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A Study of Food Security Programs at Metro Vancouver Housing Corporation

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EXECUTIVE SUMMARY

Low-income British Columbians are unable to afford healthy food.¹ Healthy diet and overall health and social outcomes are associated, making food insecurity a growing concern for affordable housing providers. Integration of food security programs into affordable housing are increasingly seen as a means of meeting the health and social needs of low-income households. Metro Vancouver Housing Corporation (MVHC) and BC Non-Profit Housing Association recently partnered to examine food security programming at selected MVHC sites.

Three research objectives were realized through a mixed-methods approach:

- Determine the impact of food programs on tenants' lives, including food security, health and wellbeing;
- Identify barriers to food program use; and
- Identify ways of improving food programs and policy directions based on the research findings.

The key findings of the research are:

- Low-income, food insecurity, poor health and wellbeing are strongly linked in surveyed MVHC households;
- Lower-income households are significantly more likely to experience food insecurity;
- Seventeen percent of respondents from households that earned under \$20,000 indicated that they regularly had to skip meals for a day due to lack of funds;
- Nearly 40% of households earning under \$30,000 indicated poor or very poor health;
- Food programs have a strong positive impact on users:
 - 90% of garden users noted a positive impact on their relationship with neighbours and their overall wellbeing
 - 79% of garden users noted a positive impact on their diet;
 - 69% noted an impact on their access to healthy food;
- Accessibility, availability of garden beds, and a lack of time, gardening knowledge and inadequate communication were identified as barriers to food programs.

Policy directions for improving and expanding existing programs and developing new community food programs are identified in the report. The recommendations are broadly applicable to many forms of affordable housing. They include:

- Expand existing garden infrastructure and extend to new sites;
- Offer garden programming such as winter gardening, container gardening, compost care, seed saving and gardening for children;
- Improve community kitchen infrastructure at existing sites, such as securing cupboards and providing additional counter space and appliances;
- Explore viability of off-site community kitchens in close proximity to housing;

¹ Dieticians of Canada, BC Region and the Community Nutritionists Councils of BC. 2009. *Cost of Eating in BC 2009: Low-income British Columbians can't afford healthy food*. British Columbia.

- Develop additional programming with frequent meeting times at community kitchen sites, such as fast and healthy food preparation, advanced food preparation and food safety;
- Explore the feasibility of food purchasing programs such as collective purchasing;
- Link to the Metro Vancouver Regional Food System Strategy by showcasing the successful delivery of community food programming to low-income households; and
- Advocate to senior levels of government to address income and poverty issues through a comprehensive poverty reduction plan.

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1. INTRODUCTION

Low-income British Columbians are unable to afford healthy food.² Healthy diet and overall health and social outcomes are associated, making food insecurity a growing concern for affordable housing providers. Integration of food security programs into affordable housing are increasingly seen as a means of meeting the health and social needs of low-income households. Research shows that conventional community-based food programs, such as food banks, do not always reach those most in need.³ Moves to integrate food security programs into affordable housing therefore represent an important avenue to address the needs of low-income families and individuals in Metro Vancouver. BC Non-Profit Housing Association (BCNPHA) and Metro Vancouver Housing Corporation (MVHC) partnered in 2011 to examine food security programming at selected MVHC sites.

This report provides an assessment of tenant food security at select MVHC sites by presenting the findings from the research methods. It also provides analysis of the connections between income, food security and the impact of food programming. Finally, it provides direction for improving and expanding current food programs and further policy development.

1.1 About the Organizations

BC Non-Profit Housing Association (BCNPHA) is a provincial umbrella organization providing leadership, education, services, and advocacy to the non-profit housing sector. Non-profit housing societies offer over 55,000 units of long-term affordable non-market housing to British Columbians in need. BCNPHA's Research Department was established in 2005 to conduct and support research that is of value to the long-term sustainability of the non-profit housing sector in BC.

Metro Vancouver Housing Corporation (MVHC) owns and operates more than 50 affordable rental housing sites across the Lower Mainland, providing housing for more than 10,000 people. MVHC housing communities are a diverse mix of families, seniors and people with disabilities with a mixed range of incomes.

1.2 Objectives

The study had four objectives:

- Collect tenant data on food-related issues in 12 MVHC housing sites, including kitchen/cooking facilities, indicators of health and wellbeing, access to food, and food security;

² Dieticians of Canada, BC Region and the Community Nutritionists Councils of BC. 2009. *Cost of Eating in BC 2009: Low-income British Columbians can't afford healthy food*. British Columbia.

³ Kirkpatrick, Sharon and Valerie Tarasuk. "Food Insecurity and Participation in Community Food Programs among Low-income Toronto Families." *Canadian Journal of Public Health*. March/April, 2009, p. 135-139.

- Determine the impact food programs have on tenants lives, including food security, health and wellbeing;
- Identify tenant barriers to food program use; and
- Identify ways of improving food programs and policy directions based on the research findings.

1.3 Methods

Between May 12 and June 30, 2011, a survey was distributed at 12 MVHC housing sites, representing a mix of buildings with and without community gardens and with combined community garden and kitchen programs (one established program, one new as of 2011). The survey’s intent was to assess food security among households in MVHC sites. Follow-up surveys were distributed through site visits to community kitchens in October 2011 due to low kitchen-user response rates. See Table 1 for housing sites surveyed and selected characteristics. The survey was adapted from one developed by Christiana Miewald, of Simon Fraser University’s Centre for Sustainable Development.

The table below indicates three categories of housing site: those with gardens, those with no food programs, and those with combined kitchen/garden programs.

Table 1: Selected MVHC site characteristics

Site	Municipality	# occupied units (total)	Community garden	Community kitchen
Habitat Villa	Vancouver	36	Y	N
Pinewood Place	North Vancouver	50	Y	N
Malaspina Village	Coquitlam	67	Y	N
Adelaide Court	Richmond	68	Y	N
Somerset Gardens	Surrey	158 (166)	Y	N
Evergreen Downs	Delta	38	N	N
Sutton Place	Surrey	82 (83)	N	N
McBride Place	New Westminister	94	N	N
Earl Adams Village	Vancouver	105	N	N
Meridian Village	Port Coquitlam	202	N	N
Fraserwood	Maple Ridge	48	Y	Y
Alderwood	Richmond	47 (48)	Y	Y
TOTAL		995 (1005)		

Quantitative results were supplemented with nine key informant interviews. The intent of the interviews was to provide additional details about food security and to further explore the impact of food programs on tenant food security and health and well-being.

Key informants were self-selected for interviews by indicating a willingness to be interviewed in the survey. They were provided honoraria for their time and knowledge. The key informants included:

- four tenants who used an on-site community garden (“garden only users”);
- three tenants who did not make use of community gardens (“non-users”); and
- two tenants who used both an on-site community garden and the communal kitchen (“combined kitchen/garden users”).

1.4 Limitations

This study has several limitations. Primarily, all responses (surveys and interviews) are self-selected and not a scientific sample. The content of the survey may naturally make some tenants more inclined to respond. The results may not be representative of all tenants at all housing sites across Metro Vancouver. The study nonetheless shows the impact of community food programming on households who have access to and use these programs.

Survey response rates (97 valid responses) represent approximately 10% of all occupied units surveyed. Approximately 25% of households with access to a community garden (those not connected to community kitchens) responded to this survey. Additionally, eight kitchen users responded. However, the universe for this group is very small, with approximately 8-10 tenant users of MVHC community kitchens, and therefore represents a high response rate.

Finally, key informant interviews were conducted at several different sites across MVHC. The placement and accessibility of gardens at different sites varies greatly. Some comments regarding gardens were not comparable across sites. Only comments regarding general garden use and programs are included in the report.

2. KEY FINDINGS

The key survey findings are thematically reported as food-related issues, the impacts of food programs, barriers to food program use and program and policy implications.

2.1 Food-Related Issues

Food related issues assess the links between food security, health, wellbeing and income; access to food and kitchen facilities.

2.1.1 Links between food security, health, wellbeing and income

As other research supports,⁴ lower-income households (those earning under \$40,000 annually) in the study were significantly more likely to experience food insecurity (Table 9). Households earning more than \$40,000 also experienced some level of food insecurity but at much lower proportions. Seventeen percent of respondents from households that earned under \$20,000 indicated that they regularly had to skip meals for an entire day due to lack of funds. No other income group indicated this.

Lower-income households also tended to report poor physical health, diet, knowledge of food preparation, relationship with neighbours and wellbeing (Table 10). Thirty-eight percent of households earning between \$20,000 and \$30,000 indicated poor or very poor health, and 37% of households earning under \$20,000 indicated poor or very poor health. Of households earning under \$20,000, 30% reported poor or very poor diet and 13% reported poor or very poor knowledge of food preparation. Few other households in any income category reported poorly across these indicators.

This is supported by key informant interviews, which indicate that the single greatest barrier to a healthy diet is income. All participants felt that income is the most important factor in being able to maintain a healthy diet. Seven of nine key informants indicated that additional income to dedicate toward food would significantly increase their ability to eat healthy, balanced meals. Many key informants also noted that a poor diet can adversely affect many other aspects of life, including physical health and wellbeing (Section 4.2).

⁴ See:

Goldberg, M and Green, D. (2009). *Understanding the links between welfare policy and the use of food banks*. Vancouver: Canadian Centre for Policy Alternatives.

Kerstetter, S. and Goldberg, M. (2007) "A Review of Policy Options for Increasing Food Security and Income Security in British Columbia: A discussion Paper". British Columbia Provincial Health Services Authority. Available at: <http://www.phsa.ca/NR/rdonlyres/76D687CF-6596-46FE-AA9A-A536D61FB038/24932/PHSAreportfoodinsecurityfinal.pdf>

When cost was an issue, key informants coped by employing the following strategies:

- limiting their purchases to inexpensive produce;
- buying only frozen or canned produce;
- making do with the limited food they already had at home (e.g. eggs and potatoes for dinner, lots of pasta/rice);
- eating with friends or family;
- accessing the food bank;
- delaying the payment of other bills;
- calling social assistance for emergency funds;
- asking family or friends for financial assistance;
- reducing their own portion in order to ensure their kids have enough; and
- skipping meals.

2.1.2 Access to food

In general, access to food was not a problem for most survey and interview participants. However, where it was an issue, the barrier was generally related to a physical disability. For most respondents (94%) a grocery store provided most or all of their food in the last year. However, farmers markets, fast food restaurants, convenience stores, gardens and food banks were also cited as additional food sources. Farmers markets were accessed by 59% of respondents, while 49% purchased food from fast food restaurants (see Section 3.6)

2.1.3 Kitchen facilities

All tenants at MVHC sites have access to a fridge and oven/stove. A majority of survey respondents had access to a microwave (68%) and a blender (64%). Eighty-seven percent of respondents also noted that additional kitchen appliances would make food preparation easier. Seventy-five percent of households cooked a majority of their weekly meals at home (see Sections 3.3 and 3.4).

