Condos, Lettuce, and Tomatoes:
Factors Influencing the Provision of Food Production Spaces in New Multi-Unit Residential Developments in Toronto and Vancouver

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Dilys Huang

A Master’s Report submitted to the School of Urban and Regional Planning in conformity with the requirements for the degree of Master of Urban and Regional Planning

School of Urban and Regional Planning
Queen’s University
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Cover image: Building model with raised rooftop planter beds at the Regent Park Presentation Centre in Toronto. Source: Dilys Huang, 2013.
EXECUTIVE SUMMARY

There are a number of societal benefits associated with urban agriculture, such as increasing the sense of community and promoting improved access to fresh produce. Despite its growing popularity, one of the key barriers, especially for apartment or condominium dwellers, is the lack of access to open space or backyards. While certain municipalities are encouraging urban food production in multi-unit residential projects through policy, there is generally a lack of understanding around the factors that influence the provision of food production spaces from the developers’ perspective. Therefore, the study’s key objective is to identify ways of enhancing urban agriculture initiatives as well as better understand the enabling and hindering factors for developers. In order to investigate this topic, the study was focused around these three research questions:

- What are the policies that address the integration of food production spaces within new multi-unit residential developments?
- What factors and elements of policies encourage or discourage developers from incorporating urban agriculture amenities into their development projects?
- How can planners and developers further enhance the availability of food production spaces for residents of these multi-unit dwellings?

A qualitative case study approach was used by conducting a literature review, examining urban agriculture policies for multi-unit developments, and interviewing municipal planners and residential developers in Toronto and Vancouver. In terms of findings, it was found that although it varies depending on context and location, there is generally a considerable level of interest and demand from the public for urban food production. With respect to enabling and hindering factors, key influencing factors include municipal policies, the market, capital and operating costs, site conditions, uptake by strata corporations, and partnerships with local gardening groups.

Reflecting the overall findings and results, the study concludes with a series of recommendations that municipalities and developers can consider. The first two recommendations are directed to both municipalities and developers, and the remaining four recommendations are directed mainly to municipalities:

1. Encourage partnerships between community gardening organizations and strata corporations;
2. Explore the programming component of urban agriculture amenities with greater depth;
3. Enhance urban agriculture provisions and guidelines while maintaining flexibility;
4. Conduct assessments to determine the use and maintenance of food production spaces;
5. Consider the provision of municipal incentives; and
6. Seek urban agriculture opportunities in public spaces beyond the private realm.
ACKNOWLEDGEMENTS

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>i</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>ii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>v</td>
</tr>
<tr>
<td>List of Tables</td>
<td>v</td>
</tr>
<tr>
<td>1.0 Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Objective and Research Questions</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Report Contents</td>
<td>2</td>
</tr>
<tr>
<td>2.0 Literature Review</td>
<td>3</td>
</tr>
<tr>
<td>2.1 Types of Urban Agriculture Initiatives</td>
<td>3</td>
</tr>
<tr>
<td>2.2 Significance of Urban Agriculture</td>
<td>4</td>
</tr>
<tr>
<td>2.3 Local Governments’ Response to Urban Agriculture</td>
<td>5</td>
</tr>
<tr>
<td>2.4 Role of the Private Sector</td>
<td>5</td>
</tr>
<tr>
<td>3.0 Methodology</td>
<td>7</td>
</tr>
<tr>
<td>3.1 Scope of the Report and Case Study Selection</td>
<td>7</td>
</tr>
<tr>
<td>3.2 Data Collection</td>
<td>7</td>
</tr>
<tr>
<td>3.2.1 Literature Review</td>
<td>7</td>
</tr>
<tr>
<td>3.2.2 Document and Policy Review</td>
<td>8</td>
</tr>
<tr>
<td>3.2.3 Key Informant Interviews</td>
<td>9</td>
</tr>
<tr>
<td>3.3 Data Analysis</td>
<td>9</td>
</tr>
<tr>
<td>4.0 Case Municipalities</td>
<td>11</td>
</tr>
<tr>
<td>4.1 City of Toronto</td>
<td>11</td>
</tr>
<tr>
<td>4.1.1 Context</td>
<td>11</td>
</tr>
<tr>
<td>4.1.2 Policy Review</td>
<td>12</td>
</tr>
<tr>
<td>4.2 City of Vancouver</td>
<td>14</td>
</tr>
<tr>
<td>4.2.1 Context</td>
<td>14</td>
</tr>
<tr>
<td>4.2.2 Policy Review</td>
<td>15</td>
</tr>
<tr>
<td>5.0 Interview Findings</td>
<td>20</td>
</tr>
<tr>
<td>5.1 Municipalities</td>
<td>20</td>
</tr>
<tr>
<td>5.1.1 Supporting Policies</td>
<td>20</td>
</tr>
</tbody>
</table>
Table of Contents

5.1.2 Public Demand ............................................................................................................. 21
5.1.3 Enabling and Hindering Factors .................................................................................. 22
5.1.4 Enhancing Availability of Food Production Spaces ..................................................... 23
5.2 Developers ...................................................................................................................... 24
   5.2.1 Inclusion of Urban Agriculture Amenities in Projects ................................................. 24
   5.2.2 Supporting Policies and Experience .......................................................................... 27
   5.2.3 Public Demand ......................................................................................................... 29
   5.2.4 Enabling and Hindering Factors ................................................................................ 31
   5.2.5 Enhancing Availability of Food Production Spaces .................................................. 35
6.0 Discussion and Recommendations .................................................................................. 38
7.0 Conclusion ....................................................................................................................... 41
   7.1 Limitations ................................................................................................................... 41
   7.2 Future Research ........................................................................................................... 42
References ............................................................................................................................ 43
Appendices ............................................................................................................................ 47
   Appendix A: Key Informant Recruitment Email ................................................................. 47
   Appendix B: Letter of Information ..................................................................................... 48
   Appendix C: Consent Form ................................................................................................. 50
   Appendix D: Sample Interview Questions ........................................................................ 51
LIST OF FIGURES

Figure 1. Rural-urban agriculture and the food system continuum. ................................................................. 3
Figure 2. Garden plots incorporated within a model of a Regent Park condominium................................. 11
Figure 3. Olympic Village condominium apartments at Southeast False Creek ......................................... 15
Figure 4. Location of East Fraser Lands and Southeast False Creek in the City of Vancouver ............... 16
Figure 5. A rendering of the Oakridge Centre redevelopment in Vancouver ............................................. 21
Figure 6. Rooftop garden at the NY2 Condominiums in Toronto ................................................................. 24
Figure 7. Raised planter boxes adjacent to an intensive green roof and rooftop patio at The Rise
   development in Vancouver ......................................................................................................................... 25
Figure 8. Honey made from the beehives on top of a building in Mayfair, central London ...................... 25
Figure 9. Rooftop garden at One Cole, the first condominium building completed in Regent Park ....... 26
Figure 10. A project’s webpage identifying the provision of urban agricultural plots and a greenhouse
   among a number of building features and amenities .................................................................................. 30
Figure 11. An example of a vegetated boulevard in Vancouver ................................................................... 36

LIST OF TABLES

Table 1. List of municipal policy documents reviewed in this study ............................................................ 8
Table 2. Green roof coverage requirements .................................................................................................. 12
1.0 INTRODUCTION

Even though the practice of urban agriculture has existed for a long time, seeing it as a community development strategy occurred only recently (Thibert, 2012). Urban agriculture is becoming more widespread, yet land access remains one of the key barriers and challenges to producing food in urban areas (Specht et al., 2014; Wilford, 2011). For neighbourhoods that are not very densely populated, the availability of space is less of a concern (Specht et al., 2014). Conversely, for residents who want to undertake urban agriculture but live in apartment or condominium buildings, the lack of access to greenspace or backyards is often a limiting factor.

As a result, through policy, some municipalities including Toronto and Vancouver are beginning to encourage developers to include spaces for food production, such as rooftop gardens and edible landscapes, within higher density multi-unit developments. However, while some developers are choosing to pursue urban agriculture opportunities in their projects, food-related amenities such as gardening plots are integrated only in certain developments. Furthermore, even though policies are being developed and more residential projects are marketing food production spaces as a building amenity, existing literature does not look into the factors that influence the provision of these spaces from the developers’ perspective. Therefore, in order to address this gap, this study explored the ways in which urban agriculture is incorporated in multi-unit developments through policy in Toronto and Vancouver, and the factors that either enable or hinder developers from pursuing this development opportunity.

For the purposes of this report, it should be noted that food production is a subset and falls within the realm of urban agriculture. Consequently, the terms “food production spaces” and “urban agriculture” will be used interchangeably in the subsequent chapters.

1.1 OBJECTIVE AND RESEARCH QUESTIONS

The primary objective of this study is to explore ways of increasing urban agriculture opportunities as an approach to encourage community building, enhance food security, and promote sustainable development. More specifically, this research sought to analyze and understand the key factors that encourage or discourage developers from integrating food production spaces as an amenity in new residential developments. Lastly, a series of recommendations is proposed for both planners and developers to increase the prevalence of urban agriculture amenities in development projects.

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1 The term “edible landscapes” was coined by Rosalind Creasy in her book *The Complete Book of Edible Landscaping*, published in 1982.

2 It should be noted that there is no consensus on the use or application of the term “sustainable” or “sustainability”. Although it is often associated with economic, social, and environmental aspects, the term is generally applied from an environmental perspective in this report.
By examining the relationships between urban agriculture and multi-unit residential projects, this study was guided by the following research questions:

- What are the policies that address the integration of food production spaces within new multi-unit residential developments?
- What factors and elements of policies encourage or discourage developers from incorporating urban agriculture amenities into their development projects?
- How can planners and developers further enhance the availability of food production spaces for residents of these multi-unit dwellings?

1.2 REPORT CONTENTS

Besides the introduction, this report is organized into a total of six additional chapters. Chapter 2 provides a literature review based on themes related to urban agriculture. Chapter 3 discusses the scope as well as the different research methods used to conduct this study. Chapter 4 provides background information and a summary of the relevant policy documents for the two municipalities in the case studies. Chapter 5 presents the findings gathered from the key informant interviews, followed by a discussion of key themes and recommendations in Chapter 6. The report then concludes with the limitations of this study as well as opportunities for future research in Chapter 7.
2.0 LITERATURE REVIEW

In the following sections, a review of literature offers background information with respect to the types of urban agriculture activities, the significance of urban agriculture, how local governments have been responding to urban agriculture, followed by the role of the private sector.

2.1 TYPES OF URBAN AGRICULTURE INITIATIVES

Urban agriculture is captured by various definitions since they vary based on the type, location, extent, and scale of activities (Quon, 1999). For example, according to Smit, Nasr, & Ratta (2001), urban agriculture can be defined as:

An industry that produces, processes, and markets food, fuel, and other outputs, largely in response to the daily demand of consumers within a town, city, or metropolis, on many types of privately and publicly held land and water bodies found throughout intra-urban and peri-urban areas . . . . (Smit et al., 2001, p. 1)

On the other hand, Mendes (2012) offers a simpler definition by describing it as “the practice of growing plants and raising animals in and around cities” (p. 307). A number of initiatives fall under the realm of urban agriculture including, but not limited to, community gardens, backyard gardens, edible landscaping, fruit-bearing trees, rooftop gardens, aquaculture, farmers markets, small-scale urban agriculture.
farming, beekeeping, and composting (Mendes, Balmer, Kaethler, & Rhoads, 2008). In terms of the raising of animals, some municipalities permit the keeping of rabbits, goats, ducks, geese, and chickens in backyards (Pollock, Stephen, Skuridina, & Kosatsky, 2012). As illustrated in Figure 1, urban agriculture comprise only a portion of the food system continuum that ranges from rural settings to more urban environments (Hodgson, 2011).

