and under power transmission lines (Accra, Ghana) (Luc Mougeot, 2015; personal communication).

Food Processing

The next theme regards food processing, and although not many interviewees raised food processing as part of their vision for urban agriculture industry, there were some that were very knowledgeable and understood that it was necessary, especially in terms of adding value to local produce. There were two main aspects of food processing that could be encouraged – small food processing businesses and community kitchens. In terms of businesses, stakeholders pointed out that there was too much regulation and red tape, which resulted in a very limited industry. Accordingly, it has been suggested that small food processors could be encouraged through deregulation and incentives, but also through the development of food processing precincts or clusters, where small processors work together to minimise waste and maximise resources.

“Where council can sit in this equation is that they can facilitate that by removing regulations, and by bringing people together and co-locating spaces.” [Food Related NGO Manager]

“One of the strategies that you can really see burgeoning amongst people is in micro-processing, food processing; I really see that as an opportunity. And cultivating that means that micro-processing is what really fits a smaller farmer. So a smaller farmer might only need a few dozen eggs a week rather than the big scale operator who demands so much and they just want to deal with some massive farmer. So by encouraging a precinct or a special food processing precinct for small and medium players, you can really start something.” [Food Related NGO Manager]

Community kitchens are shared processing centres that provide micro food processors with the use of an approved food production space, equipment, packaging, labelling and storage facilities. These are great facilities for novice entrepreneurs (and anyone else) that do not have the capital to invest in their own processing plant, allowing an almost risk-free opportunity to enter this industry. Toronto’s FoodShare organization provides a successful example of a business incubator that houses a kitchen and hires it to small catering enterprises (Luc Mougeot, 2015; personal communication). It has been suggested that numerous opportunities for community kitchens exist on the Gold Coast. Restaurants, clubs, meals on wheels, schools and other businesses and charity organisations that may not use their commercial kitchen everyday could all take part in the program.

“Our school kitchen is not a certified commercial kitchen, but if it was we would definitely be interested in sharing it with the community.” [School Principal]

“A proper kitchen, that's what you need to increase food processing. And that is something that council should be doing, we've got many sports centres, I mean you could put something in those and use it as a community kitchen, a commercial kitchen.” [Urban Farmer]

“What we are doing at the moment is that we've got two people interested in renting our kitchen when we are not in operation, 90% of Meals on Wheel in Brisbane are doing that, because of falling meal numbers.” [Food Related NGO Manager]

Produce Marketing

Marketing of local produce is a key aspect in any urban agriculture industry, for it allows local farmers to sell their produce while maximizing profit and reducing packaging and transportation costs. Although, the Gold Coast holds several so-called farmers' markets, the reality is that most of these have very few farmers (if at all). Rather, there are many resellers that simply obtain produce from the central markets in Brisbane. Additionally, the traditional lay out of markets that also include crafts and clothing does not seem conducive to fresh food purchases, as people tend to spend hours walking and looking rather than going home to store their freshly-bought produce. Based on these situations and the acknowledgement that there are too many miles in our food basket, many stakeholders would like to see the shortening of our food supply as well as encouragement for real farmers markets.

“As a small grower there is no way we can make a living selling it to the wholesaler or to the shop, because you are getting less than half price.” [Regional Farmer]

“It is much better to deal directly with the public, through farmers' markets, co-ops and farm gate sales.” [Regional Farmer]

“The markets on the Gold Coast are private markets to benefits individuals, so the market is set up really to profit them, so it's a private business. I think that it all comes down to who do you want to benefit, and you should benefit the farmer and the local community. Council should determine who has access to that market and should ensure that the produce is genuinely grown locally and not just resellers.” [Farmers' Market Manager]

“In real farmers' market, people go there to shop, whereas in most markets on the coast people go just to look, it's a leisure activity for them.” [Urban Farmer]

“It's hard for us farmers to compete in these farmers' markets because there are too many resellers.” [Regional Farmer]

Another interesting concept that has been suggested is the creation of 'green sheds', or co-operative stores where micro urban farmers that do not have enough produce on a regular basis to attend a farmers' market, can sell their produce. This model already exists quite successfully in Tamborine Mountain, on the Gold Coast hinterland, which is part of Scenic Rim Council.

“The idea of the green shed where micro producers and backyard gardeners bring their excess produce to the shed and sell is great.” [Urban Farmer]

“The purpose of the green shed is to enable very small growers, and I am talking very, very small growers, in fact it does not work well with big growers. To give them somewhere that they could get rid of their surplus and make a little bit of money.” [Regional Farmer]

Urban Food Forestry

In an ideal urban agriculture city, the Gold Coast would have fruit and nut trees all around its streets and parks, growing an urban food forest. It was notable that the majority of stakeholders interviewed commented on the need to use food producing species in our public lands, for these trees would not only bring to the city the same benefits that existing trees bring (i.e. shade, cooling, fresh air, etc.), but would also offer valuable food, that could be gathered by anyone, or collected by an NGO and given to homeless and people in need. Interviewees were especially keen to turn their mundane streets and parks into productive spaces.

“Edible landscaping to me is an obvious one, there is an almost endless supply of land if you start to plant on the verges, parks, roundabouts, etc. I know that there are some liability concerns for councils, but the Gold Coast should do at least what Councils in Melbourne and Sydney are doing, when they are setting up guidelines to allow residents to plant on the verges in front of their places.” [Community Gardener]

“Would be really, really good if on the nature strips they [Council] planted fruit trees, I know that you’ve got security issue of people falling on the slimy fruit that comes down, or tripping over the nuts, but it just makes sense, in this park for example nobody needs to walk on that ground over there and it should be absolutely covered in fruit and nut trees, or even lemon myrtle tree, and you just go and take their leafs and they are great if you have a cold, it’s the best things you can have.” [Community Gardener]

Waste Management

Waste management is a crucial element, one that closes the loop and turns garbage into a valuable resource. Urban environments produce an enormous amount of waste and a great proportion is in the form of organic waste from kitchens and gardens, offering enormous potential and costs savings for local governments if used wisely and efficiently. Examples like the Lismore City Council, that collects organic waste, compost it and resell to the community is inspiring, and can be instrumental in convincing others to follow a similar path. The Gold Coast has recently started to collect green waste which, in combination with its garden and maintenance waste, would provide a significant volume of organic materials that could be composted and sold to urban farmers, who are desperate for quality

soil amendments like compost. Research participants were very excited with the opportunities that such a closed system could provide.

“What council is missing is an urban agriculture policy, it needs to acknowledge that the resources that are considered waste resources can be composted and turned into organic soils. Either the council makes [compost] or they make them [wastes] available to other people so they can do it. There should not be a cost involved either, because there is cost savings.” [Urban Farmer]

“The waste stream, setting up a program to try to turn the waste stream into compost, you can look at Lismore City Council, and they have a great program. It’s crazy that the Gold Coast doesn’t do anything about it and does not set up something similar to Lismore.” [Waste Processor]

“There are so many opportunities by introducing a green waste collection system and perhaps having partnerships with all those people that mow grass for a living and landscaping type of people. There are so many resources within cities, that is just ridiculous.” [Food Related NGO Manager]

Gold Coast Urban Agriculture Strategy

These different research components yielded enough material to fuel the developmental process of the Gold Coast Urban Agriculture Strategy. Through a comprehensive analysis of the planning framework applicable on the Gold Coast, it was possible to understand how urban agriculture land uses were being treated, and what could be done to facilitate its growth. International and local examples of urban agriculture policies provided a rich database of tried and tested solutions that could be fostered on the Gold Coast. And, stakeholder’s interviews provided indispensable knowledge that not only supported the finding of the planning framework assessment, but also elucidated a number of other issues while offering ideas of what could be potentially pursued. What follows is a synthesis of the Gold Coast Urban Agriculture Strategy, its recommendations and proposed actions.

Gold Coast Urban Agriculture Strategy: Connecting the Gold Coast to its Roots

The proposed Gold Coast Urban Agriculture Strategy was developed following an extensive research process involving in-depth interviews with local urban agriculture stakeholders, widespread policy research from other jurisdictions as well as a systematic review of the current planning framework of the Gold Coast and how it affects urban agricultural practices, as discussed in previous chapters. The result is a set of 59 strategic recommendations structured around twelve core urban agriculture areas (see Appendix 2 for the full strategy): Establish the Gold Coast Urban Agriculture Council; Plan for an Urban Agriculture Industry; Educate Gold Coast Consumers and Producers; Teach our children to

grow, cook and eat; Enrich our Community Gardens; Revive our City Farms and Market Gardens; Permit Chicken and Beekeeping; Increase Access to Land; Foster Local Food Processing; Support Local Food Marketing; Establish an Urban Food Forest Network; and, Value our Waste.

The first core area is the establishment of a Gold Coast Urban Agriculture Council (GCUAC), a peak body to be formed with representative members of the community and the Gold Coast City Council, that would serve as a coordinating entity or intermediary between community stakeholders and local government, with the aim of transforming and improving the food system through democratic and collaborative planning and policy making.

In terms of the recommendations for the expansion of urban agriculture on the Gold Coast, it is important to firstly recognise urban agriculture as a valuable land use, introduce suitable definitions into the Gold Coast Planning Scheme as well as incorporate these land uses within Domains and Local Plans. Furthermore, existing policies and local laws which might hinder the development of urban agriculture in the city should be reviewed and specific zoning and supportive mechanisms to urban agriculture should be enacted.

Education is a key aspect for the long term development of urban agriculture, not only do consumers have to be educated about seasonality of produce and how to utilize locally grown food, but producers and processors must also be educated about rules, regulations and consumer demand. Thus, strategic recommendations include the development of a Gold Coast Urban Food and Agriculture Learning Centre, the development of numerous learning opportunities, the creation of an interactive web portal, as well as the formation of a regional food trail and a local food brand.

Looking to the future, an important area is the education of our children. In order to bring children back to nature and ensure that they know where their food comes from, it is recommended that a kitchen garden curriculum (and associated support infrastructure) be formulated and used in all schools on the Gold Coast. This would not only teach children to grow food, but also to cook and preserve food, a skill that seems to be disappearing from our fast food society.

Community gardens are communal structures that positively contribute to improving social, environmental and sustainability objectives. Community gardens are perhaps the most widely practiced form of urban agriculture in Australian cities and demand for them is rising on the Gold Coast. For that reason it is recommended that a comprehensive community gardens policy be formulated and that increased support for gardeners be fostered.

City farms and market gardens are burgeoning throughout the world and Australia is no different, reflecting society's need to reconnect urban populations with food production activities and landscapes. The Gold Coast is one of the few major cities in Australia that does not have a city farm,

consequently it is recommended that a feasibility study to establish the Gold Coast City Farm and Training Centre be carried out. In addition, suitable land that could be used for market garden operations should be identified and made available to urban farmers, and the scope to relax unnecessary regulations applying to the selling of food stuff should be studied.

Animal husbandry is another core area within urban agriculture, providing not only a food source but also performing valuable environmental services such as pollination and fertilization. Keeping of chickens and bees is however difficult on the Gold Coast due to unpractical local laws, as such it is recommended that these laws be reviewed, as well as the adoption of best management practices to help both practitioners and regulators in the successful keeping of animals.

Land is a critical element for food production practices, however after years of urbanization, access to affordable, fertile, well oriented and located farmland has become a major challenge. It is important to undertake a comprehensive urban agriculture land mapping and inventory exercise to be able to locate land where urban agriculture could take place. Also, in order to facilitate land access, Gold Coast residents should be encouraged to sign up for Landshare Australia, while Council could examine the possibility of providing local tax incentives to land devoted to agriculture and explore the feasibility of establishing a land trust.

Food processing is another key element of a strong food system, providing avenues for local produce to be preserved and value added. On the Gold Coast however, there are very few food processing businesses currently active and their growth could be encouraged. Through a clustering of similar businesses or through the development of community kitchen arrangements, food processing enterprise could be fostered. It is important also to provide training in food safety and processing regulations to ensure that processing activities follow best management practices.

A crucial element for urban agriculture is the distribution network, or the method by which locally grown food gets from the producer to the consumer. For micro and small scale farms (the scale that most urban farming ventures operate), direct marketing is the primary avenue for commercialization, it is therefore recommended that a study be conducted to determine the feasibility of establishing at least three Council-regulated farmers markets as well as developing a farmers' market policy that encourages local farmers (and not resellers) to participate. Furthermore, green sheds and road side stalls could also be a part of the distribution fabric of urban agriculture products, and their encouragement should be investigated.

Urban food forestry covers numerous planting initiatives including urban orchards, edible landscaping, street verge gardening, edible parks and urban forest gardens. The practice of planting edible plant species in public domains is seen as another means of bringing food production to cities, as such it is

recommended that potential locations to plant and establish edible trees and community orchards be identified throughout the city. Correspondingly, it would be relevant to develop an edible landscaping guideline and map existing urban fruit and nut bearing tree to educate and showcase to the community what is possible.

Lastly, organic waste constitute a significant proportion of municipal solid waste, therefore implementing a municipal composting program has the potential to not only significantly reduce the volume of waste being diverted to landfills, but also help to manage water more efficiently while contributing to the development of local infrastructure and amenities by improving soils and green spaces. Consequently, a feasibility study to build and maintain a Gold Coast Composting Facility should be carried out. Simultaneously, community and household composting systems should be explored and educational programs encouraged.

It is important to note that in order to address these strategic actions a coordinated effort on the part of Gold Coast City Council departments, political leaders, and community partners is paramount. The proposed Urban Agriculture Strategy is only a starting point in the long and rewarding journey towards greater urban food security, and with that in mind it does not, at this stage, set out a detailed implementation plan, rather it identifies strategic directions for moving towards greater food security in the city and for increasing the economic opportunities available to everyone concerned with growing, processing, transport and selling locally grown food. Implementation will occur over time, through partnerships, community involvement, research, leadership and resource allocations.

Conclusion

A general willingness to accept urban agriculture-related land uses was found in the higher level plans and strategies of State and Gold Coast governments. Yet, these could be greatly enhanced by the acknowledgement of urban agricultural practices as an important element in achieving greater sustainability. The analysis of the Gold Coast Planning Scheme shows that these higher level ambitions are struggling to be realised in practice.

The Gold Coast City Council has claimed through its Corporate Plan, Vision and Climate Change Strategy that it would like to increase the proportion of local food production and purchase while moving towards a more sustainable way of dealing with its organic waste. However, its current planning tools are not reflecting these intentions and will need to be modified in order to embrace urban agriculture. Land use definitions, outcomes, domains, local area plans, policies and local laws need to be better aligned in order to provide a stronger structure that recognises the value of urban agriculture in all its forms, and provides a strong but flexible framework for assessing and supporting new urban agriculture initiatives in the city in the future.

The Gold Coast does not need to re-invent the wheel in order to turn its city into an urban agriculture friendly town. Analysis of both local and international policy documents revealed the magnitude of options being tried and tested, and some of these could easily be implemented in the city at minimal costs.

The reality is that urban agriculture stakeholders are sitting in limbo. On the one hand the City of Gold Coast is sending messages that urban agriculture is acceptable and could be supported, on the other hand it is failing to meet its obligations and, in many instances, frustration has taken the place of hope and togetherness.

The Gold Coast Urban Agriculture Strategy puts together all of this information, perceptions, feelings, hopes and inspirations. It does not aim to be the final destination, but it intends to start a conversation that might slowly change the face of the city for the better. There are very ambitious actions proposed that will require resources, coordination and sharing for their realization. There also are simple and inexpensive propositions that could be put in practice with minimal effort and expenditure, which could enlighten this journey and plant the initial seed for an urban agriculture industry on the Gold Coast.

In the next Chapter and in-depth discussion of the theoretical, political, content and implementability evaluation of the proposed strategy is presented, which allowed for a critical evaluation of both prescriptive and descriptive (to some extent) theories of policy making.

Chapter 6: Theoretical and Content Assessment of the Draft Gold Coast Urban Agriculture Strategy

Introduction

Assessment of the quality, content, political and theoretical elements of the Draft Gold Coast Urban Agriculture Strategy is a principal component of this research, for it allows a direct evaluation of the theories used in undertaking this policy making exercise. Four different evaluative approaches were conducted, aiming to provide ample opportunities for stakeholders to share their views on different aspects of the draft strategy, and facilitate the gathering of valuable data to critically analyse theories of policy making. These approaches included: evaluative questionnaire; Gold Coast City Council

officer's focus group; Gold Coast City Council planning officer appraisal; and scenario planning of proposed recommendations.

This chapter aims to answer the following research questions:

- How does the developed policy fare in terms of its theory, content and implementability? Could it be improved and if so, how?
- How have theories of policy making fared in developing an urban agriculture policy for the Gold Coast? Could they be improved and if so, how?

Evaluative Questionnaire

The first approach carried out was the creation and circulation of an evaluative questionnaire (Appendix 1) among all interviewed stakeholders. Participants were contacted via e-mail, in which a copy of the draft strategy and a copy of the evaluative questionnaire were included, and recipients were encouraged to forward both, the draft strategy and questionnaire, to other parties that could be interested in this project. Provisions had also been made to mail these documents for recipients that required a hard copy.

Twenty nine urban agriculture stakeholders were contacted and encouraged to read the draft strategy and provide feedback. Approximately one month was given to all recipients to provide feedback, and a follow up reminder e-mail was also sent about half way through this period. Overall, seven completed questionnaires were received, a response rate of just over 20%, which although not ideal provided some data to illustrate the general view of stakeholders about the draft Gold Coast Urban Agriculture Strategy.

The first question asked stakeholders to provide an overall rating for the Draft Gold Coast Urban Agriculture Strategy, and five out of seven responses rated the strategy as excellent while two rated it as good, indicating that, overall the strategy was seen to tackle all or most of the concerns previously raised by stakeholders.

Questions 2 to 4 were designed as an open-ended format and were aimed at obtaining information about the content of the strategy, such as any important omissions, actions to be prioritized, and recommendations that needed to be better developed. Although aware of the limitations of open-ended questions, especially in terms of response rate, there were some noteworthy comments.

Despite receiving only four comments where two simply stated that they understood that the strategy had covered all aspects of urban agriculture on the Gold Coast, an interesting comment suggested the addition of non-governmental initiatives such as guerrilla gardening, while the last comment suggested a more in-depth discussion of the risks to both the community and Council if the strategy

was not implemented, with particular emphasises on the recent (2011) flooding events in Brisbane, where transportation networks were significantly impaired and supermarkets on the Gold Coast almost ran out of food after only two days.

Although these were valid omissions to the strategy, they were not taken further for a number of reasons. Firstly, the strategy was meant to resemble an official Gold Coast City Council strategy, as such it mostly contained actions in which council were either the enabler or the main actor. Guerrilla gardening on the other hand could fit under the umbrella of 'Council's enabler actions', however given the broad spectrum of activities involved in guerrilla gardening, it was understood that it was better to encourage individual activities such as community gardening, verge gardening, public land access and community composting rather than support a generic activity that could potentially cause future problems. With regards to the second comment, the author understands that depicting an extreme scenario where the Gold Coast might be cut from the food distribution network in a repeat of the 2011 flooding events could be counter-productive and simply interpreted as a scare campaign rather than a realistic analysis. Instead, the strategy aimed at pointing out the many benefits that a well-established urban agriculture industry could bring to the Gold Coast, one of those benefits being greater food security and resilience.

Given the breadth of the strategy, the next question was designed to find out which of the many recommended actions should be prioritized. Again, only a fraction of respondents (3) completed this section, and all prioritized actions were different. "Improve land access" and "develop a simple and efficient way of selling produce", were actions to be prioritized in one instance, while another stakeholder believed that "education, particularly around the how to and the benefits of urban agriculture" should be on the top of the list. The third stakeholder understood that the priority should be the creation of a "coordinated, collaborative, proactive and inclusive" urban agriculture policy council for the Gold Coast that is able to "prioritise and implement a city wide urban agriculture plan".

Question 4 was once more only answered by a limited number of people (2), and it was concerned with any aspect of the strategy that needed to be better formulated. On the one hand it had been suggested that the strategy "lacks information on why urban agriculture was needed and why the current system is a problem". Additionally, there was a suggestion that the objectives of the strategy should be re-worked around Gold Coast City Council objectives and not be based on the principles of the Food Sensitive Planning and Urban Design (FSPUD) framework developed by the Victorian Eco-Lab (Donovan et al., 2011).

Both suggestions were valid and measures were taken to address them. Firstly, the section devoted to urban agriculture was expanded slightly to include a stronger argument for its inclusion in city-wide planning, while being conscious of the overall length of the document. Secondly, in the initial

developmental stages of the strategy, the objectives and goals established by the Gold Coast City Council Bold Futures Vision (Wake, 2009) were used. However, due to the recent election of a new Council, these objectives became somewhat obsolete, and a change towards FSPUD objectives was made. Nevertheless, recently, the new Council has launched its own set of objectives, which have been incorporated into the proposed strategy, replacing the objectives associated with the FSPUD framework.

The last of the open-ended questions aimed to understand what might be the main obstacles that the strategy would face in being accepted and implemented. Of particular note is the remark made by one urban farmer noting “the threat it poses to the status quo” and the “lack of awareness concerning the issues that urban agriculture addresses”. Similarly, another participant pointed to the “lack of understanding of the issues around food security by the Gold Coast community” as a major obstacle. Whereas, the short termism emanating from the four year election cycles were raised by this stakeholder, who stated that “this strategy is a long term initiative (5 years plus) and governments (in general) are reluctant to look at long term plans, which are not seen to deliver immediate results to the general electorate”.

The second part of the evaluative questionnaire looked at the theoretical aspect of the draft strategy. Theories of policy making suggest that a good policy should have a range of attributes, including: long term; outward looking; evidence-based; innovative; inclusive; integrated (joined-up); and continually improves. Questions 6 to 12, attempted to find out, through closed questions, how stakeholders believed the strategy had incorporated these theoretical attributes. Table 10 below depicts the attributes in question and the percentage of responses allocated for each of the possible options.

From Table 10 it is possible to see that, in accordance with the responses of stakeholders, the draft Gold Coast Urban Agriculture Strategy succeeded in encompassing all theoretical elements. In particular, the draft strategy demonstrated a very high degree of inclusivity, with high scores in key attributes such as being long term, outward looking, evidence-based and innovative.

Table 10: Analysis of responses regarding theoretical elements of policy making.

Attribute	Strongly agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree
Long Term	60%	40%	-	-	-
Outward Looking	15%	70%	15%	-	-
Evidence-based	-	70%	30%	-	-
Innovative	40%	60%	-	-	-
Inclusive	70%	15%	15%	-	-
Integrated	33%	33%	33%	-	-
Continual Improvement	33%	33%	33%	-	-

Of great interest is the strong perception that the policy making approach was inclusive. This may reflect the fact that most, or all, of the issues pointed out by stakeholders have been reflected in the strategy in one way or another, and participants may have understood that the researcher listened to what they have said and attempted to address their concern, thus feeling that they had participated and contributed to this policy making process. This conclusion is however not definite, rather it needs to be interpreted with caution given that only people that have previously been interviewed commented on the draft strategy. This might bias the results, which could have been very different if all residents had been given the opportunity to complete the evaluative questionnaire. Nevertheless, it provided some information on this theoretical element of policy making and the approach used.

On the negative side, respondents have felt that the strategy lacked integration as well as continual improvement measures. This is probably a reflection of the lack of support from Gold Coast City Council throughout the developmental process, which contributed to the policy making process being driven purely by theoretical explanations and urban agriculture stakeholders' inputs. As a result, measures for departmental integration might have been limited and an understanding of desirable and realistic evaluative measures might have been overlooked.

The last question of the evaluation asked stakeholders if they believed that the draft strategy was a realistic and implementable framework. The overall majority did not know what to expect, clearly indicating their uncertainty about the political context for such a plan. This might have arisen from the newly elected Council principles, which seem to be more inclined to act on roads, rates and rubbish than look at proactive measures to improve the quality of life and build the resilience of the city. Nevertheless, there was not a single response indicating that strategy was unrealistic or non-implementable, but "it will definitely depend on its political acceptance".

Gold Coast City Council Focus Group

A focus group exercise with Gold Coast City Council officers took place in December 2013 at Griffith University, Gold Coast Campus. The focus group aimed to discuss a number of issues regarding the draft strategy, including theoretical elements, content, political acceptance and implementation. Although numerous attempts were made to try and contact as many Council officers as possible, in the end only five officers attended the event. These officers however represented five different departments within council, which allowed for a broad discussion on the topics. The departments represented at the focus group were: Economic Development; Community Services; Waste Management; Parks and Community Gardens; Climate Change and Sustainability. Unfortunately, none of the town and environmental planning officers were able to participate, but these have been involved in other evaluation activities described below.

The focus group was scheduled for two and a half hours and it ran to the agreed time, and it was divided into five distinct sections. Firstly a brief introduction by the researcher was given, to conceptualise the topic and provide some background information. That was followed by four discussion sessions of roughly 30 minutes, each of them devoted to a specific topic, including: Theoretical Assessment; Content Assessment; Political Assessment; and Implementation Assessment. In order to obtain relevant data for this analysis, the entire workshop was voice recorded and all participants were given an assessment sheet (Appendix 3) to be completed on their own time and returned to the researcher as soon as possible. The results of this event are presented below in four distinct sub-chapters relating to the different discussion sessions.

Theoretical Assessment

The first discussion topic at the workshop concerned the theories involved in the development of the strategy. Again, the critical elements for good policy making – long term, outward looking, innovative, evidence-based, inclusive, integrated and continuous improvement – were the basis for this evaluation. The aims of this session were two-fold: i) to understand if these theoretical elements were actually viewed in practice as essential to good policy making on the Gold Coast; and ii) to obtain feedback on the extent that these elements have been incorporated into the draft strategy.

To understand how ‘essential’ these theoretical elements are for policy making at the Gold Coast City Council, officers were asked to classify each of the elements in a range from 1 to 10, where 1 meant that they could not be bothered about it, 5 meaning that it would be nice to have it but not essential, and 10 meaning that it was a paramount attribute to good policy making. Based on individual responses, an average response was generated, not to analyse its statistical significance, but to obtain an overall idea of how these elements were seen. Table 11 presents the results.

Table 11: Importance of each theoretical element given by Gold Coast Council officers.

Element	Average Score	Importance Given
Long Term	8.4	Very Important
Outward looking	8.4	Very Important
Innovative	7.6	Important
Evidence-based	8	Very Important
Inclusive	7	Important
Joined-up	6.4	Nice to have
Continuous improvement	7.4	Important

From the discussions and the above data it was clear that all of the essential elements indicated by the theory of policy making were relevant when drafting strategies at the Gold Coast City Council, though, as expected, different elements proved to be more important than others. Interestingly, at the top of the list was long term planning as a critical element for good policy making. Forward looking was highlighted in the discussion as necessary because “comprehensive strategies like that, do take a

while to gain momentum” and “to ensure long term commitment to the application of the policy”. However, although it seems obvious that policies and strategies should focus on the long term improvement of the city and thus should contain actions that will be accomplished through a medium to long term framework, throughout the focus group, a recurring theme has been the short termism within Council, and the need to prioritise short term actions. The quote below illustrates this political tension.