The research did not find that kitchen facilities presented barriers to food preparation or healthy eating for most participants. However, one key informant noted that a small kitchen separated from other areas of the house was a major deterrent for single parents preparing food, as they would be separated from their children whenever preparing meals.

2.2 Impacts of Food Programs

The research findings show that food programs have significant positive impacts on users. While this includes greater food security and access to healthy food, the benefits reported most widely were the social and personal outcomes, including relationships with neighbours and sense of wellbeing.

Additionally, the survey results show that community food programs are more likely to impact the food security of low-income households. These households also represent the largest proportion of community food program users. While the programs do not address all food security issues in low-income households, users nonetheless saw them as an important part of healthy eating.

2.2.1 Impacts on health and wellbeing

Ninety percent of garden users noted a positive impact on their relationship with neighbours and their overall wellbeing (Table 7). Sixty-three percent of kitchen users reported a positive impact on relationships with neighbours and 75% reported a positive impact on personal wellbeing (Table 8). In interviews, participants noted that the community food programs provided a way for them to socialize with neighbours in the building (and in the case of kitchens, in the community).

Forty-three percent of gardeners felt that community gardens had positively impacted their physical health. The same was true for 38% of kitchen users. However, in interviews, several key informants noted health benefits for themselves or family members due to gardening.

2.2.2 Impacts on food security, diet and access to healthy food

Seventy nine percent of garden users a noted a positive impact on their diet and 69% noted an impact on their access to healthy food (Table 7). Eighty-eight percent of respondents felt that the kitchens had positively impacted their diet, while 63% felt the kitchens had positively impacted their access to healthy food. Follow-up interviews with key informants indicated that community kitchens were more likely to increase the quantity of healthy food available to tenants (in some cases up to three days' worth of meals).

Analysis shows that individuals using food programs tended to be lower-income households (earning under \$40,000 annually). While these households were more likely to experience food insecurity (Table 9) and reported poor health and wellbeing indicators (Table 10), they also tended to report more positive outcomes from food programs. In key informant interviews, several garden users noted that while community gardens may not significantly increase the quantity of food they can access, the availability of fresh vegetables (e.g. for salads) increased the quality of the food available to lower-income households, at least during the growing season.

Nearly two-thirds (63%) of kitchen users indicated that kitchens had changed the way they prepared food. The same was true for 37% of garden users.

2.2.3 Barriers to food program use

Nearly one-quarter (24%) of survey respondents used community food programs. Those who had access to food programs and did not use them cited several reasons, both through surveys and interviews. The following barriers to garden use were given:

- Lack of space or plots in community gardens;
- Inaccessible garden plots for people with disabilities;
- Lack of time for individuals working full time;
- Lack of communication around when communal gardening occurs;
- Possible conflict with those who manage the garden;
- Issues with local kids digging up/interfering with garden;
- Not aware of plots until they were gone;
- Time commitment; and
- Lack of gardening knowledge.

Non-users also noted the following barriers to using a community kitchen:

- A perception that it is for seniors only;
- Lack of communication around timing and use of kitchen; and
- Lack of coordinator flexibility in menu.

Many of the issues cited by non-users can be addressed through improved or expanded infrastructure or more flexible approaches to programs (e.g. multiple community kitchen times). However, non-users who cite a lack of interest in food programming are unlikely to make use of programs, even with improvements to address the barriers noted above.

2.3 Program and Policy Implications

The findings have a number of implications for the improvement and expansion of existing community food programs and the development of new food programs and policies for MVHC housing sites. For more detail on policy directions see Section 5.0.

2.3.1 New food programs

Most key informants expressed interest in other forms of food programming, including collective purchasing programs or good food boxes. While these programs do not currently exist in MVHC sites, pilot projects could be conducted in connection with existing garden/kitchen programs to provide additional food resources to tenant households.

2.3.2 Additional policy and planning considerations

In addition to existing food programs the research shows that there are other considerations regarding food security at MVHC sites. A key finding is that low-income represents the single greatest barrier to MVHC households in accessing healthy food. This highlights the importance of senior government measures to address poverty and income issues through comprehensive approaches (e.g. poverty reduction strategies, living wage, etc.).

Another consideration, highlighted by a key informant, is the role of design in facilitating the preparation of food. Units that do not employ an open concept kitchen/living room design may not be conducive to food preparation for parents of young children, as it means physical separation from children.

3. BASELINE SURVEY RESPONSES AND FINDINGS

This section provides the aggregate data from the survey, including demographic information and a broad range of food security and personal health, social and wellbeing indicators. Also included is a discussion on the impact of food programs, barriers to participation and demonstrable links between income and food security.

3.1 Survey Response Rate

One hundred and two surveys were returned. Ninety-seven were valid, and five did not contain enough responses to be considered valid. Invalid surveys are excluded from all responses.

MVHC sites with community food program, either garden only or combined garden/kitchen programs, accounted for the majority of completed surveys (62%). Sites without any community food programs at all accounted for 38% of all surveys returned.

Table 2: Summary of survey responses by MVHC site-type

Type of housing site	# of valid surveys	Proportion of total valid surveys	Total number of occupied units (total units)
With Community Gardens	46	47%	379 (387)
Without Community Gardens	37	38%	521 (522)
With Combined Kitchen/Garden	14	14%	95 (96)
TOTAL	97	100%	995 (1005)

Nearly one-quarter (24%) of respondents made use of a community food program. A total of 48 household plots, serving 60 households, are available to residents at MVHC sites that have community garden only programs. Fifteen respondents use these household plots gardens. This means that 25% of households currently using a household community garden plot completed the survey. Additionally, six respondents from Alderwood and Fraserwood use either the communal or individual garden plots, and one respondent from each of these sites uses only the community kitchen program. See Table 3 for a summary of respondents using community food programs.

Table 3: Summary of survey responses by food program usage

Type of housing site	Respondents using a food program	Respondents using community kitchen only	Total number of garden plots (Respondents using plots)	Proportion of households with access to food program captured
With community gardens	15	n/a	48 plots (60 households)	28%
With both kitchen/garden	8	1	6 communal beds and 6 household plots	8%
TOTAL	23	2	54 plots	n/a

3.2 Demographic and Household Data

The majority of respondents were female, with 68% of surveys completed by women and 32% completed by men. The most common ethnicity for respondents was Caucasian (68%), with those identifying as South Asian/West Asian/Arab and Chinese accounting for smaller percentages (11% and 10% respectively).

Households varied in size from one individual (11%) to seven individuals (1%). The majority of households had either two or three individuals (29% and 30% respectively). At least 272 individuals across 97 households are represented in these findings, although this is an underrepresentation as some respondents did not answer this question and others offered incomplete responses.

Age information was provided for 244 individuals. Information on age was incomplete (with 25% of respondents not answering for all members of the households). Children (aged 0-14) comprised the largest proportion of individuals, accounting for 30%. Young adults (25-44) accounted for 27%, middle-aged adults (45-64) for 19%, youth (15-24) represented 14% and seniors (65+) for 10% of these individuals for which we have data.

Of 91 complete responses, over a third (35%) of respondents described their employment status as working full time, while roughly one-fifth (21%) were on disability. Fifteen were retired and 13% worked part time.

Of 77 complete responses, the majority were at the low end of the income spectrum. More than two-thirds (39%) were earning under \$20,000 a year, with 77% of all respondents earning under \$40,000 a year. Only 8% of respondents earned \$70,000 a year or more. Looking at the relationship between income and household size, all households earning under \$40,000 annually, were composed of four or less people. Of these, 41% had two members, 28% had three members, 17% had one member and 15% had four members. Of households earning under \$20,000 annually, 39% had two members, 25% had one member, 21% had three members and 14% had four members.

3.3 Kitchen Amenities in MVHC Units

MVHC has both Low End of Market Rents and fully subsidized, or Rent Geared to Income, units through a rental assistance program. Unless there are extraordinary circumstances (an over housed tenant unwilling to downsize), rents are no more than 30% of gross household income (before deductions).

Based on 88 responses, the most common kitchen appliances owned by households were a microwave (68%) and a blender (64%). Other common appliances included a crockpot (49%), a barbeque (39%), a deep freeze (38%), a rice cooker (38%) and a toaster oven (35%).

Thirty-five percent of respondents did not own a deep freeze, but felt that it would be useful in preparing food. Twenty-seven percent said the same about barbecues.⁵ Conversely, 74% of respondents did not own a deep fat fryer and felt that it would not make food preparation easier. Eighty-seven percent of respondents agreed that having access to one or some of the appliances on the survey made food preparation easier.

3.4 Meal Preparation

Thirty-nine percent of households prepared all of their meals at home, while 36% prepared a majority of meals at home (11 or more).⁶

Table 4: Number of meals cooked at home each week

Number of meals cooked at home each week	Number of households (%)
1-5	14 (16%)
6-10	17 (19%)
11-15	12 (14%)
16-20	11 (12%)
21-25	33 (37%)
26-30	1 (1%)
31+	1 (1%)
TOTAL	100%

n=89

3.5 Health and Wellbeing

A large majority of respondents indicated that their physical health (78%), diet (89%), knowledge of food preparation (95%), wellbeing (91%) and relationship with neighbours

⁵ MVHC housing sites only allow gas or propane barbecues, although some older tenancy agreements may prohibit them altogether.

⁶ Some households indicated that they prepared more than 21 meals a week at home, which included separate meals for household members with dietary restrictions.

(92%) were good to excellent.

Table 5: Health, social and wellbeing Indicators

Rating of personal health, food knowledge and wellbeing	Excellent	Very good	Good	Poor	Very poor
Physical health	7 (8%)	24 (26%)	42 (45%)	17 (18%)	3 (3%)
Diet	7 (8%)	24 (26%)	52 (56%)	11 (12%)	0
Knowledge of food preparation	14 (15%)	43 (46%)	32 (34%)	4 (4%)	0
Wellbeing	8 (9%)	32 (35%)	44 (47%)	7 (7%)	2 (2%)
Relationship with neighbours	5 (5%)	31 (34%)	49 (53%)	7 (7%)	1 (1%)

n=93

3.6 Access to Food

A supermarket or grocery store provided the basis for most (64%) or all (30%) of respondents' food in the year prior to the survey. Additionally, participants indicated that some of their food was accessed from other sources. These include farmer's markets (some proportion of their diet for 59% of respondents, most for 9%), home or community garden (some portion of their diet for 31% of participants), convenience store (some proportion of their diet for 20% of respondents, most for 1%) and food bank (some proportion of their diet for 19% of respondents, most for 1%). Other food sources supplied some or most of their food within the last year for 20% and 4% of respondents, respectively.

A supermarket or grocery store provided the source of most (55%) or all (39%) of respondents' food in the month prior to the survey. Additionally, some food was accessed through a farmer's market (some portion of food for 47% of respondents, most for 9%), though less than in the last year. Home or community gardens also accounted for a smaller proportion of food sources (some portion of the diet for 21% of respondents), as did food banks (some portion of the food for 12% of respondents, most for 1%). Use of convenience stores remained largely the same. Eighteen percent of respondents also noted that other food sources supplied some of their food within the last month, while 4% indicated that other food sources accounted for most or all of their food within the last month.