These activities have largely become more accepted throughout urban areas within the past decade. This movement can be attributed to the ‘urban food culture’, which refers to “a growing trend towards greater interest and involvement on the part of the general public in where food comes from and how it is produced” (Planscape, 2014, p. 6.3). Some of the factors leading to more local forms of food production include the demand for organic and healthy foods, the local food movement (e.g. 100-mile diet), an increasing presence of niche restaurants, and growing pressure on agricultural lands due to the need to accommodate population growth and urban development (Planscape, 2014). These trends are not only considered to be trendy, but are taken into consideration by developers in order to meet market demands or market preferences.

As mentioned by the Toronto Food Policy Council (2012), growing food in urban areas is being revived again by many different actors. For example, community groups are using parkland for community gardens, institutions are transforming lands for local citizens to grow food, developers are adding gardening space for residents who live in multi-unit dwellings, and farmers are establishing food co-ops. At the same time, besides vacant lots and open spaces, hydro corridors, rooftops, walls of buildings, and windowsills all have potential for urban agriculture (Peters, 2010). Consequently, urban agriculture activities exist across a wide range of scales.

### 2.2 SIGNIFICANCE OF URBAN AGRICULTURE

In developed countries, even though urban agriculture was a means of addressing food security issues during times of economic crises in the past, urban agriculture is now associated with a variety of benefits and functions (Oswald, 2009). These include conservation and education purposes, recreation, community development, sustainable architecture, and management of open space (Mougeot, 2006). Similarly, urban food production has helped people to develop a sense of community, produce organic local foods, and conserve energy (Roehr & Kunigk, 2009). More specifically, in a study that investigated the re-emergence of urban agriculture in North America, Broadway (2009) found that land converted into community gardens saw an increase in property values, a reduction in crime rates, enhanced community cohesiveness, and better access to fresh produce.

Overall, urban agriculture is increasingly receiving more recognition as a planning method and tool to improve community health and facilitate urban sustainability (Talukdar & Hossain, 2011; Thibert, 2012). Due to issues such as rising food prices and food insecurity, municipalities, planners, and businesses are becoming more inclined to use urban space for food production purposes (Mees & Stone, 2012).
2.3 LOCAL GOVERNMENTS’ RESPONSE TO URBAN AGRICULTURE

Since urban agriculture is associated with various urban systems, it is influenced by a diverse range of stakeholders, such as non-governmental organizations, governments and public authorities, institutions, and private firms (Smit et al., 2001). These stakeholders are responsible for regulating, facilitating, providing, and partnering on urban agriculture initiatives. Governments have the ability to influence urban agriculture through all four roles (Smit et al., 2001).

Planners and local governments can facilitate urban agriculture by adopting a variety of planning policy instruments and tools. For instance, a study conducted by Desjardins, Lubczynski, & Xuereb (2011) suggests that land use planning is a key tool for promoting a sustainable and healthy food system. Furthermore, besides mentioning that municipalities should review existing policies and bylaws in order to remove unsubstantiated legal restrictions, De Zeeuw, Guendel, & Waibel (2000) suggest integrating urban agriculture into zoning bylaws, encouraging the use of both public and private vacant lands for food production, combining urban agriculture with other land uses, and incorporating food production spaces within new developments and social housing projects.

Alternate strategies include local governments creating policy statements that support urban agriculture, using land inventories to identify potential sites for urban agriculture, offering renewable leases on these identified lands, and permitting rooftop gardens on buildings (Quon, 1999; Thibert, 2012). In the case of green roofs, some municipalities require that they cover a certain percentage of a rooftop. However, according to Tracey (2011), governments do not necessarily mention the preferred type of green roof (e.g. intensive versus extensive green roofs). Consequently, the roofs might play a role in managing stormwater and reducing the heat island effect, but are not necessarily associated with food production.

Oswald (2009) notes that references to urban agriculture, made within municipal policy, are often vague and are open to different interpretations. As summarized by Thibert (2012), “local governments and planning authorities have an important role to play in integrating UA [urban agriculture] within existing planning frameworks and enabling UA through appropriate regulatory measures” (p. 349).

2.4 ROLE OF THE PRIVATE SECTOR

Despite urban agriculture gaining popularity and receiving greater interest, access to suitable land is still a key challenge to growing food in urban areas (Lovell, 2010; Specht et al., 2014; Wilford, 2011). This is especially the case for those who lack access to backyards or greenspace (Specht et al., 2014). On a larger scale, given that urban farmers and food producers typically do not own the land that they use to grow produce, there are cases where landowners might lease land to individuals or organizations at a

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3 Intensive green roofs are accessible but require more maintenance as they have a deeper growing medium that can support food crops. Extensive green roofs on the other hand, support low-maintenance plants and are less expensive, but are usually inaccessible (Kaill-Vinish, 2009).
low cost or for free (Nasr, et al., 2010). Reasons may range from promoting local food security, achieving environmental benefits, or receiving reliefs in municipal taxes.

At the same time, in her review of urban agriculture forms at different scales, Lovell (2010) found that there are numerous opportunities to retrofit existing buildings in order for them to support urban food production. For example, flat rooftops can hold containers and greenhouses for vegetables or they can be modified into green roofs. Similarly, as expressed by Tracey (2011), although many buildings are not constructed to adequately support heavy loads of crops, soil, water, and people, “new buildings can and should be designed to accept the weight of plants and their growing medium” (p. 166).

Overall, there has not been a substantial amount of literature on the relationship between private spaces and urban agriculture. However, this provides an opportunity to address gaps in the existing literature. As there is a pressure for space in many urban areas, along with capacity to promote urban agriculture at a small scale, it is important to include and engage with the private sector.
3.0 METHODOLOGY

The following sections outline the scope covered by this report, the rationale for investigating the selected case municipalities, and the research methods used to collect and analyze data.

3.1 SCOPE OF THE REPORT AND CASE STUDY SELECTION

In terms of scope, the report initially focuses on the analysis of municipal policies, guidelines, and bylaws that address the provision of urban agriculture and food production spaces on private residential lands in Toronto and Vancouver. These two municipalities were selected as case examples since both cities have been moving toward multi-unit construction (e.g. condominium apartments) rather than single-detached construction in recent years due to densification and the high cost of land (Canada Mortgage and Housing Corporation [CMHC], 2014a; CMHC, 2014b). In addition, according to McIntyre & Wiebe (2014), there will be a forecasted increase in the number of condominium apartment starts over the next few years. These cities also have completed or proposed development projects that incorporate food production spaces as an amenity. Examples of projects in Toronto include High Park Condominiums by the Daniels Corporation, DUKE Condos by TAS, and Eau du Soleil Condominiums by Empire Communities. Similarly, The RISE by the Grosvenor Group, MC^2 by Intracorp, and Millennium Water by the Millennium Group are a few examples from Vancouver.

Even though urban agriculture is defined as “the practice of growing plants and raising animals in and around cities” and encompasses a wide range of activities (Mendes, 2012, p. 307), this study places emphasis on certain initiatives, such as rooftop gardens, over other types like urban farms, backyard chickens, and community gardens. The reason for this is because the former types of food production initiatives are more commonly seen in condominium projects, whereas the latter types are at a larger scale or typically exist in single-detached residential neighbourhoods or on public lands.

3.2 DATA COLLECTION

The study adopted a qualitative case study approach by (a) reviewing relevant literature; (b) examining municipal policies, guidelines, and bylaws that support urban agriculture in multi-unit developments; and (c) conducting semi-structured interviews with key informants from both Toronto and Vancouver. The use of multiple sources of evidence and multiple methods helps to ensure that data is triangulated as well as produce credible and rigorous case study work (Baxter, 2010; Yin, 2014).

3.2.1 LITERATURE REVIEW

In order to investigate the factors influencing the provision of food production spaces in new multi-unit residential developments, a literature review was conducted to provide background information related
to the topic and to identify research that has already been done in the realm of urban agriculture. The literature surveyed covers a variety of themes, but the review specifically focused on the types of urban agriculture initiatives, the significance of urban agriculture, local governments’ response to urban agriculture activities, and the role played by the private sector. Literature review sources include peer-reviewed and professional planning journal articles, reports, policy documents, books, and relevant websites. Most of the academic literature was obtained through Queen’s University’s Summon search engine and QCAT Library Catalogue, as well as Google Scholar.

3.2.2 DOCUMENT AND POLICY REVIEW

As part of the process of identifying existing planning policies and tools that pertain to urban agriculture activities in multi-unit residential developments and on private property, a review of municipal documents was carried out. Documents include official plans, official development plans, guidelines, and bylaws for the City of Toronto and the City of Vancouver (Table 1).

<table>
<thead>
<tr>
<th>Table 1. List of municipal policy documents reviewed in this study.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toronto</strong></td>
</tr>
<tr>
<td>•  <em>Green Roof Bylaw (Toronto Municipal Code Chapter 492, Green Roofs)</em> (2009)</td>
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⁴ The *Growth Plan for the Greater Golden Horseshoe* is not a municipal plan, but a plan initiated by the Province of Ontario.

⁵ Similar to the Growth Plan, *Metro Vancouver 2040: Shaping Our Future* is not a municipal policy document. This Regional Growth Strategy has food-related policies applicable to the City of Vancouver, one of Metro Vancouver’s member municipalities.
3.2.3 KEY INFORMANT INTERVIEWS

In order to address the other two research questions, key informant interviews – considered as one of the most significant sources of information for case studies – were conducted to provide additional information and insight that otherwise cannot be obtained through other methods (Dunn, 2010; Yin, 2014). Prior to conducting the interviews, an ethics application was submitted to the General Research Ethics Board (GREB) at Queen’s University. The study received ethics clearance from the GREB on November 19, 2014.

Interview participants included developers who have incorporated food production spaces in their residential projects, municipal planners involved in the creation of urban agriculture policies, and a consultant/developer who has experience in both preparing related policies as well as implementing urban agriculture amenities. This range of actors from different sectors helped to facilitate a better understanding of different perspectives and viewpoints associated with the implementation of urban agriculture amenities. Interviews were conducted with a total of eight (8) individuals over a three-month period from January to March 2015.6

Initial contact was made with key informants by phoning or sending them an email with a letter of information containing details of the study (see Appendix A for the Contact Email and Appendix B for the Letter of Information). Some of the participants were contacted after they were suggested by other key informants. The interviews were conducted either by phone or via Skype and were semi-structured with open-ended questions. Compared to other types of interviews, semi-structured interviews are more suitable since they are content-focused, but still maintain flexibility (Dunn, 2010).

Interview questions varied slightly for each group of participants (i.e. developer, municipality, and consultant/developer), but common topics covered include the level of public demand for urban agriculture amenities in the private realm, the enabling and hindering factors (e.g. elements of policies or other aspects) that influence the incorporation of these amenities in private development projects, whether current policies are supportive of food production spaces in new multi-unit residential developments, and how the availability of these spaces could be enhanced for residents. Refer to Appendix D for the lists of interview questions.

3.3 DATA ANALYSIS

Following the collection of data, the interviews were transcribed and analyzed through a thematic analysis approach (Lapadat, 2010).7 This approach is considered as a systematic way of analyzing

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6 City of Toronto key informants included one (1) municipal project manager and three (3) developers, while in the City of Vancouver, one (1) municipal planner, two (2) developers, and one (1) consultant/developer participated in the study.