“We think this element is very important when drafting a policy, but it does not mean that it is fully attainable. For example, with the waste strategy we are looking at a 30 years plan, and most other branches of council will be using 5, 10 or 15 year plans. Council though is very short term and they do not want to compromise.”[Waste Management Officer]

Outward looking scored equally highly among Council officers, and the importance of looking elsewhere for solutions to local problems was accepted by all. In particular, it was noted that “it is a valuable exercise to know what others are doing”, but also to be informed of “what is achieving success”. Officers also commented that outward looking “ensures a thorough understanding of all components” and that by looking elsewhere it is possible to have a better picture of the likely outcomes of an adopted strategic direction, especially when utilizing data and material from similar cities.

On the innovative side of policy making, a range of opinions were put forward, not so much in terms of its importance, rather in terms of its usefulness. While there was some discordance in terms of its ratings, varying from 5 to 9, the interesting aspect was that for a few Council officers, innovative policy making was seen as necessary because “new ideas were always needed” and innovation played a role in “maintaining people’s interest and participation”. On the other hand, innovative policy making was portrayed as a tactical element, especially useful when “a change of tactics were required to get it through Council”. In this sense, innovative approaches were used to try and convince Councillors and the Mayor that a particular strategy or action was worth considering and approving.

The use of evidence in policy making also created some debate, and the scores reflected that. While some officers gave it the highest score possible (10), others believed that it is just another element. The main point of discussion related to the usefulness of evidence-driven policy making, and again there were two sides of the story. On the theoretical side, most officers agreed that solid evidence is paramount to setting up realistic, achievable and meaningful strategic policy goals, and that evidence played a role to “help people understand how an action may be applied in the city”. On the practical side however, there was an understanding that delivery of services on the Gold Coast did not always follow an evidence-based approach, rather it was suggested that “evidence doesn’t prevail in service delivery at Council”.

Inclusiveness or public participation was a delicate issue to discuss with Council officers, and often they've insinuated that it was a 'necessary evil', where on one side they are obliged by legislation to develop an inclusive approach to policy making, but on the other side, they often felt frustrated with the outcomes. Although it scored relatively high, an inclusive process was mainly seen as "important but not as critical as others [theoretical elements]". This ambiguity was reflected in some other comments, including:

"It's always a disruptive process, as there is always going to be someone/group who disagrees with a proposal as it interferes with their key interests". [Parks and Community Gardens Officer]

"All parties should have the opportunity to contribute, but it is only a rare strategy that is able to achieve true inclusivity". [Economic Development Officer]

Departmental integration, or joined-up policy making, was clearly the least important element in terms of its rating, however this was not so evident during the workshop. Perhaps because there were people from different departments sitting at the same table, and they were avoiding any animosity, all participants seemed to agree that departmental integration was an important element of policy making, in particular it was noted that "projects in isolation do not work as well as those that collaborate" and that it was "necessary to prevent a silo approach to developing parts of the strategy". Possibly, the lower rating might reflect individual frustrations when attempting to develop joined-up policy. This was supported by statements such as "[joined-up policy making is] always an aspiration, though sometimes not realistic".

Continuous improvement was perhaps the most agreed element of good policy making, although this was not directly demonstrated in its ratings. In fact the discussion around this element was quite short, with all officers agreeing that continual improvement is "necessary to ensure success" or that "evaluation is key". The 'poor' ratings might simply be a reflection of the perception that continuous improvement is basically a 'common sense', and therefore it does not need to be rated highly, it simply needs to be done.

The second part of the theoretical assessment aimed to gain feedback on the extent that the draft strategy incorporated these essential elements of good policy making. Similarly, a discussion of the topic was encouraged and participants also had the opportunity to rate individual elements using the same scale from 1 to 10, where 1 meant that the strategy failed to acknowledge an element, 5 indicated that the strategy somewhat incorporated it while 10 suggested that the element was strongly evident. Table 12 presents their ratings.

Table 12: Assessment of the degree of incorporation of essential elements of policy making into the draft Gold Coast Urban Agriculture Strategy.

Element	Average Score	Degree of Incorporation
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Long Term	8	Strongly incorporated
Outward looking	8.4	Strongly incorporated
Innovative	7	incorporated
Evidence-based	7.2	incorporated
Inclusive	6.8	incorporated
Joined-up	6.2	Somewhat incorporated
Continuous improvement	6	Somewhat incorporated

Overall, Gold Coast Council officers understood that all essential elements of policy making were incorporated within the strategy, however some were strongly present, whereas others could have been further developed.

There are noticeable similarities between the responses from Council officers and the responses from urban agriculture stakeholders, for example, in both instances the attributes of long term and outward looking were strongly perceived to have been successfully incorporated in the strategy, while the elements concerning departmental integration and continual improvement were relatively lacking. This indicates that despite individual variability and the need for some improvement, the strategy was successful in incorporating all these theoretical elements.

A major discrepancy between the two sampled populations regarded the inclusive attribute. On the one hand, stakeholders believed that the process undertaken was an inclusive one, while council officers seemed to have perceived it not so strongly. This might be explained by the fact that Council officers were not involved in any aspect of policy development, while urban agriculture stakeholders were interviewed and asked to provide feedback. Consequently, while stakeholders may have seen their ideals and ideas reflected in the document, Council officers may not have, and this was reflected in their ratings.

Again, the relatively low scores given for the joined-up element might also be a reflection of the distance between policy making and council officers, which resulted in a lack of sufficient action to integrate different departments, or it may also reflect the lower importance given by officers for this attribute. In the latter case, ratings could have been biased by a lack of understanding that for the strategy to be implemented in its entirety, departmental integration and cooperation would be paramount. Perhaps, the importance of integration could have been emphasized further, and council officers could have been consulted on ways that this could have been achieved successfully, even though it did not seem to be a very realistic expectation.

Another interesting outcome of this exercise was the relatively low scores given to the innovative element of policy making. Overall, it was perceived to have been present in the strategy, but it was definitely not a stated priority. This result goes against the expectations of the researcher, who expected that the novelty of the topic for the City of Gold Coast would have resulted in it being an

innovative strategy. However, looking at the theory of policy making, innovation does not necessarily refer to the subject of the strategy, but possibly to the way that the strategy is developed, implemented and improved. In that regard, perhaps, the policy making process and its implementation structures were common practices in the City of Gold Coast. Thus, this element of the strategy could have been further improved if the strategy had been developed in partnership with Gold Coast Council, as from their point of view innovative ideas and suggestions could have been shared.

Content Assessment

As with the evaluation questionnaire, session two of the workshop focused on elucidating what Council officers thought about the content of the strategy. The first question was simple, and officers were asked to rate the overall quality of the draft strategy. Based on five ratings given, ranging from excellent to poor, the result was unanimous – all officers indicated that the strategy was good. From this, some conclusions could be inferred. Firstly, it seems that overall the content of the strategy made sense, it followed through logically, and it resembled a council strategy. Secondly, there were some improvements to be made, otherwise at least one officer would have indicated that in his/her opinion the strategy was excellent. Thirdly, the unanimous rating could also suggest that the strategy was not actually good, but given the small group and the informal workshop setting, Council officers might have been reluctant to criticise the strategy too heavily. All options are plausible, but the remaining sections might help to clarify the underlying factor.

Officers were then asked to rate their first impressions of the recommendations and proposed actions. That question was intended to obtain a sense of acceptance or understanding of the need for what was being proposed. Officers had five rating options, including; This is great; Ok I get it; Not sure; Do we need that?; and What nonsense. Results were almost unanimous, with four officers indicating that they did understand and accepted the need of what was being proposed, and one believed that it was great and necessary. This might shed some light on the previous question, and reinforce that perhaps the draft strategy was good, but not great; that it had merits but perhaps was not seen as an immediate necessity for the City of Gold Coast.

The length of the proposed strategy was quickly noted as being excessive, and some officers indicated that it was too broad and recommended too many actions. The following statement summarized this:

“The strategy does need to have a smaller focus, there is a lot of actions, which I understand to be necessary if the city wants to go down the path of a full urban agriculture industry. So, I would recommend really thinking about the actions, and picking the most important”. [Climate Change and Sustainability Officer]

With that in mind, one of the purposes of the workshop was to have a discussion on which actions seemed to be most important in the officers' view, regardless of difficulties, timeframes or costs. Council officers were then asked to list five actions that they believed were most important, and also five actions that were least important. A wide range of actions were selected for both categories, although, significantly fewer actions were selected in the least important category.

Selected by four out of five officers, action 1.1 was rated the most important, as it proposes the establishment of the Gold Coast Urban Agriculture Council (GCUAC). The GCUAC would be a peak body formed with representative members of the community and the Gold Coast City Council, that would serve as a coordinating entity or intermediary between community stakeholders and local government, with the aim of transforming and improving the local food system through democratic and collaborative planning and policy making approaches. Interestingly, this action is all about integration and cooperation between council departments, the community and urban agriculture stakeholders. Thus, it relates to the joined-up element of good policy making, which were rated by officers as being of least importance. Nevertheless, the main reason for this outcome was an apparent understanding that there was a "need to have a strong and effective advocacy group", which would be able to "get mayor support and share resources/skills", "have the ability to influence politicians, business and community groups" and "drive change".

A close second were the actions involved in the waste section of the draft strategy, and actions 12.1, 12.2 and 12.3 were highly praised. All officers had a great understanding of the waste issues facing the Gold Coast now and in the future, and in fact, City of Gold Coast seems to be very aware of this issue, as one of the officers stated that the "Waste Management Strategy has made into the five core strategies that the new mayor/council is pursuing". Remarkably, actions 12.1, 12.2 and 12.3 seem to have already made their way into the Waste Management Strategy – "The good thing is, in terms of waste management, that once the strategy is adopted a number of your [draft strategy] propositions are already there". The main rationale for rating these actions highly came from the common sense that "green waste is currently underutilized and is a potentially significant green asset", and that it was "necessary, had strong results, [and was] cheap and easy".

The development of a city farm (action 6.1) came next in the importance list for Council officers, with 3 out of 5 participants rating it well. An officer succinctly summarised why this action would be important:

"A city farm has broad achievable objectives in waste reduction, education, food production, etc. If it can be shown to be an economical project with savings and even profits (sale of produce and teaching courses), it could be worth pursuing". [Parks and Community Gardens Officer]

The reality is that city farms and market gardens are burgeoning throughout the world, reflecting society's desire to reconnect urban populations with food production activities and landscapes. The Gold Coast is one of the few major cities in Australia that does not have a city farm, while Melbourne has CERES, Brisbane has Northey Street and Sydney is planning its new city farm in the heart of town. The benefits of having a city farm are many, and it could become the centre piece of an urban agriculture industry as suggested by one of the officers – “establishment of a city farm similar to CERES – Melbourne could act as an example, tool for education and remove any fear related to urban farming”.

The last two, ‘top five’ actions received two votes each, and included actions 2.5 (introduce zoning requirements to protect prime agricultural land) and 3.6 (develop the Gold Coast Local Food Brand). Unfortunately there was little time for discussion about these actions during the focus group, but the officers who selected them suggested that “the protection of agricultural land is key” to facilitate Gold Coast’s food security and food resilience, and that it “will assist with forward planning”. In terms of the Local Food Brand, officers pointed out that it would be important because “local food brands act as a tool for education, marketing and a culture of supporting local food production” and support “economic development and place recognition”.

In relation to the least important actions, there was not a single one that clearly stand out in terms of quantity of votes, nevertheless a total of 15 actions made the list. Within the educational scope of the strategy, the development of a school kitchen garden curriculum for the city, was viewed as excessive given the presence of the successful Stephanie Alexander Kitchen Garden Program in a few schools. Although, it is true that the Stephanie Alexander Program is present in the city and has potential to deliver a city wide platform, at this stage the number of schools being reached is very small, with only eight schools in the whole of the Gold Coast taking part (<http://www.kitchengardenfoundation.org.au/about-us/the-program/kitchen-garden-schools>). Additionally, the program relies on Commonwealth funding, which may or may not continue into the future.

The last stage of the content assessment considered whether the draft strategy was successful or not in its attempt to relate to current objectives for the City of Gold Coast as presented in the newly released Corporate Plan (GCCC, 2013b). Constructive feedback received from urban agriculture stakeholders suggested that the use of FSPUD objectives was a drawback. An attempt was made to not only relate to current city objectives, but also to highlight how individual actions would advance them. The draft Corporate Plan 2013-2020 is built on three themes – Place, Prosperity and People, and attempts to make the city the best place to live and visit (Place), to create prosperity built on a

strong economy (Prosperity), and to encourage people to contribute to a strong community spirit (People) (GCCC, 2013b).

Participants were asked to rate how they have perceived that the three themes would be advanced if the draft strategy was to be implemented. A score from 1 (not at all) to 10 (strongly) were given, and their averages taken. There was substantial variation in the scores given, ranging from 3 to 9. The highest scoring theme was People, with an average rate of 6.4, followed by Place (6.0) and Prosperity (5.2).

Although the scores were relatively similar, in our discussion, prosperity was regarded as the least developed theme in the draft strategy by quite a margin. Specifically, officers indicated that “there was not enough focus on strict economic output and employment measures” and that it “needed to focus more on economic outputs – including tourism”. Reflecting on this, it is clear that the strategy did not offer strong economic outputs or provide metrics of employment growth, as these would require extensive research that was outside of its scope. Nevertheless, looking at the actions recommended, a number of them were focused on either providing or enabling the creation of a commercial urban agricultural industry, including (but not limited to) the development of a food processing centre, municipal composting facility, urban farms and market gardens and retail opportunities. The development of tourist attractions was not explored, but once a sturdy legal structure to facilitate urban agriculture is in place, a range of entrepreneurial opportunities will emerge.

When discussing the Gold Coast as the best place to live and visit, officers again pointed that the strategy did not have “enough focus on economic development and was not aligned with political views of a world class liveable city”, but many understood that urban agriculture could contribute to making the Gold Coast a better place, as it could provide “better systems for using waste and encouraging the growing of food, which could lead to long term sustainability of the Gold Coast”.

‘People’ was definitely the most advanced theme according to the workshop participants, confirming that an urban agriculture industry could enhance the life of the Gold Coast community. It was suggested that the strategy could provide more opportunities for residents to enjoy outdoor activities and food experiences, while connecting with nature and farmers. Additional benefits included “encouraging alternative cultural options within the city” and promoting multiculturalism through food, and also the development of “a culture within the city that is capable to change the urban landscape”.

Political Assessment

This session aimed to elucidate how the draft strategy and its recommendations would be received by the current political leaders of the City of Gold Coast, and whether the previous Council would have had a similar reception.

Officers were asked, based on their experiences with current and previous political leaders, how they thought the political leaders would react if the strategy was officially presented to council. Here, a close-ended question was used, and five options were given. Two officers refused to answer on paper, stating that they did not have enough experience with either government to be able to make such comments, or did not want to be put in the position to comment:

“I didn't feel comfortable with Session 3. We have 15 councillors and I don't know the individual opinions of them all in regards to these issues and didn't want to base responses on assumption”.

[Climate Change and Sustainability Officer]

The three remaining officers were unanimous in saying that the previous Council would have been much more receptive to the draft Gold Coast Urban Agriculture Strategy than the current leaders. It has been indicated that the new Council embodies neo-liberal principles, does not accept the science of climate change, and does not support projects based on environmental grounds. Examples included the climate change strategy being ‘downgraded’ or ‘de-strategized’, and the fact that “the language in official documents is not climate change anymore, it is something about a variable climate”. It was also noted that the “Council is a bit pragmatic about it [urban agriculture], or they don’t have those big visions about the environment and those sort of things - they don’t come up in council meetings”. The previous Council was more inclined to environmental protection. They were the creators of the Gold Coast Climate Change Strategy (2009a), which contained an aim to increase local food production and purchase, and had given rise to this research project.

The next question looked at the main factors that would contribute to a weak political acceptance of the draft strategy, and what could be done to strengthen its support in line with current leaders. In both cases, a list of factors/actions was provided and officers were asked to rank each factor/action according to its potential role, there was also an option for participants to add any other factor/action that might have been overlooked.

The perceived lack of funds by Council was the highest ranked factor, closely followed by a perception of low economic return, and a lack of knowledge regarding both the urban food system and urban agriculture. Although this response is not surprising, it raises two issues. Firstly, looking at the lack of funds, Gold Coast City Council is the second largest Council in Australia with a budget of over \$1.1 billion (GCCC, 2013a), and it should not discard the strategy on the basis of funding alone, as many of the actions do not require any funding commitment. Secondly, looking at the perceived lack of

economic return, it is true that the strategy does not make strong economic projections, but it offers many avenues for revenue raising, commercial development and employment generation. This 'misperception' can also be explained as a lack of knowledge of both the urban food system and urban agriculture. With an understanding of these issues, City of Gold Coast leaders would not perceive urban agriculture to be of low economic return, rather they would be able to see that urban agriculture could potentially open up a range of commercial ventures, generating jobs and enhancing the economic prosperity and resilience of the city.

The next contributing factor was the long term commitment required to establish a robust urban agriculture industry. This comes back to a previous discussion on the theory of policy making, where, in general, council officers understand that long term policy making is paramount, but in reality it is not always practical or well received by the leaders. The quote below summarises how officers feel about this situation:

"In some respects we need to be short term and try to initiate and deliver within the term of the current council because you don't know what the next bunch of bastards is going to be like".

[Community Services Officer]

Ranked lowest were the fear of losing votes, a failure to see the need for urban agriculture on the Gold Coast, and the understanding that agriculture and food planning is a rural rather than an urban issue.

Looking at actions that could be taken to increase its political acceptance, there was a match with the factors for weak political acceptance. An increased focus on economic output topped the rank, closely followed by the need to educate political leaders and decision makers about urban agriculture, and to demonstrate the shortcomings of the current urban food system. If these actions were carried out, the chances that the draft strategy would succeed in going through Council would be greatly improved. For this to happen, however, a significant investment of both time and resources would be needed. To obtain robust economic data would require funds and expertise, while educational information would have to be circulated over a sustained period before political leaders developed an interest. A more likely approach maybe to wait for climate change to take its course, and the events of food shortages to become more prevalent.

The next preferred action was to lobby higher levels of government to provide funds for urban agriculture projects. Subsequently, it was suggested that the strategy should focus more (or solely) on short term and cost-free actions, thus eliminating the economic argument. Education of the voting community about urban agriculture received a similar ranking.

There was a definite feeling that the new government is not interested in anything apart from economic growth and prosperity. This was clearly indicated in discussions, and also in the ranking exercise, where it was felt that an increased focus on social and environmental benefits associated with urban agriculture would not increase political support.

Given that by the time that the strategy was presented, the new Council had been in office for a substantial period of time (over a year), some officers and commentators have suggested that there were avenues that could have been explored in order to understand the needs and priorities for the new Council, which would have then allowed the Urban Agriculture Strategy to be better directed to their needs. Although valid, these observations failed to understand that during the most critical part of this research, when most of the data was being collected and analysed, was a period of time that Council and its staff were in limbo, preparing for election, which made it very hard to focus one on aspect only.

Also, following discussions with Council staff, it seemed that for the Urban Agriculture Strategy to be a “worthwhile” document, it needed to embark on a detail analysis of its full economic potential to the city. In order to fulfil such requirement, the thesis would have needed to be fully reframed and rethought, changing from a policy-making exercise to an economic study. Such major change in research strategy was simply not feasible given the time, financial and procedural restraints surrounding this research.

Implementation Assessment

The last session of the workshop promoted a discussion on the implementation aspects of the strategy. By now there was a good understanding of the draft strategy by officers, that it was worthwhile pursuing, but that it needed some critical modifications in order for it to be able to go up the council ladder towards being approved.

Apart from an increased focus on economic and employment outputs, Council officers openly indicated that the strategy was simply too broad. In order for it to have any chance of being implemented, it needed to be downsized significantly, perhaps even turned into different “little strategies” – i.e. composting strategy or city farming strategy. With that in mind, council officers were asked to nominate two actions that in their view should be prioritized because they had a higher likelihood of being accepted and implemented by the current political leaders.

A total of ten nominations were received, and the clear winner with three votes was action associated with the waste management side of urban agriculture. Basically, actions 12.1, 12.2 and 12.3, were seen not only as a “continuation of a service that is already delivered”, and “supported by the draft Solid Waste Strategy”, but it was also understood that, especially action 12.1 (conduct a feasibility

study to build and maintain the Gold Coast Composting Facility), was “ultimately a cost saving and quality outcome”. Actions related to waste management resonated strongly regarding economic return, which is exactly what the current government is interested in. This is further emphasized by this comment:

“The reason why waste management made it into the top five priorities was for economic reasons, or the risks associated with increasing costs. Although this came as a surprise because we are linked with the environmental side of things, which are not the priority of this council, but the costs are”. [Waste Management Officer]

Map, develop, promote and deliver the Gold Coast Regional Food Trail, and develop the Gold Coast Local Food Brand (Actions 3.5 and 3.6), were also suggested in the prioritisation list. This was surprising, because they would require a considerable amount of resources for their realisation, in particular, the development of a local brand. However, the reasons for their prioritisation were clear – they “promote tourism and economic development”. While this perception might be true – there is tourism and economic development potential in these actions - it is not that obvious that these will be eventuated, or in the words of one of the officers that they “will bring the biggest bang for Council’s buck”.

Another surprising outcome was the suggestion to prioritize the promotion of bees and chicken keeping through the revision of local laws and the development of best management practice guidelines (actions 7.1 and 7.2). The reason for this is not so much the costs or difficulty associated with the implementation of these actions, but the antagonistic history towards these activities on the Gold Coast. A closer inspection of the local Gold Coast laws indicated that there was a revision of the animal management laws in late 2013, which resulted in lots of 600m² or more being able to keep one hen for every 100m² (GCCC, 2013c). In regard to bees, there is still a requirement for all beekeepers to be registered with the Department of Agriculture, Fisheries and Forestry (DAFF) under the *Apiaries Act 1982*. Nevertheless, beekeeping is allowed on properties bigger than 400m².

Further to prioritization, other steps would need to be taken prior to its approval and implementation. These steps appeared to be standard across jurisdictions and included (but were not limited to):

- Provide full costing of all actions;
- Develop an implementation plan;
- Gain political support;
- Conduct internal and external consultation;
- Prepare a final document to Council for official approval (voting); and
- Delegate actions to specific officers for their implementation.

Lastly, Council officers were asked to provide feedback on the proposed timelines for the recommended actions. Participants were asked to choose between five options, comprising: Spot on; Could be done; Undecided; Will be a struggle; and, No chance!!! The majority (four out of five) specified that it could be done, while the remaining officer was undecided. This offered reassurance that the strategy was a realistic document.

Gold Coast Council Officer Appraisal

A major drawback of the Gold Coast Council officers' focus group exercise was the omission of an environmental or town planning officer in the discussions. Most actions within 'Recommendation Two' (Plan for an Urban Agriculture Industry) require minor changes in planning documents, which would not oblige Gold Coast Council to spend resources on Urban Agriculture, rather they would fulfil Council's role as enabler, as suggested by officers. These planning changes aimed to facilitate urban agriculture as well as recognise and legitimise its practices, in order to safeguard future disruptions of urban agricultural activities within the Gold Coast.

To enlighten this subject, a Gold Coast Council planning officer was contacted, and asked to give an appraisal. The officer was asked to provide his professional views on actions 2.1 (Introduce definitions of urban agriculture-related land uses into the Gold Coast Planning Scheme), 2.2 (Incorporate urban agriculture land uses within Domains and LAPs and stipulate appropriate assessment levels) and 2.5 (introduce zoning requirements to protect prime agricultural land). These actions were selected because they strictly related to modifications to the Gold Coast planning framework, and could be solely answered by an experienced planner.

With attention to actions 2.1 and 2.2, which recommend the creation of urban agriculture-related land uses and their official incorporation into the Gold Coast planning framework, the overall impression was that it would be possible to do it, but not in a straight forward manner. The planning officer commented that land use definitions and Planning Schemes in Queensland are standardised by the State Government through Queensland Planning Provisions (QPP). Consequently, "local governments are not allowed to change or invent new land use definitions". Nevertheless, it was noted that there are mechanisms that could be used to encourage urban agriculture practices.

In order to differentiate specific urban agriculture activities from other potential uses under the land use definition, the State Government would need to be consulted, and some work would have to be done to determine what the defined land use actually is under the various forms of urban agriculture, including;

- Activities mainly undertaken at home without the sale of products would simply fall under the existing Dwelling House land use;

- If produce grown at home was sold from home, it would be classified under the existing Home Based Business definition;
- If produce grown at home was sold at another location (roadside stall), it would most likely be classified under the definitions of a Shop or a Market. Even though there is a definition of Roadside Stall in the Gold Coast Planning Scheme, this refers only to rural, and not urban areas; and
- Other uses such as Community Gardens, Market Gardens, Composting Stations, were not classified under the current land use definitions, and would require a new definition to be created, or a creative mechanism that could include them under existing land use classifications.

According to the planning officer, “many of the proposed urban agriculture land uses would need State involvement to be able to include them in urban localities”. It was also clear that “Council can work around whatever QPP land use definitions we have, if we choose to”.

In terms of introducing zoning requirements to protect prime agricultural land (action 2.5), it seems that Council already has some powers to be able to do that, but they have mainly mapped and protected Good Quality Agricultural Land in the rural areas of Jacobs Well. The officer suggested that there is a possibility that this mechanism could be used to select urban land (mainly public land) to be protected for agricultural purposes, but this is very unlikely due to the higher value associated with urban uses. Even if this mechanism could be activated, the land use would be limited to food production practices and would not include the many other facets of an urban agriculture industry.

Scenario Planning of Proposed Recommendations

The last evaluative task conducted as part of this research was a Scenario Planning exercise where three Gold Coast Council planning officers were asked to give their professional opinion on the likely procedures to be followed and difficulties in the realisation of some urban agriculture-related land uses. The purpose of this exercise was to elucidate the likelihood of some of the proposed land uses to take place under the current planning framework applicable on the Gold Coast. A total of six scenarios were created and hypothetically located within the existing urban fabric of the city (see Appendix 4 for the full description of each scenario). For each of these scenarios, planning officers were asked to answer (if possible) the following questions:

1. How desirable the proposed land use is in light of the current planning framework (i.e. Gold Coast Planning Scheme 2003)?
2. What level of assessment does it require?

3. Based on its level of assessment, what information, studies, documents must be provided to Council in a development application?
4. Roughly, how long would it take for the approval process to come to a decision?
5. Roughly, how much would the entire process cost for the applicant (including application fees, cost of studies, duties, etc.)?
6. Would any other agency be concurrently involved in the approval process? If yes, how?

Although Gold Coast Planning officers agreed to provide as a complete an assessment as possible, it was clear that the complexities involved in all of the scenarios and the limited timeframe for their appraisal, would not result in an in depth evaluation. Nevertheless, it provided a good understanding of the likelihood of these land uses taking place.

Scenario 1 – Commercial Urban Farm

The first scenario proposed a Commercial Urban Farm at the site where the Surfers Paradise Golf Course operates (1 Fairway Drive, Clear Island Waters). The land owner proposed to turn the golf course into an organic farm that cultivates a variety of fruits and vegetables and hosts 500 free ranging hens for organic egg production. The owner also wants to turn the existing ponds into aquaculture ponds for the production of freshwater fish. Waste management will be closed loop, meaning that the wastes from one activity will be used as an input to another activity and no solid or liquid waste will exit the property. Lastly, fresh produce cultivated in the organic farm would be available for sale to the general public through a pick/fish and pay scheme or through a stall at the entrance of the property.