Respondents most commonly shopped 2-3 times a week (49%), while nearly a third (28%) shopped once a week. Seventy-one percent used their car to access groceries, while 29% walked to get groceries. Some respondents used a bus (9%), taxi (4%) or bicycle (1%) to shop.⁷

When asked what food sources other than grocery stores and supermarkets respondents used, a majority of respondents (56%) indicated the use of farmers markets, while 49%

⁷ There were some double responses to this question. As such, totals add up to more than 100%.

purchased food from fast food restaurants (n=97). School cafeteria (19%), food banks (13%), and home/community gardens (13% each) were also important food sources for respondents. Fourteen percent indicated they used other food sources not listed.⁸

Respondents largely found it easy or very easy to access food in their neighbourhood (55%), while 15% of respondents found it difficult or very difficult. Nearly 80% did not have difficulty accessing a specific type of food, though those that did indicated that ethnic and affordable organic products were most difficult to find.

While respondents largely felt that the quality and choice of fresh fruits and vegetables and grocery stores in their neighbourhood was good, over half (54%) also found them expensive.

Table 6: Quality and choice of groceries in the neighbourhood

Statement	Agree	Neither agree nor disagree	Disagree
The quality of fresh fruit and vegetables to purchase in my neighborhood is good	80 (83%)	13 (13%)	4 (4%)
The choice of fresh fruit and vegetables to purchase in my neighborhood is good	80 (83%)	12 (12%)	5 (5%)
Fresh fruit and vegetables in my neighborhood are expensive	52 (54%)	31 (32%)	14 (14%)
The quality of the grocery stores in my neighborhood is good	64 (66%)	25 (26%)	8 (8%)
There is a good choice of different types of grocery stores in my neighborhood	55 (57%)	17 (18%)	25 (26%)
I do most of my grocery shopping in my neighborhood	68 (70%)	16 (17%)	13 (13%)
It is difficult for me to go grocery shopping in my neighborhood	13 (13%)	29 (30%)	55 (57%)

n=97

3.7 Diet and Income Status

Two-thirds (66%) of respondents experienced some form of food insecurity. While roughly half of respondents (49%) had enough to eat, though not always what they wanted, 17% of respondents sometimes or often did not have enough to eat. Two thirds (66%) of respondents experienced worry at some point in the last twelve months that food would run out before more money came in, while 47% of respondents had run out of food before there was money to buy more. Fifty-seven percent of respondents lacked enough money to afford balanced meals, while 44% of respondents cut the size of meals or skipped meals because there was no money to buy more. Finally, 14% of respondents had skipped eating

⁸ Food sources included vending machines, food from family members, food from a relative’s garden, food from a relative’s farm, community kitchens, multi-purpose big box stores such as Superstore and Wal-Mart, friends and neighbours and meal programs.

for a whole day due to lack of money at some point in the last year, with 4% of respondents doing this on a regular basis.

3.8 Impact of Food Programs

Twenty three respondents made use of a food program, with 15 accessing only a community garden, two accessing only a community kitchen and six accessing both a kitchen and garden program.

Ninety percent of community garden users rated it as good to excellent, with one respondent rating it as poor and one respondent rating it as very poor. The respondent who rated the garden poorly noted that it was due to placement while the respondent who rated their garden as very poor indicated that this was due to poor conditions during the summer growing season that year.

A majority of respondents agreed or strongly agreed that a community garden had positively impacted their diet (79%), impacted their access to healthy food (69%), positively impacted their relationship with neighbours (90%), and improved their overall wellbeing (90%). Additionally, a significant proportion felt that the garden had made a difference in their physical health (43%) or changed the way they prepared food (37%).

Table 7: Impact of community gardens

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Using a community garden has positively impacted my diet	6 (32%)	9 (47%)	3 (16%)	1 (5%)	0
Using a community garden has positively impacted my access to healthy food	6 (32%)	7 (37%)	4 (21%)	2 (11%)	0
Using a community garden has changed the way I prepare food	1 (5%)	6 (32%)	7 (37%)	5 (26%)	0
Using a community garden has made a difference in my physical health	1 (5%)	7 (37%)	10 (53%)	1 (5%)	0
Using a community garden positively impacts my relationship with my neighbours	3 (16%)	14 (74%)	2 (11%)	0	0
Using a community garden improves my overall sense of wellbeing.	2 (11%)	15 (79%)	2 (11%)	0	0

n=19

Eighty-eight percent of respondents who used a community kitchen rated it as very good to excellent. A majority of respondents agreed or strongly agreed that the community kitchen had positively impacted their diet (88%), impacted their access to healthy food (63%), positively impacted their relationship with neighbours (63%), improved their overall wellbeing (75%) and changed the way they prepared food (63%). Additionally, some users

felt that the kitchen had made a difference in their physical health (38%).

Table 8: Impact of community kitchens

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Using a community kitchen has positively impacted my diet	2 (25%)	5 (63%)	0	0	1 (13%)
Using a community kitchen has positively impacted my access to healthy food	3 (38%)	2 (25%)	2 (25%)	0	1 (13%)
Using a community kitchen has changed the way I prepare food	1 (13%)	4 (50%)	2 (25%)	0	1 (13%)
Using a community kitchen has made a difference in my physical health	0	3 (38%)	3 (38%)	1 (13%)	1 (13%)
Using a community kitchen positively impacts my relationship with my neighbours	2 (25%)	3 (38%)	2 (25%)	1 (13%)	0
Using a community kitchen improves my overall sense of wellbeing	6 (75%)	0	1 (13%)	1 (13%)	0

N=8

Despite high levels of food insecurity in community food program users, the survey findings indicate that the community food programs are having a positive impact on low-income MVHC tenants. In fact, lower-income households (under \$40,000 annually) participating in community gardens strongly agreed or agreed that a community garden had an impact on diet (100%), access to healthy food (91%), wellbeing (91%), and their relationship with neighbours (73%) as well as some impact on physical health (45%) and food preparation (36%). All community kitchen users earned \$20,000 or less annually and the impacts of community kitchens are demonstrated in Table 8 above. While the programs may not be addressing all food needs of residents, they are nonetheless making a positive difference in diet and access to healthy food for low-income residents.

As discussed above, the majority of participants in both gardens and kitchens indicated a positive impact on diet. Table 9 shows the relationship between food security and responses on impact of community food programs. Those who always had enough to eat were less likely to agree/strongly agree on the impact of the programs of diet and access to healthy food than those experiencing some form of food insecurity (even those with enough to eat, but not always the kind of food they wanted). However, as noted above, the impact of food programs is likely to be more significant for lower-income households. Although sample sizes were small for this cross tabulation, the results indicate that the impact of these programs on diet and access to food are very important for those experiencing some form of food insecurity

Table 9: Impacts of Gardens on Diet and Access to Healthy Food⁹

Garden			Kitchens		
Statement	Agreed / strongly agreed that diet impacted	Disagreed that diet impacted	Statement	Agreed / strongly agreed that diet impacted	Disagreed that diet impacted
Always had enough to eat (n=7)	4 (57%)	1 (14%)	Always had enough to eat (n=3)	2 (67%)	1 (33%)
Enough, but not always what's wanted (n=7)	6 (86%)	0	Enough, but not always what's wanted (n=2)	2 (100%)	0
Sometimes did not have enough to eat (n=3)	3 (100%)	0	Sometimes did not have enough to eat (n=2)	2 (100%)	0
Often did not have enough to eat (n=2)	2 (100%)	0	Often did not have enough to eat (n=2)	2 (100%)	0
Statement	Agreed / strongly agreed that access to healthy food impacted	Disagreed that access to healthy food impacted	Statement	Agreed / strongly agreed that access to healthy food impacted	Disagreed that access to healthy food impacted
Always had enough to eat (n=7)	3 (43%)	1 (14%)	Always had enough to eat (n=3)	1 (33%)	1 (33%)
Enough, but not always what's wanted (n=7)	6 (86%)	0	Enough, but not always what's wanted (n=2)	2 (100%)	0
Sometimes did not have enough to eat (n=3)	2 (67%)	0	Sometimes did not have enough to eat (n=2)	2 (100%)	0
Often did not have enough to eat (n=2)	2 (100%)	0	Often did not have enough to eat (n=2)	2 (100%)	0

3.9 Barriers to Program Participation

While 62% of all respondents lived in housing that had some form of community food programming, only 24% of all respondents made use of it. Several reasons were cited for this:

⁹ Row sums that do not total 100% indicate neutral responses.

- Lack of space or plots in community gardens;
- Inaccessible garden plots for people with disabilities;
- Lack of time for individuals working full time; and
- Community kitchens met at an inconvenient time (respondent had to work, couldn't find babysitting).

3.10 Links between Income, Food Security, Health and Wellbeing

Research has shown a strong link between income and food security. Table 9 reflects these findings within the MVHC study sites. While some food insecurity was seen in a higher income category (the \$60,000-\$69,000 range), this is anomalous. With a few (or in many cases a single) households reporting food insecurity the results are not as reliable as the lower income categories with more respondents.

Household size also appears to have some impact on food security. Half of one-person households always had enough to eat, despite all one-person households earning under \$30,000 annually, with 78% of these households earning under \$20,000 annually. However, only 31% and 30% of two and three-person households indicated that they always had enough to eat. Seventy-two percent of two-person households earned under \$30,000 annually, while only 39% of three-person households earned under \$30,000 annually. While two and three-person households earned a comparable amount or more than one-person households, they were less likely to always have enough to eat because there are more people to feed with the same amount of money.

Lower-income households (earning under \$40,000) were significantly more likely to experience some form of significant food insecurity compared with households earning over \$40,000 (see Table 10).¹⁰ Households most likely to be experiencing significant food insecurity earned under \$20,000 annually. The three lowest income brackets experience significant rates of food insecurity. A majority of respondents in the \$30,000-\$39,999 income category sometimes or often experienced worry about food due to lack of money and sometimes or often could not afford to eat balanced meals. Similarly, a majority of respondents in the under \$20,000 income category sometimes or often experienced worry about food due to lack of money and sometimes or often could not afford to eat balanced meals. Additionally, nearly half of the respondents (46%) in this category sometimes or often skipped meals because of a lack of money for food, and 17% of these families sometimes or often went without food for a day because there wasn't enough money for food.

¹⁰ Defined for the purposes of this report as those households sometimes or often experiencing some form of food insecurity as identified by the survey questions.