7 All of the interviews were audio-recorded and transcribed with the exception of one, in accordance with the key informant’s wishes.
qualitative data. By using the set of interview questions as a starting point, themes can be drawn out from the data through coding “to yield insightful interpretations that are contextually grounded” (Lapadat, 2010, p. 927).
4.0 CASE MUNICIPALITIES

The subsequent sections provide more details in terms of the urban agriculture context and the relevant policy framework for Toronto and Vancouver.

4.1 CITY OF TORONTO

4.1.1 CONTEXT

As the largest Canadian city with a population of 2,615,060, the City of Toronto is often considered as “a North American leader in the global movement for sustainable food” (Statistics Canada, 2013; Toronto Food Policy Council, 2012, p. 2). Created in 1991, the Toronto Food Policy Council has provided recommendations to various City policy documents, such as the Official Plan, the Food Strategy, and the Urban Agriculture Action Plan. In terms of existing buildings, Nasr, MacRae, & Kuhns (2010) note that many rooftops in Toronto are used for growing food already. Therefore, homeowners or property managers can integrate container gardens on rooftops. However, there are also instances of developers who are adopting urban agriculture-related amenities in their new residential developments.

An example is the Daniels Corporation, who has been leading the urban agriculture trend in the Canadian building industry for a number of years (New Condo Guide, 2014). The developer first promoted food production spaces in 2009 by implementing community garden plots at a new Regent Park condominium (i.e. One Cole Condominiums). Partnering with Toronto Community Housing Corporation in the Regent Park revitalization scheme, Daniels jointly created a Food Partnership within the community that offers educational programs, community gardens, a greenhouse, and a community oven in the new park area. In addition to Regent Park, Daniels has introduced urban agriculture opportunities in several other projects within the Greater Toronto Area (Figure 2).

In terms of condominium apartments in Toronto, the City has seen a strong outlook in its new condominium building market (McIntyre & Wiebe, 2014). With a peak in unit starts in 2012, the number
of completed and unoccupied units rose the following year. Based on the report by McIntyre and Wiebe (2014), it is anticipated that there will be an average annual increase of 2.5 percent each year in condominium apartment starts from 2015 to 2018.

4.1.2 POLICY REVIEW

The City of Toronto has policies in a few municipal documents that are related to urban food production in higher density developments. These documents include the Green Roof Bylaw, the Official Plan, and the Zoning Bylaw. At the same time, a similar policy is found within the Province of Ontario’s *Growth Plan for the Greater Golden Horseshoe.*

**GREEN ROOF BYLAW**

Toronto has a Green Roof Bylaw that City Council adopted in 2009 and is considered as the first municipality in North America to establish a green roof bylaw (City of Toronto, 2009a). The Bylaw was adopted after having authority under Section 108 of the *City of Toronto Act* (2006), which “allows the City to require green roofs as-of-right as opposed to the [previous] program of encouraging green roofs for new private development” (City of Toronto, 2009a, p. 5). All new buildings with a gross floor area (GFA) exceeding 2,000 square metres are required to include a green roof. The area of the green roof is based on a building’s GFA (Table 2).

<table>
<thead>
<tr>
<th>Gross Floor Area (Size of Building)</th>
<th>Coverage of Available Roof Space (Size of Green Roof)</th>
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<tbody>
<tr>
<td>2,000 – 4,999 m²</td>
<td>20%</td>
</tr>
<tr>
<td>5,000 – 9,999 m²</td>
<td>30%</td>
</tr>
<tr>
<td>10,000 – 14,999 m²</td>
<td>40%</td>
</tr>
<tr>
<td>15,000 – 19,999 m²</td>
<td>50%</td>
</tr>
<tr>
<td>20,000 m² or greater</td>
<td>60%</td>
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Source: City of Toronto, 2009b, p. 492.7

Among a few exemptions, such as green roofs not required for buildings with applications submitted prior to January 31, 2010, green roofs do not need to be implemented for low-rise residential development. This includes residential buildings or related additions less than or equal to six storeys or 20 metres in height, whichever is greater (City of Toronto, 2009b). Found within the Bylaw is also a section that covers the Toronto Green Roof Construction Standard. It sets out the minimum required construction and maintenance standards for green roofs, which also take into account standards from the Ontario Building Code. Examples of elements that have to be considered include occupancy and safety, drainage, vegetation performance, plant selection, and a maintenance plan.

Besides increasing the coverage of conventional green roofs for all new development, the Bylaw could have the potential to enhance rooftop food production activities. According to Kaill-Vinish (2009) and
MacRae, et al. (2010), certain Bylaw provisions may actually hinder the growing of food on rooftops (e.g. by excluding less expensive types of productive green roofs); however, proposed changes can help to address some of these barriers.

**OFFICIAL PLAN**

Consolidated in 2010, the Toronto Official Plan contains references related to urban agriculture. For example, Section 2.2.3, Policy 2(a)(iii) mentions that Avenue Studies will set out community improvement investments, such as community and rooftop gardens to support city living.\(^8\) With respect to policies that encourage developers to incorporate food production spaces as an amenity in new residential developments, one of the policies states that all new multi-unit residential development shall offer both indoor and outdoor amenity space, which may include rooftop gardens (Section 3.1.2, Policy 6):

> Every significant new multi-unit residential development will provide indoor and outdoor amenity space for residents of the new development. Each resident of such development will have access to outdoor amenity spaces such as balconies, terraces, courtyards, rooftop gardens and other types of outdoor spaces. (City of Toronto, 2010, p. 3.7)

At the same time, in order to enhance the parks and open space system, Policy 1(d) under Section 3.2.3 states that “promoting and using private open space and recreation facilities, including areas suitable for community or allotment gardening, to supplement the City’s parks, facilities and amenities” is necessary (City of Toronto, 2010, p. 3.20).

Currently, the City is undergoing its Official Plan five-year review, which will project how Toronto will evolve up until 2031. As part of the process, a number of reports have been prepared and adopted by the Planning and Growth Management Committee. One of these reports, focusing on *Healthy Neighbourhoods, Neighbourhoods, and Apartment Neighbourhoods*, contains proposed draft policies. Within the *Healthy Neighbourhoods* section of the current Official Plan (Section 2.3.1), it suggests a new policy, where within existing neighbourhoods, gardens for food production on “underutilized portions of landscaped open space” are encouraged, especially in areas that lack adequate access to fresh food (City of Toronto, 2014, p. 15).

**ZONING BYLAW**

Within the City of Toronto Zoning Bylaw (Bylaw No. 569-2013) that was enacted in 2013, the term “urban agriculture” is not specifically mentioned. However, the Bylaw does include provisions for Market Gardens, which are defined as “premises used for growing and harvesting vegetables, fruits, flowers, shrubs, trees or other horticultural products for the purpose of sale” (City of Toronto, 2013, p. 320). Market Gardens are permitted in the Utility and Transportation (UT) zone as well as in the

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\(^8\) Avenue Studies are plans that include a vision and implementation strategy for the improvement and reurbanization of key corridors along major streets (City of Toronto, 2010).
Residential Apartment Commercial (RAC) zone. The RAC zone is intended to offer space for apartment buildings combined with local institutions and small-scale retail.

With respect to amenity space, there are five zones, including the Residential (R), Residential Apartment (RA), Residential Apartment Commercial (RAC), Commercial Residential (CR), and Commercial Residential Employment (CRE) zones, that require apartment buildings with 20 or more dwelling units to provide at least 4.0 square metres for each dwelling unit where:

(a) at least 2.0 metres for each dwelling unit is indoor amenity space;
(b) at least 40.0 square metres is outdoor amenity space in a location adjoining or directly accessible to the indoor amenity space; and
(c) no more than 25% of the outdoor component may be a green roof. (City of Toronto, 2013, p. 45)

In addition, unenclosed structures for rooftop amenity space may exceed the maximum permitted height by 3.0 metres on a building higher than 15.0 metres if they are used for safety or wind protection purposes.

GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE

Approved under the Places to Grow Act (2005), the Growth Plan for the Greater Golden Horseshoe was released by the Province of Ontario in 2006. With Toronto centrally located in the Greater Golden Horseshoe, one of North America’s fastest developing regions, Policy 5 under Section 4.2.1 (Natural Systems) of the Plan is relevant with respect to urban food production: “Municipalities are encouraged to establish an urban open space system within built-up areas, which may include rooftop gardens, communal courtyards, and public parks” (Government of Ontario, 2006, p. 31).

4.2 CITY OF VANCOUVER

4.2.1 CONTEXT

Although smaller than Toronto with a population of 603,502, Vancouver is enhancing and increasing urban agriculture initiatives throughout the City (Statistics Canada, 2013). Surrounded by natural barriers, including the mountains and the ocean, there is little space to accommodate the City’s physical expansion. Since the early 1990s, the City has been engaged in discussions surrounding food security and food-related issues (Broadway & Broadway, 2011). By supporting the Greenest City 2020 initiative, Vancouver has a vision to evolve into a global leader in urban food systems by 2020. As a result, the City has launched a number of food-related initiatives over the past few years and has become a leader in urban food systems.

9 The Zoning Bylaw defines “amenity space” as “indoor or outdoor space on a lot that is communal and available for use by the occupants of a building on the lot for recreational or social activities” (City of Toronto, 2013, p. 314).
One of the more notable initiatives is the development of Southeast False Creek. As early as 1989, the City began to envision the area as a model sustainable neighbourhood (Roehr & Kunigk, 2009). Also encompassing the 2010 Olympic Village, the entire Southeast False Creek will be fully completed by 2020 with a substantial focus on sustainability and the adoption of numerous green elements including urban agriculture and green roofs (Figure 3).

Looking more broadly at the overall city with respect to condominium apartments, the demand for new condominium dwellings continue to increase. At the same time, affordability remains a key issue, with condominium buyers facing the highest median price in Canada, according to McIntyre and Wiebe (2014).

### 4.2.2 POLICY REVIEW

Unlike other municipalities, the City of Vancouver does not have a complete comprehensive Official Community Plan that guides future planning. Rather, its planning framework is comprised of a number of plans and documents. These include two of the City’s Official Development Plans, the *Urban Agriculture Guidelines for the Private Realm*, some of the Community Plans, the *Rezoning Policy for Sustainable Large Developments*, and the Zoning and Development Bylaw. They contain policies that specifically address food production in private or multi-unit residential developments. In addition, *Metro Vancouver 2040: Shaping Our Future*, the Regional Growth Strategy for Metro Vancouver, is applicable to the City as well.

#### OFFICIAL DEVELOPMENT PLANS

In terms of urban agriculture policies, two of the City’s Official Development Plans (i.e. East Fraser Lands and Southeast False Creek) include urban agriculture provisions (City of Vancouver, 2006; City of Vancouver, 2007) (Figure 4).
For the former, relevant policies from Section 5.2.6 include:

(a) the city encourages opportunities for growing food on roofs, in courtyards, and in other open spaces around buildings;  
(b) determining the potential locations for growing food is to occur at the time of each re-zoning;  
(c) development is to include exploring opportunities for edible landscaping within both public and private realms including parks, with priority given to locations of highest residential density;  
(City of Vancouver, 2006, p. 34)

In the case of the brownfield Southeast False Creek project, at around the same time as the preparation of the Official Development Plan, an urban agriculture study (Holland Barrs Planning Group, 2007) was created to address the integration of urban agriculture activities with the community’s comprehensive planning process (Roehr & Kunigk, 2009). This was also supported by the Southeast False Creek Urban Agriculture Strategy, prepared by the Holland Barrs Planning Group in association with Lees and Associates and the Sustainability Ventures Group (2002), which explores different approaches to integrating urban agriculture within a high-density urban neighbourhood.