Part of the proposed development (aquaculture) has been identified under the planning scheme as a desirable land use for private open space, however it is deemed an impact assessable material change of use (the highest level of assessment, under the Gold Coast Planning Scheme). In addition all other land uses (agriculture, stall, rural industry) were not desirable land uses, and would also require an impact assessment.

If the proponent decided to go ahead, even after considering its undesirability, numerous studies would have to be made to accompany its application, including, but not limited to, flooding report, traffic report, parking study, and others. It has been suggested that each report would cost around \$20,000. In addition, it has been indicated that such an application would have to be prepared by a specialised town planning firm at the cost of around \$100,000, and lastly, a very substantial infrastructure charge would be collected by Council (approximately \$2,000,000).

Given the overall complexity of the proposed land use and the inability of the Gold Coast Planning Scheme to specifically regulate it, numerous concurrence agencies would be involved in the approval

of this land use, including, but not limited to, the EPA, Department of Main Roads, DERM and DEEDI. The approval process was expected to take at least 9 months.

Scenario 2 – Community Urban Orchard

Residents of Kidman Street, Thorngate Drive and surrounding area in Robina, have realised that the park adjacent to their street is underutilised by the community, and seems to be a liability for the Council as it requires regular mowing, weed management and grass fertilization. The residents have come together and formed a community group that wants to turn that park into an urban orchard. The community group will be responsible for the planting and maintenance of the orchard, but would like the Council to make water and land available.

This proposed land use would not be addressed under the Gold Coast Planning Scheme, but an application to the Park and Recreational Services would have to be made by the community group. It is a case by case decision, and an extensive public consultation exercise would need to take place.

The likelihood of this land use being approved is unknown and dependent upon political backing. A major impediment would be the planting of non-native plant species on Council land and the perceived high maintenance requirements of an urban orchard. For the approval to be granted, a technical document, a maintenance plan and insurance would most likely be required, and the Council would also be likely to lease the land to the community group in order for the orchard scheme to take place. Such a leasing arrangement would be pursued as a mechanism to allow council to terminate the operation of the orchard if it deemed appropriate. As a result, the proposed community group would need to be incorporated in order to be able to arrange insurance and sign a lease with Council.

Scenario 3 – Household Surplus Produce Sale

A household in Coolangatta (88 Dutton Street) has for the past 5 years cultivated two relatively large mango trees and three lime trees in their backyard. The trees have now reached maturity and are producing mangoes and limes abundantly at specific times of the year. This family is certainly not able to consume all the mangoes and limes being produced in their backyard, as such they would like to put a small stall in front of their garage door, to sell this produce to neighbours and passer-by at specific times of the year when there is surplus of produce.

Most likely this land use would go under the radar of the current planning framework, due to a lack of enforcement agents, and the fact that this type of regulation would only be triggered upon complaints. However, if the owner of the property decided to go through the standard procedure to legalise the operation of a stall it would need to lodge an application for a material change of use with Council. A stall is however an undesirable land use in most urbanized parts of the city, including Coolangatta. Consequently, the application would attract a high degree of scrutiny as it would be classified under

an impact assessment approval process. In order for this to happen, it would require numerous studies to accompany the application, such as traffic and car parking requirements studies. The impact assessable approval process would take from 3-9 months and it would cost anywhere from \$2,000 to \$50,000 depending on the level of information required for the above mentioned studies, and whether the application is made by the household or a professional planner.

Scenario 4 – Small Scale Composting Enterprise

The owner of the Bundall Race Course, located at Racecourse Dr, Bundall, has realised that his establishment generates every year about 10 tonnes of horse manure that is currently being land filled at a cost to him and the environment. The landowner realised that this manure could be used to make compost instead of being thrown away, and it could then be sold to households or commercial farms. A development application is lodged with Gold Coast Council to turn a small portion of his land into a composting facility, which would be used to compost the horse manure in conjunction with grass clippings brought by different gardeners (in a partnership with Jim's Mowing Enterprises). Households and commercial farms would be able to purchase fresh compost from the composting facility, or through a delivery service.

This land use proposal was discussed in length by the panel regarding its permissibility. It seems that if the purpose of the land use is for commercial gain, that is, the compost would be sold, the likelihood of its approval is minimal, being considered undesirable land use under the Racecourse LAP, and requiring an impact assessment application. However, if the compost was to be given away for free, depending on the current license arrangement of the racecourse, this venture would be accepted. If the racecourse already has a license that allows them to stock horse manure until it is taken away, it would allow them to transform this manure to compost (by adding grass clippings) and give it away.

The main obstacle in this scenario is the business nature of the activity, if no financial gain is obtained the land use is more likely to be accepted as it would not need to go through a development application. But if financial gain is envisaged a material change of use is required, which will involve large financial and time resources and the likelihood of it being approved is minimal.

Scenario 5 –Farmers' Market

The Labrador community garden in association with private urban and rural farmers of the region is proposing a Farmers' Market to take place at the Norm Rix Park (located at 119 Government Road, Labrador) every Wednesday (from 7 am to 7 pm). The local community found that a farmers' market is the best way to sell urban and locally produced food directly to consumers. A total of 20 stalls incorporating a variety of fresh fruits, vegetables, eggs and flowers are envisaged, and stall holders will not have to pay any fee to attend the market and offer their produce for sale, only stall bookings

will be required. In order to maximise the range and availability of produce, one stall will be reserved for a local retailer, who will offer produce that no farmer is able to offer at a particular point in time.

Once again it is the technicalities of this land use which makes it viable or not. As it is currently proposed, it will be deemed a permanent land use and classified as a market, which is not a desirable land use for public open space, and therefore would attract an impact assessable approval process which is both timely and costly. On the other hand, if the proposed market took place once a fortnight only, or less than 26 times a year, it would be deemed a temporary land use and no development application would be required.

Given that the proposed market would take place on Council land, the community group would have to apply for approval to use the land prior to the market taking place or starting a development application, and the surrounding neighbours would also have to be consulted. Given that there is a policy that states that no business can be carried out on council land, a license to conduct such activity would need to be granted by council.

Scenario 6 – Rooftop Garden

A new vegetarian restaurant would like to start operations at 1 Grice Avenue, Paradise Point. As part of the restaurant, the owner is proposing a vegetable garden on its roof, which is expected to yield about 25% of the total vegetable consumption and 100% of fresh herbs needs of the restaurant. The restaurant owner is partnering with adjoining restaurants to collect their raw food waste, which will be composted and used on the roof garden. Lastly, grey water from the restaurant will be filtered and safely used to irrigate the garden.

Although such scenario was not recommended in the draft strategy, there is an increasing movement throughout the world to encourage rooftop gardening. In fact, in some countries in Europe, green roofs and rooftop gardens have become mandatory in some circumstances.

It seems that the proposed land use (rooftop garden) would not have to go through a development application process and would be permissible under the current regulatory framework. However it seems that the use of grey water would be a serious impediment. Basically, it has been suggested that if Council provides water connections to the building, business and households need to be connected to it, and an application to change the plumbing of the premises to divert the grey water to the roof would be required. Even if the grey water could be diverted, it would not be allowed to be used for irrigation purposes, even if the water is purified to a drinking water standard, as there is a lack of regulatory personnel to ensure that the water is safe at all times. The only alternative would be to harvest rain water and use it for irrigation.

Overall, the permissibility of these proposed land uses would be severely affected by the current planning framework. However, given the nature of the Gold Coast Planning Scheme, they are not prohibited outright, rather they would need to follow a time consuming and costly approval process. Planning officers indicated the lack of policies that facilitate urban agricultural land uses, and also the lack of procedures to help planners understand how some of these land uses should be treated by development approval processes. In particular, it was noted that there is a lack of classification within the planning scheme to address urban agriculture land uses, a lack of incentives for agricultural practices as the cost of applications are usually prohibitive compared to the financial gains of these proposals, and a lack of policies surrounding the use of public land.

A comment that was often repeated by planning officers summarizes the way the planning scheme currently deals with urban agriculture-related land uses – “these questions have never been asked before, I am not quite sure”. Planners do not quite know how these proposed land uses would be assessed if they were truly proposed. A critical analysis of the scenario planning exercise suggests that these proposed developments may not be desirable land uses, but there would be ways around the problem, such as proposing temporary land uses, incentivising non-commercial gain and educating politicians to support some of the proposals. At the moment, it seems that the decision making process could be a bit arbitrary, based more on political support rather than regulatory backing, and regulatory documents do not seem to encourage or facilitate urban agricultural practices.

Theories of Policy Making: The Verdict

The fundamental basis for this research was a methodological testing of different bodies of policy making. Two seemingly opposing streams were investigated prior to the development of the draft Gold Coast Urban Agriculture Strategy. The descriptive model of policy making on the one hand, attempts to explain or narrate the policy making process as it occurs in practice, describing players, rules, settings, mechanisms, and many other peculiarities in an attempt to describe how, if at all, a strategic document is created. The prescriptive model on the other hand, dictates how policy making ought to be in order for a good, effective, professional, holistic and sustainable policy document to be developed. Through prescriptive accounts of policy making, in this case exemplified by the ‘Professional Policy Making for the Twenty First Century’ (Cabinet Office, 1999b), specific elements or competencies are suggested as being paramount for ‘good policy making’.

As explained above, the original proposition of this research was to provide enough data so that both theoretical streams could be thoroughly discussed and tested. This would be done through a partnership with City of Gold Coast Council in which the prescriptive model of policy making would be employed through the development of the strategic document (i.e. Gold Coast Urban Agriculture Policy), while the descriptive process would be researched through the involvement of different

political players and council officers in shaping the policy making process and its acceptance, or not, within the local government approval process.

This research approach was later discarded due to a shift in support from the City of Gold Coast Council regarding urban agriculture and all other actions perceived to be forged on environmental grounds. Given time and resource constraints, and the need to conduct sound research for the fulfilment of the Doctor of Philosophy Degree, a secondary approach was suggested and followed. In this approach, instead of working with the City of Gold Coast to develop a strategic document, the draft Urban Agriculture Strategy was created solely by the author, which was then presented to Council for feedback. As a result, reflections regarding the descriptive theories of policy making were somewhat limited, being only briefly tested towards the later stages of the research.

The remainder of this chapter depicts the researcher's reflections on both streams of policy making, in particular on the prescriptive theory of policy making as applied throughout the development of the strategic document, and on the descriptive theories in accordance with its likely political acceptance.

Prescriptive Theory: Professional Policy Making for the Twenty First Century

The development of the draft Gold Coast Urban Agriculture Strategy was based on the principles, or attributes, suggested by the UK Cabinet document titled 'Professional Policy Making for the Twenty First Century'. That publication attempts to steer the policy making process towards a new, professional and modernised approach, through the recognition of various competencies that policymakers ought to have and employ. These competencies can also be seen as essential elements or procedures of policy making, rather than solely a professional skill. In total, nine elements are proposed, including:

- **Forward looking** – taking a long term view of the likely impact of policy;
- **Outward looking** – taking account of influences in the regional, national and international scenario;
- **Innovative and creative** – encouraging new ideas.
- **Using evidence** – using best available evidence from a wide range of sources while involving stakeholders from the start of the policy making process;
- **Inclusive** – taking account of the impact of the policy on the needs of all those affected by it, and being open to comments and suggestions of others;
- **Joined-up** – looking beyond institutional boundaries and establish ethical and legal basis for policy making;
- **Evaluates** – building systematic evaluation of outcomes into the policy making process;

- **Reviews** – continually reviewing the established policy to ensure it remains relevant with the problems it was designed to tackle; and
- **Learn lessons** – learning from the experience of what works and what does not.

From this list, seven competencies were used in the development of the draft Urban Agriculture strategy. The last two attributes, Reviewing and Learning Lessons, were excluded because they are not relevant to the development of the strategic document, but to the subsequent implementation and appraisal of the strategy.

Although every effort was made to incorporate all remaining competencies into the process of developing the urban agriculture strategy for the City of Gold Coast, invariably these were achieved with different degrees of success.

Given the research-oriented nature of this project, a great deal of attention was devoted to the outward-looking element of policy making. In the literature, outward-looking policy making is described through the principles of policy transfer, convergence, learning and diffusion, and that was the approach undertaken here. Strategic documents from many national and international jurisdictions were identified and analysed with the aim that they would provide answers to the problems identified by local urban agriculture stakeholders. The result of this search was an extensive database of official and unofficial documents concerning numerous aspects of urban agriculture.

This process, although enriching, proved to be inefficient and at times less than useful. It was enriching because the researcher learnt much about the numerous ways that urban agriculture activities are being promoted and supported throughout the world, and the many mechanisms being employed to achieve successful outcomes. It was costly because the broad range of urban agriculture activities demanded an enormous amount of time and effort, not only to locate these documents but also to read, understand, analyse and summarise them.

Unsurprisingly the outward-looking policy making disposition proved to be a very important tool in the policymaker's tool box, which contributed significantly to the development of the strategic document. In particular, the process of policy learning has provided numerous shortcuts to an otherwise lengthy policy development process, as suggested in the literature (Common, 2004, Page and Mark-Lawson, 2007, Rose, 1991, Schneider and Ingram, 1988), if it was undertaken correctly and used to find solutions for existing problems.

The process undertaken however failed to deliver in terms of efficiency. The emphasis placed on outward looking at an early stage should have been matched by a greater effort to understand local problems and the current politics. In this way, the order of the tasks should have been inverted, where the first step should have been to drive an inclusive, innovative and creative process of policy making

and issues understanding, which would then inform the search for plausible and acceptable solutions. In other words, solutions should have been sought for existing problems, rather than problems being hunted for existing solutions.

Rose (1991) suggests that prior to embarking on the outward looking process, critical consideration should be given to its feasibility and desirability, in order to determine what is possible. This critical assessment was lacking in this policy making exercise, and resulted in an inverted approach, which culminated in a lengthy document that would most likely not be feasible under the current political climate of the Gold Coast. Rather, the policy making process should have focused on only a handful of likely-to-be-implemented actions, such as the development of the Gold Coast City Farm or the institutionalization of the Gold Coast Urban Agriculture Council. In this way, important but implementable actions could have been successfully proposed for the Gold Coast, and opened up the doors to numerous other urban agriculture-related activities in the future.

This is further discussed by Stone (1999), who suggests that constraints to policy learning exercises may arise from the political culture of the receiving country or institution, and that policy transfer is not politically neutral, and negotiations often occur. Clearly, the lack of input from political leaders into the development of this strategy meant that it lacked obvious political support. This reinforces the widespread view of the policy making literature that the process of policy transfer is not, and should not, be independent from the broader policy making processes, and that there must be a stronger consideration of how the wider social and political context operates.

The draft Urban Agriculture Strategy was positively assessed in terms of its forward looking capabilities, providing a framework that extended well beyond the typical short-termism of governments and extending more than 10 years into the future. This long-term platform was built based on an understanding that looking ahead was paramount due to the policy making and implementation processes being slow, and more often than not, taking considerable time for their effects to be realized (Bochel and Shaxson, 2007).

Numerous forward-looking approaches have been researched and many different instruments have been designed with the intention of predicting and/or projecting what the future might hold (Bochel and Shaxson, 2007, Weber, 2006). These tools do not attempt to predict the future in a deterministic sense, rather they attempt to help understand what might happen (Asje Van Dijk, 1991). Although critical, a formal forward-looking approach was not carried out at the commencement of this policy making process for two main reasons. Firstly, there was a lack of continuing support from the City of Gold Coast Council, which 'forced' the process to be developed only by the researcher, rather than in partnership with local policy makers. Secondly, there was an intrinsic understanding by the research team of the need to plan for a sustainable urban food system for the Gold Coast. This need emerged

from theoretical knowledge of the subject as well as evidence following the extensive flooding events that occurred in January 2011, where the main transport routes connecting the Gold Coast to food distribution networks were severely compromised, and many retail outlets actually ran out of fresh food – reinforcing the idea that we might always be only “nine meals from anarchy” (Phrase originally coined by Baron Cameron of Billington reporting to UK government, cited in Boycott, 2008, Simms, 2008).

Although the draft strategy was deemed a successful forward-looking document, because it had long term goals and aspirations, it failed to communicate the need for such a forward-looking strategy to political leaders and Council officers. This was evident in a couple of instances during the evaluative exercises carried out, where statements such as these were made:

“Within my review I kept coming back to thinking that what was missing [in the strategy] was presenting why urban agriculture is needed and why the current system is a problem”. [Climate Change and Sustainability Officer]

“That is one of the issues of getting this sort of thing [urban agriculture] practically adopted, is that at the moment Council can’t see the need for it, so it won’t.” [Economic Development Officer]

Perhaps, if a formal forward-looking exercise had been carried out with political leaders, or if stronger evidence had been gathered suggesting that severe food shortages would be likely on the Gold Coast in the near future, the outcomes of the proposed strategy might have been different.

Even though there is an evident need or even desire to develop long-term strategic documents, the reality is that it is not always possible. Short term politics seems to still be embedded in all levels of government in Australia and elsewhere, and the Gold Coast is no exception. A greater understanding of the current political system and the general politics of policy making on the Gold Coast could have minimised this mistake, and more short term actions could have been proposed. Similar to the outward-looking element, by following these ‘guidelines’ one or more significant short term actions could have been introduced into council, which could then drive other urban agriculture measures.

Long-term policy making also proved to be an important element in good policy making and should definitely be attempted. However, greater effort should be placed on better understanding and communicating ‘the future’ to decision makers and the community, and to also focus on short term measures that might open up the way to more ambitious and long term commitments, especially when ‘wicked’ subjects that are not well understood by most politicians (i.e. urban agriculture) are involved.

Innovation is perhaps the most subjective element encouraged by 'Professional Policy Making for Twenty First Century'. This is not only a research reflection but also results from the analysis, where urban agriculture stakeholders indicated quite strongly that they believed that the draft strategy was innovative, while some Council officers perceived the strategy not to offer an innovative approach. This subjectiveness also seems to be present in the literature, which lacks a definition surrounding innovative policy making. Nevertheless, Von Stamm (2003) pointed out that innovation is at least a two-part event, involving creativity and implementation, where innovation can only be realised if the creative or innovative idea is implemented, which in the case of the draft strategy did not occur. This theory may explain the difference between evaluations, where on the one side, urban stakeholders suggested that the creative ideas have been implemented through the development of the draft strategy, whereas council officers did not see the innovative side because there was a certainty that the strategy, in its entirety, would not be successfully implemented.

Research suggests that innovation in the public sector can be achieved through radical, systemic and incremental steps. Of these, incremental innovation seem to be the most common, while radical innovation might not be as popular because of its increased likelihood of failure (Albury, 2005, Baker et al., 1985). This might provide another partial explanation for the likely failure of the strategy in getting council approval, where, the draft Urban Agriculture Strategy might be perceived as overly radical, which might deem it to be perceived as excessively risky, both financially and politically.

Evidence-based policy making has received a lot of attention in the literature and policymakers throughout the world seem to value it highly. This might arise because evidence-based policy making "has the appeal of motherhood and apple pie: the rhetoric is cheap and easy" (Laycock and Tilley, 2000; pg. 213). This research shows that a purely evidence-based approach might not be enough to drive a policy through to the implementation stage, rather an evidence-informed process should have been promoted in order to create a policy making process in which stronger ties between researcher and decision makers could have been fostered, as suggested by Althaus et. al (2007).

The relationship between research and practice, or the level of evidence used within the Gold Coast Council was raised in the focus group exercise. For instance, it was suggested that despite a commitment to an evidence-based approach, evidence does not seem to be the driving force behind service delivery, rather political considerations are the top priority. Thus, evidence seems to be given some value in the political, and perhaps wider, world, but it is apparent that politicians, and society in general, carefully selected what they count as valuable evidence, which, more often than not, is research that reinforces existing beliefs or supports a particular political ambition.

The circumstances leading up to the development of the draft Urban Agriculture Strategy have resulted in it being a predominantly evidence-driven policy making exercise, with minimal

consideration of local politics. This clearly exemplified one of the leading criticisms of prescriptive theories of policy making, which do not acknowledge the role that politics and many other social factors play in the policy making process (Nutley et al., 2000, Perry, 2002). The acknowledgement and incorporation of current political perspectives as well as the many peculiarities surrounding policy making on the Gold Coast into the policy process, would have been extremely important in driving this strategy through to its approval. And, the evidence-based approach could have been replaced by an evidence-informed method, thus offering a more realistic approach to the development of an urban agriculture strategy for the Gold Coast.

Inclusivity, or the necessary evil, was the most difficult of all attributes to be incorporate. Despite the volume of research in the area of public participation in policy making (e.g. Burton, 2009b), and a clear acknowledgement among council officers of its benefits, an inclusive process is definitely easier to achieve in theory than in practice. From the outset, this research was intended to be as inclusive as possible, aiming to forge a strong partnership with Gold Coast City Council and its employees as well as members of the local and regional urban agriculture community. But the reality turned out to be very different. The involvement of Council became minimal, and given the restrictions imposed by time and funding, community participation was also limited, to thirty in-depth interviews with selected stakeholders, rather than a more extensive exercise among the public at large.

Despite some acknowledgement that the policy making process was an inclusive one, if compared to a more 'official'/Council led process, it might not have qualified as such. From the experience of this policy making process, the difficulty in conducting an inclusive approach to policy development arises from a number of factors – time and resources being two of the most significant. Another important obstacle encountered in this research was the lack of communication between stakeholders and the researcher. Many people appeared enthusiastic and had expressed their willingness to be involved in this research project, however, when it was time for them to contribute and share ideas, complaints or suggestions, very few did so. This was evident on numerous occasions. Firstly, six month of this research was lost attempting to build a partnership with Gold Coast City Council, but this broke down due not only to an apparent switch in political outlook following the 2011 elections, but a pronounced inability from Council staff to clearly communicate matters of concern. Secondly, although a reasonable number of urban agriculture stakeholders were interviewed, there were perhaps three times as many that could have been involved, but for various reasons they were unable, or chose not to participate

This research clearly highlighted why inclusivity is sometimes believed to be a 'necessary evil'. On the one hand, the research and the development of the draft strategy would not have been possible without participation. However, the amount of time and effort required to achieve a meaningful level

of participation proved to be considerable. In an era of increasing time constraints, it is understandable why decision makers focus less on participation, but this will likely result in policies that lack public support, as suggested by many researcher (e.g. Bochel, 2006, Irvin and John, 2004).

Joined-up policy making attempts to coordinate activities within and across departmental boundaries to provide improved policy development and service delivery (Hyde, 2008, Ling, 2002). Council officers have clearly understood the benefits in principle of departmental integration when developing policies, but noticeably they have suggested that it is seldom achieved or even attempted in practice, and that it generally depends on individual departmental rules. It seemed that the City of Gold Coast, generally, did not see the need for joined-up policy making. As an example, the waste management of the city is governed by the waste management business unit, which virtually operates as an independent body that receives money from other council departments for the disposal of their waste, including green waste. Therefore, it treats all wastes as an asset, and if another department within council (i.e. Parks Management) decides that it would like to donate part of the green waste to a community organisation, it might resist the proposal because the waste management unit would see that as the loss of an asset, even though, overall, there was a reduced cost to Council to dispose of this type of waste.

A more highly developed urban agriculture industry on the Gold Coast (and elsewhere) would need to be governed by various areas of the local community and a joined-up approach to policy would be paramount. Many of the recommended actions within the draft strategy would require the involvement of different departments of Council for their successful realisation. For example, in order for a city farm to be implemented, parks, planning, economic development, engineering and other groups would need to discuss and approve it. The draft strategy attempted to provide a strong 'joining up' mechanism with the creation of the Gold Coast Urban Agriculture Council, which would be an advisory body whose members would include officers from different departments as well as community representatives and industry members. Council officers have indicated that this would be an interesting action to follow through and implement, but they have envisaged numerous problems with it, citing in particular the difficulty of dealing with particular departments within council, including those responsible for planning and economic development.

These reflections on the Gold Coast policy making culture do not seem to be an exception. Research on joined-up policy making discusses the many challenges to be overcome for successful policy integration. Of particular interest is the tendency for individual departments to protect their autonomy (Lambert, 2006). It seems that local governments and other organisations are only just starting to come to grips with the practice of policy integration, and recognise that this is a long-term process. It has to be a long term, selective and cooperative project, and not something that the Gold

Coast Council can embark on with little consideration. Nevertheless, the draft urban agriculture strategy and its initial recommended actions have the potential to help start this process.

The last attribute of good policy making attempted in this research project relates to continual improvement through learning from evaluation. This component deals with strategic elements that facilitate an understanding of whether a policy has worked, as well as how policies could be improved in light of new knowledge and evidence. The literature differentiates between two types of policy evaluation based on a temporal distinction. On the one hand there is review for policy, or formative evaluation, where the policy document itself is the focus of an evaluative review aiming to correct strategic problems. On the other hand there is review of policy, or summative evaluation, where the review focuses on the impact of the policy on specified goals (Powell and Maynard, 2007, Spicker, 2006).

This policy making exercise focused more on the former (formative evaluation) rather than the later (summative evaluation). Although it tried to acknowledge the need to include realistic strategic evaluative targets, it did not go as far as setting these up. This approach was taken because these goals would be better formulated by the implementation personnel, who could set realistic targets that would be both financially and politically acceptable.

The result of the formative evaluation was clear in pointing out that it is a critical step in the policy making process. Indeed, without this step, the final strategic document would not have withstood the current political pressures to assist in promoting economic growth. However, after a thorough evaluation, the development of a realistic and perhaps implementable strategy was possible, and its chances of success may have increased considerably. The evaluative process was not easy nonetheless, being very time consuming, requiring a lot of effort from all involved, as well as particular skills and experience, but it facilitated a process of policy making that was able to cope with a complex issue while ensuring a more realistic and attainable outcome.

The verdict on the application of prescriptive theory proposed by 'Professional Policy Making for the twenty First Century' (1999b) was definitely positive. It provided a framework that allowed the development of a comprehensive strategic document in a relatively timely manner. However, it did not provide a single or simple answer to policy makers, for there are many other facets of policy making that are not touched upon by this model, noticeably the political dimension. The politics of policy making proved to be a key factor in the process, not so much in terms of dictating how the strategic document should be developed, but in determining what was broadly acceptable.

The nine attributes proved to be relatively important not only for the development of the strategy, but also in the eyes of some of the Gold Coast Council officers. Yet, these should not be taken in the

order prescribed or presented, but should be tackled after a consideration of local issue, politics and available resources.

Descriptive Theories: The Background to the Policy Making Process

The initial stages of this research involved an extensive review of the different descriptive theories of policy making. As presented in Chapter 2, there are numerous theories that attempt to provide a framework to how policies are made in practice, these include (but are not limited to): the stages approach, institutional analyses and development framework, multiple streams approach, punctuated-equilibrium theory, advocacy coalition framework and social construction theory. Differences apart, these theories attempt to explain the policy making process through a description of how political players, institutional rules, policy settings and mechanisms, are manipulated or used.

Despite a lack of involvement with the City of Gold Coast and all its political players and settings, some of these theories shed some light on the policy making process experienced through the development of the draft Gold Coast Urban Agriculture Strategy. In particular, the stages model, multiple streams framework, punctuated equilibrium framework and the social construction theory all provide insights.