Table 10: Proportion of residents in low-income categories experiencing food insecurity

Income	Sometimes or often didn't have enough to eat	Sometimes or often worried that food would run out due to a lack of money	Food sometimes or often didn't last before more money was available	Sometimes or often could not afford to eat balanced meals	Sometimes or often ate less or skipped meals because there wasn't enough money for food	Sometimes or often skipped meals for a day because there was not enough food available
\$40,000 and up (n=18)	1 (6%)	4 (22%)	2 (11%)	2 (11%)	3 (17%)	0
\$30,000-\$39,999 (n=14)	3 (21%)	8 (57%)	6 (43%)	12 (86%)	1 (7%)	0
\$20,000-\$29,999 (n=15)	0	5 (33%)	3 (20%)	4 (27%)	2 (13%)	0
Under \$20,000 (n=30)	6 (37%)	13 (43%)	13 (43%)	15 (50%)	13 (43%)	5 (17%)

Low-income respondents (under \$30,000) generally reported poor or very poor health and wellbeing at a much higher rate than respondents earning more than \$40,000, who reported few poor health, diet or wellbeing outcomes. Respondents earning less than \$20,000 fared worst overall across four of the five indicators in Table 11. Thirty-five percent of respondents in this category reported poor or very poor physical health, 31% reported poor or very poor diet, 19% reported poor or very poor overall sense of wellbeing and 15% reported poor or very poor knowledge of food preparation and relationship with neighbours.

Table 11: Proportion of respondents in each income bracket with poor or very poor health, diet or wellbeing responses

Income	Poor or very poor physical health	Poor or very poor diet	Poor or very poor knowledge of food preparation	Poor or very poor wellbeing	Poor or very poor relationship with neighbours
\$40,000 and up (n=18)	0	0	0	1 (6%)	1 (6%)
\$30,000-\$39,999 (n=13)	1 (8%)	0	0	0	0
\$20,000-\$29,999 (n=13)	5 (38%)	0	0	1 (8%)	0
Under \$20,000 (n=30)	11 (37%)	9 (30%)	4 (13%)	3 (10%)	4 (13%)

Table 12 shows that those participating in community food programs were no less likely to experience food insecurity than those not participating in food programs. However, Table 13 shows that a high proportion of those participating in community food programs earn less than \$20,000 per year (52%), and two-thirds of those participating earn below \$30,000 per year (68%).

Table 12: Participation in food program and food insecurity

Indicator	Participated in a food program (n=23)	Did Not Participate in a Food Program (n=74)
Sometimes or often didn't have enough to eat	5 (21%)	11 (15%)
Sometimes or often worried about running out of food due to lack of money	8 (35%)	27 (36%)
Food sometimes or often didn't last	9 (39%)	20 (27%)
Sometimes or often couldn't afford a balanced meal	12 (52%)	21 (28%)
Sometimes or often ate less because of a lack of money for food	9 (39%)	16 (22%)
Sometimes or often missed a day of eating due to lack of money for food	3 (13%)	3 (4%)

The higher rates of food insecurity may not indicate that programs are not effective; rather they may reflect the fact that a majority of program participants are experiencing food insecurity due to lack of funds. Table 12 shows that the bulk of community food program users (52%) are in the lowest income category, the group most likely to experience significant food insecurity.

Table 13: Income and participation in a food program

Income	Participated in a food program (n=23)	Did not participate in a food program (n=74)
\$80,000+	1 (4%)	2 (3%)
\$70,000-\$79,999	1 (4%)	2 (3%)
\$60,000-\$69,999	1 (4%)	5 (7%)
\$50,000-\$59,999	0	1 (2%)
\$40,000-\$49,999	0	4 (5%)
\$30,000-\$39,999	0	14 (19%)
\$20,000-\$29,999	3 (13%)	12 (16%)
Under \$20,000	12 (52%)	18 (24%)
I don't know	0	2 (3%)
No income data	5 (22%)	13 (18%)
TOTAL	23 (100%)	74 (100%)

4. KEY INFORMANT INTERVIEW FINDINGS

Interviews were conducted to provide additional details about food security and to further explore the impact of food programs on tenant food security and health and wellbeing. Three interview participants did not make use of any food programming (referred to as “non-users”). Two participants made use of both a community garden and a community kitchen (referred to as “combined kitchen/garden users”). Four interview participants used only the garden (“garden only users”). Seven out of nine key informants had children.

The key findings of the interviews are:

- All participants felt that the cost food is the largest barrier to healthy eating;
- Most participants expressed an interest in expanding existing community food programs (e.g. more gardens, more kitchen programs) and that if these programs were not located on site, but very close by (2-3 block radius at most), they would probably be successful;
- All participants had a high degree of understanding of the benefits of diet to physical health and wellbeing, but many also noted that lack of income for fresh food had a strong impact on healthy eating; and
- Most participants also expressed interest in additional food programs (e.g. collective purchasing or good food boxes), provided they were cost effective (equal to or better than grocery store costs) and organized in a way to minimize time commitments (e.g. by MVHC or tenants groups).

The detailed findings are provided in this section. The findings are presented thematically and where relevant, are broken out by type of interview participant.

4.1 Diet, Health and Wellbeing

4.1.2 Non-users

Physical health

Most non-users felt that their households were generally healthy. They indicated that they were active physically, limited their intake of fast food and had good diets, although not perfect. One non-user participant had significant health issues and experienced sensitivity to additives and processed food and found it difficult to get the nutrition needed from meals. She felt that her child was healthy.

Diet

All non-users shared common ideas about what a healthy balanced diet was, prioritizing fresh fruits and vegetables and including elements of all food groups. They also all felt that diet was an important part of physical health and wellbeing. However, they felt constrained by both budget and time in making food choices for their families.

Knowledge of food preparation

All three non-users felt that their knowledge of food preparation was good to excellent. The first non-user has always cooked for her family. The second non-user felt her skills were

good, but she lacked adequate time, access to fresh fruits and vegetables and interest from her children. The third non-user felt she had good skills, but was interested in learning more about preparing food to maintain some freshness.

Personal wellbeing

All participants felt a positive sense of personal wellbeing. The first non-user said this was because of her child and partner. The second non-user attributed this to lifestyle, exercise, being active and her kids. The third non-user said that personal health, family and a job/financial security contributed to personal wellbeing.

Relationship with neighbours

All of the non-users felt they had good relationships with their neighbours, though two did not feel interest in developing close relationships. One noted that there were not many opportunities for interactions due to the lack of a common room and few opportunities for casual gatherings (those that had been organized in previous years, such as a picnic and a swap sale are no longer happening).

4.1.3 Combined garden/kitchen users

Physical health

Both garden/kitchen users described their health as good, though both said they needed to lose weight. One noted that the community garden gave her fresh air and exercise.

Diet

Both participants felt their diet was good and that they could cook what they wanted. Both felt they ate enough vegetables and limited their intake of processed and 'junk' foods. Both users did feel some constraint on their diet due to the cost of food, and described feeling budget pressures at least once a month in relation to food.

Knowledge of food preparation

Both participants felt that their knowledge of food preparation was good to excellent. One noted that a family member is diabetic and that she eats along the lines of a diabetic diet. Both limit their intake of fast foods.

Wellbeing

Both participants felt a positive sense of personal wellbeing and that family, financial security and staying active (both physically and in the community) were key components of this.

Relationship with neighbours

Both participants felt that their relationship with their neighbours was positive, and that this was in large part due to involvement in the garden/kitchen. One participant said that as a senior she got to know more families through the programs. The other participant said that

she got to know more tenants with children, as her child had been involved in the garden, and that she was getting more involved in organizing activities for kids in the building as a result.

4.1.4 Garden only users

Physical health

Participants involved in gardening felt that their physical health was largely good and that they had active lifestyles. All had children, which contributed to their physical fitness. One participant did note that issues with her physical mobility kept her from being more active. Two participants felt that the garden was a significant contributor to their health, as it got them outside and active more.

Diet

All of the gardening participants described a healthy diet as a balance of food groups with a large proportion of fruits and vegetables (one referenced the Canada Food Guide). The following issues were noted by gardening participants:

- Cost was a major factor in decisions around food, particularly fresh fruits and vegetables and organic produce/goods;
- All noted that they would prefer to have more organic food in their diet;
- Time played a major role in meal decisions for two of the participants, who noted that this can contribute to less healthy dietary choices (e.g. high fat prepared foods); and
- One noted that her dietary choices were limited because of dietary restrictions, which led to difficult decisions around food purchasing for her and her child.

Knowledge of food preparation

All participants felt they had a strong knowledge of food preparation. However, all felt some limitations in the kinds of food they prepared, including:

- Cost of produce;
- Cost of organic;
- Knowledge of healthy diets and access to particular workshops on food preparation; and
- Design and layout of kitchen as isolating/cut off from rest of unit (particularly difficult for single parents).

Wellbeing

All participants felt a positive sense of personal wellbeing and several said the garden contributed to this. They identified the following factors as contributing to their wellbeing: family, community relationships, health and employment.

Relationship with neighbours

All participants felt their relationships with neighbours were positive and largely took pride in their community. They also all felt that these relationships had improved because of the gardens.

4.2 Access to Food and Food Security

Dietary barriers

Cost represents the biggest challenge in dietary decision making for all participants, regardless of whether they participate in a community food program or not. All participants noted the cost of fresh fruits and vegetables as a barrier to a healthier diet. Several of the participants faced significant budgetary pressures related to food on a regular or semi-regular basis. Strategies to cope with this included:

- limiting their purchases to inexpensive produce;
- buying only frozen or canned produce;
- making do with the limited food they already had at home (e.g. eggs, potatoes, pasta and rice);
- eating at the homes of friends and family;
- accessing the food bank;
- delaying the payment of other bills;
- calling social assistance for emergency funds;
- asking family or friends for financial assistance;
- reducing their own portion in order to ensure their kids have enough; and
- skipping meals.

Many of the users expressed a desire to eat more organic food, but said it was largely unaffordable. One participant said that her efforts to buy organic meant that her meals were often limited to very simple foods. Another participant said that while she used to access the food bank, her current job is very public and she worries about stigma from being seen making use of the food bank.

Access to food sources

Most participants felt their neighbourhood had adequate grocery stores and that they were able to access the groceries they needed. Many of them made some bulk purchases at big-box retailers by car, while doing the majority of their shopping in the neighbourhood. Several participants expressed a desire for more variety of food sources in the neighbourhood, including smaller markets and ethnic food stores. Several also said they liked farmers markets but could only buy limited amounts of food there. However, they did note that farmers markets are cheaper than organic grocery stores. Several participants said that the distance to farmers markets was a barrier to frequent use.

4.3 Food Program Use

4.3.1 Non-users

Gardens

Two of three non-users had community gardens within their housing complexes but did not make use of them. Reasons for this included:

- local kids digging up/interfering with garden;
- did not know about plots until they were gone;
- time constraints; and
- lack of gardening knowledge.

These individuals said they might be interested in gardening if the plots were protected, close to home (even in the backyard if possible) and that there was access to someone with knowledge of gardening. One of these participants had some previous experience with vegetable gardening, while the other did not. The barriers to expansion of a community garden included lack of space and interference from children in the complex.