As mentioned under Section 3.1.5 of the Southeast False Creek Official Development Plan, landscaping should complement the neighbourhood’s public realm and buildings. Accordingly, features such as edible landscapes, urban agriculture, and green roofs should be taken into consideration. Furthermore, besides mentioning a proposed community demonstration garden and a farmer’s market, Section 3.1.6 outlines additional strategies more related to urban agriculture within multi-unit buildings:
A goal with respect to urban agriculture is to encourage podiums and low and mid-rise concrete developments to accommodate green roofs for urban agriculture in addition to storm water management, and to provide for on-site composting and rain water collection.

The design of green roofs for urban agriculture is to provide for soil depths and load bearing capacity sufficient to allow their intensive utilization including human occupancy, gardening, and significant landscaping. (City of Vancouver, 2007, p. 15)

**URBAN AGRICULTURE GUIDELINES FOR THE PRIVATE REALM**

After the creation of the East Fraser Lands and Southeast False Creek Official Development Plans, City Council adopted the *Urban Agriculture Guidelines for the Private Realm* in 2009. Since both Official Development Plans include urban agriculture provisions, the purpose of the Guidelines is to inform how the practice should occur on private lands as well as other areas across the City. More specifically, the document focuses on guidelines for shared garden plots and edible landscaping. It acknowledges that these two types of urban agriculture are best suited in multi-unit residential developments (City of Vancouver, 2009).

With regard to shared garden plots, guidelines related to siting and access; co-locating with other amenities; their number, size, and design; and support facilities are stated. Sample guidelines include the encouragement of social interaction by locating garden plots in tandem with other common outdoor amenity uses and providing plots for 30 percent of all residential units that are inaccessible to private outdoor space of more than 100 square feet. Guidelines for stewardship and design considerations are provided for edible landscaping, and a list of suggested edible plants is also offered. Overall, the Guidelines are intended to both encourage and help developers planning to initiate development projects that include urban agriculture opportunities as well as assist municipal staff in assessing such projects (City of Vancouver, 2013a).

Since the adoption of the Guidelines, little was known about the use and performance of common outdoor urban agriculture amenities. As a result, a post occupancy assessment of the Guidelines was conducted for the City by sampling select developments (Ahmadi, 2012).

**COMMUNITY PLANS**

Community Plans offer a framework to guide the development and transformation of neighbourhoods over a 20- to 30-year period. In three of the City’s Community Plans (i.e. Mount Pleasant, West End, and Marpole), policies related to urban agriculture and food production are specified. For instance, in the 2010 *Mount Pleasant Community Plan*, a policy under Section 4.3 (Parks and Greenspace) “encourages green roofs for amenity, recreation, and food growing” (City of Vancouver, 2010, p. 16).
In addition, the 2013 *West End Community Plan* has a section on Supportive Food Infrastructure (Section 14.6). Many of the West End’s high-rise rental apartments were constructed prior to 1975 and therefore, cannot be retrofitted to support formalized urban food initiatives. However, Policy 14.6.4 states that underutilized spaces should be converted “into food-producing gardens, with particular attention to underserved areas with rental housing that have limited growing opportunities (e.g. balconies or rooftop gardens)” (City of Vancouver, 2013b, p. 100).

Similarly, with respect to landscape and private outdoor space for residential buildings in the 2014 *Marpole Community Plan*, Guideline 7.2.56 specifies that “dwellings should have private outdoor space in the form of a balcony or patio. Shared rooftop gardens can also be provided to increase opportunities for outdoor enjoyment” (City of Vancouver, 2014a, p. 76).

### REZONING POLICY FOR SUSTAINABLE LARGE DEVELOPMENTS

Recently amended in 2014, the *Rezoning Policy for Sustainable Large Developments* is a statutory policy applicable to new developments that either “involve a land parcel or parcels having a total site size of 8,000 m² (1.98 acres) or more, or contain 45,000 m² (484,375 sq. ft.) or more of new development floor area” (City of Vancouver, 2014b, p. 1). Such developments are required to adhere to the requirements and deliverables specified in this policy. For proposals that are considered to be “large developments”, eight plans and studies covering different elements, such as Sustainable Site Design, Rainwater Management, and Affordable Housing, are required. For the Sustainable Food Systems component, an applicant would need to demonstrate an overall increase in food system assets by outlining how at least three of these assets would be delivered.  

A list of food assets identified in the rezoning policy includes:

- Urban agriculture, community gardens, and shared garden plots
- Edible landscaping
- Community kitchens
- Community food markets
- On-site organics management
- Facilities to support neighbourhood food network activities

Subsequent sections under Sustainable Food Systems present characteristics and design guidelines for each of the food assets. In terms of the first food asset, the document mentions that urban agriculture can be incorporated in various areas, including rooftops, balconies, and courtyards, within new developments. With respect to community gardens and shared garden plots, the design guidelines resemble the ones outlined in the *Urban Agriculture Guidelines for the Private Realm*. This rezoning policy also acknowledges that effective maintenance and programming are crucial in determining the success of a food asset.

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10 The City of Vancouver defines food assets as “resources, facilities, services or spaces that are available to residents of the city (either at the citywide or neighbourhood scale) and which are used to support the city’s sustainable food system” (City of Vancouver, 2014b, p. 5).
ZONING AND DEVELOPMENT BYLAW

Within the Zoning and Development Bylaw, zoning provisions for urban agriculture are not mentioned. However, a relevant provision related to floor area in all of the District Schedules is found under Section 4.7 (Floor Space Ratio), which states that computation of floor area must exclude “patios and roof gardens, provided the Director of Planning first approves the design of sunroofs and walls” (City of Vancouver, amended 2015, Section 4.7.3(b)).

METRO VANCOUVER 2040: SHAPING OUR FUTURE

After being accepted by all of Metro Vancouver’s member municipalities, including the City of Vancouver, the Metro Vancouver 2040: Shaping Our Future Regional Growth Strategy was adopted by the Metro Vancouver Board in 2011. Although a number of food production goals and strategies are related to the protection of agricultural lands, one of the actions associated with urban food production on private lands (Section 4.2.4) is for municipalities to:

   Include policies within municipal plans or strategies, that may be referenced in the Regional Context Statements, which:
   e) support food production and distribution throughout the region, including in urban areas, roof top gardens, green roofs and community gardens on private and municipally-owned lands and healthy food retailers, such as grocery stores and farmers’ markets near housing and transit services (Metro Vancouver, 2011, p. 47)\(^1\)

This action is being implemented through many of the City of Vancouver’s municipal policy documents outlined above.

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\(^1\) Prepared by municipalities, Regional Context Statements identify how a municipality’s policies and plans align with the Regional Growth Strategy.
5.0 INTERVIEW FINDINGS

The following sections highlight the findings gathered from the key informant interviews with participants from both the municipalities and the development industry in Toronto and Vancouver. The findings are categorized based on themes, which allow for the analysis and comparison of responses.

5.1 MUNICIPALITIES

5.1.1 SUPPORTING POLICIES

With respect to policies associated with integrating food production spaces within new multi-unit residential developments, both of the municipal key informants provided more details regarding certain policies and guidelines. While referring to City of Toronto policies, the project manager mentioned that there is currently nothing that prohibits agriculture from being located on rooftops (Toronto project manager, personal communication, January 22, 2015). However, in terms of greenhouses located either at-grade or above-grade in residential areas, there are zoning-related issues that need to be addressed. Since greenhouses generally have lights turned on past daytime, this might negatively affect surrounding properties. Therefore, a zoning bylaw amendment would likely be required. Furthermore, growing food outdoors is encouraged as one of the draft Official Plan policies, which is anticipated to be adopted by City Council by the end of Fall 2015. The key informant also mentioned that a number of properties, such as the mid-century “towers-in-the-park” apartment buildings, were rezoned (e.g. Residential Apartment Commercial (RAC) zone), allowing market gardens as a permitted use.

On the other hand, while making reference to the City’s Zoning and Development Bylaw, the Vancouver planner acknowledged that urban agriculture is not mentioned in the Bylaw; however, this is not something that the City is looking at changing (Vancouver planner, personal communication, January 9, 2015). In terms of the Rezoning Policy for Sustainable Large Developments though, it is considered as a relatively innovative initiative that addresses sustainability across a number of components. As highlighted by the planner with regard to the Sustainable Food Systems section:

I have not seen anything like it and we’re really really excited to have been able to apply it in buildings and the developments in Vancouver—it’s new and it’s exciting and staff is still learning as we move forward. We’ve had only a handful of sites that have come through this policy. . . . But I think overall, it is a really unique and exciting opportunity to elevate food policy and urban agriculture, and another food policy at the level of other sustainability practices in building more sustainable cities and buildings. (Vancouver planner, personal communication, January 9, 2015)
Even though it is difficult to evaluate the results of the Rezoning Policy due to its recent adoption and the fact that the proposed buildings associated with the Policy have not yet been built (Figure 5), the City has noticed positive outcomes with other policies. For instance, when referring to policies such as the Urban Agriculture Guidelines for the Private Realm, the planner from Vancouver noted that “they are definitely being applied and [the City has] seen some good results in terms of getting food production spaces in buildings” (Vancouver planner, personal communication, January 9, 2015). As noted in Section 4.2.2, the City of Vancouver has two Official Development Plans that contain urban agriculture policies for the East Fraser Lands and Southeast False Creek communities. While other existing Official Development Plans will likely not be amended to include provisions for urban agriculture, future ones have the potential to incorporate food policies. Although the number of large areas requiring an Official Development Plan is declining, the Vancouver planner mentioned that urban agriculture policies are infused into the City’s most recent Community Plans.

When speaking to aspects that might potentially hamper the establishment of urban agriculture amenities in multi-unit developments from a policy perspective, it was brought up that there is “a dance between and along a lot of competing different policies and wishes and desires in different places” (Vancouver planner, personal communication, January 9, 2015). For example, when an applicant applies for a rezoning of a property, the City might want to see the inclusion of a park, daycare, social housing, urban agriculture, and food assets. However, since a site can only accommodate a certain number of features, there is constant conversation among the different stakeholders. Therefore, negotiations occur not only between planners and staff, but also between the applicant and the developer.

5.1.2 PUBLIC DEMAND

Regarding the level of public demand for food production spaces in the private realm, the municipal key informants had slightly different opinions. Based on observation, the Toronto project manager noted that there is a level of interest, although it is very specific such as for a hobby. However, there is not a substantial demand besides the boutique idea of integrating a rooftop garden as part of the amenity area for residents (Toronto project manager, personal communication, January 22, 2015). On the other hand, it appears that the demand is greater in Vancouver. The planner remarked that more people are
Interview Findings

becoming increasingly aware of food policies and sustainable food systems, and want to become a part of the food system process. In response, some buildings are including gardening plots as an incentive or a marketing tool. Overall, “by having spaces on buildings and rooftops, on podiums and backyards of multi-family buildings . . . interest and demand is only increasing” (Vancouver planner, personal communication, January 9, 2015). Furthermore, the demand is growing not only in private developments but in community gardens and public places as well.

5.1.3 ENABLING AND HINDERING FACTORS

In terms of factors and elements of policies that encourage or discourage the incorporation of urban agriculture amenities in development projects, a number were identified by the interview participants from the development industry. However, the municipal key informants also shared aspects that influenced the adoption of food production spaces in buildings.

