

Young Farmers in the Lower Mainland

Hazel Gichungwa,

University of British Columbia

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Executive Summary

Currently less than 5% of the farmers in the Lower Mainland are below the age of 35. With an increasingly aging population, questions are being raised on the consequences concerning the impacts of so few young farmers in the agriculture sector. The research question for this paper is: what are the barriers and opportunities facing young farmers in the Lower Mainland? In this paper, the term “young farmer” will be coined to farmers under the age of 35.

The paper is based on a literature review and expert and farmer interviews. It concludes the barriers facing young farmers to be: land accessibility, financial constraints and insufficient knowledge and training. Young farmers have tackled each obstacle in diverse ways. There is a shift from mechanization and large scale farming (i.e., industrial farming) to a more small-scale organic farming practice. New methods of farming have been formed to overcome the land accessibility obstacle; land sharing and backyard farming being the most common. Low interest loans by Farm Folk City Folk and other organizations are aimed at providing start-up capital. Additionally, there have been multiple training and apprenticeship programs that have been developed over the last few years tailored to assisting new and current young farmers.

The study recommends that there should be more incentives for people to convert their backyards to farms, such as tax reduction for people who produce a certain amount in the backyard or communities that engage in a certain amount of agriculture. Further research is recommended on the contribution to climate change by agriculture, especially with the increase in the mechanization of agriculture. Lastly, further research should be directed on the impact industrial food production has had on the perception the population has on the cost of food.

Introduction

The agricultural sector in British Columbia is faced with a changing climate, an aging farming population and increasing development on agricultural land, lessening the land available for agriculture, in spite of the legal protection (the Agricultural Land Reserve) (Crawford, E., and Beveridge, R, 2013). Furthermore, the agriculture sector is estimated to contribute to approximately 30% of the Greenhouse Gases (GHG) (Center for Food and Safety, 2014) and is heavily reliant on the direct and indirect consumption of fossil fuels. With a growing population the agriculture sector has become a crucial topic in planning, as there is increasing concern and interest in local food, lower food miles and food resilience. Awareness of the importance of food security is certain to increase, particularly given the very serious drought affecting California, which will have a direct impact on food cost and availability, as California is the main provider to British Columbia fruits and vegetables.

A report in 2001 indicated that British Columbia farmers produce 48% of the food consumed and imports half of their essential foods, with the remaining half being imported in particular, fruits and vegetables (B.C Ministry of Agriculture and Lands, 2006). There is discussion on the ways British Columbia can become self-reliant. This research will be included in the Food Energy Descent Plan (FED-AP) that the Vancouver Transition Society has been developing with the Vancouver Food Policy Council and The Museum of Vancouver to address Community Food Resiliency.

Research statement

This paper will focus on the barriers and opportunities available for the young farmers in the Lower Mainland. The term young farmers will refer to farmers under the age of 35 years. The research will further be limited to individuals or groups of farmers in the Lower Mainland District. This will be within the 2040 framework of the Food Energy Descent Plan.

Literature review

1. Barriers

A study by the British Columbia government concluded that one of the principal components of food production in British Columbia is the area of land allocated to agriculture, it established that just over 0.053 hectares of land is needed to provide a healthy diet for one person a year in British Columbia (B.C Ministry of Agriculture Land, 2006). This is a challenge in the Lower Mainland as land reserved for agriculture is decreasing as it is being reallocated to other land uses as a result of urban sprawl. The conversion of farmland to developed urban area is raising the cost of surrounding farm land making it difficult for farmers to survive in the rural-urban fringe. Meanwhile, the financial stress of land cost is preventing farmers from entering the field, as they are unable to buy or lease land. Further, the expansion of urban areas comes with urban externalities such as pollution and congested roads. The urban fringe that is ideal for land has local by-laws that restrict fertilizers and pesticides additionally the area suffers from higher rates of pollution, which could potentially lower the production of the land (Stobbe, Eagle, Van, 2010). This is a barrier to young farmers who are trying to enter the sector, as they are unable to purchase the land and are unable to maximize the land due to by-laws. Overall there has been a decrease in the size of farms, as in 2010 65% of farm land was less than 70 acres in size and 29% of these were less than 10 acres (Crawford, E & Beveridge, 2013).

