**Project Proposal**

**Urban Farm Hands 101**

**Group 14**

**Christine Janusz**

**Lomish Bhangu**

**Xiaojing Deng**

**Vanessa Deng**

**Dianna Vyssokihk**

**Patrick Jiang**

# Introduction

The aim of the Urban Farm Hands 101 project is to assist in the maintenance of the Gordon Neighbourhood House network of Urban farms by improving and increasing their food production potential for the West End community of Vancouver. While the City of Vancouver is a diverse and vigorous economy that is situated within close proximity to productive food producing lands and waters, food security is not ensured for the majority of Vancouver’s citizens (Babolet *et al.,* 2004). Attributable to the growing urban population, it has become increasingly challenging to sustainably meet the nutritional needs of the Urban poor (Broughton *et al.,* 2006). The Vancouver Coastal Health (VCH) Food Security profile confirmed this statement by revealing that 5% of Vancouver’s residents are food insecure, most of whom are recent immigrants (37.4%) (VCH, 2008). A similar study conducted by Kirkpatrick & Tarasuk (2003) found that these economically vulnerable families of Vancouver are purchasing significantly lower quantities of nutrient-dense foods as compared to the high income households.

In attempt to address the growing problem of food insecurity in Vancouver, the Gordon Neighbourhood House (GNH) has established the Urban Agricultural program in the West End. By repurposing three vacant city sites, the newly-introduced program created 4 urban gardens that supply produce necessary to create healthy, nutrient-dense meals for its Community Lunch Program. In the end, by working cooperatively with the Gordon Neighbourhood House, our group aspires to improve the productivity of the 4 urban gardens in an effort to increase the household food security of the West End residents.

# Significance

Globally, Urban agriculture is playing an increasingly important role in addressing urban food insecurity problems in the 21rst century (Food and Agriculture Organization, 2011). With the secular trend towards urbanization, the growing city populations are progressively introducing unsustainable demands on the urban food supply system (Satterthwaite *et al.,* 2010). In recent years, the implementation of agriculture in the institutional context has shown to relieve this growing tension through two themes: increased access to affordable produce and availability of nutrient-dense produce.

Establishing urban gardens in the immediate neighbourhoods of economically vulnerable populations, allow food production to become localized. This close proximity decreases transportation costs and eliminates middlemen, thereby lowering the total price value of the food item (Cheema *et al.,*1996). Resultantly, a higher proportion of food insecure households will be able to afford food quantities that meet their nutritional needs. Furthermore, urban farms produce minimally processed foods which are able to retain their nutritional value better than processed foods. For instance, the lutein and beta-carotene content of spinach is found to be 22% and 18% less in the store-bought variety than in the farm-bought variety, respectively (Ramberg & McAnnelley, 2002). In recent years, the benefits of urban agriculture with regards to nutrition were also revealed in the Thailand Vitamin A Improvement Project, where the introduction of urban agriculture into the community decreased the region’s level of malnutrition (Sommers & Smit, 1994).

By acknowledging Urban agriculture’s potential to become a viable intervention strategy for the reduction of regional food insecurity, the Gordon Neighborhood House has applied this concept to the West End community of Vancouver. In doing so, the community service organization strongly believes that the nutritionally and economically vulnerable populations will be provided with increased access to healthy and affordable produce.

Although urban agriculture has many advantages, it is still a growing industry in food production practices. More importantly, the majority of research studies on urban farming provide generalized recommendations, which are not directly applicable to the Urban farms of the Gordon Neighbourhood House. Accordingly, this project will address these knowledge gaps by developing a crop plan for the Urban gardens, capable of laying down a foundation for improving the productivity of future garden endeavors.

# Objectives

In order to provide the local community with affordable and nutritious food alongside the GNH, our objectives are:

* To construct a crop plan that is catered towards efficiently growing a variety of produce for the local Urban setting of Vancouver’s West End
* To work alongside the Head Farmer in an effort to familiarize ourselves with farm-based tasks during a seasonal transition

1. **Inquiry Questions**
2. What are the specific requirements and elements of a crop plan that will help meet the needs of the local West End Community of Vancouver?
3. What are the major farming operations that need to be completed during a transition from Fall to Winter at an Urban farm?

# Methods

***Data Collection***

To accomplish our objectives, this proposed project will involve three fundamental tasks: performing a soil test, recording observations and conducting an interview with the Head Farmer. Initially, our group will conduct tests on the soil to determine the soils’ texture by accurately following the outlined methods in Appendix A. Following the soil experiments, each student will record his/her observations and results in Table A. These observations will consist of micro climate factors (sun exposure, rain and wind shading), crop overcrowding, square footage, as well as any weed and/or pest pressures as identified by the master gardener. Our third task involves interviewing the Head Farmer, who is most familiar with the urban garden locations and the relationships that they have established with the community members. This relation will serve as a reminder of the bigger picture which involves the West End community of Vancouver. The interview will take place after one week of recorded observations and will be conducted by following the questions labelled in Appendix B.

***Data Analysis***

Following the study, our group will create a compilation of field notes from our observations. As our data does not include numbered measurements, we will be conducting a qualitative analysis of the observations and information recorded during the interview. This method of analysis will allow us to develop our crop plan and ultimately, identify the relationships between the GNH Urban Farms and their initiatives.