ACTIVE AND ENGAGED PLANNERS

One of the key encouraging factors identified by the Vancouver planner is having active and engaged planners (Vancouver planner, personal communication, January 9, 2015). In addition to applying various policies, such as the number of three-bedroom units and the inclusion of children play areas, municipal planners who are involved ensure that the City’s Urban Agriculture Guidelines for the Private Realm are being applied when they review development applications. Therefore, by requiring the developer to incorporate urban agriculture amenities prior to the approval of proposals, more opportunities for gardening and growing produce are created.

CONSUMER INTEREST AND SALEABILITY

Another enabling factor is the level of interest and demand from consumers. Developers are noticing a shift in demand and see it as a bonus, according to the Vancouver planner (Vancouver planner, personal communication, January 9, 2015). In addition, from the perspective of the Toronto project manager, while harsh environments (e.g. during the winter) and the high level of manual labour required to maintain food production spaces may be hindering factors, whether or not a developer is able to sell the urban agriculture amenity within a project is another key consideration (Toronto project manager, personal communication, January 22, 2015).

LEVEL OF AWARENESS FROM STRATAS

With respect to hindering factors, the strata corporation plays a significant role in ensuring that a building’s food production spaces are used for what they were intended for in the first place. Sometimes, a developer might plant flowering plants in the planter boxes. Consequently, the planter boxes for urban agriculture are turned into spaces for landscaping and regular plants instead:
Once they’re built . . . the strata is not aware of these garden plots. So often we found that in terms of showing the building, when they’re trying to fill it, they’ll build the building and then put ornamental flowering plants in the planter boxes so they look beautiful. And the people, when they move in, may not be aware that actually those were built for garden plots that they can use them to grow vegetables. So, it’s working with the strata to be aware and on board with getting a garden group going and running and seeing that people can use it—so that’s a barrier.

(Vancouver planner, personal communication, January 9, 2015)

5.1.4 ENHANCING AVAILABILITY OF FOOD PRODUCTION SPACES

Regarding how the availability of food production spaces can be further enhanced for residents of new multi-unit residential developments, the two municipal key informants suggested a few points, as discussed below.

EDUCATION

One of the ways to enhance urban agriculture opportunities is by increasing the amount of education and knowledge around what can be grown as well as the benefits of pursuing urban agriculture (Vancouver planner, personal communication, January 9, 2015). For instance, some residents might be interested in growing certain vegetables but do not know how or do not have enough time. In the case of Vancouver, there are a number of organizations, such as City Farmer and Victory Gardens, which offer education on urban food production. Therefore, the planner from Vancouver mentioned that it would be helpful if support and funding could be provided to these types of organizations for greater outreach and education.

Related to a strata corporation’s level of awareness as an influencing factor noted in Section 5.1.3, is the presence of an internal champion to run and oversee a building’s urban agriculture amenities (Vancouver planner, personal communication, January 9, 2015). Without an internal champion, a garden club would need to be formed within the strata. Overall, it is beneficial for a strata to work with a gardening or environmental group to assist with training and educational awareness.

ENCOURAGEMENT AND FLEXIBILITY

While there are developers who see the benefits of incorporating urban agriculture in their buildings, there are some applicants who are not aware of the possibilities or urban agriculture is simply not in their sights. As a result, municipal planners should encourage applicants to implement food production spaces as they are not onerous to adopt in any jurisdiction. In terms of flexibility, according to the Urban Agriculture Guidelines for the Private Realm, 30 percent of residential units in a building should have garden plots. However, if an applicant demonstrates that the optimal 30 percent cannot be reached due to specific reasons, such as lighting, sun exposure, or certain site specificities, the municipal planners should be able to accommodate and be flexible as the document is a set of guidelines, as noted
by the Vancouver key informant (Vancouver planner, personal communication, January 9, 2015). On the other hand, the Toronto project manager mentioned that the initiative of including food production spaces would be coming from the developer as opposed to the planners encouraging applicants to consider urban agriculture amenities (Toronto project manager, personal communication, January 22, 2015).

5.2 DEVELOPERS

5.2.1 INCLUSION OF URBAN AGRICULTURE AMENITIES IN PROJECTS

After speaking with key informants from the development industry in Toronto and Vancouver, it is evident that there are variations among the types of urban agriculture initiatives incorporated in developments. Similarly, there are various factors that drive developers to adopt food production spaces as part of their projects.

TYPES OF URBAN AGRICULTURE INITIATIVES

Most of the developers interviewed mentioned that a majority of their projects’ urban agriculture amenities are in the form of community or rooftop gardens (Figure 6). For some developers, these gardens emerge in different forms. For example, one of the Toronto developers said that besides the standard planter boxes, the company has also added adjunct interior spaces within buildings for residents to grow seedlings over the wintertime (Toronto developer, personal communication, January 30, 2015). At the same time, the developer has also put in smaller greenhouses at the ground level or on podiums for some of its projects.

Furthermore, one of its developments include edible landscaping by working with a landscape architect to select fruit-bearing trees and plants that are edible or have medicinal value. More recently, the developer has also started farmers markets in two neighbourhoods – one in Regent Park, Toronto and another one in Erin Mills, Mississauga.

Another developer from Toronto noted that the garden plots for one of its high-rise projects will be fenced off separately from the rest of the other amenity areas (e.g. sports court and lounging/sitting area) (Toronto developer, personal communication, March 11, 2015). In addition, the plots will be given
to residents of the more expensive upper-level units as an incentive. On the other hand, a key informant said that the provision of urban agriculture amenities occurs at two different levels:

On the individual suite level, we incorporate EarthBox planters, so there is the availability for people to grow food on their private terraces. And in some of the projects, we actually provide rooftop gardens that’s part of a communal gardening program. (Toronto developer, personal communication, February 18, 2015)

In Vancouver, a developer mentioned that its buildings that do have urban agriculture are limited to garden plots approximately three to four feet in width generally on top of a concrete slab (Vancouver developer, personal communication, March 18, 2015). Similarly, the developer for The Rise, an award-winning mixed-use infill development completed in 2008 near downtown, has incorporated a rooftop garden with raised planter boxes in conjunction with an intensive green roof system (Vancouver developer, personal communication, February 10, 2015) (Figure 7). With projects in various cities worldwide, the same developer has also implemented beehives on top of a building in central London for making honey (Figure 8).
KEY DRIVERS

In terms of the key drivers that prompt developers to consider food production spaces in their development projects, the key informants provided more insight into the main reasons, which range from the social and community benefits to being more competitive in the market. A developer and former consultant from Vancouver identified three reasons why developers decide to incorporate urban agriculture amenities in their projects:

The first one is they just want to do themselves . . . . The second reason is because they have to because the local city essentially says they should do it or they get some benefit, extra credit like a tax break or something. And the third reason is because it helps them be more competitive in the competitive marketplace to sell or build their home. (Developer / former Vancouver consultant, personal communication, February 5, 2015)

Elaborating on the first point, the key informant mentioned that he takes on urban agriculture in the development process because he is personally committed to the urban food agenda. Another developer in Toronto also had a similar belief with respect to creating a better quality of life for residents who do not necessarily live in single-detached homes, but in condominium buildings:

It’s part of our own corporate commitment to a belief that access to quality food is a major staple in terms of quality of life. And we believe that it’s an important consideration. Also, the projects that we have and the projects that we’re building are all geared towards end-users and I think the key consideration for them is how do you maintain part of this the joys of living in a home, which often have to do with things like gardening for people. So, it’s sort of a two prong approach. One is around the social belief around access to food and being able to provide food. And the other is about the quality of life that people want to enjoy up in their condo environment. (Toronto developer, personal communication, February 18, 2015)

For a couple of the key informants, it was brought up that the idea of adopting food production spaces in subsequent developments evolved from the companies’ earliest projects associated with urban agriculture. For example, a Toronto developer first considered the idea about six or seven years ago in its One Cole condominium project in Regent Park (Toronto developer, personal communication, January 30, 2015) (Figure 9). During the neighbourhood’s revitalization process,

Figure 9. Rooftop garden at One Cole, the first condominium building completed in Regent Park, Toronto. Source: NAK Design Strategies, 2014.
the company’s president was very active within the community. While various housing and planning issues were identified, he noticed that a number of thriving community gardens existed as part of the neighbourhood, which served as a powerful example of the community coming together to grow their own food. Consequently, the president wanted to continue this tradition and ensure that urban agriculture was incorporated into new projects. Overall, urban agriculture initiatives have “become a company-wide mandate . . . so all new projects moving forward will have an urban agriculture component to it” (Toronto developer, personal communication, January 30, 2015). Similarly, a developer from Vancouver noted that urban agriculture features are very successful in projects for building community as well as for placemaking. Starting with The Rise development and then planting edible landscapes and putting in community gardens in some of the company’s other infill projects, this developer said that “the idea spread . . . not just because of the environmental impacts, but also the social impacts in generating a sense of community” (Vancouver developer, personal communication, February 10, 2015).

In relation to the second and third drivers for adopting food production spaces (i.e. requirement by the local municipality and competitiveness in the market), a Toronto key informant remarked that one of the drivers is from a marketing and sales aspect by appealing to people who might be moving from traditional housing into condominium housing (Toronto developer, personal communication, March 11, 2015). At the same time, incorporating urban agriculture features that is environmentally-appealing is also an approach in addressing rooftop amenity space as opposed to simply providing a hard surface for a large area. Conversely, a Vancouver developer with a majority of projects having some form of urban agriculture since at least five years ago, mentioned that the features are not necessarily driven from a business point of view, but are rather, typically requested by the planners and/or city councillors in a municipality (Vancouver developer, personal communication, March 18, 2015). In other words, the inclusion of urban agriculture amenities “[aren’t] driven by the development sector as much as it [is] driven by either the City or individual municipalities’ ideas of what their green building initiatives need to be in a community plan” (Vancouver developer, personal communication, March 18, 2015).

5.2.2 SUPPORTING POLICIES AND EXPERIENCE

With respect to whether municipal policies are currently supportive of food production spaces within higher density multi-unit developments and whether changes are needed, some of the key informants could not speak to all of the specific details for certain policies. However, a few of them pointed out that in general, the policies and the approval process are relatively neutral. For example, a Toronto key informant mentioned that the company’s initiation of adding gardening plots to one of its projects was met with a neutral response from planners during the planning approval process (Toronto developer, personal communication, March 11, 2015). At the same time, another developer said that the City of Toronto currently counts the community gardening plots toward the required green roof area (Toronto developer, personal communication, January 30, 2015). If this was not the case, the developer acknowledged that this would have a negative impact and make it much more difficult for the company to continue providing urban agriculture amenities. Although the key informant noted that the City’s
policies neither cause nor restrict the company from undertaking food-related initiatives, the gardening aspect appears to exist outside of the policy framework. Instead, the developer is putting in food production spaces because it believes they are an amenity worth pursuing.