Access to market has been extremely difficult for farmers in the past and poses a challenge for young farmers, as they are unable to get their produce to consumers due to either no consumer base or infrastructure to assist, this is mainly an obstacle where farmers are in remote areas (J. Dennis). Connelly states that by providing local infrastructure there is an opportunity for local food systems to expand to a wider audience (Connelly, 2010). Recently, there is a rising awareness in Vancouver of local food, which has assisted young farmers who are able to sell their produce in farmers markets and small-scale farmers who are new in the sector and are mainly unable to produce food for export purposes and thus rely heavily on the local market.

Overall the costs of operating a profitable farm are challenging and this has prevented young people from entering the sector. The graph below is taken from the '*Growing Good Agricultural Jobs in British Columbia*' report conducted by Weiler, Dennis and Wittman. The graph compares the gross income, expenses and depreciation and the total net income of operating a farm. There has been stagnant and even at times negative net income from

farming. This has therefore discouraged young people from choosing farming as a career, as it is not profitable. In an effort to offset these barriers, support networks have been created to help farmers.

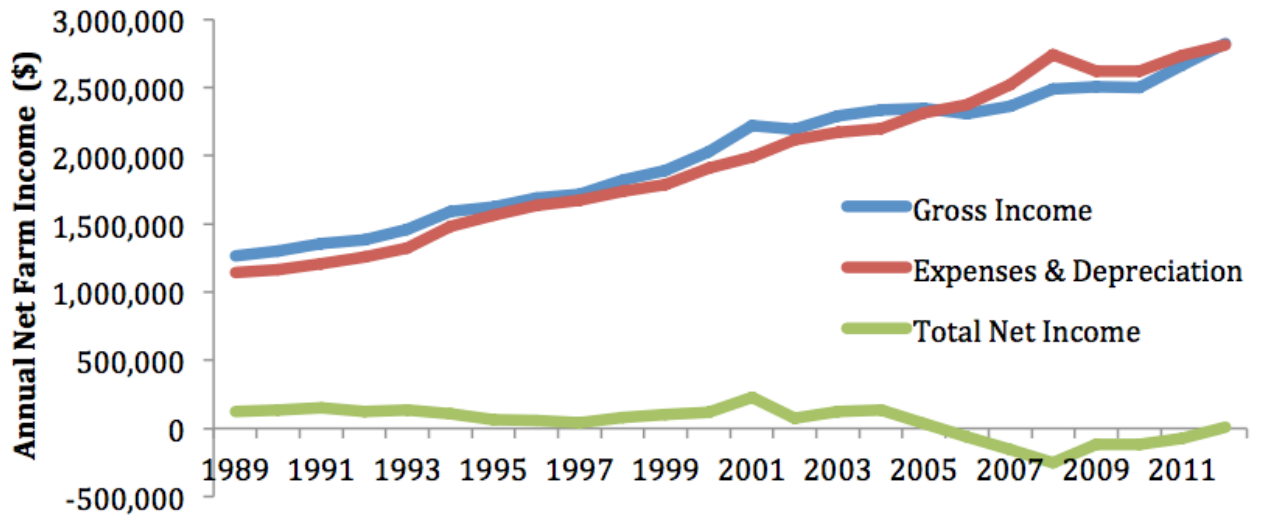


Figure 1: Change in Net Income using Statistics Canada 2012 (Weiler, Dennis and Wittman, 2014)

2. Opportunities

There has been a growing awareness of locally grown food, which has helped create a consumer base for the young farmers as they are able to sell their produce to local markets. This has been driven by many factors, a desire for organic and local produce and a shift in perception from importing food to making British Columbia more food self-reliant, amongst others. A study in 2001 stated that British Columbia was 56% self-reliant; an increase in the agriculture quota by the government that was going to be implemented in 2006 is predicted to increase the reliance on locally grown food (B.C Ministry of Agriculture Land).

The growing interest in local food, has created a strong demand for farmers markets throughout British Columbia; there are currently 103 farmer markets registered with the British Columbia Association of Farmers Markets (BCAFM) (Wittman, Beckie,

Hergesheimer, 2012). Consumers are willing to pay more for locally grown food, due to its taste and nutritional benefits as well as lowering the 'food miles' in an effort to reduce total greenhouse emissions. By purchasing locally grown food, total greenhouse gases (GHG) emissions are reduced. Furthermore, by favoring small scale, organic farming, other negative aspects of industrial agriculture are reduced including the heavy use of agro chemicals (pesticides, herbicides and fertilizers) and the impacts on ability of soil to capture and store carbon. A study indicated that 95% of British Columbia residents support policies that favour preserving farmland (Ipsos Reid Public Affairs, 2008). Although there are no current standards defining 'local' grown food, much of it is organic (which does have regulatory definition) and the quality of the food is generally considered superior.