***Ethical Considerations***

Following the completion of the TCPS 2 Tutorial, our group has decided to acquire the consent of the Head Farmer and to emphasize his/her privacy and confidentiality. The data will be transcribed onto a computer data-base only accessible to the group members. Lastly, the Head Gardener will be briefed about our project goals, our reasons for performing the interview, and how we will utilize the information.

# Conclusion

To conclude, the Urban Farm Hands 101 project may potentially provide information to the Gordon Neighbourhood House and the City of Vancouver that could contribute to future improvements of community Urban gardens. Specifically, our crop plan may provide a foundation for gardening projects aspiring to produce more productive urban garden plots. To advance our knowledge of urban agriculture in Vancouver, future studies should concentrate their attention on the importance of the localization of food through Urban farming.

# References

Barbolet, H., Cuddeford, V., Jeffries, F, Korstad, H., Mark, S., Miewald, C, & Moreland, F. (2005). *Vancouver Food System Assessment.* Retrieved October 6, 2016 from http://www.city.vancouver.bc.ca/commsvcs/socialplanning/initiatives/foodpolicy/pdf/vanfoodassessrpt.pdf

Broughton, M., Janssen, P., Hertzman, C., Innis, S., & Frankish, C. (2006). Predictors and Outcomes of Household Food Insecurity Among Inner City Families with Preschool Children in Vancouver. *Canadian Journal of Public Health / Revue Canadienne De Sante'e Publique,* *97*(3), 214-216.

Cheema, G. S., Smit, J., Ratta, A., Nasr, J., United Nations Development Programme., & Urban Agriculture Network. (1996). *Urban agriculture: Food, jobs and sustainable cities*. New York, N.Y: United Nations Development Programme.

Food and Agriculture Organization of the United Nations. (2011). *FAO in the 21st century: Ensuring food security in a changing world*. Rome: Food and Agriculture Organization of the United Nations

Kirkpatrick, S., & Tarasuk, V. (2003). The relationship between low income and household food expenditure patterns in Canada. *Public Health Nutrition*, *6*(6), 589–597. doi:10.1079/PHN2003517

Ramberg, J. and McAnnelley, B. (2002).  From the Farm to the Kitchen Table: A Review of the Nutrient Losses in Foods.  Glycoscience and Nutrition, 3 (5), 1-12.

Satterthwaite, D., McGranahan, G., & Tacoli, C. (2010). Urbanization and its implications for food and farming. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *365*(1554), 2809–2820. http://doi.org/10.1098/rstb.2010.0136

Sommers, P., & Smit, J. (1994) Promoting Urban Agriculture: A strategy framework for planners in North America, Europe and Asia, IDRC: Ottawa. Retrieved October 4, 2016 from https://idl-bnc.idrc.ca/dspace/bitstream/10625/13680/1/103014.pdf

Vancouver Coastal Health. (2008). VCH Food Security Profile. Retrieved October 6, 2016 from http://www.vch.ca/media/Population%20Health\_VCH\_Food%20Security%20Profile.pdf

# Appendix A

Experiment 1: Soil Texture

1.  Take a small handful of topsoil or subsoil and remove any gravel, stones, leaves and twigs. Break up any aggregates.

2.  Add 5 drops of water and press the soil between your fingers to determine its texture:

(a)       Gritty    \_\_\_\_\_\_\_\_\_ = Sand

(b)       Greasy   \_\_\_\_\_\_\_\_\_ = Clay

(c)        Slippery \_\_\_\_\_\_\_\_\_ = Silt

3.  Knead the soil in your palms to make a small ball about 4 cm in diameter. Stop adding water as soon as the ball starts to stick to your hand. After 30 seconds of kneading, record its appearance:

(a)       Powder         \_\_\_\_\_\_\_\_

(b)       Ball/Circular \_\_\_\_\_\_\_\_

(c)        Ribbon          \_\_\_\_\_\_\_\_

# Table A – Observations

|  |  |  |
| --- | --- | --- |
| Site: | | Site area (sq.ft.) |
| Weed pressure (low, medium, high[[1]](#footnote-1)) |  | |
| Pest pressure (low, medium, high) |  | |
| Microclimate factors[[2]](#footnote-2) |  | |
| Overcrowding |  | |
| Other |  | |

# Appendix B

INTERVIEW QUESTIONS

1. What crops have been previously grown on this site?

2. What are your preferential crop types?

3. What crop types would you want in higher abundance for the Community Lunch Program?

4. What crop types would you want in lower abundance for the Community Lunch Program?

5. What types of crops would you like to introduce into your network of urban farms?

6. What crops did you find to be the most challenging to grow and harvest?

7. What crop types would provide the greatest profit for your organization?

8. What types of crops were the most and least resilient during the winter season in past years?

9. What types of crops were the most and least resilient to plant parasites in past years?

10. What are the most important gardening duties to maintain a healthy Urban garden?

1. The level of weed and pest pressure will be determined during an interview with our community partner. [↑](#footnote-ref-1)
2. Any factors that contribute to creating a microclimate by affecting sun exposure, wind, precipitation. [↑](#footnote-ref-2)