On a similar note, a third developer from Toronto said that as a private sector developer, there should not be more elements that hinder the requirements around what it does (Toronto developer, personal communication, February 18, 2015). Similar to what the City of Toronto project manager mentioned regarding green roofs being more associated with environmental purposes, the developer pointed out that green roofs are designed to be self-sustainable, whereas urban agriculture has a social component that requires programming and management. As a result, the key informant cautioned the implications that may arise when urban agriculture provisions are infused into the Green Roof Bylaw:

I just think that fundamentally, anything that’s of a programmatic nature shouldn’t be governed by bylaws and the way that they’re implemented into the way that we build our city. You can have a lot of public spaces available, but if there isn’t programming around them, it doesn’t matter if the space is there, it doesn’t work. And I think it’s even more so around, say agriculture in privately-owned buildings. It’s not just providing a space for them, but the provision—it’s actually having the programming to operate it. And so if you try to replace the green roof policies by introducing agriculture, then you could have an adverse impact on what the objectives of what the Green Roof Policy were . . . . So, it’s one of those things that while the intent may be good, the impacts could actually be adverse. (Toronto developer, personal communication, February 18, 2015)

In the City of Vancouver, a key informant mentioned that urban agriculture provisions are not discussed in depth (Vancouver developer, personal communication, March 18, 2015). When the topic of urban agriculture does emerge, the developer’s experience has been the City wanting to see the incorporation of some form of urban agriculture features and then checking it off a list once achieved. If the features cannot be achieved, the applicant has to provide justification as to why they cannot be incorporated. If they are implemented, the developer would show the planners where the food production spaces are located on a landscape plan; however, there would not be much discussion or detailed review surrounding the facilities used to support the plants and how the spaces are accessed and managed. As a result, the key informant does not believe that this approach necessarily yields the best results:

I’d rather do five projects and do four of them with nothing to do with urban agriculture, but to do one project that really takes it to the next level and add value. And the buyer at the end of the day really uses it and it produces a ton of food and it is a good news story all around. (Vancouver developer, personal communication, March 18, 2015)

Overall, the developer believes that provisions related to urban agriculture need to be properly addressed as well as being aware of implications, such as the potential of using more potable water than necessary compared to planting low maintenance native plants, and the potential for spaces to become an eyesore if not properly managed.
5.2.3 PUBLIC DEMAND

With respect to the level of public demand for food production spaces in the private realm, several of the developers said that demand is not very easy to measure. In general, many of the key informants mention that home buyers usually perceive urban agriculture amenities as a bonus rather than a necessity. According to one developer:

I don’t know if there’s necessarily a demand, but more so a nice-to-have. I think it’s a very hard thing to sort of quantify . . . . From our standpoint, if people are coming to buy a home, they’re looking around the core decisions around home buying of which the garden is a nice-to-have, not a need-to-have. So, it’s not a necessity, but a nicety to have. (Toronto developer, personal communication, February 18, 2015)

Similarly, while another Toronto developer do not have a proper gauge on demand, people have asked about the garden plots (Toronto developer, personal communication, March 11, 2015). For the building where the plots are sold together with the more expensive upper-level units, all of the plots have been sold and have been well-received. Another key informant noted that there are many considerations taken into account when purchasing a home (Figure 10). However, the benefits of having an urban agriculture program and a space to garden and grow food are often realized over time after residents move into their units:

It’s hard to say . . . . I don’t think we’ve had that many sales directly because of the program. I think people view it as a bonus. When people are buying a condo, there’s a lot of other things that they factor into their decision. Price is obviously very significant, the quality and the finishings on the inside of their unit, they’re very significant. So those are generally the principal drivers of the buying decision. I think what we’re finding is that the urban agriculture of the community gardening programs are really making that difference to people after they’ve moved in. . . . It really contributes to their condo being a community as opposed to just a vertical suburb, anonymous kind of place. . . . So in that sense, we’re seeing an appreciation for it and recognition of the value, the importance. (Toronto developer, personal communication, January 30, 2015)

In Vancouver, one of the developers said that whenever the company has urban agriculture spaces available, there is high demand for them as they are usually fully subscribed (Vancouver developer, personal communication, February 10, 2015). At the same time, a second key informant from the City mentioned that there is an overall interest, but it can be hard for a developer to predict as it depends on the people who end up living in the units and how proactive they are (Vancouver developer, personal communication, March 18, 2015). In general though, most people like the idea of having access to greenspace for gardening and growing things as it is getting harder for people to be able to afford a single-detached home and own land especially in cities such as Vancouver. Another interview participant also shared similar thoughts regarding the demand for food productions spaces in Vancouver:
I think it varies quite a bit from place to place and a lot of that has to do with two things. The first thing is how dense the area is. So in the case of Vancouver, in the downtown neighbourhood with some of the densest housing neighbourhoods in North America . . . you have a lot of people in a small place and people living in small spaces or apartments where they don’t have a backyard or a front yard and maybe not even have a balcony. . . . So where you have a higher density, you get a much higher demand for urban agriculture. . . . I would say a secondary factor is the issue of the whole sustainability culture. . . . And so when you have that
much interest in food, interest in farm-to-table and local food supply, then you get a lot of additional interest and demand by people wanting to grow their food. (Developer / former Vancouver consultant, personal communication, February 5, 2015)

Therefore, the level of interest and demand for urban gardening is context-specific depending on location. While the presence of urban agriculture amenities might not influence a potential buyer to purchase into a specific development, food production spaces are generally well-received by residents.

5.2.4 ENABLING AND HINDERING FACTORS

All of the developers from both cities shared a number of factors that either enable or hinder the implementation of food production spaces in their development projects. The key influencing factors that were brought up are discussed in the following sub-sections.

DEVELOPER’S VISION

Linked with one of the main drivers of undertaking urban agriculture initiatives, the vision of the developer plays a role in whether or not food production spaces are included. As a result, the person managing a development, setting a project, and leading the design team is fundamental to the direction a company takes, according to a key informant (Vancouver developer, personal communication, February 10, 2015). As mentioned in Section 5.2.1, some developers are driven to pursue urban agriculture initiatives because they personally want to do it or are committed to the urban food agenda. One of the key informants summarized by saying that it is the company simply deciding to do it (Toronto developer, personal communication, January 30, 2015).

MUNICIPAL POLICY AND RECEPTION

In terms of enabling factors, municipal policy and how proposed urban agriculture amenities are received by planners have an impact on the uptake of food production spaces. As noted by a developer, one of the key factors is city policy; if a municipality requires the inclusion of urban agriculture features, the developer would try to find a way to include them (Developer / former Vancouver consultant, personal communication, February 5, 2015). At the same time, another key informant noted the company’s urban agriculture programs have been well-received by municipal authorities, which in turn helps with its planning approval process when city staff are happy with the initiatives that are included. The key informant also pointed out that flexibility in policy and from municipal staff is also important:

I think just having the flexibility to allow us to incorporate it because sometimes when other requirements are being layered on, it can take away from space or opportunities that we might be able to use for this type of program. So long as there’s the recognition of the value of urban agriculture programs—being flexible in policies so that it can be created, then I think that it’s
something that we’re happy with. And thus far, we’ve seen that. (Toronto developer, personal communication, January 30, 2015)

MARKET

While municipal policies can be controlled by the local government, an aspect that is beyond a city’s reach is the market. The market is a factor that was brought up numerous times while speaking with the key informants. One of the key informants from Vancouver said that a developer would likely add a community garden or urban agriculture space if he or she thinks that the space would encourage people to buy into a development rather than into one offered by a competitor (Developer / former Vancouver consultant, personal communication, February 5, 2015). In relation to the market a developer anticipates for a project, the purchaser profile plays a role as well. According to a Toronto developer, incorporating urban agriculture amenities is not as applicable to an investor market compared to an end-user market, where the latter generates greater demand (Toronto developer, personal communication, February 18, 2015).

Another developer from Vancouver views the amenities as a supply and demand; if the market indicates a demand for access to them, the company would look into offering these spaces. However, over the course of developing various projects, the developer does not see the market, buy-in, and interest for these spaces currently. That being said, he did mention that “different projects in different neighbourhoods will demand unique approaches” (Vancouver developer, personal communication, March 18, 2015). Similar to the purchaser profile described by a Toronto key informant, in neighbourhoods geared more toward a younger end-user, people would be interested in going to a sales centre where a project markets urban agriculture features.

PROJECT TYPE AND SITE CONDITIONS

Another important factor is the project type and structure as well as the conditions of a site. Speaking more specifically to the building form, a Toronto developer believes that it is much easier to accommodate food production spaces within mid-rise buildings or buildings with amenity spaces at the lower levels as opposed to the roof of a very tall high-rise development (Toronto developer, personal communication, February 18, 2015). On a slightly larger scale, site design and whether there is any viable space with adequate sunlight serves as a factor as well. Referring to an earlier development in downtown Toronto for illustration:

We had one project right early on when we were first launching the program that was not conducive to it just due to it being at King and John [Streets] in Toronto, which is right in the middle of downtown, a very tight site. And there was very little roof space at the podium and what space existed was heavily shaded. So, on that particular project, the site constraints meant that we didn’t really have a location on the site where we thought that gardening could be
viable principally due to access to sunlight. (Toronto developer, personal communication, January 30, 2015)

Despite this being the case, the developer noted that over the past five or six years, this project is the only one that was unable to include urban agriculture amenities due to constraints in site design.

COSTS AND MAINTENANCE

The costs and maintenance associated with the uptake and management of food production spaces were identified as one of the most significant hindering factors by almost all of the developers. Despite the costs that are involved, a Toronto developer believes that the urban agriculture amenities are worth investing in; however, the key informant did acknowledge that other developers may see the costs as a substantial hindrance (Toronto developer, personal communication, January 30, 2015). According to one of the key informants, the biggest hindrance lies as a maintenance issue (Toronto developer, personal communication, March 11, 2015). Besides the capital cost component, which can be negligible, the ongoing maintenance component is also an important aspect for urban agriculture amenities to remain successful. As noted by a Vancouver developer, on top of the upfront capital costs for additional structural requirements, membranes, roofing, and drainage, the operating costs covering the resources and labour for maintenance over the lifetime of a building will exceed the capital costs. The key informant also alluded to the leaky condo crisis from the 1980s:

A big problem is building envelope failure due to construction practices in the 1980s, so people are very sensitive about water ingress. You can put urban agriculture on top of a building and developers are very risk-adverse. They don’t want to create conditions where water can get into the building. It’s one of those expensive things to fix. It can cause hundreds of thousands, if not millions in cost of damage. So there are some hurdles. (Vancouver developer, personal communication, February 10, 2015)

Drainage and water could turn into issues for architects and engineers if the urban agriculture amenity is above-grade, whereas they are less of a problem for on-grade plots, as noted by a Toronto developer (Toronto developer, personal communication, March 11, 2015). Overall, one of the developers “wouldn’t consider a basic community garden infrastructure to be that costly,” although an intensive green roof can only be implemented on a concrete building rather than a wood building due to its weight (Developer / former Vancouver consultant, personal communication, February 5, 2015).

With respect to “mandatory” inclusion of urban agriculture in development projects, a Vancouver key informant suggested that it be kept at the discretion of the developer (Vancouver developer, personal communication, February 10, 2015). He noted that it is entirely appropriate that developers match intensity with amenity as new development should generate amenities for the enjoyment of residents and visitors. However, he cautioned that senior levels of government have “downloaded” many costly items for the development community to provide, including social housing, mid-market housing, parks,
schools, daycares, community centres, and arts and culture facilities. All of these amenities need to be reconciled within the economics specific to a project.