One non-user who lived in a site without gardens indicated a strong desire to have more space to garden. The past two summers she has done some container gardening on her patio. She said that even with limited space it positively impacted her diet and allowed her access to fresh foods that are otherwise expensive to buy. She said she also liked knowing what was going into the food she grew herself. She would like to see a garden in her complex and has tried to cultivate beyond her patio but says that local pets make use of the one space she tried to garden in. She also noted that poor soil quality made it difficult to grow anything there. She felt that with appropriate fencing, infrastructure and soil a community garden would be possible in her complex. She noted that she would make use of a garden not on site if it was in the immediate neighbourhood. She also said that she would enjoy gardening workshops to increase her knowledge (e.g. organic pest control).

Kitchens

All non-user participants expressed some interest in a community kitchen, although the degree of interest varied. The participant showing slight interest noted that she would be unlikely to use it if it were not in the housing site. She also said that while she felt it was a good idea, she was unlikely to be able to use it due to time constraints.

One participant showed moderate interest, and noted that she would make use of a kitchen if it were in her immediate neighbourhood, but not necessarily on-site. She had previous experience with community kitchens, and said the kitchen would need teach her something new, be interesting, and maintain a variety of times that would accommodate her work schedule (and that of others). Another participant showed a strong interest and felt it would help with her food budget, but that it would need to be conveniently located (within walking distance) for her to use.

All participants noted that the biggest challenge facing the development of a community kitchen on site would be finding space for it. None of the participants lived in a site with any form of common room appropriate for a kitchen.

4.3.2 Combined garden/kitchen users

Both participants who made use of both a garden and kitchen saw them as strongly related, and discussed the impact of both on their lives simultaneously.

One participant said that she had taken on a lead role in the garden, taking it upon herself to weed, plant, buy seeds and plants, prepare it for winter and trim perennials. She said the garden was very important in terms of her physical health, as it kept her active most of the year. She also said that the combined kitchen and garden program connected her to her neighbours (particularly families in the building) and other residents in the neighbourhood. She credits the program with exposing her to the diversity in her community (ESL students, people with mental illness, etc.). She cited the kitchen as important in maintaining a healthy diet as it provided her with three days' worth of balanced meals. She said this significantly eased the pressure on her monthly food budget and made a difference in her grocery bill. The kitchen has also changed the food she purchases, and led to her buying more vegetables and fruit. She noted that she still does not buy as much as she would like due to cost.

While she noted that there were issues in the garden in spring with children pulling plants out, she says the group decided to start a gardening program for children in the building. She noted that this has made a significant difference in their attitudes and that the children were very excited and involved in the garden.

The second participant got involved in the garden through her child, who participated in the children's gardening program with five other kids. She noted that the garden had a very positive impact on her child, giving her child responsibility and additional physical activity.

Although initially she could not attend the kitchen due to scheduling conflict, she has recently been able to participate. She says that the kitchen has improved her relationship with neighbours. She kept largely to herself prior to getting involved in the garden/kitchen but now plays a much more active role in the her housing complex. While she says that she had good food preparation skills, the new recipes and skills she learned in the community kitchen have affected what she cooks and that she now eats more fruits and vegetables. She said the food from the community kitchen usually lasts about three days.

Both participants had past experience with gardening. Neither had participated in a community kitchen prior to the one they are currently involved in.

Both noted that some infrastructure and program improvements could be made to both garden and kitchen. The following garden improvements were suggested:

- Soil amendments;
- Maintenance on watering system;
- Deeper beds;
- Access to an expert gardener (in particular improved understanding of both plant placement and cooperative planting, winter gardening methods, composting); and
- Compost (one was purchased, but there is nowhere to anchor it).

The following kitchen improvements were suggested:

- Another (or a larger) storage option for food and kitchen implements;
- More kitchen equipment (knives, cutting boards, etc.); however there is concern over theft; and
- Additional nutritional information with a focus on GMOs and pesticides.

4.3.3 Garden only users

Gardens

The garden users interviewed largely did not feel that the gardens had a significant impact on their diet. One estimated the actual volume of food from their garden as only 2% of their total food consumption. Another noted that while she valued it for what it taught her child, she let her plants go and did not tend them as much as required. A third said the location of the garden meant that yields were not as high as they might have been with more light. However, two garden users said that regular access to the garden in the summer had meant that their households could eat salads on a regular basis for dinner, something they could not otherwise always afford. One participant also noted that her garden did have a financial impact and that it changed the way they thought about preparing dinner.

All participants noted that the impact of gardening changes seasonally, with significant usage in the summer and little to none in the winter. Only one participant was doing any form of winter gardening.

All participants, however, noted that the garden had significantly improved their relationship with neighbours and their sense of community. One participant noted that, “the gardens have got us to the point of having a community.” This has come from working side by side and sharing the food they produce with one another.

For several garden only users, being outside and active in the gardens also made a significant difference on physical health and personal wellbeing. Three participants also said that the gardens had been good for their children, getting them involved in household chores and making them more physically active.

All participants said that they would be interested in having access to more space and seeing the gardens expanded in general. Several participants said they would be interested in gardens that were not on-site, but that these would have to be very close by.

Three of the four garden participants had past experience with gardening and one said that this was the first time she had gardened.

The following suggestions were made to improve gardens:

- Expanding to larger space (if not on site then very nearby);
- Ensuring an accessible water source;
- Ensuring that composts are maintained and residents know how to use them (what to put in them, how to take care of them, etc.);

- Workshops on gardening/access to a master gardener (composting, pest control, gardening techniques, winter gardening, etc.);
- Additional tools;
- Better placement of gardens; and
- One participant suggested replacing pine/evergreen trees with an orchard.

Kitchens

Only one participant had experience with any formal form of community kitchen. This was through her child's previous school and was strongly tied to the Canada Food Guide. She said the program had a strong impact on her knowledge of food preparation and dietary choices. Another participant had organized nutritional classes for single mothers in danger of losing their children. A third participant had informal experience with canning bees.

All participants had an interest in a community kitchen for strengthening community and access to healthy food. The following recommendations were provided to ensure participation:

- Combining tenants and local residents from outside the housing site (as per other community kitchens);
- Emphasizing the social, 'fun' element of it (it is not just more work for overburdened parents);
- Holding it in or very close by housing sites (more than a couple of blocks would significantly reduce interest/participation);
- Providing some form of child care or distraction for children; and
- One participant noted that it would have to be sensitive to a range of dietary preferences.

The most significant barrier all participants noted was the lack of space in the housing site and the associated cost of developing an appropriate communal space.

4.4 Improving Food Security

Participants were also asked about a range of options that might improve their access to healthy food and food security.

Good food box

Seven of nine interview participants expressed a strong interest in a good food box program for fresh fruits and vegetables. This was contingent upon the following criteria:

- **Affordability:** defined as equal to or below grocery store price;
- **Reliability:** most participants did not want fruits or vegetables they may not know how to prepare; most were interested in staple vegetables (carrots, celery, onions, tomatoes, etc.); and
- **Predictability:** little fluctuation in cost in order to facilitate budgeting.

One participant who was not interested said she would be more inclined to participate if it was organic and affordable produce.

Collective purchasing programs

Eight out of nine participants expressed a strong interest in broader collective purchasing programs. This was contingent upon the following criteria:

- Flexibility: participants wanted to be able to choose when to participate;
- Coordination: having someone in Tenants Association organize (i.e. not having to plan themselves).

The one person not interested said she would consider involvement if purchases were organic.

Access to more gardening space

Access to more gardening space was something desired by six out of nine participants. One participant (non-user) said she would probably make use of it, one (garden only) said it was less appealing than the current gardens, and one said she would not unless it was in her backyard (non-user). The non-user participant who does not have any gardens on site was very supportive of on-site or nearby gardens. Criteria for effective expansion of garden spaces include:

- Proximity to home: the closer to the housing site the better. Most participants felt they would be willing to access a site in the neighbourhood, but interest declined significantly in space beyond two to three blocks (5-10 minute walk);
- Security: Gardens would have to be protected from pests (deer, skunks, pets, etc.) and passersby.

Community kitchens with cooking workshops

Two of three non-users, one community kitchen user and three participants who use only gardens expressed interest in a community kitchen, even if it was not offered on site. Both community kitchen users expressed a desire to have access to their current community kitchen more often. Criteria for effective expansion of kitchens included:

- Proximity to home: the closer to the housing site the better. Most participants felt they would be willing to access a site in the neighbourhood, but interest declined significantly in space beyond two to three blocks (5-10 minute walk);
- Flexibility: offering the kitchen at different times for those working full or part time; and
- Variation: a range of food preparation skills (including new recipes, canning and preserves, etc.).

Information workshops

Five participants noted that workshops on nutrition, diet and cooking would be of use to them. Suggestions for workshops included:

- Information on GMOs and pesticides: what is safe to eat and what is not?
- Fast and healthy: how to prepare balanced meals with few ingredients quickly;
- Advanced food preparation (i.e. professional level cooking, canning/preserves);
- Additional nutritional information; and
- Food safety.

All participants felt that if they were to use a garden, access to gardening workshops and opportunities to ask questions all season would be of benefit. Suggested topics included:

- Winter gardening;
- Companion planting/small container gardening;
- Compost care; and
- Seed saving.

Increased income

Seven out of nine participants indicated that increased income would improve their diet. The other two participants indicated that even though cost is an issue, having more money probably would not change their diet.

Better selection of local grocery stores

Eight out of nine participants felt that the grocery stores were acceptable. Several did note that a better selection of affordable organic produce was desirable, but this was a significant access issue for only one participant.

5. CONCLUSIONS AND POLICY DIRECTIONS

As with other research, this study reflects a strong relationship between income levels and food insecurity. Although the findings are not generalizable, the research shows a significant interest in food programming—both gardening and food preparation. It also shows that food programming at some sites may benefit from expansion beyond what is currently available.

The research also shows that low-income individuals make significant use of and may benefit most from community food programs. However, there are some barriers to the effectiveness of these programs, including lack of garden space overall, lack of garden beds for people with disabilities or the timing of programming.

It should be noted that developing either a community garden or kitchen represents an important stepping stone to other food policies (e.g. collective purchasing). It lays the groundwork of building relationships between neighbours and creating trust so that they are more likely to effectively organize around (for example) a collective purchasing program.

Finally, while many of the recommendations on infrastructure are based on MVHC sites, the recommendations here may be applicable to other non-profit housing providers.

Expand existing garden infrastructure and new sites

All MVHC community gardens currently have waitlists. Survey and interview comments show a strong interest in additional garden spaces. The following recommendations for gardens, both new and existing arose from the research:

- Expand existing gardens to sites where it is appropriate and space permits;
- Identify appropriate garden spaces in the 2-3 block radius around sites that do not currently have gardens or those that need additional space. These include schools, parks and other municipally owned land;
- Ensure that all gardens have water, soil, compost, tools and safe storage facilities; and
- Provide security when required (e.g. fences, gates with locks) at existing and new sites.