As there is a shift from focusing on how to import food to British Columbia to being self-resilient, there has been growth in the demand for young farmers and support from the government, organizations and farmer communities to help new farmers enter the sector. Organizations such as the Young Agrarians in British Columbia, support young farmers and connect farmers with each other (Weiler, Dennis and Wittman, 2014). Additionally, the Nature Conservancy and other NGOs and government organizations are purchasing farmland and providing long-term leases to new farmers or reselling it with strict easements (which prohibit development and thus permanently lower its market price) to enable the continuation of farming (Curran and Stobbe, 2010). The support resources available to new farmers are useful in making sure they are able to begin farming and get the resources they need.

Method

The second section of research involved interviews with specialists conducting research in the field and people participating in support networks for farmers. Interviews also included young farmers in the agriculture sector. Each interview was open ended and depended on the person being interviewed, although Appendix 1 presents the generic questions presented to the interviewees prior to the interview. Interviews were more conversational, hence alternative questions were generated in the process. Participants were selected based on suggestions from the community partner and within the Geography 419 class; other participants, were found through Internet search and recommendations by other interviewees.

The participants include two expert interviews: Jessica Dennis - a Masters student at the University of British Columbia and Zsuzsi Fodor - Manager at the Urban Farming Society. The young farmers interviewed included: Gemma McNeill - co-owner of Zaklan Heritage Farm and Gabriel Pliska - founder of Frisch Farm. Both expert interviews provide additional insight into the support networks available for young farmers and the current research being conducted in the field. This was complemented by the interviews with farmers, which provide case studies of two different farming methods within the Lower Mainland.

Results and Analysis

“Five percent of the farming population is under the age of 35, while fifty percent is over the age of 55” (Jessica Dennis). There was a strong consensus that the aging farmer population will create serious repercussions for the food supply. As the majority of farmers are reaching retirement age, there are not enough people transitioning into the agriculture sector. The main aspects discussed during the interviews were how young farmers tackle the land problem in the Lower Mainland, how they are overcome the financial barriers and what support networks and new opportunities they have. Zaklan Farm is located in Surrey, British Columbia. Co-owned by Gemma and Doug, the farm is family land that has been present since the 1920s. Gabriel Pliska, a farmer based in Vancouver, British Columbia, launched Frisch Farm in 2013. Both young farmers’ establishments grow and sell local food in the Lower Mainland.

The table below is an excerpt from Jessica Dennis’ research on the barriers facing young current and prospective farmers. The table below states that sixty five percent of the young

farmers identified the cost of land as being the most important barrier; and thirty eight percent agreed that lack of farmland is the third most important barrier. Young farmers have addressed land accessibility in the Lower Mainland in a number of different ways. Frisch Farm is a backyard farm based in multiple homes in Vancouver; that is how Gabriel has been able to access land without buying or renting. Another model common among young farmers was shared farming supported by Farm Folk City Folk; land is bought by a group of farmers which allows them to divide the overall cost and maintenance of the land. The concept spreads further than young farmers as communities purchase land collectively for farming consequently increasing the social value of the community.

Prospective Farmers	Current Young/Beginning Farmers
1. Cost of land (78%)	1. Cost of land (65%)
2. Lack of capital (65%)	2. Lack of capital (53%)
3. Lack of farmland that is currently available (45%)	3. Lack of farmland that is currently available (38%)
4. Lack of the appropriate type of farmland available (45%)	4. Access to credit (35%)
5. Access to credit (44%)	5. Low profitability in the agricultural sector (33%)
6. Negotiation of favourable land access (28%)	6. Lack of the appropriate type of farmland (32%)
7. Prohibitive zoning/government regulations (27%)	7. Lack of farmland in region (26%)
8. Low profitability in the agricultural sector (24%)	8. Negotiation of favourable land access agreement (26%)
9. Lack of farmland in your region (20%)	9. Prohibitive zoning/government regulations (24%)
10. Lack of markets/distribution channels (20%)	10. Lack of community or social support (18%)
11. Lack of community or social support (14%)	11. Lack of knowledge or insufficient training (6%)
12. Lack of training and resources for beginning farmers (10%)	12. Lack of markets/distribution channels (3%)
13. Lack of knowledge or insufficient training (6%)	13. Lack of training and resources for beginning farmers (3%)