**Presence of an Urban Agriculture Group**

Several of the developers mentioned that the presence of an urban agriculture or gardening organization is an important factor to the success of an urban agriculture program. One of the Toronto key informants involved in the Regent Park revitalization said that it is not enough to simply provide the physical infrastructure and planter boxes, and expect residents to turn a space into a thriving community garden (Toronto developer, personal communication, January 30, 2015). Instead, the developer had to get directly involved in the process by helping to facilitate interactions among residents. After approaching Food Share Toronto, the non-profit organization helped with gardening skills, provided capacity-building expertise, and showed residents how to make decisions and set up their gardens. Speaking to the success of the facilitation program:

The facilitation sort of evolved over time—we were working with different people out of Food Share. We’ve grown from a one-year facilitation program to a three-year program. So we actually pay for a consultant to come in for the first three years after the building is up and running. Just because some of the buildings, you may have really strong leaders there who are able to take over, meeting with the committee right away, in other buildings, you may not necessarily have that core—that nucleus and it needs a little bit more time and support for that to develop. So we thought it is really important to have a presence there and have support beyond just the first growing season. (Toronto developer, personal communication, January 30, 2015)

Another key informant added that if there are existing community organizations, partnerships can be explored with the developer (Vancouver developer, personal communication, February 10, 2015). In turn, the likelihood for urban agriculture features to find a home in a given development project will be higher. According to a developer, the gardening plots need to be properly managed once a building is fully constructed and turned over to the strata association:

So developers begin to build and then they sell and then they go away, they move on to the next project. So you can build these small community garden or urban agriculture spots, but if you don’t have anybody to run it, then you’ve got a problem. So the art has to do a lot with making sure that you actually have somebody to run it. . . . You really need some kind of organization so they can partner with to essentially give over the management—they might give a little bit of money to help out, but they really would give over the management of the garden to this group. Often, that would just be the strata council, people who own the building themselves, but in other cases, you kind of want to get a community garden management group to maintain. (Developer / former Vancouver consultant, personal communication, February 5, 2015)
On the whole, many of the key informants felt that having a group or organization that can take over and carry on the maintenance of the food production spaces is a crucial factor. This is especially the case when a building is no longer in the hands of the local municipality and developer.

### 5.2.5 ENHANCING AVAILABILITY OF FOOD PRODUCTION SPACES

When asked about ways to enhance the availability of urban agriculture amenities for residents of new multi-unit residential developments, the key informants offered a few suggestions that they believe would be beneficial and helpful.

#### INCENTIVES

When describing a few different ways of enhancing urban agriculture opportunities, one of the things that can happen, according to a key informant, is for a municipality to provide some form of incentives to the developer to implement the food production spaces (Developer / former Vancouver consultant, personal communication, February 5, 2015). These incentives can range from tax breaks to extra density. According to another developer, while the urban agriculture amenities offered by the company have been well-received by the city planners, the amenities do not translate into any specific bonuses or permissions. Therefore, incentives may lead to more developers to consider pursuing food-related initiatives:

> In terms of trying to encourage others, I think creating incentives around it might encourage other people. What form that takes, I’ll leave that up to the planners—rebates on development charges or some other reduction of other types of requirements. . . . Anytime when you can make these economics a little easier for developers, you’re more likely to see a response. (Toronto developer, personal communication, January 30, 2015)

Overall, since there are costs associated with providing urban agriculture spaces, a key informant remarked that if developers have a clear indication of actual demand for these spaces in the market and if municipalities are able to offer incentives to help cover some of the costs, then they are likely to initiate these amenities themselves (Vancouver developer, personal communication, March 18, 2015).

#### CREATIVITY IN DESIGNS

Associated with the aesthetics and maintenance of urban agriculture amenities, one of the developers mentioned that there has to be a lot more creativity around the way food-related spaces are designed (Vancouver developer, personal communication, February 10, 2015). Referring to a project seen in another city, urban agriculture plantings were used the same way as deciduous trees for screening residential units. Unfortunately, they were not aesthetically-pleasing when leaves disappeared in the fall. Therefore, when incorporating food production spaces in new developments, they have to be aesthetically-pleasing year-round (e.g. adopting rotating crops) as well as work ergonomically.
USE OF PUBLIC SPACE

Even though multi-unit buildings and the private realm have potential to accommodate urban agriculture, several of the key informants identified the potential of public spaces as well. According to a Toronto developer, various parts of the City, such as parks and more open ground-oriented areas, still have untapped opportunities (Toronto developer, personal communication, January 30, 2015). Furthermore, besides space acting as a limiting factor, constructing urban agriculture amenities on a rooftop is not necessarily the most ideal growing environment due to high winds and the amount of direct sunlight. Overall, the key informant believes that the City should also look into alternate initiatives to create opportunities for urban dwellers.

While mentioning the “Blooming Boulevard” program in Vancouver, a key informant said that the City considers allowing community gardening space to occur in parks or even in the boulevard space between the curb and the sidewalk (Developer / former Vancouver consultant, personal communication, February 5, 2015) (Figure 11).12 Similarly, another interview participant believes that the significant opportunity for growing food in urban areas lies in the public realm:

Fully a third of the public realm—a third of the city is turned over to streets, public rights of way. So in terms of opportunities for food production . . . you’re looking at small scale redevelopment as sort of the template for going forward. There are only a few really large sites left. The big opportunity is in the public realm. I think 30 percent of urban space is for streets, boulevards. (Vancouver developer, personal communication, February 10, 2015)

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12 The “Blooming Boulevard” program is a community initiative that encourages residents to take over the boulevard space between the street curb and sidewalk, and garden within the space.
PARTNERSHIPS

Another key aspect for enhancing urban agriculture opportunities for residents is through collaboration and partnerships. According to a Toronto developer, developing partnerships with organizations (e.g. Cultivate Toronto) and “creating alignment between developers and people who actually manage programs to get it done properly” are instrumental in the success of urban agriculture programs (Toronto developer, personal communication, February 18, 2015). Overall, there are greater opportunities for engagement and there would be better media if there was better collaboration between the developer, the municipality, and local community groups, rather than stakeholders working in a silo, as noted by another key informant (Toronto developer, personal communication, March 11, 2015). As the development industry always learns from past projects, the inclusion of urban agriculture spaces is more likely to be replicated and marketed if developers see that projects are successful.
6.0 DISCUSSION AND RECOMMENDATIONS

From this study, there are a number of key findings that emerged not only from the literature review and the policy review, but most importantly from the key informant interviews with municipal staff and representatives in the development industry. In addition to the various benefits associated with urban agriculture, both the local government and the private sector have a role to play with respect to promoting food production spaces in multi-unit residential projects. While there are variations in the policy framework between Toronto and Vancouver, it was found that both municipalities have been working toward the inclusion of more policy provisions related to urban food production in private developments. Some of the interview questions received different responses from the interviews; however, the key informants provided a lot of insightful information surrounding the provision of food production spaces from their experience and perspective.

Taking into account all of the findings gathered from this study, a series of recommendations is offered. Recommendations 1 and 2 are directed to both municipalities and developers, while Recommendations 3 to 6 are suggested mainly for municipalities to consider.

1. ENCOURAGE PARTNERSHIPS BETWEEN COMMUNITY GARDENING ORGANIZATIONS AND STRATA CORPORATIONS

Given that it is not always easy for residents of a building or a strata corporation to manage and run an urban agriculture program after a project is passed on from a developer, municipalities and developers should encourage the creation of partnerships between local community gardening organizations and strata corporations. Based on the experience of the developer from Regent Park, setting up a facilitation program with a consultant to help educate and train people on how to garden has proved to be successful. Since a developer and municipality are not responsible for looking after a building once it is occupied, they can provide support to the community organizations, which in turn can assist with getting a community garden or a gardening program started.

Moreover, in order to further support strata corporations and property managers on how to properly manage food production spaces in a building, it would be beneficial for developers to have a set of bylaws that they could include in their legal disclosure statements, as suggested by one of the key informants. At the same time, it would also be helpful to have information packages made available for purchasers at show homes.
2. **EXPLORE THE PROGRAMMING COMPONENT OF URBAN AGRICULTURE AMENITIES WITH GREATER DEPTH**

While developing the physical infrastructure for urban agriculture is one aspect, the programming component associated with urban food production cannot be ignored by municipalities and developers as the success of gardening amenities is often dependent on how well they are managed. As expressed by one of the key informants, there should be more discussion and more detailed review on the facilities for urban agriculture. Consideration should be given to the types of urban agriculture amenities provided, their ease of access, and the level maintenance required.

In the case of Vancouver, support facilities such as water, storage sheds, and composting facilities, and other considerations are mentioned in the City’s *Urban Agriculture Guidelines for the Private Realm*. However, planners and developers should engage in more in-depth discussions on how to best offer sustainable features that would have the greatest impact and benefits for residents. As a result, it is important for stakeholders to have a much stronger understanding of the necessary requirements to achieve success.

3. **ENHANCE URBAN AGRICULTURE PROVISIONS AND GUIDELINES WHILE MAINTAINING FLEXIBILITY**

Another aspect that local municipalities should be cognizant of is the balance between ensuring that planning policy and tools are in place while maintaining a degree of flexibility. As mentioned by Oswald (2009) and Thibert (2012), local governments play a role in incorporating and enabling urban agriculture in planning frameworks and ensuring that language is not vague. Since a number of developers appear to prefer the flexibility offered in existing planning frameworks, planners should be careful not to create unintended limitations or hindrances when amending current or developing new policies. Overall, policies should be enabling rather than preventative.

More specifically for Toronto, the City can consider establishing a document similar to the City of Vancouver’s *Urban Agriculture Guidelines for the Private Realm*. Since the provisions are only guidelines, a degree of flexibility still exists but they can assist applicants and staff whenever urban agriculture amenities are proposed as part of a development application.

4. **CONDUCT ASSESSMENTS TO DETERMINE THE USE AND MAINTENANCE OF FOOD PRODUCTION SPACES**

Since the development industry would be more prone to provide urban agriculture amenities as part of their projects if research indicates that the amenities tend to be successful, municipal staff should consider conducting assessments to determine the use and maintenance of these amenities. Similar to the post occupancy assessment that the City of Vancouver conducted following the adoption of the *Urban Agriculture Guidelines for the Private Realm*, it would be helpful for the City of Toronto to
undertake a similar assessment for buildings that currently include food production spaces to determine how the spaces are functioning. At the same time, it is beneficial for the City of Vancouver to continue conducting these assessments on a regular basis, especially with developments that fall under the Rezoning Policy for Sustainable Large Developments once they are completed in the future.

5. CONSIDER THE PROVISION OF MUNICIPAL INCENTIVES

Some developers are committed to offering food production spaces as a way to enhance community building and the quality of life for residents in multi-unit dwellings despite not receiving any incentives from municipalities. However, more developers might consider the inclusion of urban agriculture initiatives if municipalities offer greater support in the form of incentives (e.g. density bonuses) to help offset some of the costs related to the provision of the amenities. As noted by a Toronto key informant, if a developer can have relief in development charges or have urban agriculture provisions counted toward Section 37 contributions in the Ontario Planning Act, the developer is more encouraged to incorporate gardens and have the benefits further translated into incentives for homeowners. Besides counting such provisions toward Section 37 contributions or community amenity contributions, consideration could also be given to expand the application of the parkland dedication concept. By capturing urban agriculture amenities in addition to parkland, there would be broader application of urban food production opportunities.

Also associated with incentives is the fact that urban agriculture can be considered as a form of low impact development and a stormwater management method, which help to address urban runoff. In turn, municipalities can explore the potential of translating their stormwater management cost savings into incentives, such as a reduction in utility fees (Deloitte, 2013).