The stages approach to the policy making process is perhaps the most closely related descriptive theory employed in this research. Although not all stages were realised, this policy making process could have been separated into a series of discrete stages, including: identifying issues (the perceived need for urban agriculture on the Gold Coast); policy analysis (an analysis of the Gold Coast planning framework and how it would hinder the development of an urban agriculture industry in the Gold Coast); policy instruments (through the review of national and international approaches to urban agriculture, and how they could be applied on the Gold Coast); consultation (the numerous interviews carried out with urban agriculture stakeholders); policy development (synthesis of information gathered into a strategic document: the draft Gold Coast Urban Agriculture Strategy); and, coordination (once the draft policy was finalised, it was brought forward to Council officers for their appraisal and to determine the feasibility of the strategy). The last three stages, namely Decision, Implementation and Evaluation, were not effectively carried out, but they could have proceeded in a chronological and discrete fashion.

Although it was a useful model not only to develop the policy but to also describe its process, the stages approach proved to be not realistic, as it completely separated the policy making process from its political content. The process followed a 'problem solving' approach, as suggested by Smidt-Jensen (2007), but the 'problem' was perceived very differently by the researcher and decision-makers/politicians. No comment can be made regarding the stages approach being a true representation of policy making on the Gold Coast, as these could not have been tested. Nevertheless, the current political climate indicated by council officers, suggest that the policy process would most

likely not follow such a linear and discrete approach, rather an “unsystematic, disorderly and politically charged” process would most likely have occurred (Teodorovic, 2008; pg. 23).

The Multiple Streams Framework describes policy making as a “complex adaptive system” in which political actors react to a constantly changing environment (Kingdon, 1995; pg. 224). The framework provides an interesting view that portrays policy making as a timely but manipulative process, based on three ‘streams’ – problems, policies and politics. When these three streams are aligned (manipulatively or not) a ‘policy window’ is created, increasing the likelihood that a particular policy or solution will be adopted.

A relevant policy window seem to have been formed early in the research stage, probably sometime in 2010. At this time, the political leaders had been recently re-elected and had released the first Gold Coast Climate Change Strategy (GCCC, 2009a), which encouraged and supported an increase in local food production and purchase. Simultaneously, community gardens were starting to be supported by Council, which claimed its intention to boost the number of community gardens on the Gold Coast to 100 by 2020 (Permaculture Gold Coast, 2011). Lastly, Council had made funding available to conduct feasibility studies regarding urban food production. Thus, all factors for the creation of a policy window was present, with the exception of a policy.

Policy windows are typically of short duration and policy entrepreneurs must seize the opportunity, by attaching their solutions to perceived problems (Kingdon, 1995). After the release of the Gold Coast Climate Change Strategy, a consultancy company was contracted to conduct a feasibility study to increase local food production and purchase. However, by the time that this study had been concluded it was too late and the policy window had closed. Following the election of a new Council (and indeed a new State Government) in 2012, and the consequent change in belief that local food production was an important local issue, the study was not released and is still awaiting the opening of a new policy window.

The Punctuated Equilibrium Framework explains policy making as a mix of stability and radical change governed by agenda setting and policy formulation (Capano, 2009). Briefly, it provides a view of how policy proceeds from apparent stability to periods of punctuated change. Policy change, according to Baumgartner and Jones (1993), occurs when issues are publicly recognised and gain momentum on a political agenda, which in turn reinforces or questions existing policies. When existing policies are reinforced, modest change follows, however, policy questioning may bring about significant changes.

A similar outcome from the Multiple Stream Framework could be envisioned through the lens of Punctuated Equilibrium Framework. Fundamentally, at the time of conception of this research, the issue of local food production was high on the political agenda, and it was being publicly debated and

gaining political momentum. At this stage, existing policies were being questioned, and a review of the Gold Coast planning framework concluded that it would hinder the development of an urban agriculture industry (Pires and Burton, 2013). There was significant potential for a punctuated, radical policy change, but, again, there was no policy formulation, and slowly the issue lost momentum and dropped off the political agenda.

The social construction theory provides another interesting angle to understanding why the draft strategy was not likely to be approved by the City of Gold Coast, as suggested by Council officers. This theory explains policy making through developing an understanding of relationships of power and the social constructions of relevant populations, where decision makers distribute burdens or benefits to a target population according to their perceived social construction and political power (Ingram et al., 2007, Weible, 2008). Social constructions are understood as stereotypes of particular groups, which can be positively or negatively created, while political power refers to how a target population is perceived in terms of their ability to mobilize resources in pursuit of policy proposals and objectives.

In this regard, urban agriculture stakeholders might have been positively constructed by the previous political leaders, and the increased momentum given to environmental and social issues might have given this group a degree of perceived political power. Therefore, there was a political interest in granting this population certain strategic benefits, however, there is evidence that local political leaders did not value urban agriculture very highly, and understood that they did not have sufficient political power to challenge an unintentional anti-urban agriculture policy framework.

From these descriptive theories, frameworks and models, it is clear that different theoretical approaches describe the policy process by focusing on different dimensions of it, or by looking at it from a particular viewpoint. Rather than trying to identify which approach is the best, most scientific, or better at predicting or explaining outcomes, multiple narratives could be used to explain a particular policy process. As Sabatier (2007; pg. 330) suggests, there are at least three advantages in explaining policy change through a multiple lens approach. Firstly, it “provides some guarantee against assuming that a particular theory is the valid one”. Secondly, it allows the “appreciation that different theories may have comparative advantages in different settings”. Thirdly, the knowledge of other approaches “should make one much more sensitive to some of the implicit assumptions in one’s favoured theory”.

Cairney (2009) argues that a multiple lens approach to the policy process is easier proposed than practiced, and this difficulty arises from the different ways in which policy making theory can be combined. Cairney (2009) concludes that, although difficult to combine, these different models have something in common and jointly they might contribute to a greater understanding of the complex intricacies of policy processes.

This suggestion was definitely reflected in this research, where different viewpoints have provided different avenues to understanding the political background to policy making. Although these theories could not be empirically tested given the circumstances of this research, they provided frameworks that facilitated a greater understanding of such a complex, political and unpredictable process.

Conclusion

This brief reflection on descriptive theories of policy making demonstrated that policy development is a complex process and it is unlikely that it can be captured by a single theory, for there are too many points of views and circumstances to take into account. Nevertheless, through these different viewpoints, greater understanding of the policy making process was possible, some answers were facilitated, and a relatively coherent strategic policy document was created.

Although much of the literature portrays policy making through two seemingly opposing approaches, both prescriptive and descriptive theories of policy making have important contributions to make, and they will seldom be clearly separated in practice. Prescriptive theory has demonstrated its value for the development of strategic documents, however its lack of political awareness is a concern that must be accounted for in order to minimise the risk of developing politically unfeasible policies. Descriptive theory has provided ways to understand some of the intricacies that govern the background of policy development, however they can lack direction or accountability in relation to the process of actually creating a strategic document, and therefore cannot entirely explicate the policy making process from agenda setting through policy implementation and review. Thus, although apparently antagonistic, these different viewpoints can indeed be complementary, and together they facilitate a comprehensive understanding of the very complex processes of policy making.

Chapter 7: Conclusion

Introduction

This study set out to explore and test theories of policy making in relation to their application to the development of an urban agriculture strategy for the City of Gold Coast. This research was based on a number of literature gaps and understandings. Firstly, the urban agriculture literature suggests that this practice is slowly becoming more and more accepted in modern cities like the Gold Coast, however it has encountered stiff opposition on a number of fronts, and its development has followed a piecemeal approach, where local governments tend to focus on individual practices within a larger urban agriculture economy rather than tackling the entire system. The literature also indicates that this piecemeal and sometimes hostile environment towards urban agriculture by town planners arises mainly from a lack of understanding of its practices, what is involved and what benefits it can bring to modern cities. Nonetheless, from the many successful attempts by urban regions throughout the world, theories of urban agriculture planning draw on many lessons to provide a path to urban agriculture policy making, one that encourages its acceptance as a valuable land use, eliminates unintended barriers to its development, involves a large number of direct and indirect stakeholders and is based more on education than on policing.

The literature on policy making provides many rich and intricate descriptions of the policy process while also pointing to critical elements that any strategic policy document should contain. Two broad theoretical frameworks are used to portray the policy making process. On the one side, there are descriptive narratives that are concerned with the background surrounding policy development, where political actors and their behaviours are the focus. On the other hand, there is the prescriptive stance which tends to ignore the political side of policy making to concentrate on key attributes that a well-made policy should in theory have. Practically, these different positions tend to be empirically tested through the scrutiny of existing policies, but they have rarely (if at all) been combined to provide a holistic approach to understanding the policy process, or tested through the development process of a new strategic document, rather than through the study of an existing and implemented policy.

Based on these research and practical gaps, this investigation has been designed to provide a novel approach to theory testing, one that applies policy making theory through the development of an

urban agriculture policy. This strategic document was then evaluated in terms of its theory, content, implementability and political acceptance to provide the basis for a critical reflection on these theoretical frameworks. In addition, the research also sets out an agenda to develop a holistic policy document, one that attempts to support and encourage the numerous facets of urban agriculture as a food system, which aims to start a process of building a coherent industry rather than a loose conglomerate of unrelated activities.

In order to achieve its aims this study set out to answer six key questions, including:

1. How do the statutory planning system and other regulatory regimes operating in the City of Gold Coast support or restrict urban agricultural practices?
2. Who are the direct and indirect stakeholders within the Gold Coast region? What are their needs, priorities, difficulties and desires when putting into practice urban agricultural activities on the Gold Coast?
3. What examples of urban agriculture policy exist in Australia and overseas at the local government level? What lessons can be learned from these policies?
4. To what extent can the literature, lessons from policies, and stakeholder information regarding their perceptions, needs and difficulties be incorporated in to the development of an urban agriculture policy for the Gold Coast?
5. How does the developed policy fare in terms of its theory, content and implementability? Could it be improved and if so, how?
6. How have theories of policy making fared in developing an urban agriculture policy for the Gold Coast? Could they be improved and if so, how?

To obtain answers to this diverse set of research questions, a single case study research strategy designed around qualitative methods of data gathering has been chosen. This allowed the inclusion of numerous data gathering approaches, including semi-structured interviews; documentary analysis; participatory observation; focus groups; and questionnaires. The application of all of these data gathering strategies ensured the robustness of the empirical findings.

Empirical Findings

This research has presented a number of empirical findings that contributed to the theory and practice of both policy making and urban agriculture. These findings have facilitated the development of the proposed Gold Coast Urban Agriculture Strategy and have shed some light into the intricacies surrounding policy making theory and their application. These findings however have been gathered in order to answer specific research questions, and this section synthesizes these findings.

1. How do the statutory planning system and other regulatory regimes operating in the City of Gold Coast support or restrict urban agricultural practices?

- a. There is a confusing situation regarding the Gold Coast planning framework and its relationship with urban agriculture. Clearly, higher level aspirations towards urban agriculture are not being realised on the ground through the Gold Coast Planning Scheme and other relevant local policy documents.
- b. The Gold Coast planning framework adopts a rigid regulatory approach that involuntarily discourages urban agriculture-related land uses within most of its urban footprint. This arises from a lack of recognition of most of its practices, which would attract a very high level of planning assessment and costs if proposed, making them unsuitable as a cost effective operation.
- c. There are ample opportunities for urban agricultural practices to be recognised as valuable land uses. This could be done relatively simply and inexpensively through the introduction of additional land use definitions and their appropriate allocation within the existing zoning arrangements of the planning scheme.
- d. Since the main fieldwork was conducted, state planning law and policy has changed substantially, and the Gold Coast City Council has developed a new Planning Scheme. Although an in-depth analysis of this new document was not carried out, at a glance it seems that a number of new urban agriculture-related land uses have been introduced, such as 'Cropping' and 'Intensive Horticulture', however these land uses continue to be segregated to peri-urban and rural areas within the city boundary.

2. Who are the direct and indirect stakeholders within the Gold Coast region? What are their needs, priorities, difficulties and desires when putting into practice urban agricultural activities on the Gold Coast?

- a. This research has uncovered a great variety of urban agriculture stakeholders, ranging from well-known and highly active members of the community like Permaculture Gold Coast and the managers of numerous farmers' markets, to individuals attempting to grow food through landsharing arrangements or trying to start small food related businesses through for example community kitchens.
- b. These stakeholders have pointed to numerous difficulties they encounter when attempting to carry out urban agricultural practices, including: lack of communication and point of contact with local authorities, financial burden of legal requirements, unnecessary regulation, lack of acknowledgement for its benefits, a generalised lack of information, education and support.
- c. Stakeholder's needs and desires were relatively simple and easy to achieve in principle. It can be summarized by the following statement given by an urban farmer: "We just want Council

to back off and let urban agriculture grow on the Gold Coast, they impose too many restrictions that make it difficult, if not impossible for everyone that is serious about it”.

- d. The proposed Gold Coast Urban Agriculture Strategy attempted to provide the starting point to achieve many of the desires pointed out by stakeholders, but one priority stand out clearly – education in food growing, purchasing and processing.

3. What examples of urban agriculture policy exist in Australia and overseas at the local government level? What lessons can be learned from these policies?

- a. Despite the relatively recent take up by local governments, there are many examples of urban agriculture policy scattered throughout the world, and new policies are emerging almost on a daily basis.
- b. In Australia, the industry is in its infancy, and local planners have not yet taken up urban agriculture seriously. There are a few local governments that are especially proactive, but the process has been slow and piecemeal. Community gardens are the main (if not the only) urban agriculture initiative that has been (somewhat) tackled and a few policies do exist. Nonetheless, these tend to impose unnecessary burdens on proponents and often do not provide clear guidelines for the successful implementation of a community garden in practice.
- c. Overseas, a similar piecemeal approach to urban agriculture development was found, with local governments opting to approach the subject through individual practices (e.g. community garden, or compost, or zoning arrangements) rather than in its entirety. There are however some comprehensive strategies that have been implemented and provide great examples of what can be done. Additionally, on an individual basis, there are numerous examples that can be readily translated into the Gold Coast (and other Australian cities), some of which have been incorporated into the proposed strategy.

4. To what extent can the literature, lessons from policies, and stakeholder information regarding their perceptions, needs and difficulties be incorporated in to the development of an urban agriculture policy for the Gold Coast?

- a. To a large extent, the proposed strategy managed to incorporate the numerous theories, perspectives and lessons learnt.
- b. On the theory side, the proposed strategy did not incorporate all elements suggested by ‘Professional Policy Making for the Twenty First Century’, in particular departmental integration (joined-up policy making) lacked strength, but other essentials components such as outward looking, evidence-based and inclusiveness were present.
- c. In terms of policy learning, the incorporation of policy-ideas from other jurisdictions provided the framework for most recommended actions. Most recommendations were based on successful examples from other local governments in Australia and beyond.

- d. Stakeholders' views were the backbone of the proposed strategy, all recommended actions attempted to address their needs and difficulties with the aim of facilitating the practice of urban agriculture on the Gold Coast.

5. How does the developed policy fare in terms of its theory, content and implementability? Could it be improved and if so, how?

- a. Overall, the proposed policy was well regarded by both urban agriculture stakeholders and Gold Coast Council Officers, but further improvements could certainly be made.
- b. Practically, it was evident that the strategy was too broad to be implemented in its entirety, and some key actions should have been prioritized. Specifically, the creation of a Gold Coast Urban Agriculture Council, the development of the Gold Coast Urban Farm and activities regarding waste recovery were highly regarded as actions to be pursued in the future.
- c. Politically, although the proposed strategy was not formally presented to political leaders, Council officers reiterated that the recently elected city council would not support the proposed strategy in its current form for a number of reasons. Firstly, there is a lack of understanding by decision makers about urban agriculture and its practices, and many would deem it unnecessary. Secondly, some of the proposed actions require long term investment that decision makers are not willing to make. Thirdly, the strategy is too broad and long term. Lastly, the proposed strategy does not have a strong enough economic argument to convince the politicians that it would create jobs and drive economic development.
- d. Clearly, for the strategy to be accepted by the current political leaders it would need to be extensively overhauled, and the following measures taken:
 - a. Focus on actions that are cost free, or that provide a “bang for Council’s buck”;
 - b. Prioritize a few actions only;
 - c. Focus on short term actions that could lead to long term benefits; and,
 - d. Make stronger connections with the Council’s economic development strategy

6. How have theories of policy making fared in developing an urban agriculture policy for the Gold Coast? Could they be improved and if so, how?

- e. ‘Professional Policy Making for the Twenty First Century’ provided a solid framework for the development of the Gold Coast Urban Agriculture Strategy, and all of its attributes proved to some degree to be important. However, it provides a lengthy process of policy development, and one that may not always be affordable or desirable by governments.
- a. Descriptive theories of policy making provided a valuable insight into the politics behind policy development and implementation and helped understand the reasons behind a likely rejection by political leaders of the proposed strategy in its current form. Unfortunately, due

to a change of priorities within the Gold Coast City Council, the testing of descriptive theories was limited.

Theoretical Implications

This research attempted a novel approach to policy making theory testing, one that applied theory for practice rather than theory to practice. In other words, this research set out an agenda to apply policy making theory through the development of a strategic document rather than analysing an existing and implemented policy and scrutinizing its developmental processes in light of a theoretical explanation. In addition, it aimed to combine both stances of policy theory as a means to obtain a more holistic understanding of a specific policy process. However, due to a priority change within the Gold Coast City Council, the testing of descriptive theories has been limited, but nonetheless fruitful.

The backbone of this research consists of the publication by the UK Government titled 'Professional Policy Making for the Twenty first Century', which sets out a number of attributes (or elements) that good policies should strive to embrace. Although every effort was made to incorporate all of these into the process of developing the urban agriculture strategy for the City of Gold Coast, invariably these were achieved with different measures of success. Nevertheless, the application of this theory has revealed some theoretical ramifications.

A major theoretical implication that emerged from this research is the lack of emphasis given to specific competencies of policy making. 'Professional Policy Making for the Twenty First Century' treats all competencies equally, whereas in practice there is a clear understanding that these elements are not given equal priority and that they may not be carried out simultaneously. This was evidenced in two distinct settings. Firstly, the theoretical assessment of the proposed strategy undertaken in the focus group exercise with Gold Coast Council officers clearly suggested that some elements were practically more important than others. For instance, joined-up policy making was not very well regarded, being often cited as something nice to have but far from being paramount. On the other hand, an evidence-based process was highly regarded, while 'forward and outward looking' was seen as central to a robust policy making process. Secondly, the policy development exercise carried out as part of this research also revealed that some attributes perform a leading and informative role and thus should be carried out first. For instance, the attribute 'outward looking' was carried out extensively prior to attempting to adopt an inclusive, innovative and creative process. As a result, a lot of time and effort was spent trying to obtain examples and understand procedures to solve numerous urban agriculture problems, some of which became irrelevant to the situation on the Gold Coast. Consequently, it would have been a more effective process to have first established what problems needed to be addressed and what the current limiting factors were (i.e. political acceptance, resources, time, etc.). In this sense, prior to fulfilling the prescription set out by the 'Professional Policy

Making for the Twenty First Century', a thorough reflection on each attribute, their role and sequence should have been carried out.

A major drawback from this purely prescriptive approach to policy development is its distance from the politics surrounding policy making, one that may prove fatal, and may make a strategy unsupported. This finding is in accordance with what other authors have concluded about 'Professional Policy Making for the Twenty First Century'. For example, Parsons (2001, 2002) has criticized the model for its inability to take into consideration the "politics and the fact that policy making takes place in a democratic context" (Parsons, 2001; pg. 96), he also points out that this theory does not incorporate the role of values and ideas, which is also supported by this study findings. Burton (2006) adds to this debate by stating that this model provides an unrealistic conception of policy making in practice and that it "stopped short of being explicitly prescriptive" while still being deeply entrenched in the stages approach of policy making (pg. 176). Such distance from the political circles of policy making can simply deem a policy irrelevant. This was the case experienced in this research, where although the proposed strategy was highly regarded by both community stakeholders and Gold Coast Council officers, it was clear that the current political environment would not see it that way, and drastic changes would need to follow if it had any chance of succeeding.

Attribute wise, this research has revealed that inclusive, innovative and creative approaches to policy making should be further emphasised when a novel project is being created, for these provide avenues for the realisation of ideas. In agreement with Parsons (2004), this research also showed that rather than seeking a single explanation and resting on a central authority, policy making should rely also on imagination, intuition and experience.

It is also noteworthy to point out that there are different approaches to innovation in the public sector, ranging from radical, through to systemic and incremental (Albury, 2005), and these have all to be understood. That is, rarely do public offices attempt radical forms of innovation, especially those that attempt to develop "new services or a fundamentally new way of organising and delivering a service" (Albury, 2005; pg. 52). This reduced likelihood of acceptance might arise from its increased probability to fail compared to incremental changes (Baker et al., 1985). Such a perspective might provide an explanation for the likely dismissal of the proposed strategy in its current form by the current political leaders on the Gold Coast. Simply, they may perceive urban agriculture as a radical innovative idea as it attempts to introduce new services (e.g. waste recovery and zoning arrangements) and provide new ways of organising and delivering service, specifically through the creation of the Gold Coast Urban Agriculture Council, which would share some responsibility for policy development and implementation. Unfortunately, the lack of political participation in the policy making process did not allow for a greater discussion on this topic.

Nevertheless, as pointed out in a number of discussions, cities that are willing to support urban agriculture and its innovations, do have the option of setting up some small scale exercises in order to reduce risk and build on experience over time. However, for this to happen, the support of local Councillors would be critical, especially in identifying particular areas of the city where such experiments could take place.

Long term policy making was almost unanimously regarded as paramount in policy development by Council officers, who stated that forward looking was necessary because “comprehensive strategies like that, do take a while to gain momentum” and “to ensure long term commitment to the application of the policy”. However, the reality is that government mandates only run for 3-4 years and therefore short term goals and aspirations must be included in any long term policy development exercise. It was clear through the discussion with Council officers that current politicians are very focused on the short term and they need to see “almost immediate results” in order to support such ‘radical’ strategies.

The term forward looking also relates to the processes concerned with better understanding and envisioning the future that would facilitate a good policy making process. This research concluded that more emphasises should be given to this version of forward looking rather than simply developing policies that run for 10 or more years. Activities such as scenario planning, foresight, futures thinking and many others should be better used and incorporated into practice. In doing so, a broader range of actors can be drawn into the policy making process to discuss the mechanisms to systematically deal with future risks, opportunities and options within a policy framework (Weber, 2006). This exercise would not only narrow the range of policy options to be pursued and analysed but would also mean that a range of decision makers and stakeholders are in agreement with what the future might bring, which would immediately increase support for possible policy options.

Unfortunately, the lack of support from Gold Coast City Council, but most importantly the lack of communication from Council made such scoping exercise not possible. As mentioned previously, during the critical time of structuring the research strategy, Council staff turned into full ‘election mode’ and means of communication stopped while any interest for urban agriculture disappeared.

Another lesson learned through this policy development exercise refers to the outward looking attribute. It became evident that outward looking is critical to policy making and Gold Coast Council officers have reiterated numerous times that this process is paramount. In particular, it was suggested that outward looking “ensures a thorough understanding of all components” and provides vital knowledge of approaches that have been successful and thus reducing its risks. This finding supports current theory that suggests that the growth of policy learning, convergence and transfer is also

reinforced by the reality that “the major problems that face one government are often the same that face its neighbours” (Rose, 1988; pg. 219 cited in Wolman, 1992).

Outward looking however proved to be a very time and resource intensive procedure that yielded a great depth of information, but its undertaking must be closely monitored and its guidelines narrowly defined. In modern days of downsizing geographical distances through globalization and technological advances in communication, care must be taken not to go off course and access policy approaches that might be politically unsupportive, not cost effective or simply not fit for purpose. In accordance with Rose (1991), this research also found that it is important to determine the feasibility and desirability of policy transfer prior to embarking on an in depth assessment of its peculiarities, as this can otherwise be very costly. Also, it is important to be aware of political cultures as considerable constraints that may arise from unsupportive decision makers. In this sense, this research reinforced a suggestion by Stone (1999), who argued that policy transfer is not politically neutral and a compromise is likely to emerge when choosing policy lessons, resulting in non-optimal solutions being promoted.

On the descriptive side, despite a lack of opportunities to engage with the political processes surrounding policy making on the Gold Coast, numerous theories shed some light on the possible explanations for a likely dismissal of the proposed strategy by current political leaders on the Gold Coast. Although speculative, it was obvious that different theories complemented each other by providing a different political angle that contributed to a better understanding of the political circumstances surrounding this policy making exercise. Theories like the Multiple Stream Framework, Social Construction Theory and the Stages Model, have all provided clarifications for the probable causes of policy rejection and development.

This research finding thus supports the arguments of Cairney (2009) and Sabatier (2007) that rather than attempting to describe policy making through a single theory, a multiple narrative or a multiple lens approach to policy research should be attempted. This would certainly provide a deeper level of understanding and predictability surrounding a very intricate and highly emotional process. It was evident however that, as pointed out by Cairney (2009), a multiple lens approach is easier promoted than taken, and much more work is required to achieve a holistic multi-theoretical approach.

Further to the argument of multiple-theory combining, this research also suggests that prescriptive and descriptive theories of policy making can be complementary to each other rather than opposite. By combining both stances of policy making theory, this research attempted a novel approach to theory testing, one that proved to be both complex and enriching, but its practicality is somewhat inconclusive. Although complementary in nature, these methods relate to two distinct sides, or perhaps stages, of the policy process. On the one side, the descriptive stance attempts to understand

the politics, or the background interplay of the policy process, which more often than not precedes the development of the actual policy. On the other hand, the prescriptive approach entirely ignores the political discourse to focus solely on the content and procedural steps that should be undertaken through the development of professional and modern policies.

It is evident that there is a clear separation of actors between these two methods of portraying policy making. Descriptively, decision makers and political actors are the focus, while prescriptively on ground officers are concerned. Such physical separation, although somewhat important to holistically understand the entire policy process, may prove an obstacle too great to deem feasible the incorporation of a large body of literature to an already very intricate process of theory research. It is obvious however that one approach cannot exist without the other, for politics will always drive the creation of policies, and policies will always be the substance of political arguments.

Urban Agriculture Policy Implication

The theory of urban agriculture planning reveals that this is still a novel area and that many cities have not yet accepted the basic case for supporting urban agriculture through planning measures. This was certainly the case on the Gold Coast, where at higher levels of planning there seemed to be an understanding that local food production and purchase was to be fostered. However, on the ground, the assessment of the current planning framework revealed that most urban agriculture practices are hindered, albeit often unintentionally. This situation arises from a lack of formal recognition of many activities that form a holistic urban agriculture industry, leading to sustainable practices being considered 'illegal' by default.

This research strongly supports Velez-Guerra's (2004) argument that municipalities should create a positive planning environment for urban agriculture, which should be based on a facilitating framework and built upon an extensive community consultation process. It was striking to perceive that on numerous occasions, decision makers and community members who were in principle against urban agriculture, rapidly changed their perceptions upon gaining knowledge of what urban agriculture is, what it entails and the numerous benefits that it could bring to the city. In support of the numerous voices that pointed to education as the single most important activity to foster urban agriculture, this research cannot emphasise strongly enough the need to support an in-depth and varied information building and educational campaign, which should not only focus on disseminating the principles, benefits and risks associated with urban agriculture, but should also educate about the processes surrounding food production, processing, retailing and food waste disposal.