Table 1: Significance of barriers are listed in order of most important (J. Dennis and H. Wittman, 2014)

Land linking is a method interviewees have considered implementing to overcome land accessibility. Although it does not directly resolve the land issue, it allows initial access. It involves connecting landowners with vacant land to young farmers unable to purchase land; lease agreements are then usually implemented to allow the young farmer to use the land for a certain period. Frisch Farm thus far has been a successful model in Vancouver as the land is not owned or leased to the farmer. Agreements are made between the land owner and the farmer, allowing the farmer to farm in the backyard in return for some of the produce or a non-monetary payment.

Lastly, a Land Trust/Bank Model was mentioned by Jessica Dennis as one way land could be made accessible to young farmers; the model is currently in multiple states in the United States and in Toronto. There are two ways in which the model can be implemented, firstly, land can be bought by a Non-Government Organization therefore removing it from the real estate market; the land is then managed by the organization which can have long term lease agreement with farmers. A second method is placing the land in a covenant or easement, which restricts the land use to only agriculture hence reducing the cost of the land. The land can then be sold at its agriculture value rather than its residential or commercial value.

Cash flow is another big challenge as seen in Figure 1; farms at times operate without profit or at a loss. The Local Food Micro-Loan Fund is aimed to support small farmers, who often do not have the proper credit history to secure loans. These programs help farmers access the finance they need at low to no interest rates. The backyard format of farming by Frisch Farm is an example of how farming costs can be significantly reduced in modern day farming practices. Due to the Frisch Farm being a small-scale farm, there is no need to purchase a large amount of machinery; therefore reducing the capital investment required. Gabriel Pliska and Jessica Dennis both mentioned that there is a shift from capital-intensive farming methods to more labour intensive farming practices, focusing on organic produce rather than the addition of pesticides. Additionally, there is diversification on the land depending on the type of farming method. Zaklan Farm, for instance, produces vegetables, flowers and hens. This demonstrates a diversification within types of farms to provide different streams of income.

Zaklan Farm produce is mainly sold at the New West and Surrey markets weekly. Gemma stated that this was the best way to increase the profit from the produce, as it is sold directly to the customers. Gabriel is a Vancouver farmer and therefore is close to the market, his produce is mainly sold through the Community Supported Agriculture (CSA) community boxes and at farmers markets. The CSA is part of Farm Folk City Folk, an important organization mentioned by each of the interviewees as a route by which they meet other young farmers and are able to access the market through community weekly vegetable boxes. The CSA weekly community boxes link farmers with consumers who pre-purchase produce for twenty weeks. This provides farmers with a source of income before harvest and security that there is a market for their produce during the growing season.

Gemma and Gabriel mentioned that despite the small young farmer population in the Lower Mainland they get to know each other through support networks and organizations that link young farmers together. More young people are becoming aware of the food crisis

and there is a “generational shift where younger people are trying to fix the food system” as stated by Gabriel Pliska.

Jessica Dennis mentioned that there are a number of programs that have been developed to help young and beginning farmers connect with each other and with older farmers in order to share knowledge. This is particularly vital in cases of people entering farming without a farming background. Mentorship programs by Young Agrarians are key components in providing the support needed for new young farmers. In 2007, the UBC Farm began a year-long apprenticeship aimed at connecting young people willing to enter the farming industry with the assistance/guide of mentors. The Stewards of Irreplaceable Land (SOIL) is a program that connects young and new farmers that want to do an apprenticeship or internship with farmers who have an established farm business. The increase in support networks and programs available for young farmers is helping them gain the knowledge they need. As previously mentioned, the major critic of the training and education programs lies in the number of barriers the farmers face upon completing the program.

Conclusion and Recommendations

While conducting the literature review, accessibility to the market seemed to be one of the major barriers facing farmers in the Lower Mainland. However this was not a barrier to Gemma or Gabriel due to their convenient proximity to the market. The weekly CSA vegetable box used at some point by both farmers provided them with a guaranteed income and market. Additionally, Jessica Dennis mentioned that location is a vital component when addressing the barriers. Farmers in the Lower Mainland are close to the market and therefore this is not seen as a major barrier, compared to farmers in Northern BC. The main barrier facing young farmers in the Lower Mainland is accessibility to land and resources.