6. SEEK URBAN AGRICULTURE OPPORTUNITIES IN PUBLIC SPACES BEYOND THE PRIVATE REALM

Even though the focus of this study is on the provision of urban agriculture amenities in private residential developments, municipalities should also consider the various opportunities for food production in the public realm. Public spaces such as parks, underutilized land, and public right-of-ways all have potential to accommodate urban agriculture and community gardens, as noted by some of the key informants. Therefore, it would be ideal for cities to not only maximize the potential within private spaces for residents, but within public spaces that can be easily accessed by the public as well. In general, a broader application of urban agriculture initiatives would lead to their greater application.
7.0 CONCLUSION

Overall, large, urban cities such as Toronto and Vancouver will become denser and housing costs will continue to rise over time. Consequently, new residential developments will continue to move toward multi-unit forms of housing in the coming years. In response to the first two research questions, this study found that a number of policies and influencing factors play a role in the provision of urban agriculture amenities by developers. The policy frameworks for both Toronto and Vancouver contain provisions for urban agriculture, and planners continue to strengthen these policies by further enabling urban agriculture in private developments. From the interviews, it was discovered that the level of interest and demand from the market greatly affects the availability of food production spaces in development projects. At the same time, other key factors include, but are not limited to, cost and maintenance, site conditions, and the presence and support of local community groups. Overall, there are numerous ways and strategies for the public and private sectors to further enhance the availability of urban agriculture opportunities for residents and citizens.

Through the review of applicable policy documents and the conducting of key informant interviews, this study aimed to contribute and offer insight into the influencing factors as well as provide recommendations for increasing the provision of urban agriculture opportunities for local citizens. Even though the context of the findings is predominantly centred on Toronto and Vancouver, it is hoped that the research findings will also be applicable to other municipalities and that the overall study will be valuable for both municipal actors and developers aiming to elevate urban sustainability practices throughout Canada.

7.1 LIMITATIONS

Over the course of the study, it should be noted that there were certain limitations to the research and how it was conducted. One of these limitations is related to the fact that some of the key informants interviewed from the development industry were not fully familiar with all of the specific details surrounding certain municipal policies. As a result, they might have been unable to provide in-depth details when asked about the effectiveness of specific policies on the provision of urban agriculture amenities. However, most key informants were able to speak to the experience of the overall approval process with local authorities.

Since the planning framework in Toronto is different from the one in Vancouver (e.g. Toronto has an Official Plan while Vancouver does not have an Official Community Plan unlike other municipalities in British Columbia), direct comparisons cannot be made between the planning documents from the two cities. Despite this limitation, it was still possible to draw lessons from each municipality’s existing policies and practices.
Lastly, in relation to the review of policy documents, some policies are relatively new. As a result, policies such as Vancouver’s *Rezoning Policy for Sustainable Large Developments* and Toronto’s proposed policies in its ongoing Official Plan review process could not be effectively evaluated. For the former, even though the rezoning policy is currently in effect, none of the proposed buildings with food assets have been built yet.

### 7.2 Future Research

Given the scope of the current study, there are a few different opportunities for future research. For example, key informants interviewed for this study only included municipal staff and residential developers. However, to have a more holistic understanding and insight into other aspects related to the provision of food production spaces, other stakeholders such as landscape architects and representatives from strata corporations and community groups could also be interviewed. In the case of landscape architects, one of the key informants mentioned that they serve as the link and mediator between the city and the developer. Since they are responsible for preparing plans that conform to a municipality’s requirements while reflecting a developer’s mandate at the same time, they should be able to offer more details regarding the planning approval process with the municipal planners.

In addition, another future research opportunity would be to explore emerging initiatives proposed by planners and developers to enhance the urban food system. For example, apart from urban agriculture, the Toronto project manager noted that the City will be looking into the idea of aquaponics and hydroponics as part of city planning over the next year. Similarly, the City of Vancouver will be investigating urban farms with greater depth. At the same time, some developers have also been working to initiate farmers markets. Overall, it is important to not only consider the food production component of the food system, but to think more broadly about other elements such as food distribution and food access.
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APPENDICES

APPENDIX A: KEY INFORMANT RECRUITMENT EMAIL

Dear *(participant’s name)*:

I am a second-year Master’s student in the School of Urban and Regional Planning at Queen’s University. I am currently conducting research under the supervision of Dr. Leela Viswanathan for my Master’s report.

The study explores the factors that influence the provision of food production spaces (e.g. garden plots, rooftop gardens, edible landscapes) in new multi-unit residential developments in Toronto and Vancouver. More specifically, it looks at the ways in which urban agriculture is incorporated in multi-unit developments and the factors that either enable or hinder developers from pursuing this development opportunity.

As part of the research, I will be conducting in-person or telephone interviews with key informants such as developers and municipal planners. Given your role as *(participant’s role)* at *(name of developer or city)*, I am interested in learning more from you about the influencing factors and policies that are associated with the incorporation of food production spaces in private development projects.

A Letter of Information that contains more details about the study is attached. If you have any questions or would like to have additional information, please feel free to contact me via email at dilys.huang@queensu.ca or by phone at 613-770-8585. Alternatively, you can also contact my research supervisor, Dr. Leela Viswanathan at leela.viswanathan@queensu.ca or 613-533-6000 ext. 75038.

Thank you in advance for your interest in this project and I look forward to hearing back from you.

Sincerely,

Dilys Huang  
M.PL. Candidate  
School of Urban and Regional Planning  
Queen’s University  
E: dilys.huang@queensu.ca | P: 613-770-8585
“Condos, lettuce, and tomatoes: Factors influencing the provision of food production spaces in new multi-unit residential developments in Toronto and Vancouver”

This letter is an invitation to take part in a study conducted by Dilys Huang under the supervision of Dr. Leela Viswanathan from the School of Urban and Regional Planning at Queen’s University in Kingston, Ontario as part of a Master’s research study.

What is this study about? The purpose of this research is to explore the ways in which urban agriculture and food production spaces are incorporated in multi-unit developments through policy in Toronto and Vancouver, and the factors that either enable or hinder developers from pursuing this development opportunity.

The study will require your participation in an interview that will take approximately 30 to 45 minutes. The interview questions are open-ended and are fairly general. Topics that will be covered include factors that influence whether food production spaces are incorporated in private development projects and how the availability of these spaces could be enhanced for residents of new multi-unit residential developments. There are no known physical, psychological, economic, or social risks associated with this study.

Is my participation voluntary? Yes. Although it be would be greatly appreciated if you would answer all material as frankly as possible, you should not feel obliged to answer any material that you find objectionable or that makes you feel uncomfortable. You may also withdraw from the study without any negative consequences by advising the researcher within 10 days of the interview having taken place, and the data collected will be destroyed.

What will happen to my responses? Your name will not appear in any report resulting from this study. However, if quotes from your interview are used, they will be sourced as anonymous. Data collected during this study will be retained for seven years in an encrypted and password-protected electronic file after which they will be destroyed. Only the researcher and research supervisor will have access to the data. The data may also be published in professional journals or presented at scientific conferences, but any such presentations will be of general findings and will not breach individual confidentiality. Should you be interested, you are entitled to a copy of the findings.

Will I be compensated for my participation? You are not being compensated for your participation in this project.

What if I have concerns? Any questions about study participation may be directed to Dilys Huang, dilys.huang@queensu.ca, 613-770-8585 or research supervisor, Dr. Leela Viswanathan,
leela.viswanathan@queensu.ca, 613-533-6000 ext. 75038. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board, chair.GREB@queensu.ca, 613-533-6081.

*This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen’s policies.*

Thank you in advance – your interest in participating in this research study is greatly appreciated.

Sincerely,

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APPENDIX C: CONSENT FORM

“Condos, lettuce, and tomatoes: Factors influencing the provision of food production spaces in new multi-unit residential developments in Toronto and Vancouver”

Name (please print clearly): ______________________________________

1. I have read the Letter of Information about the study, “Condos, lettuce, and tomatoes: Factors influencing the provision of food production spaces in new multi-unit residential developments in Toronto and Vancouver,” and have had any questions answered to my satisfaction.

2. I understand that I will be participating in a study conducted by Dilys Huang from the School of Urban and Regional Planning at Queen’s University under the supervision of Dr. Leela Viswanathan. I understand that this means that I will be asked to participate in an interview that will be audio-recorded to ensure an accurate recording of my responses.

3. I understand that my participation in this study is voluntary and I may withdraw at any time by advising the researcher. I understand that every effort will be made to maintain the confidentiality of the data now and in the future. I am also aware that excerpts from the interview may be included in the Master’s report and/or publications to come from this research, with the understanding that the quotations will be anonymous.

4. I understand that I may withdraw at any time without any negative consequences by advising the researcher in person or through the contact information provided below.

5. I am aware that if I have any questions, concerns, or complaints, I may contact Dilys Huang, dilys.huang@queensu.ca, 613-770-8585; research supervisor, Dr. Leela Viswanathan, leela.viswanathan@queensu.ca, 613-533-6000 ext. 75038; or the Chair of the General Research Ethics Board, chair.GREB@queensu.ca, 613-533-6081 at Queen’s University.

By initialing this statement below:

______ I agree to have my interview audio-recorded.
______ I agree to the use of anonymous quotations in any Master’s report or publication that comes of this research.

I have read the above statements and freely consent to participate in this research:

Signature: __________________________________
Date: ____________________________________
APPENDIX D: SAMPLE INTERVIEW QUESTIONS

FOR MUNICIPALITIES:

1. As part of this study’s policy review process, I reviewed (names of municipal policy documents in either Toronto or Vancouver). Are there any additional municipal policies that address the integration of food production spaces within new multi-unit residential developments?

2. Do you think that these policies are currently supportive of food production spaces within higher density multi-unit developments? Are there any amendments that should be made, if any?

3. What is the level of public demand for food production spaces in the private realm within (Toronto / Vancouver)?

4. What are the primary enabling factors that influence whether food production spaces are incorporated in private development projects?

5. What are the primary hindering factors that influence whether food production spaces are incorporated in private development projects?

6. In your opinion, how can the availability of food production spaces be further enhanced for residents of new multi-unit residential developments?

7. Is there anything else that you would like to add?

FOR DEVELOPERS:

1. How many of your company’s development projects include urban agriculture initiatives?

2. When did your company first consider the inclusion of food production spaces? What was the key driver(s)?

3. What types of urban agriculture initiatives are incorporated into your projects?

4. What is the level of public demand for food production spaces in the private realm?

5. What are the primary enabling factors that influence whether food production spaces are incorporated in private development projects?

6. What are the primary hindering factors that influence whether food production spaces are incorporated in private development projects?
7. In municipal planning documents, such as *names of municipal policy documents in either Toronto or Vancouver*, do you think that policies in these documents are currently supportive of food production spaces within higher density multi-unit developments? Are there any changes that should be made, if any?

8. In your opinion, how can the availability of food production spaces be further enhanced for residents of new multi-unit residential developments?

9. Is there anything else that you would like to add?

### FOR CONSULTANT/DEVELOPERS:

1. In municipal planning documents, such as *names of municipal policy documents in either Toronto or Vancouver*, do you think that policies in these documents are currently supportive of food production spaces within higher density multi-unit developments? Are there any changes that should be made, if any?

2. What is the level of public demand for food production spaces in the private realm?

3. What are some of the reasons why developers decide to incorporate urban agriculture amenities in their projects?

4. What are the primary *enabling* factors that influence whether food production spaces are incorporated in private development projects?

5. What are the primary *hindering* factors that influence whether food production spaces are incorporated in private development projects?

6. In your opinion, how can the availability of food production spaces be further enhanced for residents of new multi-unit residential developments?

7. Is there anything else that you would like to add?