In terms of the policy making process itself, an inclusive and multi-stakeholder approach should also be envisaged. This comes from the realisation that an urban agriculture industry will tend to affect a very large cross section of the urban population and they must be involved in the discussions that

would lead to a comprehensive strategic document. A number of authors have arrived at similar conclusions, pointing out that urban agriculture is a cross cutting issue that involves a wide range of stakeholders and actors that are often disconnected, but that must play a role and have a say in planning and development of its activities (Dubbeling and Merzthal, 2006, Mougeot, 2005b).

Many researcher and practitioners also suggested that prior to engaging with urban agriculture planning, an in-depth review of all planning guidance should be carried out to remove potential impediments to its development (Broadway, 2009, De Zeeuw et al., 2001, Petts, 2003). This research has argued how crucial this step is, especially in cities that have not yet attempted to take control of their food system. The analysis of the Gold Coast planning framework revealed that if an urban agriculture industry is to be fostered a number of structural changes would be required. It is simply not enough to provide 'feel good' statements without paving the way for their realisation, and it is not adequate to state that an increase in local food production and purchase is envisioned without putting mechanisms in place that regulate and encourage city dwellers to engage themselves in food producing and purchasing activities.

A major conclusion of this research in terms of urban agriculture planning refers to the extent that local governments are willing to commit to supporting an urban agriculture industry. Through comprehensive research of policy documents from Australia and overseas that have attempted to support, regulate or encourage urban agricultural practices, it was evident that a piecemeal approach was often chosen. Perhaps due to its early developmental stage, or a lack of sufficient evidence, or a lack of funds, or a lack of understanding, most local governments are choosing to take individual measures rather than embarking on a more comprehensive journey. Such approach may be a logical and rational one, with councils in Australia mainly opting to act (or pretend to act) upon community gardening and other relatively limited activities following extensive community pressure and without realising the benefits that these activities bring to the city, be they environmental, social or economic.

Overall it is fair to say that urban agriculture is still encountering stiff opposition in Australia and the City of Gold Coast provides a typical example. It is however important to note that this opposition does not seem to arise from outright hostility to agriculture in cities, but more likely a lack of understanding of its practices and a growing separation that city dwellers have experienced from food producing areas and activities. Thus, there is still hope for urban agriculture in Australia and the Gold Coast, and through time, city planners may start to understand and appreciate the many benefits that it can bring to urban regions. The timing of this realisation will perhaps be crucial, and hopefully, planning departments will start to act to strengthen their city's food security before it reaches a tipping point that can no longer be ignored.

Recommendation for Future Research

The scale of this debate is clearly extensive and multifaceted, and the proposed approach has provided a unique way to studying both urban agriculture and policy making. From its uniqueness, this research has uncovered a number of research gaps that could be explored in order to advance not only the theory but also the practice of both of these research topics, including:

- Multi-theory framework to policy making research – the policy making process is often long and complex, and single focused theories do not seem capable of portraying it in its entirety, therefore it would be worthwhile to explore ways in which different theories can be coupled together to provide a more holistic framework.
- Multi-stance explanation of the policy process – this research proposed a novel approach to policy making research and understanding, one that attempted to combine prescriptive and descriptive stances of the policy process. Certainly more research would be required to conclude if this blend of viewpoints adds to our understandings of the policy process or if they are better tackled individually.
- Testing of descriptive theories through policy development – descriptive theories of the policy process are often tested through the scrutiny of existing policies, but this research has proposed a novel approach, one that attempted to apply theory for practice. Due to matters outside of the researcher’s control the full approach could not be carried out, but it would have been interested to see if the application of theoretical explanation could have facilitated the adoption of the proposed strategy.
- Forward-looking approaches – further research is needed to advance the practices of forward looking. Clearly, the policy making process is a futuristic one that attempts to solve tomorrow’s concerns today. Thus, there is a need to better improve the process of envisioning what cities want to become in light of anticipated problems, and how this envisioning process can be better translated into effective and supportive policies.
- Monitoring of implemented comprehensive urban agriculture policies – only a handful of cities have embarked on the development and implementation of policies that tackle and encourage urban agriculture as an industry. These example should be closely monitored and researched in order to provide evidence of their effectiveness or otherwise. Only through such evidence that other cities will adopt more risky and holistic strategies concerning urban agriculture development.
- Urban Agriculture Policy Council research – it has been suggested that the creation of the Gold Coast Urban Agriculture (or food) Council could be advanced by the town’s current and future leaders. It would be worthwhile therefore to explore in detail the intricacies surrounding Food

Policy Council development, implementation and governance to devise a platform that could be put forward to the Gold Coast community.

- Urban agriculture's economic argument – in this day and age, political leaders seem to be focusing more on economic prosperity than social and environmental fairness, therefore urban agriculture needs to develop stronger economic arguments, especially for cities of the developed world. In this way it may be easier to convince decision makers of their worth.

Limitations of the Research

This research has offered a novel approach to policy making theory testing in an attempt to advance the field of policy research and urban agriculture planning. Due its methods, the study encountered a number of limitations that need to be considered:

- Limited Gold Coast Council involvement – the sudden change in priorities within Gold Coast City Council imposed a major limitation on the original research arrangements. It was envisioned that a partnership would have been formed and that the strategic document would be developed in accordance to normal policy making procedures adopted within Council. The limited participation on Council's behalf made this exercise more theoretical than practical, which was not the intended approach.
- Limited descriptive policy making theory engagement – although some dialogue with the descriptive theory of policy making was made, this was based on a second hand account of likely outcomes and not on firsthand observation.
- Limited evaluative participation – this research is confident that the main urban agriculture stakeholders have been identified and involved, however their participation in the evaluative exercise was limited. Such limited participation has provided useful data, but a higher level of engagement would have made the evaluative process richer and more definitive.
- Limited theory on adopted approach – as a novel approach to theory testing, no similar examples have been found that provided guidance. This has certainly proved to be a limitation of this research as many things had to be learned and dealt with on the spot, and their outcome might have been different if previous knowledge had been gained and discussed.

Qualitative research, as in life, is framed by numerous circumstances and actors, and this study was no different. Despite thorough planning, not everything has gone according to the script. Nevertheless, the limitations of this study have not severely impacted on its results, and if anything, they have contributed to a greater focus on the prescriptive side of policy making, while revealing the numerous policy options available to support urban agricultural practices.

Conclusion

This research has successfully tested different theories of policy making through a novel approach, one that attempted to develop an urban agriculture strategy for the City of Gold Coast. Despite its limitation, this study has accomplished what it had set out to do in terms of theory and practice of policy making. Unsurprisingly, it has unearthed more questions, but it has also advanced the practice of policy making research while also contributing to the emerging field of urban agriculture planning. The future of policy making research is bright and ever evolving, and it is only through new perspectives that new points of view can be presented and discussed. This research has done just that, provided a new angle to policy research and debate.

Urban agriculture also has a bright future, both theoretically and practically. Its many facets provide an array of opportunities for researcher and practitioners to engage in a field of considerable potential. This research has started a conversation, it is now up to decision makers on the Gold Coast to move it forward, one step at the time.

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Appendix 1- Evaluation and Review Form

Draft Gold Coast Urban Agriculture Strategy

Evaluation and Review Form

Aim:

This evaluation sheet aims to obtain important feedback regarding the Draft Gold Coast Urban Agriculture Strategy. All interested parties are asked to respond to each question as thoughtfully and in as much detail as possible. All feedback is welcomed and will be used in the development of the final strategy which will be presented to the City of Gold Coast and other local organisations later in the year.

Instructions:

- Read the Draft Gold Coast Urban Agriculture Strategy prior to completing this evaluation and review form.
- Please download, complete, save and send the completed form (as a word document) to Victor Pires by e-mail (v.pires@griffith.edu.au) no later than Friday, 27th of September, 2013.
- Answer each question in the designated box immediately after the question. The box can be expanded if necessary.
- Questions 5 to 13 require you to tick a box in accordance to your opinion on a specific content of the Draft Strategy. Please tick only one box for each question.

Additional Comments:

Please forward the Draft Gold Coast Urban Agriculture Strategy and this evaluation form to anyone else you know who might be interesting in commenting on it and that has an interest in urban agriculture development on the Gold Coast.

Privacy:

All comments and suggestions are most welcome and all replies are confidential: you will not be identified in the final report.

If you have any further questions regarding the strategy or this evaluation form, please do not hesitate to contact Victor Pires (by mobile 0431 394 756 or by e-mail v.pires@griffith.edu.au).

Question 1: Does the Draft Strategy ignore any important issues?

Question 2: Which aspect(s) of the Draft Gold Coast Urban Agriculture Strategy do you think should be given the highest priority?

Question 3: Which aspect(s) of the Draft Gold Coast Urban Agriculture Strategy needs further work and should be better formulated?

Question 4: What do you think might be the biggest obstacles to the acceptance and implementation of the Strategy?

Question 5: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides a sensible framework for the long term development of Urban Agriculture on the Gold Coast”.*

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 6: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides a framework based on best practice in urban agriculture”*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 7: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides an innovative and creative framework for the development of Urban Agriculture on the Gold Coast”*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 8: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides an evidence-based framework for the development of Urban Agriculture on the Gold Coast”*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 9: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides framework for the development of Urban Agriculture on the Gold Coast that is inclusive of a wide range of different perspectives and approaches”*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 10: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides a framework for integrated (joined-up) decision making for the development of Urban Agriculture on the Gold Coast”*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 11: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides a framework for continuous improvement in the development of Urban Agriculture on the Gold Coast”*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 12: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides an adaptive framework for the development of Urban Agriculture on the Gold Coast”*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 13: To what extent do you agree or disagree with the following statement: *“I believe that the Draft Gold Coast Urban Agriculture Strategy provides a realistic and implementable framework for the development of Urban Agriculture on the Gold Coast”*.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strongly Agree	Tend to Agree	Undecided	Tend to Disagree	Strongly Disagree

Further comments:

Question 14: Do you have any other comments or suggestions for how to improve the Draft Strategy?



Gold Coast Urban Agriculture Strategy

Connecting the Gold Coast to its Roots

Victor W. L. Pires

Disclaimer: This strategy has been prepared as a hypothetical exercise and as part of a PhD research project which is concerned with the nature of strategic policy making by local governments. It does not represent a policy of the City of Gold Coast, nor has it been commissioned by the City of Gold Coast.

Executive Summary

Urban agriculture relates not only to the production of food within cities, but encompasses the entire food system, including food production, processing, wholesaling and retailing, distribution as well as resource recovering. In many forms, urban agriculture is already taking place in the City of Gold Coast, through community gardening, keeping chickens and bees, purchasing food at farmer's markets or composting food wastes - the Gold Coast community is indeed embracing urban agriculture. The motivations behind this growing movement are many, with people sharing their passion for local and sustainable food, enjoying the recreational and health benefits of gardening, or the understanding that urban agriculture can provide individuals, the environment, the community and the city with a vast array of positive interactions and values.

Despite this growing enthusiasm and demand for local produce, the City of Gold Coast has no policies specifically to support and promote more urban agriculture. Enthusiastic residents often face unnecessary barriers imposed by current policies or other factors that could be addressed through positive municipal policy and strategies. The Gold Coast City has a role to play in governing urban agriculture due to the fact that it involves issues related to land use, public health, food safety, water quality, neighbour relations, animal welfare and waste management.

In order to identify a set of strategic recommendations to support and govern a strong urban agriculture industry on the Gold Coast an extensive process of background research was undertaken as part of this PhD project, involving in depth interviews with local urban agriculture stakeholders, extensive policy research from other jurisdictions as well as a thorough review of the current planning framework of the Gold Coast and how it affects urban agricultural practices. The result is a set of 59 strategic recommendations structured around twelve core urban agriculture areas. A table summarizing these strategic actions, their contribution to objectives and their expected timeframe for realization is included in Appendix 1.

The first core area is the establishment of a Gold Coast Urban Agriculture Council (GCUAC), a peak body to be formed with representative members of the community and the Gold Coast City Council, that would serve as a coordinating entity or intermediary between community stakeholders and local government, with the aim to transform and improve the food system through democratic and collaborative planning and policy making..

In terms of the recommendations for the expansion of urban agriculture on the Gold Coast, it is important to firstly recognise urban agriculture as a valuable land use, and then

introduce suitable definitions into the Gold Coast Planning Scheme as well as incorporate these land uses within Domains and local plans. Furthermore, existing policies and local laws which might hinder the development of urban agriculture in the city should be reviewed and specific zoning and support to urban agriculture should be enacted.

Education is a key aspect in the long term development of urban agriculture, not only consumers have to be educated about seasonality of produce and how to utilize locally grown food, but producers and processors must also be educated about rules, regulations and consumer demand. Thus, other strategic recommendations include the development of a Gold Coast Urban Food and Agriculture Learning Centre, the development of numerous learning opportunities, the creation of an interactive web portal, as well as the formation of a regional food trail and a local food brand.

Looking to the future, an important area is the education of our children. In order to bring children back to nature and ensure that they know where their food comes from, it is recommended that a kitchen garden curriculum (and associated support infrastructure) be formulated and used in all schools on the Gold Coast. This would not only teach children to grow food, but also to cook and preserve food, a skill that seems to be disappearing from our fast food society.

Community gardens are communal structures that positively contribute to improving social, environmental and sustainability objectives. Community gardens are perhaps the most widely practiced form of urban agriculture in Australian cities and demand for them is rising on the Gold Coast. For that reason it is recommended that a comprehensive community gardens policy be formulated and that increased support for gardeners be developed.

City farms and market gardens are burgeoning throughout the world and Australia is no different, reflecting society's need to reconnect urban populations with food production activities and landscapes. The Gold Coast is one of the few major cities in Australia that does not have a city farm, consequently it is recommended that a feasibility study to establish the Gold Coast City Farm and Training Centre be carried out. In addition, suitable lands that could be used for market garden operations should be identified and made available to urban farmers, and the scope to relax unnecessary regulations applying to the selling of food stuff should be studied.

Animal husbandry is another core area within urban agriculture, providing not only a food source but also performing valuable environmental services such as pollination and fertilization. Keeping of chickens and bees is however difficult on the Gold Coast due to hindering local laws, as such it is recommended that these laws be revised, as well as the

development of best management practices to help both practitioners and regulators in the successful keeping of animals.

Land is a critical element for food production practices, however after years of urbanization, access to affordable, fertile, well oriented and located farmland has become a major challenge. Therefore it is important to undertake a comprehensive urban agriculture land mapping and inventory exercise to be able to locate land where urban agriculture could take place. Also, in order to facilitate land access, Gold Coast residents should be encouraged to sign up for Landshare Australia, while Council could examine the possibility of providing local tax incentives to land devoted to agriculture and explore the feasibility of establishing a land trust.

Food processing is another key element of a strong food system, providing avenues for local produce to be preserved and value added. On the Gold Coast however, there are very few processing companies currently active and their growth could be encouraged. Through a clustering of similar businesses or through the development of community kitchen arrangements food processing enterprise can be fostered. It is important also to provide training in food safety and processing regulations to ensure that processing activities follow best management practices.

A crucial element for urban agriculture is the distribution network, or the method by which locally grown food gets from the producer to the consumer. For micro and small scale farms (the scale that most urban farming ventures operate), direct marketing is the primary avenue for commercialization. It is therefore recommended that a study be conducted to determine the feasibility of establishing at least three Council-regulated farmers markets as well as developing a farmer's market policy that encourages local farmers and not only resellers to partake. Furthermore, green sheds and road side stalls could also be a part of the distribution fabric of urban agriculture products, and their encouragement should be fostered.

Urban food forestry covers numerous planting initiatives including urban orchards, edible landscaping, street verge gardening, edible parks and urban forest gardens. The practice of planting edible plant species in public domains is seen as another means of bringing food production to cities, as such it is recommended that potential locations to plant and establish edible trees and community orchards be identified throughout the city. Correspondingly, it would be relevant to develop an edible landscaping guideline and map existing urban fruit and nut bearing tree to educate and showcase to the community what is possible.

Lastly, organic waste constitute a significant proportion of municipal solid waste, therefore implementing a municipal composting program has the potential to not only

significantly reduce the volume of waste being diverted to landfills, but also helps to manage water more efficiently while contributing to the development of local infrastructure and amenities by improving soils and green spaces. Consequently, a feasibility study to build and maintain a Gold Coast Composting Facility should be carried out. Simultaneously, community and household composting systems should be explored and educational programs encouraged.

It is important to note however that in order to address these strategic actions a coordinated effort on the part of City council departments, political leaders, and community partners is paramount. This draft Urban Agriculture Strategy is only a starting point in the long and rewarding journey towards greater urban food security, and with that in mind it does not at this stage set out a detailed implementation plan, rather it identifies strategic directions for moving towards greater food security in the city and for increasing the economic opportunities available to everyone concerned with growing, processing, transport and selling locally grown food. Implementation will occur over time, through partnerships, community involvement, research, leadership and resource allocations. Let the journey begin!!

Introduction

Cities have always been dependent on a variety of resources not only for their survival, but also to enable them to serve as places of innovation and civilisation. As those who in the past laid siege to cities knew all too well, one of the most important of these resources is food. Over the course of the last century cities have been supplied with their food from an

increasingly wide range, indeed most Australian cities are now supplied with food from many different parts of the world as well as from different parts of Australia. The security of these increasingly complex food supply systems is the product of a number of factors: reliance on a variety of sources can be seen to increase security as it overcomes dependency on a single source, at the same time dependence on long distance supply chains can increase the risk of disruption to those chains. There are of course other dimensions to food security, not least the affordability of food and our access to a variety of foods, both fresh and processed.

In response to actual and anticipated threats to the supply of food to cities and in light of emerging threats from climate change, peak oil and economic crises, attention has focused in recent years on the potential to supply a greater proportion of the food requirements of cities by producing and processing more food locally, either within or close by the city in question. In this sense urban food security and urban agriculture have been seen as inextricably connected.

Urban food security concerns could potentially be alleviated and prevented through urban agriculture practices. It has been suggested that increasing production of perishable food in urban centres allows a greater diversity of food systems to flourish, and enables the system to resist different threats and meet different needs. It has been claimed that as Australia continues to struggle with water scarcity and increasing climate extremes, food production in and around its cities can contribute to healthy and resilient communities. Additionally, urban agriculture can contribute to sustaining societies through peak oil, because urban agriculture provides a system that connects cities to their bioregions, creating surpluses that can be traded for the benefits of regional and urban opportunity.

Through these recognitions, food is reappearing on the agenda of a growing number of local governments. Across all continents, numerous municipalities are engaging directly with food systems as an integral part of their responsibilities. This document aims to do just that – provide a current model, based on sound evidence, which allows the Gold Coast community to take matters on its own hands and become responsible for its own food. Food security and sustainability does not involve a single approach, rather it requires a myriad of ideas, actors and actions, the voyage is long, but the reward is worth it. Let the journey begin!

Gold Coast and its food

Before the 1960, the Gold Coast region had a strong culture in agriculture, being host to numerous farms that cultivated sugar cane, cattle, cotton and dairy. From 1960 however the history started to change, with the decline in the dairy industry, farmers were allowed to subdivide their land, giving rise to hobby farmers and opening up the area for diversification of produce and activities.

With subdivision came the present situation where the agricultural activities taking place within the Gold Coast local government area is almost extinct, there are still hobby farms and small commercial growers, but these tend not to contribute significantly to the Gold Coast' food requirements. As a result, up to 95% of the fresh food being consumed in our town comes from somewhere else, mainly the Brisbane Central Markets at Rocklea, which source its produce from all over Australia and the globe.

Despite the lack of local farms, there is a clear desire from the Gold Coast community for local food, and demand is on the rise. The increased need for local food is evidenced throughout the city, with significant growth in the number of existing farmers markets, community gardens, school gardens as well as the inspirational work being carried out by the Gold Coast Permaculture and the Gold Coast Organic Growers Association, who are showcasing possibilities and educating the public on growing healthy, organic food.

These increased demand for locally produced, sourced and manufactured food on the Gold Coast is rapidly exceeding supply, indicating that there needs to be mechanisms to:

- Support existing farmers to grow more organic local food;
- Encourage community members to grow some of their food and to purchase locally produced food;
- Provide avenues for local farmers to sell their produce directly to the consumer;
- Expand and encourage processing, manufacturing and retailing of local food; and
- Collect, compost and redistribute our local food waste.

Urban Agriculture: Potentials and Risks

Urban agriculture has been defined numerously, ranging from simply meaning “growing food within a city” to complex narratives that describe, what, when, where, who, why and so on. In this strategy urban agriculture is viewed as more than simply growing food within the city, it attempts to relate urban agriculture to the entire food system, without placing too many boundaries on its realisation. Consequently the strategy adopts the following definition:

Urban Agriculture is an industry located within (intra-urban) or the fringe (peri-urban) of a town, a city or a metropolis, which grows and raises, processes and distributes a diversity of food and non-food products, (re)-using largely human and material resources, products and services found in an around that urban area, and in turn supplying human and material resources, products and services largely to that urban area.

Based on that definition countless activities make part of urban agriculture, including home, school, rooftop, and community gardens, urban livestock and poultry keeping, beekeeping, urban farms, market gardens, farmers' markets, food manufacturers and processors, composting, etc. These activities can also be of varied scales ranging from

container and balcony gardening to broad acre city farms, from home canning to brewing companies, and from farm gate sales to wholesaling enterprises.

Cities and their communities have embraced urban agriculture for different reasons, be it environmental, social, or economic, there is an understanding that urban agriculture adds both, individual and collective, benefits to societies. Socially, food security and food access are the obvious frontrunners. But other important outcomes such as improved diet and health, gender equity, personal wellbeing, sense of place, aesthetics and community building are also accentuated. For example, research has associated gardening with reduced risk of obesity, heart disease, diabetes, and occupational injuries. Whereas, a survey of community gardens in New York found that urban agricultural initiatives improved residents' attitude towards the neighbourhood and increased neighbourhood pride.

Urban agriculture also has the potential to provide various environmental outcomes. These include improving water and waste management, reducing urban heat and improving air quality, reduced carbon emissions, conserving biodiversity, environmental education, nutrient recycling among others. In addition, through local production and consumption of food, less energy is required in the packaging, processing and transportation stages of the food chain, which in turn may reduce greenhouse gases emissions and their associated climate change impacts.

Economic ripples also emerge from urban agricultural practices. These include employment and income, development of microenterprises, achieving the highest productive use of land, increased access to markets, energy savings as well as the possible monetary value associated with better environmental management. In terms of income, research suggests that urban agriculture can be very profitable, especially if products that are of high demand and that have a comparative advantage over rural foodstuff are targeted. For farmers, urban agriculture allows a diversification of revenue, permitting the commercialization of value added products, while providing increased networking and learning opportunities. And, for the local economy, urban agriculture can create economic multiplier effects.

These social, economic and environmental benefits allow urban agriculture to contribute to the multifunctionality and sustainability of cities. In terms of land use planning, multifunctionality is a great asset, and urban agriculture can deliver a variety of potential benefits simultaneously, making it a 'cheap' producer of public goods. Urban agriculture is also considered an acceptable, affordable and effective tool for more sustainable forms of urbanization.

However, urban agriculture may also pose risks to cities and towns. A common concern is the potential impact that it may have on the health of urban farmers and consumers of urban produce. Detailed information on the actual impact to health is still scarce, but there are real concerns that need to be acknowledged and understood in order to minimise the risks.

The main potential health risk involves the contamination of crops with pathogenic organisms and agrochemicals, contamination of soils and produce with heavy metals from traffic emissions and industrial waste, and the breeding and spreading of diseases by mosquitoes and other vectors. Additionally, environmental risks, such as contamination, pollution, nuisance and pest management issues have also been suggested.

Opportunities for Municipal Policy

The increasing demand for locally produced, manufactured and retailed food by the Gold Coast community, coupled with the many potential benefits offered by a strong urban agriculture industry, highlight the importance of supporting local residents to produce their own food, purchase locally made products and services, and to compost their wastes. Given the risks and challenges presented above, there is a need to alleviate the barriers and to promote a healthy and safe industry that reduces the risk of negative outcomes. The Gold Coast City Council has an important role to play in meeting this need.

In principle, there are ample opportunities for urban agriculture to flourish on the Gold Coast. Apart from high density areas in the coastal strip, most of the city's suburbs have relatively low population densities, and of the total land area, approximately 60% is in the form of green or open space. Yet, for urban agriculture to play a greater role in supplying our urban food needs, it must be recognised as a legitimate urban land use activity within city planning schemes, for urban land use planning can only encourage and support activities that are recognised.

The Gold Coast City Council has realised the importance of reintegrating a vibrant and colourful local food system back to the city, its climate change strategy clearly points out for the need to expand local food production and purchase. In addition, the Gold Coast is well positioned to reap the rewards presented by urban agriculture, because it relishes:

- Significant amounts of good quality productive land and abundant water sources;
- A climate that is suitable for growing a range of crops;
- Expanding food tourism opportunities;
- A unique urban, peri-urban and rural landscape that is closely connected;
- An exclusive proximity to Brisbane and regional markets in Northern NSW;
- A burgeoning food and beverage industry;
- A motivated and hardworking community; and
- A manageable population size.

Through greater understanding that urban agriculture is an important tool in the planners' tool box, more and more cities are revamping their planning ordinances, reviewing their zoning regulations and creating educational programs. In Australia, cities like Melbourne

and Sydney are leading the way, however they are lagging far behind cities like Vancouver, San Francisco, New York, London and many others. This is therefore a great opportunity for the Gold Coast to become a leader (not a follower), and opportunity that not only ensures food security, but that also signals the commitment that the city has to its environment, community and economic prosperity.

Food Sensitive Planning and Urban Design

Food-Sensitive Planning and Urban Design (FSPUD) is a term initially convened by the Victorian Eco Innovation Lab in 2008 that has gained prominence in Australia since the publication of “Food-sensitive planning and urban design: A conceptual framework for achieving a sustainable and healthy food system” in 2011. FSPUD advocates for the formal recognition of the food system (including production, distribution, wholesaling, retailing, consumption and the disposal of waste) into the planning frameworks of our cities. FSPUD arguments that when the food system is taken into consideration in the planning stage of our cities, numerous social, economic and environmental aspirations are facilitated.

FSPUD is guided by ten principles that encourage an equitable and sustainable urban food system (**Table 13**). The Gold Coast Urban Agriculture Strategy has adopted these principles, encouraging them to become Our Objectives.

In this document, the FSPUD principles (or Our Objectives) have been used as a tool to explore and evaluate all actions proposed. That is, after each core urban agriculture area, a table demonstrates how each of the proposed strategic recommendations will reinforce these principles.

Table 13: FSPUD principles – Our Objectives.

1. Support secure and equitable access to the food necessary for a healthy and fulfilling life.	6. Protect and/or enhance urban and surrounding ecosystems and increase biodiversity (including, but not limited to, bees, open pollinating fruit trees and native vegetation).
2. Make healthy and sustainable food choices easy and convenient.	7. Ensure decisions reflect the long-term value and broader community benefits of access to productive land and experienced producers.
3. Encourage sustainable use of spaces and places to meet many diverse needs, reconciling food production and exchange with housing, enjoyment of open spaces and recreational areas, urban cooling, skills and jobs, socialising and community celebration	8. Encourage investment and innovation, through secure tenure and supportive operating environments for both community and commercial food enterprises.
4. Provide opportunities for those who wish to participate in growing, exchanging, cooking and sharing food.	9. Increase resilience, by designing to keep options open for future use of space and resources.
5. Identify and invest in the safe use and re-use of urban resources (soil, water, nutrients, and waste) that can support viable and sustainable food production.	10. Acknowledge and support diversity and sovereignty (the right to have informed choices) over what, how and where people produce and eat food.