Offer garden programming

In addition to garden infrastructure, key informants expressed strong interest in additional programming to support effective use of gardens. Many participants had minimal gardening experience and were not familiar with techniques that would improve yields (e.g. crop rotation, winter gardening, companion planting). Key informants expressed interest in workshops on the following topics:

- Winter gardening;
- Companion planting/small container gardening;
- Compost care;

- Seed saving; and
- Educational gardening programs for children.

Having an experienced gardener on call (either doing site visits or available to answer questions) was another garden resource that key informants expressed interest in. Making use of existing resources, such as the Master Gardener Association of BC,¹¹ could provide an effective way of linking tenants with gardening knowledge.

Improve existing kitchen infrastructure and develop new kitchens

Current users of existing MVHC community kitchens expressed strong support for improving existing infrastructure and developing new kitchens where possible. Suggestions for improvement of existing facilities included:

- Secure cupboards for kitchen implements;
- Additional counter space for food preparation; and
- Better quality/more appliances that are securely stored.

While new kitchens may not be possible in many MVHC sites, key informants felt that if new programs were started in the immediate neighbourhood around housing sites (2-3 blocks), and properly advertised or communicated to tenants, they would likely be successful.

The improvement of existing kitchen infrastructure also has implications for the development of new non-profit housing. The design of individual units should take into account open design concepts to ensure that those preparing meals are not isolated from the rest of the family. This is particularly true for single and working parents who must simultaneously prepare meals and care for children.

Develop a range of community kitchen programming

As with community kitchens, key informants felt that community kitchens could be improved with additional programming. Suggestions included:

- More frequent meeting times;
- Scheduling meetings regularly, but at a variety of times (e.g. if a program runs twice a month it occurs once in the evening, once in the morning every month); and
- Kitchen workshops on topics including:
 - Fast and healthy food – how to prepare balanced meals with few ingredients quickly;
 - More advanced food preparation (i.e. professional level cooking, canning/preserves);
 - Additional nutritional information;
 - Food safety; and
 - Information on GMOs and pesticides – what is safe to eat and what is not.

¹¹ See here for more detail: <http://www.mgabc.org/content/102-mgs-community>

Where possible provide a combined garden/kitchen program

Key informants noted the value of having a combined kitchen/garden program. However, they also felt that developing such a program was appropriate provided it does not impact existing programming.

Test collective food purchasing programs

Key informants expressed interest in additional food programming, especially collective purchasing and good food box programs. Key informants felt that if these programs were well organized and cost-effective (same price or less than a grocery store) they would be successful. By piloting these projects with existing community food programs, interest could be generated. The focus of these programs should be produce at first, though other options could be expanded to include meat and other organic produce.

Beyond MVHC: Other Policy Implications

In addition to the improvement and expansion of existing food programs, this research has additional implications. A key finding of the research, supported by other research in Canada, is the link between income and food security. This indicates a need for senior levels of government to play a more significant role in income security issues such as the development of a provincial and national poverty reduction plans and adopting living wage policies. It also indicates a need for stronger role for Metro Vancouver and BCNPHA in advocating for these poverty reduction policies.

Metro Vancouver's Regional Food System Strategy acknowledges the need to "improve access to nutritious food among vulnerable groups" (Goal 4.1).¹² As the plan is implemented, MVHC sites can showcase the successful delivery of community food programming to low-income households. Partnerships developed through the implementation of the plan (e.g. Colony Farm, Kwantlen Polytechnic University) may play a role in educating tenants about gardening techniques.

¹² Plan available at:

<http://www.metrovancouver.org/planning/development/AgricultureAndFood/Documents/RegionalFoodSystemStrategy.pdf>

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APPENDIX A: SURVEY FREQUENCIES

Survey Response Rates

Total returned surveys: 102

Total valid partial or complete surveys: 97

Total invalid surveys: 5

Total food program users: 23

Type of housing site	# of valid surveys	Proportion of total valid surveys	Total number of occupied units (total units)
With community gardens	46	47%	379 (387)
Without community gardens	37	38%	521 (522)
Fraserwood	7	7%	48 (48)
Alderwood	7	7%	47 (48)
Total	97	100%	995 (1005)

Sixty respondents were from households in MVHC sites with a community garden or garden/kitchen combination, representing 62% of all respondents. Respondents represent approximately 10% of the total number of households surveyed.

Section 1: Housing and Kitchen Facilities

Question 1: How long have you lived at this location? (n=85)

Number of years in MVHC site	Number of respondents (%)
0-3 years	35 (41%)
3-5 years	9 (11%)
5-10 years	22 (26%)
10 to 15 years	10 (12%)
15 to 20 years	5 (6%)
More than 20 years	4 (5%)

Question 2: How many times have you moved in the last two years? (n=88)

- 73% had not moved in the last 2 years
- 22% had moved once
- 6% had moved twice or more

Question 3: How much rent are you paying per month? (n=88)

Rent cost	Number of respondents (%)
\$0-\$249	2 (2%)
\$250-\$499	14 (16%)
\$500-\$749	20 (23%)
\$750-\$999	34 (39%)
\$1000-\$1249	15 (17%)
\$1250-\$1499	3 (3%)

Question 4: Would food preparation at home be easier if you had one of the following: (n=88)

Kitchen appliance	Number of respondents who think it would be easier (%)	Number of respondents who do not think it would be easier (%)	Number of respondents who have appliance (%)
Deep Freeze	31 (35%)	24 (27%)	33 (38%)
Microwave	13 (15%)	15 (17%)	60 (68%)
Crockpot	11 (13%)	34 (39%)	43 (49%)
BBQ	24 (27%)	30 (34%)	34 (39%)
Toaster Oven	15 (17%)	42 (48%)	31 (35%)
Deep Fat Fryer	7 (8%)	67 (76%)	14 (16%)
Rice Cooker	14 (16%)	41 (47%)	33 (38%)
Blender	15 (17%)	17 (19%)	56 (64%)
Other	7 (8%)	77 (88%)	4 (5%)

Question 4a: If you have one (or more) of the above does this/do these appliance(s) positively impact your ability to prepare food at home? (n=83)

- 87% of the respondents agreed that having access to one or some of the appliances above made food preparation easier

Question 5: In the last week, how many meals were prepared at home? (n=89)

Number of meals cooked at home each week	Number of respondents (%)
1-5	14 (16%)
6-10	17 (19%)
11-15	12 (13%)
16-20	11 (12%)
21-25	33 (37%)
26-30	1 (1%)
31+	1 (1%)

Questions 6 and 6a: Do you have access to a community kitchen? If yes, how many meals in the last month have you prepared there? (n=9; n=6)

- 9 respondents had a community kitchen nearby that they used (including on site kitchens)
- 3 respondents cooked 0-5 meals there in the past week
- 1 respondent cooked 6-10 meals there in the past week
- 2 respondents cooked 11-15 meals there in the past week

Questions 7, 8, 9, 10: In general, would you say your physical health is? How would you describe your diet? How would you rate your knowledge of food preparation? How would you describe your overall sense of wellbeing? How would you describe your relationship with neighbours? (n=93)

Indicator	Excellent	Very Good	Good	Poor	Very Poor
Physical health	7 (8%)	24 (26%)	42 (45%)	17 (18%)	3 (3%)
Diet	6 (7%)	24 (26%)	52 (56%)	11 (12%)	0
Knowledge of food preparation	14 (15%)	43 (46%)	32 (34%)	4 (4%)	0
Wellbeing	8 (9%)	33 (35%)	44 (47%)	6 (7%)	2 (2%)
Relationship with neighbours	5 (5%)	32 (34%)	49 (53%)	6 (7%)	1 (1%)

Section 2: Access to Food

Question 1: Of the food you made at home in the last year, how much of it comes from each of these places? (n=97)

Source of Food	None	Some	Most	All
Grocery store / supermarket	0	6 (6%)	62 (64%)	29 (30%)
Convenience store	77 (79%)	19 (20%)	1 (1%)	0
Farmers market	31 (32%)	57 (59%)	9 (9%)	0
Food bank/food pantry	78 (80%)	18 (19%)	1 (1%)	0
Home or community garden	67 (69%)	30 (31%)	0	0
Other	72 (74%)	19 (20%)	4 (4%)	2 (2%)

Question 2: Of the food you made at home in the last month, how much of it comes from each of these places? (n=97)

Source of Food	None	Some	Most	All
Grocery store / supermarket	0	6 (6%)	53 (55%)	38 (39%)
Convenience store	78 (80%)	18 (19%)	0	1 (1%)
Farmers market	42 (43%)	46 (47%)	9 (9%)	0
Food bank/food pantry	84 (87%)	12 (12%)	1 (1%)	0
Home or community garden	77 (79%)	20 (21%)	0	0
Other	76 (78%)	16 (18%)	3 (3%)	2 (2%)

Question 3: How often do you shop for food? (n=97)

- Shop every day: 7 (7%)
- Shop 2-3 times a week: 48 (49%)
- Shop once a week: 27 (28%)
- Shop every other week: 10 (10%)
- Shop once a month: 4 (4%)
- Shop other: 1 (1%)

Question 4: How do you get to the store most often? (some double responses, 112 responses total)

- Car: 69 (71%)
- Walk: 28 (29%)
- Bus: 9 (9%)
- Taxi: 4 (4%)
- Bicycle: 1 (1%)
- Other: 1 (1%) (scooter)

Question 5: Besides stores, where else do members of your household get food? (multiple responses, 172 responses total)

- Farmers market: 54 (56%)
- Fast food: 48 (49%)
- School cafeteria: 18 (19%)
- Home garden: 13 (13%)
- Community garden: 13 (13%)
- Food bank/pantry: 13 (13%)
- Church/community food program: 7 (7%)
- Mobile good vendors: 4 (4%)
- Home-delivered meals: 2 (2%)
- Other: 14 (14%)

Question 6: How would you rate your ability access the quality and quantity of food you want from the place you live? (n=97)

- Very easy: 20 (21%)
- Easy: 32 (33%)
- Neutral: 30 (31%)
- Difficult: 11 (11%)
- Very difficult: 4 (4%)

Question 7: Are there certain foods you need that are difficult to get in your neighbourhood? (n=95)

- 21% of respondents said yes

Question 8: Please indicate whether you agree, neither agree nor disagree, or disagree with each statement. (n=97)

Statements	Agree	Neither agree nor disagree	Disagree
The quality of fresh fruit and vegetables to purchase in my neighborhood is good	80 (83%)	13 (13%)	4 (4%)
The choice of fresh fruit and vegetables to purchase in my neighborhood is good	80 (83%)	12 (12%)	5 (5%)
Fresh fruit and vegetables in my neighborhood are expensive	52 (54%)	31 (32%)	14 (14%)
The quality of the grocery stores in my neighborhood is good	64 (66%)	25 (26%)	8 (8%)
There is a good choice of different types of grocery stores in my neighborhood	55 (57%)	17 (18%)	25 (26%)
I do most of my grocery shopping in my neighborhood	68 (70%)	16 (17%)	13 (13%)
It is difficult for me to go grocery shopping in my neighborhood	13 (13%)	29 (30%)	55 (57%)

Section 3: Diet and Income Status

Question 1: Which of the following statements best describes the food eaten in your household in the past 12 month: (n=96)

- Always have enough to eat: 33 (34%)
- Have enough, but not always what I want: 47 (49%)
- Sometimes I do not have enough: 12 (13%)
- Often do not have enough: 4 (4%)

Question 2: The following statements are about the food situation and experience for the individuals in your household: (n=96)

Statements	Often (almost every month)	Sometimes (some months, but not every month)	Occasionally (one or two months in the last 12)	Never
During the past 12 months, you (and others in your household) worried that food would run out before you got money to buy more.	19 (20%)	15 (16%)	29 (30%)	33 (34%)
During the past 12 months, the food that you (and others in your household) bought just didn't last and there wasn't any money to get more.	14 (15%)	15 (16%)	16 (17%)	51 (53%)
During the past 12 months, you (and others in your household) couldn't afford to eat balanced meals.	4 (4%)	29 (30%)	22 (23%)	41 (43%)
During the past 12 months, did you or others in your household ever eat less than you felt you should, cut the size of your meals or skip meals because there wasn't enough money for food?	9 (9%)	16 (17%)	17 (18%)	54 (56%)
During the past 12 months, did you or others in your household ever not eat for a whole day because there wasn't enough money for food?	4 (4%)	2 (2%)	8 (8%)	82 (85%)

Section 4: Impact of Food Programs

Question 1: Does the building in which you live have the following programs (n=59)? Do you make use of this program (n=59)?