As the majority of farmers are approaching retirement there has been an increase in the number of programs in the Lower Mainland focused on transitioning knowledge from the aging population to young farmers. Additionally, there has been an increase in awareness among locals regarding the benefits of locally grown food and a positive attitude supporting it; this is translated on Table 1, where lack of knowledge ranked 13th in both current and prospective young farmers.

Many young farmers are changing farming practices from being heavily invested in capital to more labor intensive. This helps lower the overall cost, as production costs are lower. Complementary to this change is a shift to organic produce which also lowers the farming

costs. The change to organic farming also responds to the increased demand in the market as consumers become more aware of the effects of pesticides.

There is a shift, as seen in the Frisch Farm example, from traditional ways of accessing farms. Incubator farming and backyard farming is becoming more common in the Lower Mainland as well as the establishment of community gardens; therefore it is recommended that there should be a set of incentives to encourage people to engage in farming where land is available. This could be through tax breaks for people who produce a certain amount in their backyards or to communities that engage in a certain amount of agriculture within the community. This would help raise the awareness of locally grown food and attract young people to enter the agriculture sector or at least engage in a small way of farming. This would further help young farmers such as Gabriel Pliska who is already involved in backyard farming.

Further Research

Further research needs to be undertaken in the contribution of agriculture to climate change. As of 2005 agricultural lands occupied 40-50% of the Earth surface and contributed 10-12% of the total global anthropogenic emissions of greenhouse gases (Pete Smith and Daniel Martino, 2007) and to over 50% according to other, more recent investigations. Industrial agriculture consumes a significant amount of fossil fuels. Globalization has led to an increase in the transportation of food within and between countries, more machinery and less human labor has increased fuel consumption, while genetically modified organisms has increased the use of pesticides, herbicides and fossil fuel based fertilizers.

Despite the contribution agriculture has on GHG emissions, there is an exciting new research trend into how agriculture can not only reduce the contribution to GHG emissions but also serve as a means to capture and store carbon, reversing climate change. Around 40% of the carbon gets deposited into the soil through plants; captured carbon is then used to feed the microorganisms, which in return provide a natural fertilizer (Resilience Organization). Although this is a growing area of research more needs to be done in converting the research that has been done already to actual processes being used in the field.

Another area of investigation was raised by Gabriel Pliska, who commented that people are disconnected from their own food production. The availability of globalized food sourcing

in supermarkets, with variety and food being available on- and off-season, has disconnected modern society from their food source. Hence, further research should be directed on the impact of what mass food production has had on the consumer awareness regarding the cost of food.

The majority of consumers question locally grown food for being more expensive, rather than why mass food is so cheap. The mass production through mechanization, genetically modified food and the heavy use of pesticides, herbicides and fertilizers, is that what appears low cost does not include the burden to public health or the environment of industrial agriculture. These 'externalized' costs of mass produced food include nitrogen run off to oceans, lakes etc., ecological degradation, antibiotic resistance, habitat and species loss to name a few. Although research is being conducted, more needs to be done in educating the public on the effects of the externalities associated with agriculture industrialization, resulting in the inexpensive cost of food.

Appendix

1. Interview questions

Name:

Affiliated Organization:

Position:

1. Do you feel as though there is an aging population of farmers?
 - a. If yes/ no Why?
 - b. What is the average farmer age?
2. How accessible is land to new farmers?
 - a. What is the average area of land needed for a new farmer?
 - b. How much is the land and what is the different ways land can be accessed?
 - c. What are the different ways a new farmer can access funds.
3. What other costs are incurred in trying to set up a new farm?
4. How accessible is the market to young farmers?
 - a. Where do most farmers sell their produce?
 - b. Are there any resources available to assist farmers in reaching the market?
 - c. What other barriers do farmers have?
 - i. How have they overcome these barriers?
5. What support networks are there to help young farmers?
 - a. What resources do these support networks provide?
6. What opportunities do young farmers have?

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Interviewees

1. Gabriel Pliska
Founder and Owner of Frisch Farm, Vancouver
2. Gemma McNeill
Co-owner of Zaklan Heritage Farm, Surrey
3. Jessica Dennis
Master student at the University of British Columbia in the Land and Food Systems
4. Zsuzsi Fodor
Manager at the Urban Farming Society