Policy Development Process

Public policy is often developed through political procedures, culminating in documents that may or may not be based on science or best practices. The development of Our Urban Agriculture Strategy, followed a thorough policy development process that was ensured the development of a comprehensive and evidence based strategic document that is enlightened by best practices in Australia and overseas, which could be used to foster the development of Urban Agriculture on the Gold Coast on the short, medium and long term.

Research Activities

The research and discussion that culminated with the creation of this strategy involved a long process of data collection that started with a comprehensive literature review on urban agriculture and policy making. From that review, a prescriptive approach to policy making was chosen, one that attempts to be: long term and outward-looking; innovative, flexible and creative; evidence-based; inclusive; joined-up; continuously improving; and adaptive.

Following these guidelines, an assessment of current Gold Coast policies, in-depth interviews with local practitioners and experts and research on urban agriculture strategies from across Australia and the world was carried out. These are described in the sections below.

Review of Current Policies

A critical review of the land use planning system that currently operates on the Gold Coast was carried out. This review aimed not only to consider the opportunities and problems of the land use planning system in fostering urban agriculture on the Gold Coast, but also had the objective of informing and recommending changes to the Gold Coast Planning Scheme, which is currently under review. To form a complete picture of how urban agriculture is seen within the land use planning framework applicable to the Gold Coast, most relevant State, regional and local land use provisions were reviewed, including:

- Queensland State Planning Policies;
- South East Queensland Regional Plan 2009-2031;
- Gold Coast Planning Scheme 2003;
- Gold Coast Planning Scheme Policies;
- Gold Coast City Council Corporate Plan 2009-2014; and
- Other relevant Gold Coast City Council local laws, strategies, plans and programs.

A detailed discussion about this review process as well as its recommendations can be seen in a recent published article titled “Help or Hindrance? The Relationship between Land Use Planning and Urban Agriculture on the Gold Coast”. However, it is sufficient to acknowledge that while there is a general willingness to accept urban agriculture-related practices within the land use planning system currently operating on the Gold Coast. All of the policies, plans, strategies and programs analysed could be greatly enhanced by acknowledging urban agricultural practices as an important element in achieving greater sustainability. The analysis of the Gold Coast Planning Scheme also showed that these higher level ambitions are struggling to be realised in practice, with unintentional hindrances being put on the path of urban agricultural developments.

Interview with Local Practitioners and Experts

A total of thirty semi-structured interviews were conducted with local farmers, non-government organization representatives, community gardeners, farmers’ market stallholders and organizers, waste management experts and individuals engaged in urban food production, processing and composting.

These stakeholders were selected purposively through a snowballing sampling method with the aim of gaining maximum variation. This method was employed as the pool of urban agriculture stakeholders are rather specific and small, and the focus of this research was on the narrative rather than on statistical representation. While we do not claim either to have identified nor interviewed all the possible individuals and organizations related to urban

agriculture on the Gold Coast, we are confident that most of those playing a significant role in the development of urban agriculture have been engaged.

Review of Policies from Other Cities

The process of reviewing policies from other cities involved two distinct phases – collection and analysis. Firstly the policy gathering stage took place, where an extensive research was conducted to obtain relevant policies, strategic plans and programs regarding urban agriculture in Australia and overseas.

Urban agriculture-related policies in Australia were mainly collected by contacting 121 local governments situated in Adelaide, Melbourne, Perth, Brisbane and Sydney, and by searching their websites.

In order to obtain overseas policies and programs, web-based search engines were used. This approach was chosen as to obtain the greatest variety of urban agriculture policy options without limiting its origin. Numerous key words were used relentlessly in this search, including urban agriculture, composting, green roof, rooftop, keeping of animals, poultry, bees, pesticide, street tree, garden bed, farmers market, outdoor market, market, public produce, local produce and community garden. In addition, each of the above mentioned keywords were followed by one of the following complementary words: law; by-law; policy; resolution; ordinance; strategy; plan; initiative; program; decree and zoning.

Lastly, urban agriculture-related policies, plans and strategies often make reference to policies and plans from other jurisdictions in their discourse. This proved to be a valuable source of information, and whenever a policy, strategy or program has been referenced, an effort was made to collect it.

Following the collection of policies, strategic plans and programs related to urban agriculture from local governments in Australia and overseas, a critical analysis of these documents were conducted. This analysis aimed to uncover the main proposed actions as well as the mechanisms for their implementation, with the objective of disseminating valuable information to facilitate the development of Our Urban Agriculture Strategy.

Public Review of Draft Strategy

A draft strategy and an evaluation questionnaire were released in July, 2013. These documents were sent to all interviewed parties, who were asked to read and comment on the strategy, as well as forward it to any other interested person who could also provide valuable feedback. All returned questionnaires will be analysed and the strategy will be revised based on stakeholder feedback.

Our Strategic Directions and Recommendations

This part of the Our Urban Agriculture Strategy outlines the policy directions that are necessary to ensure the development of urban agriculture on the Gold Coast. The placement of these strategic directions do not denote a hierarchy, or an order in which they are expected to be tackled, rather they are simply numbered for organizational and references purposes.

It is also important to note that although these directions are generally directed to the Gold Coast City Council, partnerships are an essential aspect of achieving these recommendations. There are countless partners and supporters who will be expected to engage in the implementation of Our Urban Agriculture Strategy, and their energy and enthusiasm will be key to the successful enactment of these ground-breaking actions. A coordinated approach to make the most of all the tools and levers available within our city will be crucial, while at the same time partnerships with other levels of government, school boards, funders, community groups, industry leaders, developers, farmers, gardeners, retailers, restaurants, and many others must be encouraged.

The different themes within this section of the strategy are divided into 4 distinct parts, including:

1. **Our Say:** depicts core themes derived from the interviews with urban agriculture stakeholders and illustrates each theme with a quote;
2. **Their Say:** describes the importance of addressing an issue, providing information on the topic and discussing some examples;
3. **Our Recommendations:** showcases all the actions recommended for a specific topic; and
4. **Our Future:** Illustrates how each of the recommended strategic actions addresses Our Objectives as well as the expected time frame for their realisation.
 - a. *Short-term:* less than 3 years;
 - b. *Mid-term:* between 3 – 5 years; and
 - c. *Long-term:* more than 5 years

There is a long road for the Gold Coast to become the urban agriculture capital of Australia, and although there are many short-term actions recommended, there is no doubt that many are ambitious, long-term and innovative, requiring significant effort and time for their realisation. This does not mean that we should not embark on this voyage, rather we must acknowledge that we will not arrive tomorrow. Let the journey begin!

Establish Our Gold Coast Urban Agriculture Council

Our Say

Communication with council must improve

“We have a real problem in communicating with [Gold Coast] Council.”

We need an urban agriculture officer with skills and influence

“I definitely think that it’s important to have a community garden or urban agriculture officer within council, somebody who could help new groups setting up and provide advice on council grants and regulations.”

A committee should be formed to drive urban agriculture holistically and democratically

“There could be also something similar to the Food policy council in North America, where people from different backgrounds and interest come together to discuss some issues and they have their own budget and power - that will be a bonus.”

Different departments within council should be a part of this committee to improve their communication

“What would be ideal would be to sit down parks, asset management, waste and property, all together and get them in line and see where they can move and where they need to write new policies.”

We need more networking and resource sharing

“One thing that I found talking to community gardeners and managers and schools and non-profit organizations was that they did not even know that there was a garden just a few roads down from them... I think what is lacking is the networking and that is massive.”

Their Say

A food policy council (or urban agriculture policy council) is an organization that brings together a range of stakeholders from different urban agriculture related sectors to scrutinize how the local food system is operating and attempt to address the numerous gaps in food policy and planning. Policy councils provide an alternative to the current situation where food policy and planning is either forgotten or shaped by a disarray of government departments and agencies without coordination or understanding of the different sectors associated with food. The main activities (**Figure 22**) of a urban agriculture policy council is to educate public officials and the community, connect various stakeholders, shape policy, improve coordination between existing programs and start new urban agriculture related initiatives. In addition, policy councils often conduct important research on local food system indicators such as health surveys, food system mapping and regulatory reviews.

Across North America and Europe (to a lesser extent) over 200 towns, cities and states have formed food policy councils to provide formal paths through which individuals and organizations involved with urban agriculture to network and service the local community. Such organizations have demonstrated their value by significantly creating new relationships, partnerships and programs within both the private and public sectors.

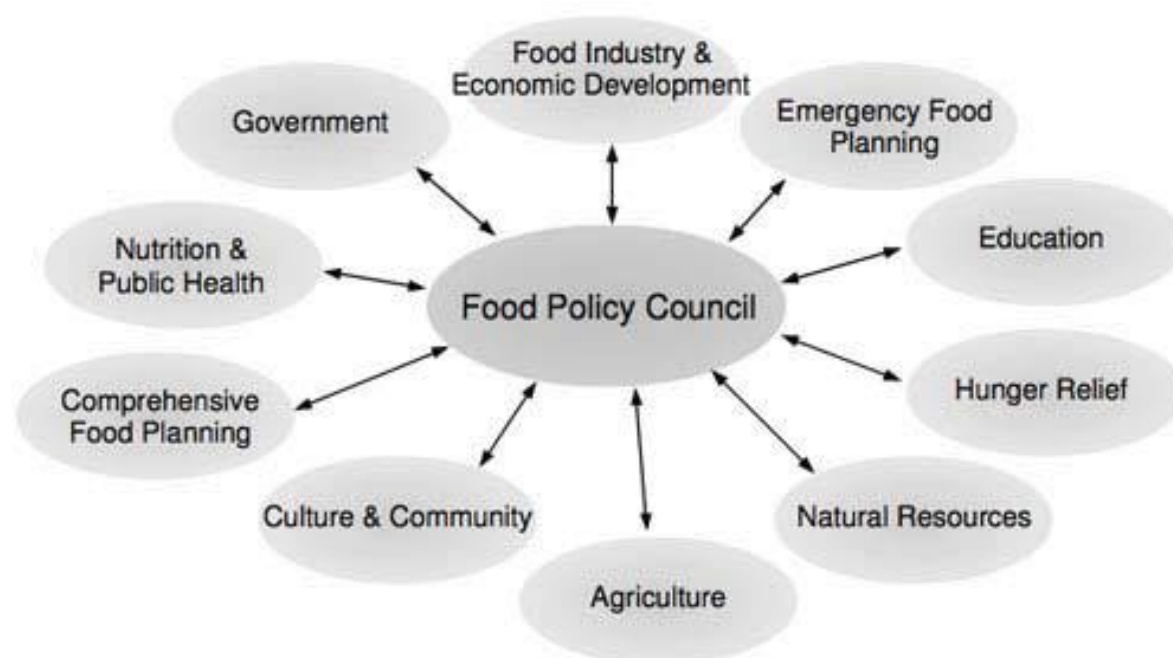


Figure 22: Food policy council activities

Urban agriculture policy councils have a broad spectrum of stakeholders, which typically includes farmers, gardeners, chefs and restaurateurs, food processors and wholesalers, farm and food worker advocates, grocers, consumers, health practitioners and government representatives. Government representatives can be involved through voluntary or appointed positions as well as staff support. In the case of the Gold Coast, it would be important to have representatives of different council departments as an attempt to interconnect and find solutions that often do not fit neatly into one jurisdiction. In addition, the more diverse the members of the food council are, the better, as members tend to provide unique perspectives that yield creative solutions that might not have happened without their involvement.

The form of food policy councils vary from city to city. Many are established as an arm of the local government (created through government decree and appointed by elected officials) with staff, resources and logistical support from government interests. While many others are completely independent entities supported by local non-profit organizations, or follow a hybrid model establishing ties with both the public and non-government sectors. Regardless of its form, food policy councils often serve as a coordinating entity or intermediary between community stakeholders and the local government, and are united in their quest to

transform and improve the food system through democratic and collaborative planning and policy making.

Our Recommendations

1.1 Establish the Gold Coast Urban Agriculture Council to represent the interest of the local urban agriculture and general community with a mandate to advice on all matters related to food, to have an active role in the implementation of this strategy and to research issues relevant to the local food system

1.2 Provide appropriate supporting resources to the Gold Coast Urban Agriculture Council, which might include:

- At least one full-time staff position (Urban Agriculture Officer) to support the GCUAC;
- An opening budget and office support for meetings; and
- Provision for city department staff to take part in relevant discussions of GCUAC.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
1.1	✓		✓	✓	✓	✓	✓	✓	✓	✓	Short
1.2	✓		✓	✓	✓					✓	short

Plan for Our Urban Agriculture Expansion

Our Say

Current (unplanned) rules and regulations on Urban Agriculture is an impediment and adds considerable costs

“Where council can seat in this equation is that they can facilitate that [urban agriculture] by removing regulations, and by bringing people together and co-locating spaces. So council’s role is acting more as a facilitator rather than the regulator and policing. They have to facilitate and put some broader principles around and remove some of these ridiculous regulations.”

We need to protect our prime agricultural soils

“We don’t have an overriding strategy on protecting our more productive soils in Australia, and we have very few highly productive soils in Australia, and those that we have, we have to protect.”

We need appropriate planning and zoning to encourage urban agriculture

“Urban agriculture is its own thing, it’s delivering of the raw materials to the members of the public to support urban agriculture, and letting the people who want to do urban agriculture to

have a few open doors. So if they find a suitable place, then under this policy, it can be ticket off, because you don't want the council guy scratching his head saying, but you are residential plus here."

Their Say

In principle, there are ample opportunities for urban agriculture to flourish on the Gold Coast. Apart from some high density areas in the coastal strip, most of the city's suburbs have relatively low population densities, and of the total land area, approximately 60% is in the form of green or open space. Yet, for urban agriculture to play a greater role in supplying our urban food needs, it must be recognised as a legitimate urban land use activity within city planning schemes, for urban land use planning can only encourage and support activities that are recognised. Urban planning schemes in Australia are however not renowned for recognising urban agriculture as a land use, and various studies suggest that formal recognition is paramount for the development of urban agriculture.

There are many opportunities for urban agriculture to be integrated into urban planning frameworks. However, urban planning is not only renowned for a lack of supportive measures regarding urban agriculture, but it is also known for a number of prohibitive policies and by-laws that directly or indirectly inhibit urban food production, processing and marketing. Thus, in order to successfully plan for urban agriculture, a critical review of all land use planning guidance is needed to better understand the scope for removing potential impediments to its development.

In a recent study, Pires and Burton critically reviewed the Gold Coast land use planning system in relation to urban agriculture. They've concluded that if the status quo continues to prevail the future of urban agriculture on the Gold Coast is uncertain. In particular, it was found that there was a general willingness to accept urban agriculture-related land uses at numerous higher level plans and strategies (i.e. Gold Coast Climate Change Strategy). However, this was not being translated on the ground through the Gold Coast Planning Scheme and other planning instruments, which means that if the Gold Coast City Council wishes to increase the proportion of local food production, processing, retail and consumption while moving towards a more sustainable way of dealing with its organic waste, its new planning scheme needs to reflect this higher level intent.

Our Recommendations

2.1 Introduce definitions of urban agriculture related land uses into the Gold Coast Planning Scheme, possible land uses to be defined are, but are not limited to:

- City Farm
- Community Kitchen
- Rooftop Garden
- Market Garden
- Food Hub
- Community Composting

- Community Garden
- Farmer's Market
- Green Shed
- Residential Stall
- Micro Food Processors
- Prime Agricultural Land
- Composting Station
- Hydroponic Production

2.2 Incorporate urban agriculture land uses within Domains and LAPs and stipulate appropriate assessment levels.

2.3 Review all Planning Scheme Policies, in particular Policy 4 and 18, and recognise urban agriculture as a tool for their realization.

2.4 Systematically review the rationale and effectiveness of all Local Laws in relation to urban agricultural practices.

2.5 Introduce zoning requirements to protect prime agricultural land.

2.6 Support for-profit urban and peri-urban agriculture, including:

- Assessing regulatory barriers to allow and encourage urban compatible food production, processing and retailing activities within residential and other zones; and
- Consider the creation of specialized business permits, regulations and guidelines for commercial urban agriculture operations that encompass health and safety requirements and good-neighbour practices for a range of production types, such as market gardens, sharing backyards and non-soil-based forms of production (i.e. hydroponics)

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
2.1	✓		✓			✓	✓	✓	✓		Short
2.2	✓		✓				✓	✓	✓	✓	Short
2.3	✓		✓				✓		✓	✓	Short
2.4	✓		✓				✓		✓	✓	Short
2.5			✓		✓	✓	✓		✓		Short
2.6	✓		✓	✓				✓	✓		Short

Educate Our Consumers and Producers

Our say

Education is our first priority for change

"I think education is key. People need to learn how to cook, people need to learn where food comes from and what it takes to grow it."

We (consumers) must be educated about seasonality and the joys of local organic food

"It would be down to consumer education, people find it difficult to rock up at a sale outlet and half of the stuff they want is not there and they have to go somewhere else. So you have to

break that supermarket mentality that everything I want is under one roof, and I just go there and that is that. We need to educate people about seasons, not to expect pumpkins in the middle of winter. So once you've got a population that accepts these limitations than you have the success."

We need food events and food trails as educational tools

"Here in Australia there is a big gulf between the city and the country, and that's why there is a lot of misunderstanding and we have to try and bridge the gulf, maybe by having city people to come out regularly to areas like these, maybe a food trail kind of thing."

Food production knowledge must be cultivated

"The amount of information [about growing food] out there is ridiculous, but people are not prepared to put in the work, they are not prepared to wait three months for something to happen, they think it's easy and it is not. So, the training side of it is incredibly important."

Their Say

Australia is one of the most urbanized countries in the world, with almost 90% of its population in 2010 living in urban areas. As a consequence, people have distanced themselves from food producing areas, and most have no idea what agriculture is and how important it is for the people, society, environment and economy. People just do not know where their food comes from and what it takes to produce and distribute them. Consequently, people have lost basic food growing, cooking and preserving skills. On the other hand, residents of South East Queensland have very favourable attitudes towards local food and beverage, and they have shown a desire to learn more about the origin of their food.

Urban residents have to be re-educated about agriculture and its many facets, there is a need to increase food growing participation, raise consumer knowledge, provide spaces for partnerships and networking, educate about preserving and preparing activities as well as generally raise awareness for all Gold Coast residents. Through education and training urban communities are able to make informed choices about their food habits, which will assist in the development and implementation of sound public policy. Therefore we have a real opportunity to support our community not only to grow some of its own food, but also to become a part of the agricultural system (or co-producers), to help shape a more sustainable food system as well as prepare our community for emergent jobs in urban farming and gardening.

Ideally, citizens (urban or non-urban) should have some level of agricultural literacy, which depicts an understanding of the agricultural system where citizens can "communicate and understand the economic impact of agriculture, its societal significance, and agriculture's important relationship with natural resources and the environment". A well-structured urban

agriculture education and training program could ensure that urban residents gain valuable knowledge about agriculture in general and food growing specifically, providing a solid foundation of agricultural literacy.

On the Gold Coast, there are many organizations and individuals who grow food commercially or for self-sufficiency, who holds tremendous understanding and knowledge of the agricultural system and food growing methods, who puts vacant land into production while also coming up with ideas and methods of growing food in very confined urban spaces. However, beyond these keen practitioners there is an educational gap currently swallowing urban planners, real estate developers, public officials and members of the community who need to be informed about the opportunities and challenges of urban agriculture.

As recognized in many other cities, there are many opportunities for food skill education, and these can take different forms, ranging from active programs like cooking and preserving classes, gardening workshops and vocational horticulture training, to more passive strategies such as signage, labelling and information dissemination through social media. Of great importance however are the collaborative efforts that will be required to build and sustain these educational platforms, which will require the community, educational institutions as well as different city agencies to work together.

Our Recommendations

3.1 Investigate potential sites and develop the Gold Coast Urban Food and Agriculture Learning Centre to provide a physical hub in the Gold Coast that provides space for development and dissemination of knowledge about urban agriculture. This could be done in

3.2 Develop, promote and deliver multiple learning opportunities on urban agriculture topics and initiatives in partnership with relevant organizations (i.e. Gold Coast Organic Growers Association, Gold Coast Permaculture, WormTec, LOHAS market, Slow Food Gold Coast) and individuals.

3.3 Develop, promote and deliver a comprehensive training program of production horticulture and urban farming in partnership with Gold Coast TAFE and/or another tertiary/vocational education providers.

3.4 Create an Urban Agriculture web portal to be used as a platform for urban agriculture information and education, resource sharing and networking.

3.5 Map, develop, promote and deliver the Gold Coast Region Food Trail in partnership with local and regional food growers, processors and distributors.

3.6 Develop the Gold Coast Local Food Brand to help educate the consumers about the range of products that are being grown in our region and their seasons, as well as to differentiate our products from the rest.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
3.1	✓	✓		✓	✓		✓	✓	✓	✓	Med
3.2	✓	✓		✓	✓		✓		✓	✓	Short
3.3	✓	✓		✓	✓		✓	✓	✓	✓	Med
3.4	✓			✓				✓	✓	✓	Short
3.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Med
3.6	✓	✓		✓			✓	✓	✓		Long

Teach Our kids to grow, cook and eat

Our Say

Teach our kids the importance of food and where it comes from

“For children it is really important, they have to be exposed to food, they have to know where food comes from.”

School kitchen gardens are a great educational tool

“When kids have that process of the seed in the ground, tending the plant, harvesting, bringing into the table, and it looks great in the table all this produce, and then cooking a meal and sharing it, that whole process really help kids seeing some parts of food consumption that in the fast food world or the packet food they may not see it at home or other places.”

Teach the kids and the community will come

“Because of the kids [involvement in the kitchen garden program], the parents get involved and the community is a lot more like a school community, and they invite outsiders and it is a lot more proactive, and they want to get a lot of produce so the kids can see that it works, and then they cook it, and it's a great thing”

Their Say

Fruit and vegetables intake among Australian children fails to meet the national daily recommendation of one to two servings of fruit and two to five servings of vegetables for children aged 4 to 11 years. Over the past decade childhood obesity has been on the rise, and in 2008, one quarter of all Australian children were overweight or obese, and this figure is likely to be higher today.

Of particular relevance is the understanding that adult eating habits are established during the childhood stage of development, which emphasizes the importance of teaching our kids to include fruits and vegetables on their daily diets. To achieve this goal, a critical step is to provide children with the necessary tools and understandings they need to make conscious

decisions about what they eat. School grounds are an obvious place for it to happen, and kitchen garden programs are a natural way for kids to learn.

The schoolyard is often highlighted as a key location to promote healthy eating behaviours because children spend most of their time at school. Schools also offer a range of infrastructure needed to implement healthy eating programs, providing opportunities to positively change behaviours through structural learning and practical activities, such as cooking, gardening and composting.

School kitchen gardens have been defined as “fruit and vegetable gardens established on school grounds that provide an outdoor learning environment where educators can incorporate hands-on activities in a diversity of interdisciplinary, standards-based lessons”. Kitchen gardens are a great tool to provide real-life experiences to students and to help them understand the connection of how fruits and vegetables move from seed to table.

Research shows that children who grows and cooks their own food are more likely to eat fruits and vegetables, show more understanding about nutrition, are more likely to continue healthy eating habits in their adulthood, have increased levels of environmental stewardship, place higher values on natural areas and gardens, have greater knowledge of food system ecology and a more holistic perspective on how the natural world sustain populations. In addition, kids who have been exposed to kitchen gardens tend to influence their parents towards preparing healthier meals, trying new vegetables and starting a veggie garden at home.

There are numerous examples of successful kitchen garden programs worldwide and in Australia. In Melbourne for example the Community and Cultural Centre at Farm Vigano Kitchen Garden offers community garden space with adjoining kitchen and communal facilities to its students. In Berkley California, The Edible Schoolyard program located on the campus of the Martin Luther King Jr. Middle School provides urban public school students with a one-acre organic garden and a kitchen classroom.

Another vary successful program and perhaps a model to be followed is the Stephanie Alexander Kitchen Garden Program, which was initiated with support of the Victorian State Government, and in 2011 reached over 180 schools across all Australian states and territories. The program provides a holistic experience from seed to table, where students have the opportunity to plant, nurture, harvest, prepare, and share fresh, nutritious, and seasonal food. Participating schools provide a minimum of 45-minute garden class and a 1.5-hour kitchen class every week as an ongoing part of the school curriculum. Gardening and cooking is also entrenched into the core curriculum through scientific experiments and mathematical activities. Garden and kitchen classes are planned and supervised by employed specialist staff, who have qualifications in horticulture and/or hospitality.

Emphasis in garden classes is on learning and practicing organic methods of food production. Children are actively involved in all aspects, from garden design, preparing beds, planting seeds, transplanting seedlings, nurturing the growing plants (including weeding, watering, fertilizing with homemade compost and “worm juice,” and applying organic pest control), through to harvesting the yield. In the kitchen, children work in small groups to prepare sophisticated, multi-course meals based on seasonal produce from the garden, which they then sit down to share with staff and volunteers.

Our Recommendations

4.1 Develop a kitchen garden curriculum in partnership with school principals and teachers that links with the regular school curriculum.

4.2 Develop and administer kitchen garden training programs in partnership with local institutions (i.e. Gold Coast Permaculture, Gold Coast Tafe, etc.) to educate members of the community who would like to become kitchen garden instructors or volunteers.

4.3 Create a Kitchen Garden Fund and make it available to interested schools as a small start-up grant to the development of instructional kitchen and gardens.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
4.1		✓		✓			✓		✓	✓	Med
4.2	✓	✓	✓	✓	✓		✓	✓	✓	✓	Med
4.3				✓	✓		✓	✓	✓		Med

Enrich Our Community Gardens

Our Say

There are many “hidden benefits” of community gardens

“Community gardens are not just a garden, it’s the social and the community..., it’s much more than growing food, there are the social, educational, environmental aspects of it.”

Community gardens are increasingly under pressure due to financial constraints

“There are major costs involved and then you only have 40 beds, with 35 members you just can’t expect those 35 members to raise 10,000 or even 5,000, because you know we will be far better off just to buy stuff at the market rather than growing.”

Community gardens should be allowed to sell excess produce as fundraising activities

“It’s alright if you are a sporting club and you are selling beer and junk food, but if you are a community garden and you want to sell vegetable and gardening stuff, you can’t do it at the moment. So that stops these community gardens from making any sort of income from their

excess. So they can't put a sign up the front saying "Lettuce is 50c", you know 5 dollars a week times 52 weeks, its 250 dollars which is the cost of their insurance."

We need a better system that encourages community gardens on the Gold Coast

"The biggest problem is the time that it takes, I mean you start off with 50 people (which is the requirement), but the whole process of getting the community garden established takes at least 2 years, so by the time that the 2 years is up, those 50 people are maybe down to 2. And that is a real issue with the way that things are with the council, because it just doesn't work that way. "

Their Say

Community gardens have a relatively long history in western society, more precisely in Europe and the USA. It's thought that community gardens have originated in the mid-1800s as a response to the industrialisation process that brought numerous people to cities, who were living in confined spaces and could not accommodate food growing activities. Community gardens have taken many forms around the world, and they have played significant roles in times of crisis when food production had to be maximised, such as during World War I and II, the Great Depression and the 70s oil crisis.