- 59 respondents (61%) had access to some form of community food program
- 23 respondents (39% of those with access) made use of a food program
 - 2 kitchen only, 6 combined kitchen/garden, 15 garden only

Community garden responses

- 59 respondents (61%) had access to community garden
- 21 households (36% of those with access) participated in community garden
 - 8 (38%) rated the garden as excellent
 - 2 (10%) rated the garden as very good
 - 9 (43%) rated the garden as good
 - 1 (5%) rated the garden as poor (due to location)
 - 1 (5%) rated the garden as very poor (due to weather conditions over the summer)

Question 2: If you participate in [a community garden], please indicate your agreement or disagreement with each statement.

Statements	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Using a community garden has positively impacted my diet	32%	47%	16%	5%	0%
Using a community garden has positively impacted my access to healthy food	32%	37%	21%	11%	0%
Using a community garden has changed the way I prepare food	5%	32%	37%	26%	0%
Using a community garden has made a difference in my physical health	6%	37%	53%	5%	0%
Using a community garden positively impacts my relationship with my neighbours	16%	74%	11%	0%	0%
Using a community garden improves my overall sense of wellbeing	11%	79%	11%	0%	0%

Community kitchen responses

- 17 households (18%) had access to a community kitchen through their building
- 8 households participated in community kitchens (8% of total respondents, 47% of respondents who had access to a kitchen)
 - 38% of these individuals rated the kitchen as excellent
 - 50% of these individuals rated the kitchen as very good
 - 13% of these individuals rated the kitchen as poor
- 6 respondents who used the community kitchen also accessed a community garden, while 2 used only the kitchen

Question 2: If you participate in [a community kitchen], please indicate your agreement or disagreement with each statement (n=8).

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Using a community kitchen has positively impacted my diet	25%	63%	0	0	13%
Using a community kitchen has positively impacted my access to healthy food	38%	25%	25%	0%	13%
Using a community kitchen has changed the way I prepare food	13%	50%	25%	0%	13%
Using a community kitchen has made a difference in my physical health	0%	38%	38%	13%	13%

Using a community kitchen positively impacts my relationship with my neighbours	25%	63%	25%	13%	0%
Using a community kitchen improves my overall sense of wellbeing	75%	0%	13%	13%	0%

Section 5: Personal Information

Question 1: What is your gender? (n=91)

Gender	Proportion of Total Surveys
Female	62 (68%)
Male	29 (32%)

Question 2: What is your height (n=83)?

Height	Number of respondents (%)
Below 5ft.	3 (4%)
5ft-5ft. 6in.	40 (48%)
5ft. 6in-6ft.	36 (43%)
Over 6ft.	4 (5%)

Question 3: What is your weight (n=82)?

Weight	Number of respondents (%)
Under 100lbs	1 (1%)
101 to 125lbs	12 (15%)
126 to 150lbs	17 (21%)
151 to 175lbs	22 (27%)
176 to 200lbs	14 (17%)
201 to 225lbs	8 (10%)
Over 225lbs	8 (10%)

Question 4: What is your ethnic background? (n=80)

Ethnic Background	Number of respondents (%)
Caucasian	54 (68%)
South Asian/West Asian/Arab	9 (11%)
Chinese	8 (10%)
Latin American	2 (3%)

Indo-Canadian	1 (1%)
More than one ethnicity	3 (4%)
Other	3 (4%)

Question 5: How many people, including yourself, live in your household? (n=96)

# of individuals in household	# of individuals represented by survey (# of respondents)	% of all households
1 individual	10 (10)	11%
2 individuals	52 (26)	26%
3 individuals	81 (27)	30%
4 individuals	60 (15)	17%
5 individuals	25 (5)	6%
6 individuals	30 (5)	6%
7 individuals	7 (1)	1%
No answer	7 (7)	8%
Total	272	100%

The respondents represented at least 272 individuals (including DKNA from respondents who represent at least 1 individual in the household).

Question 6: What is/are their age(s): n=244

Age range	Number of household members (%)
0-14	74 (30%)
15-24	33 (14%)
25-44	66 (27%)
45-64	47 (19%)
65+	24 (10%)

Question 7: Of the following options, which best describes your current employment status? (n=91)

Employment Status	Number of respondents (%)
Working full time	32 (35%)
Disabled	19 (21%)
Retired	14 (15%)
Working part time	12 (13%)
Unemployed	8 (9%)
Homemaker	6 (7%)

Question 8: Approximately what is your height? (n=83)

Height in Feet	Number of respondents (%)
Below 5'	3 (4%)
5-5'6"	40 (48%)
5'6"-6'	36 (43%)
Above 6'	4 (5%)

Question 9: Approximately what is your weight? (n=82)

Weight in Pounds	Number of respondents (%)
Under 100	1 (1%)
101 – 125	12 (15%)
126 – 150	17 (21%)
151 – 175	22 (27%)
176 – 200	14 (17%)
201 – 225	8 (10%)
226+	8 (10%)

Question 10: In what range does your annual household income fall? (n=79)

Household Income Level	Number of respondents (%)
\$80,000+	3 (4%)
\$70,000-\$79,999	3 (4%)
\$60,000-\$69,999	6 (8%)
\$50,000-\$59,999	2 (3%)
\$40,000-\$49,999	4 (5%)
\$30,000-\$39,999	14 (18%)
\$20,000-\$29,999	15 (19%)
Under \$20,000	30 (38%)
I don't know	2 (3%)

APPENDIX B: SURVEY QUESTIONS

Section 1. Housing Facilities

Please Indicate the Name of the MVHC Property you live in:

1. How long have you lived at this location? ___ Years ___ Months
2. How many times have you moved in the last 2 years? (if you have not moved, put 0) _____
3. How much rent are you paying a month? _____
4. Would food preparation at home be easier if you had one of the following:

	Yes	No	Have one
Deep freeze			
Microwave			
Crock pot			
BBQ / outdoor grill			
Toaster oven			
Deep fat fryer			
Rice cooker			
Blender			
Other: _____			

4.a. If you have one (or more) of the above does this/do these appliance(s) positively impact your ability to prepare food at home? Yes No

5. In the last week, how many meals were prepared at home?

6. Do you have access to a community kitchen?

Yes No

6.a. If yes, how many meals in the last month have you prepared there?

7. In general, would you say your physical health is?

excellent very good good poor very poor

8. How would you describe your diet?

excellent very good good poor very poor

9. How would you rate your knowledge of food preparation?

excellent very good good poor very poor

10. How would you describe your overall sense of wellbeing?

excellent very good good poor very poor

11. How would you describe your relationship with your neighbours?

excellent very good good poor very poor

Section 2. Access to Food

The purpose of this module is to assess where food within the household comes from and how easy/difficult it is to obtain.

1. Of the food you made at home in the **last year**, how much of it comes from each of these places? Circle none, some, most or all for each.

	None (0%)	Some (25%)	Most (more than 50%)	All (100%)
How much of the food you made at home comes from a supermarket/grocery store?	none	some	most	all
How much of the food you made at home comes from a convenience store?	none	some	most	all
How much of the food you made at home comes from a farmer's market?	none	some	most	all
How much of the food you made at home comes from a food bank/food pantry?	none	some	most	all
How much of the food you made at home comes from a garden (home or community)?	none	some	most	all
How much of the food you made at home comes from other? _____	none	some	most	all

2. Of the food you made at home in the **last month**, how much of it comes from each of these places? Circle none, some, most or all for each.

	None (0%)	Some (25%)	Most (more than 50%)	All (100%)
How much of the food you made at home comes from a supermarket/grocery store?	none	some	most	all
How much of the food you made at home comes from a convenience store?	none	some	most	all
How much of the food you made at home comes from a farmer's market?	none	some	most	all
How much of the food you made at home comes from a food bank/food pantry?	none	some	most	all
How much of the food you made at home comes from a garden (home or community)?	none	some	most	all
How much of the food you made at home comes from other? _____	none	some	most	all

3. How often do you shop for food?

- every day
 2-3x week
 1x week
 every other week
 once a month
 Other: _____

4. How do you get to the store most often?

- Car
 Bus
 Walk
 Bike
 Taxi
 Other

5. Besides stores, where else do members of your household get food? (check all applicable)

- Farmers market
 Home garden
 Community garden
 School cafeteria
 Food Bank/Pantry
 Senior meal site
 Mobile vendors
 Fast food restaurants
 Church/Community organization
 Home-delivered meals

Other (please specify)

6. How would you rate your ability to access the quality and quantity of food you want from the place you live?

very difficult difficult neutral easy very easy

7. Are there certain foods you need that are difficult to get in your neighborhood?

No Yes, which foods and why? _____

8. Please indicate whether you agree, neither agree nor disagree, or disagree with each statement.

	Agree	Neither agree nor disagree	Disagree
The quality of fresh fruit and vegetables to purchase in my neighborhood is good			
The choice of fresh fruit and vegetables to purchase in my neighborhood is good			
Fresh fruit and vegetables in my neighborhood are expensive			
The quality of the grocery stores in my neighborhood is good			
There is a good choice of different types of grocery stores in my neighborhood			
I do most of my grocery shopping in my neighborhood			
It is difficult for me to go grocery shopping in my neighborhood			

Section 3. Diet and Income Status

This set of questions asks about the impact of income on diet, nutrition and health for individuals living in your household.