Numerous definitions to community gardens exist, a comprehensive definition states that community gardens are "organised initiative(s) whereby sections of land are used to produce food or flowers in an urban environment for the personal or collective benefit of their members who, by virtue of their participation, share certain resources such as space, tools and water". This definition seems to reflect the way in which community gardens in the Gold Coast currently operate.

The literature provides numerous examples on the benefits of community gardens, and these communal structures are understood to positively contribute to improving social, environmental and sustainability objectivities. Of particular significance, and contrary to popular belief, community gardens can also positively contribute towards food security. Studies have shown that some community gardens can actually grow food more efficiently than conventional farming practices with yields exceeding national averages. Additionally, given the small spaces offered to communal gardeners, rather than providing bulk quantities of food, community gardens also contribute to food security through the provision of essential micronutrients, in the form of fast growing crops like herbs and leafy greens, which are often absent in the diets of food insecure people.

Further to food production, community gardens complement the food security debate through other initiatives such as education, where community gardens make the food systems visible and available to urban residents while providing numerous opportunities for learning about food production, food consumption, composting and other food system issues.

Despite a formidable list of benefits there are numerous barriers to establishing and maintaining successful community garden ventures in the Gold Coast and elsewhere. At the local government level, community gardens in Australia have been actively targeted as a key component to improve food access and sustainability, where numerous Councils have developed community garden policies. However, if community gardens are to play a role in food security and other social and environmental causes, they require a much stronger and supportive framework, and have to be included into the policy and planning strategies at all levels of government.

Our Recommendations

5.1 Formulate a comprehensive Community Gardens Policy in partnership with existing community gardens and other institutions that sets clear goals, guidelines and streamline the development approval process for the establishment of new community gardens.

5.2 Increase the number of community gardens in the Gold Coast, especially in underserved suburbs.

5.3 Increase support to community gardeners through partnership with local experts and organizations. This could be in the form of engaging the services of a horticultural advisor to provide technical advice, assist with site design and promote sustainable and productive techniques of community gardening.

5.4 Create a Community Garden Fund and make it available to new community garden groups as start up funds.

5.5 Explore the possibility of allowing excess products that are grown within community gardens to be sold to community members as fund raising exercises.

5.6 Investigate the possibility of including community gardens into the existing insurance policies of public parks to reduce the financial burden in these organisations.

5.7 Investigate the possibility of providing community gardens a limited amount of water (sufficient to conduct horticultural activities) free of charge to reduce the financial burden in these organisations.

Our Future

Actions	Support equitable	Inspire healthy	Encourage fair use of	Foster participation	Invest in the safe	Protect ecosystems	Reflect long term	Encourage investment	Increase resilience	Support diversity	Timeline
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	food access	food choices	spaces and places		use of resources		community values	and innovation		and sovereignty	
5.1	✓		✓	✓	✓		✓			✓	Short
5.2	✓	✓	✓	✓	✓		✓		✓	✓	Long
5.3	✓		✓	✓	✓		✓		✓		Short
5.4	✓		✓	✓	✓		✓		✓		Short
5.5	✓			✓			✓		✓	✓	Short
5.6			✓	✓	✓		✓		✓		Short
5.7			✓		✓				✓		Short

Revive Our City Farms and Market Gardens

Our Say

We need city farms to grow our food and educate our community

“A good model would be to have a community farm and some training on the sideline, and currently there is a demand for things like that, it’s a good opportunity for people to learn and have feedback.”

City farms and market gardens offer urban food resilience

“The whole idea of these urban agricultural systems is that we have to build resilience all the way through, so if one thing falls down, like a hail storm, what else can we do, well we still sell honey, we still have our education, and this and that, which allows us to recover from the disaster.”

Gold Coast City Council has a role to play: incentivise, support, promote

“That is why Council has to support these urban farms, they employ people, they provide an amenity for people to come, it’s another place to meet and they can be economically profitable, if they are allowed (like a soccer club) to sell products like veggies, worm farms, seedlings, coffee, etc.”

Their Say

City farms and market gardens are burgeoning throughout the world and Australia is no different, this reflects the society’s need to reconnect urban populations with food production activities and landscapes. City farms have been defined as planned initiatives organised and facilitated by a collaborative effort of cooperative individuals, who share the common goal of utilising ecological resources to produce food and flowers in the urban landscape.

City farms and market gardens typically operate on small lots (less than ten acres), with little or no machinery and large amounts of labour. These operations often grow a variety of produce focusing on the highly perishable items that fetch a premium price. Marketing of

these produces occur in numerous ways including farmers markets, CSA, farm gate and small retail outlets.

There are three different models relating to how city farms are established, managed and operated, this include Standalone/Integral model (where a self-contained site operates independently of other community facilities); the Articulate model (which operates through a number of sites in a network like manner); and the Mobile model (which relies on the use of temporarily vacant sites and facilities that are relocated when necessary).

Regardless of their characteristics, a common theme among city farms in Australia is their role as centres for education and community participation. These urban food producing venues are an educational resource for the urban community (and its visitors) to learn about food production, environmental issues, sustainable technologies and practices such as composting, recycling, water reuse and energy management. Research into city farms and market gardens indicates that their contributions to urban communities are vast, going well beyond their commercial value.

As a result cities in Australia and the world are looking at ways to encourage more city farms. Some mechanisms include the adoption of separate zoning definitions, provision of soil testing, allowance to sell produce from the farm gate among others. The Chicago City Council for example, has relaxed a few regulations regarding parking and fencing as well as allowing produce sales in residential areas.

Our Recommendations

6.1 Conduct a feasibility study to establish the Gold Coast City Farm and Training Centre.

6.2 Design, plan and deliver the Gold Coast City Farm and Training Centre in partnership with local organizations (such as Gold Coast Permaculture, Organic Growers Association, etc.).

6.3 Develop and implement City Farm' training programs, workshops and tours in partnership with Gold Coast Tafe and other education providers.

6.4 Identify suitable lands in public ownership suitable for market gardens and offer these to qualified urban farmers, at low lease rates with guaranteed terms of tenure, to pursue food growing activities.

6.5 Assess and relax current regulatory barriers to the selling of locally grown produce in residential and other zones.

6.6 Develop specialized business permits, regulations and guidelines for commercial agricultural activities in partnership with local organizations and urban farmers. These may include, but are not limited to the creation of health and safety requirements and guidelines for good-neighbour practices for a range of production types.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
6.1	✓	✓	✓	✓			✓	✓	✓	✓	Short
6.2	✓	✓	✓	✓			✓	✓	✓	✓	Long
6.3	✓			✓	✓		✓	✓	✓	✓	Med
6.4	✓		✓	✓	✓	✓	✓	✓	✓	✓	Med
6.5	✓		✓	✓			✓		✓	✓	Med
6.6			✓	✓				✓	✓		Med

Care for Our Chickens and Bees

Our Say

Everyone on the Gold Coast should be allowed to have chickens in their properties

“Another thing that needs to stop is the prohibitions on chooks, if you are allowed to have a cat and a dog, you should be allowed to have two chooks, as long as you don’t have a rooster. Council really need to relax these laws, you might only be allowed to have 6 bantam hens or six full sizes hens, obviously no roosters.”

Bees are a valuable resource in urban areas and we need to encourage them

“We have a couple of hives from the native stingless bees here and they are just fantastic, they don’t produce much honey but they do a great job for us with their pollination, and they are so easy to look after.”

Their Say

Recently, backyard chickens and bees have become reoccurring topics of municipal discussions as more urban resident seek to incorporate them into their urban agricultural practices. However, despite this resurgence, animal husbandry in cities is not a new phenomenon, in fact, historically, livestock, like many other forms of agriculture, was an integral part of urban households, providing urban communities with companionship, food and income, especially in periods of economic hardship. It seems though that the reason for this late rebirth of animal husbandry practices in cities is fuelled for other reasons rather than economic hardship. Largely, it is due to the growing concern over the industrial food system and its factory farms, but there is also an understanding that urban residents are searching for better foods, believing that their produce will be of better quality, more nutritious, safer and more humane.

The keeping of chickens and bees in the urban environment has been argued to be a safe and healthy practice with numerous environmental, economic and social benefits. While chickens are often credited for providing a source of nutrition (egg and meat), companionship, fertilizer and insect management, bees also contribute to the urban scenery through the

provision of honey, pollination services and economical activities. In addition, from a social perspective, urban bee and poultry keeping enlightens the ecological citizenship concept, which seeks to reconnect urban people with natural processes. It also seems to foster social connections and community engagement through the sharing of excess produce and knowledge.

There is also reciprocity in urban animal husbandry through humane treatment, individual care and even rehabilitation of wild colonies. That is, cities have become a safe haven for bees, and urban beekeeping has been interpreted as a refugee program for these crucial pollinators. Contrary to their rural habitats, cities are being favoured by bees as they offer an environment with no (or minimal) chemicals, a variety of food sources, and the urban heat usually lengthens the foraging seasons reducing their stress in winter.

Despite these mutualistic relationships, chicken and bee keeping in cities are often perceived as nuisance, attracting strict regulatory conditions. These restrictions can range from an outright ban on keeping these animals to a limit on the number of animals or hives. Nevertheless, in many cities in Australia and overseas, planners are updating their land use plans to allow these practices to occur, and the result shows that the allowance of urban livestock have neither increased the burden on city services nor increased the volume of complaints.

At the city level, a common theme among urban centres that have allowed animal husbandry is the development of voluntary best management practices or guidelines, especially regarding beekeeping. These documents are specifically tailored to the demands of bee and chicken keepers and can successfully mitigate possible harms and disputes. Also, they ensure that animal health is protected and enhanced through responsible practices.

Our Recommendations

7.1 Review and update the animal management by-law (Local Law No. 12 (Animal Management) 2013) to allow a limited number of hens and beehives in all residential zones regardless of land sizes.

7.2 Develop best management practice guidelines for bee and chicken keeping on the Gold Coast In partnership with other organizations (i.e. *Gold Coast Amateur Beekeeper Society*, *Gold Coast Permaculture* and *Gold Coast Organic Growers Association*).

7.3 Develop and deliver free or low cost bee and chicken keeping best management practice education in partnership with other organizations (i.e. *Gold Coast Amateur Beekeeper Society*, *Gold Coast Permaculture* and *Gold Coast Organic Growers Association*).

7.4 Create a free livestock registration system to support a variety of educational and informational efforts.

7.5 Explore options to allow the sale of eggs and honey from urban farm and backyards (farm gate sales) with appropriate limitations and mitigation strategies.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
7.1	✓		✓	✓			✓		✓	✓	Short
7.2	✓		✓	✓			✓		✓	✓	Short
7.3	✓	✓		✓			✓		✓	✓	Short
7.4			✓	✓	✓	✓	✓		✓	✓	Med
7.5	✓			✓			✓	✓	✓	✓	Med

Access Our Land

Our Say

There are many underutilized (public and private) land on the Gold Coast that could be put into productive uses

“There is so much land around, not only on private hands but also Council land, for example all the parks spread around the city, they are just not utilized enough, they become a burden to the council, who has to mow and fertilize them.”

We need to encourage land sharing initiatives

“I think landsharing is a really good idea, yes it could be problematic, and so is having a tenant, and if you had some great contract some really good screening process, that people just don’t take the first person that comes along, have some sensible ideas work out, the guidelines are down, and really engage with that person, which would generally be a younger person. I think it’s a fantastic idea and it’s just what we need in these areas.”

Council should encourage private land owners to allow urban agriculture on their land while they are not developing it

“There should be a requirement that says that all development land that is going through a DA should at least be used proactively as either a composting sites, or seedling sites, or food production site, you know, to use the resources that we’ve got.”

Their Say

Land is a critical element for food production practices, however after years of urbanization, access to affordable, fertile, well oriented and located farmland has become a major challenge, especially given the dominant urban planning and real estate practices. As a result, concerns about the lack of available and affordable land for food production in cities are readily apparent, with strong demand for more space and long waitlists in community garden for plots.

Despite this inherited challenge, cities across Australia and the world have vast amounts of underutilized properties owned by towns, institutions, corporations and investors that could represent an important source of land for urban farmers and for local urban agriculture entrepreneurs. Consequently, there are numerous opportunities for cities to tap into these resources and facilitate land access by improving its programs and expanding the availability of public land, funding and institutional support.

Through increased land access, numerous benefits emanate from putting underutilized land into productive uses. Benefits for land owners may include a well-tended property that is more deterrent to crime invasions, a source of income or decreased expenses associated with maintenance as well as a sense of being part of the community. Urban farmers on the other hand, have the benefit of producing their own food, creating knowledge and socializing while engaging in a satisfactory activity. For the city, it creates stronger, more resilient and cohesive community, it increases security amongst neighbourhoods, provides educational opportunities and beautifies the city.

There are many options that local governments can pursue to increase temporary and permanent access to land for urban agricultural activities. A simple and well developed mechanism is the landsharing process, which aims to address land shortages through the pairing of landless farmers with landowners with unused space. In the UK, Landshare was launched in 2009 to facilitate the sharing of land, and in just two years more than 60,000 people have joined it, making 3,000 acres of land across the country available for cultivation. Similarly, NeighbourGardens, in Vancouver, proposes a fee-based service of personalized pairing, tool rental and sharing as well as educational workshops.

Another valuable exercise being pursued by local governments worldwide is the creation of land inventories through mapping systems. Such mapping systems attempt to provide a picture where urban agriculture activities currently take place as well as identified lands that are suitable for food production, processing, distribution and composting. A great example comes from Portland, where the Diggable City Project found 289 sites that could support urban agriculture practices. Similarly, in Oakland, the University of California, used aerial photographs, to find more than 1200 acres of undeveloped land, and determined that around 10% of the city's food needs could be produced there.

The use of public land for urban agriculture has also received wide support, and many cities have developed policies and procedures to support this trend. While some cities have devised their own programs to encourage urban agriculture in city owned land, others have amended zoning policies, developed leasing frameworks and creating land trusts for community use. An example of a successful Land Trust arrangement comes from Baltimore, where the city developed a policy allowing the transfer of city-owned lots to qualified land trusts

for just \$1.00, at the same time they've created a set of criteria and process for the transfer of these lots to suitable urban farmers.

Effective leasing arrangements are also crucial for the long term success of urban agriculture, this is because urban farmers require long-term and stable access to land, that permits investments in building the soil through sustainable practices. Leasing arrangements reduces the costs for the farmer while still allowing the city to put the land into a more profitable use in the future. Leasing also allows local governments to have more flexibility on how they manage its vacant and open lands. A good example of a city that leases its lands is Seattle, through the P-Patch Program, where one city department coordinates with other departments to broker lease agreements with urban farmers. Additionally, the program also works to broker agreements with private landowners.

Finally, taxation incentives can provide an enticement for private landowners to allow their land to be used (temporarily) for urban agriculture purposes. One proposal is to tax properties used for food production at an agricultural land rate, which would attract significantly less costs. In this way, developers and investors who are simply sitting on vast amounts of land would receive a financial benefit for putting their land into a productive use. A similar idea has been applied in Chicago, where the city provides a tax incentive for retrofitting roofs to build rooftop gardens. Another example comes from Maryland, where in 2010 the Maryland House Delegate, Anne Healey, introduced House Bill 1062, which authorizes local governments to give a five-year property tax credit for urban agricultural properties.

Our Recommendations

8.1 Undertake a comprehensive urban agriculture land mapping and inventory exercise.

8.2 Identify land suitable to urban agricultural activities and make them available to qualified urban farmers.

8.3 Develop an application process for using city-owned land for urban agriculture practices.

8.4 Develop and establish a standard lease policy for city owned land for urban agriculture practices.

8.5 Develop lease language templates for privately owned land.

8.6 Encourage Gold Coast residents to sign up for Landshare Australia and other land/yard sharing programs.

8.7 Examine the possibility of conceding tax incentives to land devoted to urban agriculture practices.

8.8 Examine the establishment of the Gold Coast Urban Agriculture Land Trust to obtain and reserve suitable land to be used solely for urban agriculture purposes.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
8.1			✓	✓		✓		✓	✓	✓	Med
8.2			✓	✓		✓	✓	✓	✓	✓	Med
8.3			✓	✓		✓	✓	✓	✓	✓	Short
8.4			✓	✓			✓	✓	✓	✓	Short
8.5			✓	✓				✓	✓	✓	Short
8.6			✓	✓					✓	✓	Short
8.7			✓	✓					✓		Short
8.8			✓	✓					✓		Long

Process Our Food

Our Say

We need to encourage more small food processing businesses

“It needs to be a bit more deregulated so you can start small businesses off... So if they are going to make a lemon spread...at the moment you have the health department and everybody turns up with a piece of paper that needs to be signed, and the appropriate fee that needs to be paid and a normal person wouldn't even think to make lemon butter. So, lots of that small stuff is disappearing.”

The Gold Coast should have a central food processing precinct

“One of the strategies that you can really see this burgeoning movement amongst people is in micro-processing, food processing; I really see that as an opportunity. And cultivating that means that micro-processing is what really fits a smaller farmer. So a smaller farmer might only need a few dozen eggs a week rather than the big scale operator who demand so much and they just want to deal with some massive farmer. So by encouraging a precinct or a special food processing precinct for small and medium players, you can really start something.”

More commercial and community kitchens should be made available for small food processors

“A proper kitchen, that's what you need to increase food processing. And that is something that council should be doing, we've got a huge big 50 acre sports centre, I mean you could put something in there and use it as a community kitchen, a commercial kitchen.”

Their Say

Food businesses are one of the riskiest forms of entrepreneurship due to the constant change of consumer preferences and typically low profit margins, however given the familiarity of people with their food and tastes, there are many wanting to start a food business. Food business are nonetheless tightly regulated by numerous agencies, and any person or entity

that wishes to process food for sale must be permitted by the appropriate regulatory authority. A major step in the permitting process is the use of appropriately licensed premises, which can attract prohibited costs for most small scale food processors.

Shared-use processing facilities offer an alternative model, providing small-scale food processors the opportunity to use state of the art equipment without very high capital outlays. This model operates through a user pay arrangement, in which interested parties pay an hourly/daily fee to use the premises and its equipment. As a result, starting food businesses have a better chance of meeting its financial obligations while gaining valuable time to build its clientele. In addition, these facilities not only allow access to quality equipment, but they also provide avenues to professional business and technical advice.

Shared-use processing facilities may comprise packing sheds, co-packing facilities, incubator kitchens and slaughter and processing facility for meat. Packing sheds are used to sort, grade, wash and package freshly harvested produce, although these activities are often performed on the farm, small urban agriculture ventures might not have the space or expertise do that on their premises.

Co-packing facilities refer to places where manufacturing and packaging of value added food products such as sauces, pickles and jams take place. At co-packing facilities, the ingredients, recipe and packaging materials are brought by the user/farmer, and upon the manufacture and package of the product, the user/farmer is responsible to market the product.

Incubator kitchens are shared-use processing centres that provide food entrepreneurs with the use of approved food production space, commercial kitchen equipment, packaging and labelling equipment, and storage. These premises often offer technical training, business planning and marketing assistance. Kitchen incubators are usually dedicated to start-up food business, consequently, as businesses grow within an incubator kitchen, they may need to move out, either because of the limited capacity of the facility or due to kitchen policies that only provide such cost subsidy for a limited time period.

Apart from the obvious financial benefits, these shared use facilities allow farmers to market their products in different forms, enabling them to sell their products out of season. In addition, these facilities create self-sustaining economic activities for the local community, enable sustainable economic development, enhance opportunities for existing food enterprises, educate participants and the wider community, shorten the supply chain and the consequent food miles and increase access and availability of local foods.

Various examples of kitchen incubators exist, as an example the Toronto Food Business Incubator opened its doors in 2007, providing a 185m², 24 hour, fully equipped commercially certified kitchen that can accommodates as many as nine entrepreneurs, who pay a registration fee of \$750, and an hourly rates of \$30 for the use of the kitchen. As part of

the registration price, the entrepreneur gain access to numerous business and market planning services to help them to establish their food business.

Our Recommendations

9.1 Conduct a feasibility study to establish a food processing cluster with state of the art incubator kitchen in the Gold Coast.

9.2 Establish the Gold Coast Food Cluster in a central and well-connected location.

9.3 Develop community kitchen arrangements in partnership with local institutions (e.g. Meals on Wheel, restaurants, bakeries) that already have licensed commercial kitchen, and make this available to small scale entrepreneurs.

9.4 Provide training in food safety and processing regulations as well as on preserving, drying and canning food in partnership with educational institutions to the community.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
9.1			✓					✓	✓		Med
9.2			✓	✓			✓	✓	✓	✓	Long
9.3	✓		✓	✓			✓	✓	✓	✓	Short
9.4	✓	✓	✓	✓			✓	✓	✓	✓	Short

Locally Market Our Food

Our Say

We need to shorten our food supply chain

“There are many aspects [about food production], but it depends if you want to grow for personal use or if you want to make a business out of it, small scale or big scale. But Council needs to make it easy for people to have access where to sell, such as allowing sale from a farm gate or having some community based green shed where people can come and share.”

The Gold Coast must encourage REAL farmer's markets

“Although there are a lot of people going to farmers markets here on the coast, these farmer's markets are not truly supporting farmers, but if the Council wants to short circuit that and secure the farming network around here, then they need to provide an audited farmers market like the Tweed Council, where local farmers are producing 70% of their own food. They should make a place in Broadbeach, Southport, Surfers, Robina, where the farmers can go and sell for free. They should create that place so there is no barrier between the farmer and the consumer.”

We should have numerous green sheds throughout the city to encourage micro-growers

“The purpose of the green shed is to enable very small growers, and I am talking very, very small growers, in fact it does not operate with big growers. To give them somewhere that they could get rid of their surplus and make a little bit of money.”

Their Say

A crucial element for urban agriculture is the distribution mechanism, or the method by which locally grown food gets from the producer to the consumer. For micro and small scale farms (the scale that most urban farming ventures operate), direct marketing is the primary avenue for commercialization. Direct marketing refers to the sale of local produce made directly from the producer to the consumer, and this occurs through farm gate sales, farm stores (green sheds), roadside stalls, U-pick operations, farmers markets, community supported agriculture (CSA) and online marketing. The reliance on direct marketing strategies by micro and small farms is attributed to several factors, including the lack of volume to meet the demands of distributors, the opportunity of increased returns for the producer, a diminished exposure to market fluctuations and risk sharing opportunities.

Distribution through direct marketing also offers additional community benefits. Environmentally, the obvious proximity to markets instantly results in a reduction of carbon emissions and energy efficiency, furthermore through direct marketing there is also a considerable reduction in waste generation through the elimination of the need for packaging, and a reduction in food wastages. Economically, direct marketing ensures that the money spent stay in the local economy encouraging its multiplication, it boosts local businesses and it often offers better prices to consumers than supermarkets. Socially, farmers' markets and other selling avenues tend to improve social ties and provide a rural link to urban populations.

Of particular relevance to planning for urban agriculture are the distribution mechanism offered by farmers' markets, farm shops and farm gate sale. Farm gate sales are the simplest and least costly alternative, however many cities (including the Gold Coast) have policies that prohibit stalls or the sale of produce within residential zones, which imposes significant costs and burdens on backyard scale ventures.

Farmers markets are defined as “common facilities or areas where several *farmers* or *growers* gather on a regular, recurring basis to sell a variety of fresh fruits and vegetables and other locally-grown farm products directly to consumers”. Farmers' markets are perhaps the most widely used direct marketing mechanism, however their structures and regulations vary widely. Nevertheless, a common understanding of farmers markets is that they are created to facilitate the direct sale of food from producers to consumers and not a place for resellers and other merchants to take over, this is however difficult to regulate. In an attempt to ensure the

legitimacy of farmers markets, numerous municipalities have developed specific policies that define who can hold a stall and what can be sold at these farmers.

Farm shops or green sheds are collectively owned retail outlets that provide micro and small scale farmers or backyarders a place to market their surplus produce. The Green Shed in Mt Tamborine is perhaps the best know local example, providing a place where small farmers simply drop off their pre-bagged produced on Sunday mornings and come back in the afternoon to collect their money and any unsold produce. Through a not-for-profit business model, the green shed allows small farmers to get 85% to 90% of the retail price of their product while providing a retail outlet for the community which can challenge the selection, quality and freshness of any supermarket.

Our Recommendations

10.1 Conduct a feasibility study and mapping assessment to establish at least three Council- owned genuine farmers' markets throughout the city. These markets will be open to local farmers free of charge.

10.2 Develop the Gold Coast Farmers' Market Policy in partnership with local farmers, to define the products, stall holders and activities that can be conducted at farmers' markets on the Gold Coast.

10.3 Conduct a feasibility study and mapping assessment to establish numerous green sheds throughout the Gold Coast to provide direct marketing alternatives to micro and sporadic farming ventures.

10.4 Develop a database of local farmers and their products to cultivate partnerships with key retailers. The database can be used by restaurants and retailers who are interested in purchasing/ordering specific local foods. This database will also be used to encourage community supported agriculture and box schemes.

10.5 Review current planning regulations to allow farm gate and roadside stall for the sale of locally grown produce within residential areas.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
10.1	✓	✓	✓	✓			✓	✓	✓	✓	Med
10.2	✓		✓	✓			✓	✓	✓	✓	Short
10.3	✓	✓	✓	✓			✓	✓	✓	✓	Med
10.4				✓			✓	✓	✓	✓	Long
10.5	✓		✓	✓			✓	✓	✓	✓	Short

Establish Our Urban Food Forest

Our Say

We want to turn our streets into productive landscapes

“Edible landscaping to me is an obvious one, there is an almost endless supply of land if you start to plant on the verges, parks, roundabouts, etc. I know that there are some liability concerns for councils, but the Gold Coast should do at least what Councils in Melbourne and Sydney are doing, when they are setting up guidelines to allow residents to plant on the verges in front of their places.”

Their Say

Urban food forestry is defined as the planting, mapping and harvesting of perennial food-producing plants (“food trees”) in urban area. Within urban food forestry numerous planting initiatives are engulfed including urban orchards, edible landscaping, street verge gardening, edible parks and urban forest gardens. The practice of planting edible plant species in public domains is seen as another means of bringing food production to cities and it is starting to attract the attention of professional designers, local governments and communities both overseas and in Australia.

The production of local food in parks, verges and other public areas has the potential to supplement family diets and contribute to food securing the city. Additionally, urban food forestry provides opportunities to beautify neighbourhoods, increase biodiversity, sequester carbon, reduce the heat island effect as well as develop social capital and civic engagement. Of particular interest is the ability of edible landscaping to turn footpaths and parks into a destination rather than simply a thoroughfare. Places in Sydney, Melbourne and Perth have turned their footpath into a social venue, a place for community gathering and sharing.

Despite its brilliance, the idea of cultivating and sharing the commons is met with considerable opposition by local governments. Councils have generally raised objections to edible landscaping based on public safety and liability concerns, arising from their responsibility for the condition of public places and footpaths. The main concerns relate to the potential issues of falling fruit trees (causing damages to vehicles or pedestrians slipping on rotting fruits and injuring themselves), maintenance and harvest (due to a lack of skills and personnel) and disruption to underground services and its access.

Despite of the legitimacy of these concerns, there are ways around them. In terms of the dangers of falling fruit, this of course is already a risk undertaken by councils as ornamental trees are constantly dropping their leaves, limbs and even seed pods. However when street trees produce edible fruits or nuts there is great potential for it to be harvested by gleaners, thus reducing the hazard of falling fruit. In addition, proper planning and planting guidelines is

paramount to select appropriate species and locations to minimise these concerns. The question of maintenance and harvesting could be simply solved through community involvement and partnerships with NGOs, who would be prepared to care for and harvest these trees. Lastly, to minimise disruptions to underground services and its access, planting should be carefully done not to dig into these infrastructures and whenever underground services have to be accessed, any edible landscaping might have to be destroyed and replanted.

Numerous local governments in Australia and overseas are starting to understand the benefits of establishing urban food forestry. The city of Sydney for example has two policies dealing with verge plantings, allowing both raised and ground level gardens to be established. The Tweed Shire Council has also developed its own Edible Streetscapes Policy, which among other things have a comprehensive list of desirable and undesirable edible trees. In Melbourne, the City of Yarra incorporates footpath gardening within its urban agriculture legislation, requiring proponents to address a number of criteria prior to obtaining a permit. Overseas, a number of North American cities have integrated edible species into their urban forestry master plans, such as the City of Sechelt, British Columbia, that discusses how encouraging edible trees contributes to the local food movement and builds social capital. Another great example is the city of Calgary, which is conducting a comprehensive pilot study to determine which combination of fruit and nut bearing fruits are best for its region. Lastly, community orchards seem to be turning up everywhere, these can be of small sizes in a underutilized city park, to massive projects such as the seven acre Beacon Food Forest in Seattle, or the Philadelphia Orchard Project that has planted 32 urban orchards since 2009.

Our Recommendations

11.1 Identify potential locations to plant and establish edible trees and community orchards.

11.2 Map existing urban fruit and nut bearing trees in public and private lands.

11.3 Plant fruit and nut bearing trees in semi-public places such as schools, churches and housing authority sites to serve as edible landscaping demonstration sites.

11.4 Develop the Gold Coast Edible Landscapes Guidelines in partnership with local organizations (e.g. Gold Coast Permaculture, Gold Coast Organic Growers Association, etc.).

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
11.1	✓	✓	✓	✓	✓	✓	✓		✓	✓	Med
11.2	✓	✓	✓	✓			✓		✓	✓	Long
11.3	✓	✓	✓	✓			✓		✓	✓	Long
11.4	✓	✓	✓	✓			✓	✓	✓	✓	Short

Value Our Waste

Our Say

Council should compost the city's organic waste

“What council is missing is an urban agriculture policy, it needs to acknowledge that the resources that are considered waste resources can be composted and turned into organic soils. Either the council makes [compost] or they make them [wastes] available to other people so they can do it. There should not be a cost involved either, because there is cost savings.”

Their Say

Organic waste constitutes a significant proportion of municipal solid waste. Depending on economic activity, organic materials represent between 20 and 80% of total municipal solid waste. On the Gold Coast, over 50% of the total solid waste handled by the City Council is of organic origin.

In Australia, Europe and North America, landfilling is still the most common practice among local governments for the disposal of their solid waste, demonstrating a lost opportunity to recover what could be a very valuable resource. This improper disposal of urban solid waste results in significant and well known health and environmental problems. Among these problems are the attraction and breeding of pest animals, creation of sites for the development of parasites, pathogens and viruses and the contamination of water and air through leakage and greenhouse gas emissions.

These social and environmental issues coupled with the high costs involved in building, maintain and servicing a landfill oriented disposal system, are pushing many cities to adopt new policies and procedures to try and reduce the amount of waste going into landfill. Of particular interest is the potential to turn organic waste into a soil amendment – compost. Compost is therefore the final link in the urban agricultural cycle, for it is both an agricultural input and a food system waste.

Implementing a municipal composting program has the potential to not only significantly reduce the volume of waste being diverted to landfills and therefore its social, environmental and economic costs, but it also helps to manage water more efficiently while contributing to the development of local infrastructure and amenities by improving soils and green spaces. In addition, community composting initiatives have the potential to bring people together, provide work and volunteering opportunities as well as improve skills, knowledge, self-confidence and sustainability awareness.

There are different models in which cities are encouraging composting, however by far the easiest way to have full control and ensure the highest rate of organic material recovery is through the operation of kerbside collection, due to its convenience. In that regard the Gold

Coast is well positioned, as the City Council has recently started an optional green bin system for the collection of green wastes. Despite its benefit, many argue that kerbside collection takes material away from home composting, as an alternative, community composting centres, home composting systems and vermiculture have also been proposed.

In terms of success stories, the City of Edmonton, Canada, since 2000 have established its composting facility and they are using all of the organic waste collected from households with the addition of sewage sludge (biosolids) to make rich and safe compost. This systems is enabling Edmonton to divert up to 60% of its residential waste from landfill. A bit closer to home, Lismore City Council has also been running its green waste collection and composting system since 2000. In this process the largest worm farm in the southern hemisphere was built to recover and treat over 12,000 tonnes of organic waste every year, and the final product is made available to the public at significantly low rates (\$35.00 per ton). As a result, not only Lismore Council is making money, but they also do not have a carbon liability under the current carbon tax system, because its landfill is producing less and less carbon emissions, which is saving Council a fortune. In addition, through diversion, Lismore Council has avoided the need to build another landfill, which would have cost them over \$5 million.

Our Recommendations

12.1 Conduct a feasibility study to build and maintain the Gold Coast Composting Facility, which will be used to treat all organic waste being collected by the green waste kerbside collection program.

12.2 Explore ways in which community and household composting systems can be encouraged, established and maintained.

12.3 Continue to provide composting/worm farming educational programs to the general public, through workshops, demonstration and factsheets.

Our Future

Actions	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
12.1			✓		✓	✓	✓	✓	✓	✓	Long
12.2			✓	✓	✓	✓	✓		✓	✓	Med
12.3			✓	✓	✓	✓	✓		✓	✓	Short

Implementation

The goals and actions recommended in this strategy range widely in their complexity, implementing them will require some time, some money and a great deal of community

engagement and commitment from all parties involved. It is important to note that these recommendations will not be realized if a concentrated effort through intentional policy change is not endeavoured.

Throughout the development of this strategy, it was evident the enthusiasm, passion and hope that the gold coast community demonstrated towards urban agriculture. From school kids, through to gardeners, farmers and consumers, to academics and city officials, they have all praised the potential that urban agriculture can bring to the Gold Coast now, and into the future. This enthusiasm must be harnessed, as the formation of cohesive partnerships will be critical for the implementation Our Urban Agriculture Strategy. There are numerous opportunities for Council to engage with the wider community, and these should be seized and encouraged. However, considerable attention should be given not only to determine who should be involved, but rather on how and when these partners should be brought into the table. These are some of the issues that will have to be addressed in a second stage implementation plan, which should be led by the Gold Coast Urban Agriculture Council (GCUAC).

The GCUAC will play an essential role in the implementation of the strategy. Through the engagement of key stakeholders as well as Council staff, the GCUAC should be responsible to coordinate the implementation and oversight of the strategy. It should also provide valuable feedback in terms of policy directions and evaluation. Consequently, it is needless to say that the creation of GCUAC is a top priority.

Measuring Our Progress

Evaluation and monitoring of the Gold Coast city's food system will be an intricate undertaking, given the challenges involved in the collection, processing and storage of meaningful data at a city wide scale. There are numerous methodological indicators that can be used to measure the resilience and progress of sustainable food systems, and these should be carefully formulated by the Gold Coast City Council in partnership with GCUAC as well as other institutions and organizations.

Apart from measuring indicators and parameters, we will clearly know and see the successful implementation of the strategy as we move throughout the city. We will know if the strategy is getting off the paper and onto the ground when community members explain what urban agriculture is and how they are a part of it, or when citizens are raving about the best local organic fruits and veggies, or when prime agricultural land is being protected or shared for cultivation, or when farmers are happy with their retailing venture in the city-owned farmers' market, or when the Gold Coast Urban Farm and Food Hub are opened, and when our kids actually know where their tomato comes from.

Our Conclusion: Our Future

The Gold Coast City is home to a large multicultural community, and its food culture is incredibly rich. Yet, the Gold Coast lacks policies, programs and an overall structure specific to the promotion and development of the local food system. In order to identify those issues and provide a set of recommendations to encourage and support urban agriculture on the Gold Coast a comprehensive approach to policy development was undertaken.

Our Urban Agriculture Strategy has opened the doors of the City of Gold Coast to urban agriculture, it has gone into some length to provide an evidence-based document founded on comprehensive research and consultation with local experts and stakeholders. The intent of this strategy is to provide and support a systematic approach to food and agriculture, and to ensure that each part of the food system is understood and linked to one another.

Eleven elements of the Gold Coast food system has been presented and fifty five recommendations have been made, with the aim of achieving the goals of the strategy while moving the Gold Coast even closer to its long terms vision. Enacting these recommendations will require a coordinated and cohesive effort by government officials, organizational partners and the gold coast community, but it can be done.

This is a great time for the Gold Coast, and this is a tremendous opportunity for the city to expand and consolidate its food system through the provision of new policies, infrastructure and a welcoming environment that supports the production, processing, distribution, retail and composting of food in the city through a variety of scales. Together, we can put the Gold Coast in the forefront of Australian urban sustainability, while providing a landscape that improves the quality and availability of food for all Gold Coasters. Let the journey begin!!!

Appendix 1: Summary of Recommended Actions

	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
1.1 Establish the Gold Coast Urban Agriculture Council	✓		✓	✓	✓	✓	✓	✓	✓	✓	Short
1.2 Provide appropriate supporting resources to the Gold Coast Urban Agriculture Council	✓		✓	✓	✓					✓	short
2.1 Introduce definitions of urban agriculture related land uses into the Gold Coast Planning Scheme	✓		✓			✓	✓	✓	✓		Short
2.2 Incorporate urban agriculture land uses within Domains and LAPs and stipulate appropriate assessment levels.	✓		✓				✓	✓	✓	✓	Short
2.3 Review all Planning Scheme Policies, in particular Policy 4 and 18, and recognise urban agriculture as a tool for their realization.	✓		✓				✓		✓	✓	Short
2.4 Systematically review the rationale and effectiveness of all Local Laws in relation to urban agricultural practices.	✓		✓				✓		✓	✓	Short
2.5 Introduce zoning requirements to protect prime agricultural land.			✓		✓	✓	✓		✓		Short
2.6 Support for-profit urban and peri-urban agriculture	✓		✓	✓				✓	✓		Short
3.1 Investigate potential sites and develop the Gold Coast Urban Food and Agriculture Learning Centre	✓	✓		✓	✓		✓	✓	✓	✓	Medium
3.2 Develop, promote and deliver multiple learning opportunities on urban agriculture topics and initiatives	✓	✓		✓	✓		✓		✓	✓	Short

	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
3.3 Develop, promote and deliver a comprehensive training program of production horticulture and urban farming	✓	✓		✓	✓		✓	✓	✓	✓	Medium
3.4 Create an Urban Agriculture web portal	✓			✓				✓	✓	✓	Short
3.5 Map, develop, promote and deliver the Gold Coast Region Food Trail	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Medium
3.6 Develop the Gold Coast Local Food Brand	✓	✓		✓			✓	✓	✓		Long
4.1 Develop a kitchen garden curriculum		✓		✓			✓		✓	✓	Medium
4.2 Develop and administer kitchen garden training programs	✓	✓	✓	✓	✓		✓	✓	✓	✓	Medium
4.3 Create a Kitchen Garden Fund				✓	✓		✓	✓	✓		Medium
5.1 Formulate a comprehensive Community Gardens Policy	✓		✓	✓	✓		✓			✓	Short
5.2 Increase the number of community gardens in the Gold Coast	✓	✓	✓	✓	✓		✓		✓	✓	Long
5.3 Increase support to community gardeners	✓		✓	✓	✓		✓		✓		Short
5.4 Create a Community Garden Fund	✓		✓	✓	✓		✓		✓		Short
5.5 Explore the possibility of allowing excess products that are grown within community gardens to be sold to community members as fund raising exercises.	✓			✓			✓		✓	✓	Short
5.6 Investigate the possibility of including community gardens into the existing insurance policies of public parks			✓	✓	✓		✓		✓		Short
5.7 Investigate the possibility of providing community gardens a limited amount of water (sufficient to conduct horticultural activities) free of charge			✓		✓				✓		Short
6.1 Conduct a feasibility study to establish the Gold Coast City Farm and Training Centre.	✓	✓	✓	✓			✓	✓	✓	✓	Short

	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
6.2 Design, plan and deliver the Gold Coast City Farm and Training Centre	✓	✓	✓	✓			✓	✓	✓	✓	Long
6.3 Develop and implement City Farm' training programs, workshops and tours	✓			✓	✓		✓	✓	✓	✓	Medium
6.4 Identify suitable lands in public ownership suitable for market gardens and offer these to qualified urban farmers, at low lease rates with guaranteed terms of tenure	✓		✓	✓	✓	✓	✓	✓	✓	✓	Medium
6.5 Assess and relax current regulatory barriers to the selling of locally grown produce in residential and other zones	✓		✓	✓			✓		✓	✓	Medium
6.6 Develop specialized business permits, regulations and guidelines for commercial agricultural activities			✓	✓				✓	✓		Medium
7.1 Review and update the animal management by-law (Local Law No. 12 (Animal Management) 2013)	✓		✓	✓			✓		✓	✓	Short
7.2 Develop best management practice guidelines for bee and chicken keeping	✓		✓	✓			✓		✓	✓	Short
7.3 Develop and deliver free or low cost bee and chicken keeping best management practice education	✓	✓		✓			✓		✓	✓	Short
7.4 Create a free livestock registration system			✓	✓	✓	✓	✓		✓	✓	Medium
7.5 Explore options to allow the sale of eggs and honey from urban farm and backyards	✓			✓			✓	✓	✓	✓	Medium
8.1 Undertake a comprehensive urban agriculture land mapping and inventory exercise.			✓	✓		✓		✓	✓	✓	Medium
8.2 Identify land suitable to urban agricultural activities			✓	✓		✓	✓	✓	✓	✓	Medium

	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
8.3 Develop an application process for using city-owned land for urban agriculture practices.			✓	✓		✓	✓	✓	✓	✓	Short
8.4 Develop and establish a standard lease policy for city owned land for urban agriculture practices.			✓	✓			✓	✓	✓	✓	Short
8.5 Develop lease language templates for privately owned land.			✓	✓				✓	✓	✓	Short
8.6 Encourage Gold Coast residents to sign up for Landshare Australia and other land/yard sharing programs.			✓	✓					✓	✓	Short
8.7 Examine the possibility of conceding tax incentives to land devoted to urban agriculture practices.			✓	✓					✓		Short
8.8 Examine the establishment of the Gold Coast Urban Agriculture Land Trust			✓	✓					✓		Long
9.1 Conduct a feasibility study to establish a food processing cluster			✓					✓	✓		Medium
9.2 Establish the Gold Coast Food Cluster			✓	✓			✓	✓	✓	✓	Long
9.3 Develop community kitchen arrangements	✓		✓	✓			✓	✓	✓	✓	Short
9.4 Provide training in food safety and processing regulations as well as on preserving, drying and canning food	✓	✓	✓	✓			✓	✓	✓	✓	Short
10.1 Conduct a feasibility study and mapping assessment to establish at least three Council-owned genuine farmers' markets	✓	✓	✓	✓			✓	✓	✓	✓	Medium
10.2 Develop the Gold Coast Farmers' Market Policy	✓		✓	✓			✓	✓	✓	✓	Short
10.3 Conduct a feasibility study and mapping assessment to establish numerous green sheds	✓	✓	✓	✓			✓	✓	✓	✓	Medium
10.4 Develop a database of local farmers and their products				✓			✓	✓	✓	✓	Long

	Support equitable food access	Inspire healthy food choices	Encourage fair use of spaces and places	Foster participation	Invest in the safe use of resources	Protect ecosystems	Reflect long term community values	Encourage investment and innovation	Increase resilience	Support diversity and sovereignty	Timeline
10.5 Review current planning regulations to allow farm gate and roadside stall for the sale of locally grown produce within residential areas	✓		✓	✓			✓	✓	✓	✓	Short
11.1 Identify potential locations to plant and establish edible trees and community orchards.	✓	✓	✓	✓	✓	✓	✓		✓	✓	Medium
11.2 Map existing urban fruit and nut bearing trees in public and private lands.	✓	✓	✓	✓			✓		✓	✓	Long
11.3 Plant fruit and nut bearing trees in semi-public places	✓	✓	✓	✓			✓		✓	✓	Long
11.4 Develop the Gold Coast Edible Landscapes Guidelines	✓	✓	✓	✓			✓	✓	✓	✓	Short
12.1 Conduct a feasibility study to build and maintain the Gold Coast Composting Facility			✓		✓	✓	✓	✓	✓	✓	Long
12.2 Explore ways in which community and household composting systems can be encouraged, established and maintained.			✓	✓	✓	✓	✓		✓	✓	Medium
12.3 Continue to provide composting/worm farming educational programs			✓	✓	✓	✓	✓		✓	✓	Short

Appendix 3 – Focus Group Assessment

Session 1: Theoretical Assessment

This strategy has been developed based on theories of policy making. In theory, a “good” strategy should comprise a number of “essential” elements, including:

- **Long Term** – Emphasis lies beyond the immediate (1-3 years) future;
- **Outward looking** – Knowledge of strategic actions from other jurisdictions are incorporated;
- **Innovative, flexible and creative;**
- **Evidence-based;**
- **Inclusive** – Takes full account of the impact the strategy will have on different groups;
- **Joined-up** – Attempts an integrated approach which involves the coordination of activities across organizational boundaries; and
- **Continuous improvement** – Concerns an evaluative process where the strategy can be improved in light of knowledge and evidence.

How would you rate (from 1 to 10) the importance that should be given to these elements when developing a strategy (where 1 = could not be bothered, 5 = it would be nice, 10 = it is paramount), and why?

Element	Rate	Why
Long Term		
Outward looking		
Innovative, flexible and creative		
Evidence-based		
Inclusive		
Joined-up		
Continuous improvement		

How do you think these elements have been incorporated in the proposed strategy (where 1 = not at all, 5 = somehow, 10 = strongly), and do you have any suggestion for improvement?

Element	Rate	Suggestion
Long Term		
Outward looking		
Innovative, flexible and creative		
Evidence-based		
Inclusive		
Joined-up		
Continuous improvement		

Session 2: Content Assessment

In this session we would like to focus on the actual recommendations and proposed actions of the strategy.

Overall, what was your first impression of the recommendations and proposed actions (tick one)?

☐ This is great!
 ☐ Ok, I get it...
 ☐ Not sure
 ☐ Do we need that?
 ☐ What a nonsense

Which of the proposed actions would you prefer the most to be implemented (regardless of if its difficulty, timeframe or costs), and which would you least prefer to see implemented and why? Please select your top 5 and bottom 5 actions (use id. number only).

Top 5	Why
Bottom 5	Why

In light of the Gold Coast City Vision 2020, which focuses on place, prosperity and people, to what extent do you agree (or disagree) with the following statement: *"I believe that the proposed strategy will advance the City Vision 2020"*.

☐ Strongly Agree
 ☐ Tend to Agree
 ☐ Undecided
 ☐ Tend to Disagree
 ☐ Strongly Disagree

How do you think each of the three themes (place, prosperity and people) of the City Vision 2020 will be advanced by the proposed strategy (where 1 = not at all, 5 = somehow, 10 = strongly) and why?

Theme	Rate	Why
Place		
Prosperity		
People		

Session 3: Political Assessment

In this session we would like to focus on the probable political acceptance (or not) of the proposed strategy, and what can be done to improve its political acceptance.

Based on your experience with the current political leaders of the Gold Coast Council, overall, how do you think they would react to the proposed strategy?

☐ This is great!
 ☐ Ok, I get it...
 ☐ Not sure
 ☐ Do we need that?
 ☐ What a nonsense

Based on your experience (if you had any) with the previous political leaders of the Gold Coast Council (led by Ron Clarke), how do you think they would have reacted to the proposed strategy?

☐ This is great!
 ☐ Ok, I get it...
 ☐ Not sure
 ☐ Do we need that?
 ☐ What a nonsense

What are the main factors that would contribute to a weak political support for the strategy (please enumerate all factors from 1 to 9, where 1 = main contributor and 9 = least contributor)?

Factor	Rate
Lack of knowledge about urban agriculture	
Lack of knowledge about the urban food system	
Failure to see the need for urban agriculture on GC	
Belief that agriculture and food is a rural issue	
Lack of funds	
Long term commitment	
Lack of perceived economic return	
Fear of losing votes	
Other (please specify)?	

What could be done to increase political support to the proposed strategy (please enumerate all actions from 1 to 10, where 1 = main action and 10 = last action)?

Action	Rate
Educate political leaders and decision makers about urban agriculture	
Demonstrate the shortcomings of the current urban food system	
Lobby other levels of government to provide funds for urban agriculture projects	
Focus on short term actions	
Focus on cost-free actions	
Focus on economic outputs of an urban agricultural industry	
Focus on social benefits of an urban agricultural industry	
Focus on environmental improvements of an urban agricultural industry	
Educate the voting community	
Other (please specify)?	

Session 4: Implementation Assessment

In this session we would like to focus on how to implement the proposed strategy. That is, assuming that the strategy has been politically accepted, we would like to know what needs to be done for it to become an official document and start to be implemented.

Given the broadness of the strategy, it would be wise to prioritize only a few actions and try to drive their implementation. In your view, please select 5 actions which, given the current political arena, would have a higher likelihood of being implemented, and provide a brief explanation why (use id. number only)?

Priority 5	Why

What steps need to be taken before the proposed strategy becomes an official Gold Coast Council document?

What steps need to be taken for the proposed strategy to be implemented?

Who coordinates the implementation of the proposed strategy?

With regards to the proposed timeframes for the completion of the recommended actions, overall, how do you think they fare?

- ☐ Spot on
- ☐ Could be done
- ☐ Undecided
- ☐ Will be a struggle
- ☐ No chance!!!

Appendix 4 – Urban Agriculture Planning Scenarios

In order to have illustrative examples of how the planning system that currently operates in the Gold Coast deals with urban agriculture related land uses, a number of hypothetical scenarios have been formulated. For each scenario, it would be interesting to know:

1. How desirable the proposed land use is in light of the Gold Coast Planning Scheme 2003?
2. What level of assessment does it require?
3. Based on its level of assessment, what information, studies, documents must be provided to Council in a development application?
4. Roughly, how long would it take for the approval process to come to a decision?
5. Roughly, how much would the entire process cost for the applicant (including application fees, cost of studies, duties, etc.)?
6. Would any other agency be concurrently involved in the approval process? If yes, how?

The following pages briefly describe six hypothetical scenarios and ask for the above questions to be answered as much as possible given the limited amount of information that is given. For each scenario a proposed location is indicated. The idea to provide a location is to make the scenario as real as possible, but if a location would make the analysis more difficult, please discard. What is intended is to understand how the more urbanised areas of the Gold Coast would deal with the proposed scenarios.

Scenario 1 – Commercial Urban Farm

A developer has recently purchased the Surfers Paradise Golf Course (located on 1 Fairway Drive, Clear Island Waters) and would like to turn it into an organic farm that cultivates a variety of fruits and vegetables and also hosts 500 hens for organic egg production. The developer also wants to turn the existing ponds into aquaculture ponds for the production of freshwater fish. Waste management in the proposed farm will be closed loop, meaning that the waste from one activity will be used as an input to another activity and no solid or liquid waste will exit the property. Also, fresh produce cultivated in this organic farm would be available for sale to the general public through a pick/fish and pay scheme or through a stall in the entrance of the property.



Scenario 2 – Urban Orchard

Residents of Kidman Street, Thorngate Drive and surrounding area in Robina, have realised that the park adjacent to their street is underutilised by the community, and seem to be a liability for the Council as it requires regular mowing, weed management and grass fertilization. The residents of the area have come together and formed a community group that wants to turn that park into an urban orchard. The community group will be responsible for the planting and maintenance of the orchard, but it would like the Council to make water available.



Scenario 3 – Household Surplus Produce Sale

The Jones family lives in Coolangatta, more precisely at 88 Dutton Street. For the past 5 years they have cultivated two lovely mango trees and three lime trees. The trees have now reached maturity and are producing mangoes and limes abundantly throughout the year. The Jones family is not able to consume all the lovely produce that their trees are giving and would like to put a little stall in front of their house so neighbours and people that pass by could buy their produce, which otherwise would be going to waste.



Scenario 4 – Small Scale Composting Enterprise

Mr. Smith, the owner of the Bundall Race Course, located at Racecourse Dr, Bundall, has realised that his establishment generates every year about 3 tonnes of horse manure that is currently being thrown away. He realised that this manure could be used to make compost and instead of being thrown away it could be sold to households or commercial farms. Mr. Smith proposes to turn a small portion of his land into a composting facility, which would be used to compost the horse manure in conjunction with grass clippings brought by different gardeners (in a partnership with Jim's Mowing Enterprises). Households and commercial farms would be able to purchase fresh compost from the composting facility, or through a delivery service.



Scenario 5 – Urban Farmer's Market

The Labrador community garden in association with private urban farmers of the region is proposing an Urban Farmer's Market to take place at the Norm Rix Park (located at 119 Government Road, Labrador) every Wednesday morning (from 7 am to 2 pm). This farmer's market is the best way found by the community to facilitate the marketing of urban produce directly to consumers. A total of 15 stalls incorporating a variety of fresh fruits, vegetables, eggs and flowers are envisaged, and stall holders will not have to pay any fee in order to be able to offer their produce for sale, only stall bookings will be required.



A new vegetarian restaurant would like to start operations at 1 Grice Avenue, Paradise Point. As part of the restaurant, the owner, acclaimed Chef Rotarius Vegan, is proposing a vegetable garden in its roof. The roof is expected to yield about 25% of the total vegetable consumption and 100% of fresh herbs needs of the restaurant. In addition, Chef Rotarius Vegan is partnering with adjoining restaurants to collect their raw food waste, which will be composted and used to feed the roof garden. Also, grey water from the restaurant will be filtered and safely used to irrigate the garden.



Appendix 5 – Semi-Structured Interview Guide Questions

1. What do you understand by urban agriculture?
2. What benefits do you think urban agriculture can bring to the city?
3. What forms of urban agriculture currently exists on the Gold Coast that you are aware of?
4. Do you think there is scope for more urban agriculture activities to take place on the Gold Coast? Why? Why not?
5. What risks, if any, do you think urban agriculture practices pose to the Gold Coast and its community?
6. How do you think we should respond to these risk-prone activities?
7. What issues do you see affecting urban agricultural practices on the Gold Coast, both positively and negatively?
8. What could be done to address these negative issues?
9. What could be done to encourage more of these positive issues?
10. What else needs to be done for urban agriculture to grow on the Gold Coast?
11. Is there anybody else that you think I should speak to as part of this study?
12. Would you be interested in taking part in a workshop to explore urban agriculture policy options? Is there anyone that should also be invited?
13. What days and time would best suit you to attend this workshop?