1. Which of the following statements best describes the food eaten in your household in the past 12 months (please check one):

You (and others in your household) always has/have enough of the kinds of food

you wanted to eat.

You (and others in your household) had enough to eat, but not always the kinds of food you wanted.

Sometimes you (and others in your household) did not have enough to eat.

Often you and others in your household didn't have enough to eat.

2. The following statements are about the food situation and experience for the individuals in your household. Please circle one response for each question.

	Often (almost every month)	Sometimes (some months, but not every month)	Occasionally (one or two months in the last 12)	Never
During the past 12 months, you (and others in your household) worried that food would run out before you got money to buy more.	often	sometimes	occasionally	never
During the past 12 months, the food that you (and others in your household) bought just didn't last and there wasn't any money to get more.	often	sometimes	occasionally	never
During the past 12 months, you (and others in your household) couldn't afford to eat balanced meals.	often	sometimes	occasionally	never
During the past 12 months, did you or others in your household ever eat less than you felt you should, cut the size of your meals or skip meals because there wasn't enough money for food?	often	sometimes	occasionally	never
During the past 12 months, did you or others in your household ever not eat for a whole day because there wasn't enough money for food?	often	sometimes	occasionally	never

If you are in a building that does not have a community garden or kitchen, please skip Section 4. If your building does not have a community garden or kitchen program you have completed the survey. Thank you for your time.

Section 4: Community Gardens and Kitchens (for sites with food programs only)

This section is for individuals who live in buildings that have community gardens or a community garden/kitchen program.

1. Does your building have a community garden: Yes No

If yes, do you participate in this program? Yes No

If no, why not? _____

If you live in Fraserwood or Alderwood buildings, which of the following do you use:

Communal plots Individual plots

1a. If yes, how would you rate the garden?

excellent very good good poor very poor

1b. If you use a community garden please indicate your agreement or disagreement:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Using a community garden has positively impacted my diet.					
Using a community garden has positively impacted my access to healthy food.					
Using a community garden has changed the way I prepare food.					
Using a community garden has made a difference in my physical health.					
Using a community garden positively impacts my relationship with my neighbours.					
Using a community garden my overall sense of wellbeing.					

2. Does your building have a community kitchen: Yes No

If yes, do you participate in this program? Yes No

If no, why not? _____

2a. If yes, how would you rate the kitchen?

excellent very good good poor very poor

2b. If you participate in one of the programs described above, please indicate your agreement or disagreement with each statement.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Using a community kitchen has positively impacted my diet.					
Using a community kitchen has positively impacted my access to healthy food.					
Using a community kitchen has changed the way I prepare food.					
Using a community kitchen has made a difference in my physical health.					
Using a community kitchen positively impacts my relationship with my neighbours.					
Using a community kitchen my overall sense of wellbeing.					

Section 5. Personal Information

1. What is your gender? Male Female

2. In what year were you born? 19_____

3. What language do you speak most often in your home?

4. What is your ethnic background? (Check only one.)

Aboriginal Black/African Descent Caucasian

- Chinese Indo-Canadian Latin American
 South Asian/West Asian/Arab More than one race
 Other: _____

5. How many people, including yourself, live in your household? _____

6. What is/are their age(s):

	Person #1	Person #2	Person #3	Person #4	Person #5	Person #6
Age						

7. Of the following options, which best describes your current employment status?

- Working - full time Working - Part time Unemployed
 Disabled Retired Homemaker (no paying job)

8. Approximately what is your height? _____ feet & _____ inches or _____ cm

9. Approximately what is your weight? _____ pounds or _____ kilos

10. In what range does your annual household income fall?

- above \$80,000 per year \$40,000 to \$50,000
 \$70,000 to \$80,000 \$30,000 to \$40,000
 \$60,000 to \$70,000 \$20,000 to \$30,000
 \$50,000 to \$60,000 under \$20,000
 don't know

You have now completed the survey. Thank you for taking the time to complete it.

APPENDIX C: KEY INFORMANT INTERVIEW GUIDE

Introduction

In partnership with BC Non-Profit Housing Association, MVHC is conducting an assessment of tenant food security programs, with the goal of determining the impact these programs may have on the food security, health and wellbeing of tenants. The project involves two surveys and a series of interviews. The interviews are designed to supplement the survey findings and provide more insight on tenant food security and the impact that food programs can have on tenant households. We are interviewing a number of tenants including non-participants and participants in community food programs.

MVHC has hired an independent consultant, M. Thomson Consulting, to conduct the survey. **All responses will be kept confidential and will be used only for the purposes of this project. The consultant will not share any information that could identify you as a participant with MVHC.**

Survey Section 4 : Community Gardens

1. Building currently has a community garden: Y/N

If yes, complete following questions; if no go to 7

2. In your survey you indicated that you do/do not make use of it. Confirm.
 - If no, why? What would need to change in order for you to use a garden? Is it purely a space issue, or are there access or educational elements that would need to be in place
 - If no, continue to question 19
3. You rated the garden as _____. Is there anything that can be done to improve it? What kinds of facilities or programs would make it better?(e.g. more space, more tools available, seed provision, workshops on gardening practices/seed saving, more cooperative planning of garden beds, kitchen with facilities to preserve food for winter, etc.)?
4. You indicated that it has _____ impact on your diet and access to healthy food. Can you please describe in more detail?
 - Does this change seasonally?
 - What do you produce?
5. You also indicated that the community garden:
 - has _____ impact on your personal wellbeing
 - has _____ impact on the way you prepare food

- has _____ impact on your relationship with neighbours
 - has _____ impact on your health.
 - has _____ impact on your access to healthy food
 - **For positive responses:** Can you please describe how it impacts these things?
 - **For negative responses:** Why do you think it may not have had an impact on your (health, relationship with neighbours, etc.)?
 - Are there other benefits?
6. Do you have past experience with vegetable gardening? (Has this impacted your ability to make use of the community garden?)

For no availability or no use:

7. Do you have any past experience with vegetable/home/community gardens?
- Do you think having access to a community garden plot would impact your diet or health?
8. If there was a community garden available/plots available would you want to make use of it? Why or why not?
9. If a garden is not available on site but present in the neighbourhood would you use it?
10. **For sites with no garden only:** Would you foresee any problems or challenges with putting a community garden into this housing site?

Survey Section 4: Community Kitchens

11. Building currently has a community kitchen: Y/N

If yes, complete following questions; if no go to 17

12. In your survey you indicated that you do/do not make use of it. Confirm.
- If no, why? What would need to change in order for you to use the kitchen?
 - If no, continue to question 19
13. You rated the kitchen as _____. Is there anything that can be done to improve it? (e.g. more meeting times, new appliances, increased education/training, etc.)

14. You indicated that the kitchen has _____ impact on your diet and access to healthy food. Can you please describe in more detail?
- Does this change seasonally?
 - What do you produce?
15. You also indicated that the community kitchen:
- has _____ impact on your personal wellbeing
 - has _____ impact on the way you prepare food
 - has _____ impact on your relationship with neighbours
 - has _____ impact on your health.
 - **For positive responses:** Can you please describe how it impacts these things?
 - **For negative responses:** Why do you think it may not have had an impact on your (health, relationship with neighbours, etc.)?
 - Are there any other benefits?
16. Do you have past experience with community kitchens or preserving food?
(Has this impacted your ability to make use of the community garden?)

For no kitchen availability or non-users:

17. Do you have any past experience with community kitchens?
- Do you think having access to a community kitchen would impact your diet or health?
18. If there was a community kitchen available would you want to make use of it?
Why or why not?
19. If a kitchen is not available on site, but present in the neighbourhood would you use it?
20. Would you foresee any problems or challenges with putting a community kitchen into this housing site?

Survey Section 1

Personal Information

21. About how much of your household budget goes to rent (a third, half, etc.)? Is your rent subsidized?

Diet and Food Preparation

22. **Diet:** In your survey you indicated that your diet was _____.
- What does a healthy, balanced diet mean for you (prompts include what kind of food, 5 servings of fruits and vegetables a day)?
 - Are you able to cook the foods you want to? Why/why not? (e.g. no equipment, no time)?
 - **If no:** Do you think this adversely impacts your diet?
 - Are there any food sources that you want to make use of but cannot (e.g. ethnic food, farmers markets, specialty stores, restaurants, etc.)? Why not (access, cost, etc.)?
 - Are there any other challenges you face to having a healthy, balanced diet (e.g. cost of food, time to prepare food, ability to cook)?
 - What would help improve your diet?
 - How do you think your diet affects your health and wellbeing? What about other members of the household?
23. **Knowledge of food preparation:** In your survey you indicated that your knowledge of food preparation was _____.
- **If knowledge is good or below:** What would help you gain more knowledge (e.g. community food programs, cooking workshops, a place to prepare food with others)?
 - Are there any barriers to gaining more food knowledge (e.g. time working, other responsibilities, children, etc.)?

Physical Health and Wellbeing

24. **Physical health:** In your survey you indicated that your physical health was _____.
- Do you feel that your household is generally healthy?
 - Do you have any disabilities or mobility issues?
 - Do you or other members of your household get sick often?
 - If physical health fair/poor, what contributes to it?
25. **Overall sense of wellbeing:** In your survey you indicated that your sense of wellbeing was _____.
- What helps contribute to this (e.g. good job/not enough work, cost of living, living in affordable housing situation, family, etc.)?
 - Do you have anything else you'd like to add?
26. **Relationship with neighbours:** In your survey you indicated that your relationship with neighbours was _____.
- What has helped you develop relationships with neighbours (e.g. length of time in building, opportunities to casually interact, good public spaces, etc.)?
 - What could improve your interactions with your neighbours?

Survey Section 2: Access to Food

27. You indicated in your survey that you found it _____ (very difficult to very easy) to access the quantity and quality of food easily from the place you live. Can you please expand upon this? Prompts include:
- Grocery stores are close or not?
 - Do you have to make special arrangements to go shopping because of a disability?
 - Are there transportation/access issues?
 - Is there a lack of adequate stores, or no culturally appropriate foods?
 - Is the cost of food reasonable; are there any essential/specific nutritious foods you can't afford?
 - Dietary restrictions?

Survey Section 3: Diet and Income Status

28. In your survey you indicated that general you _____ (did/did not have enough to eat). **If they indicated not enough:** please describe how you experienced lack of food. Prompts include:
- What was the reason for the lack of food (income alone, or were there other factors contributing)?
 - Not enough of what was wanted
 - Not enough of anything
 - Regularly? (e.g. every month)
 - Only once?
29. **For participants who experienced some form of hunger in the last year:** If you experience hunger or lack of food (as described above), what kinds of strategies do you use to deal with them
- not pay other bills
 - access food banks
 - wait until more money comes
 - eat less so that children could eat more
30. Is there anything that would make it easier for you to prepare and eat healthy food? Prompts include:
- Good food box
 - Better selection of local grocery stores
 - Increased income
 - Access to a community garden (not necessarily on site)
 - Community kitchens with cooking workshops
 - Information on diet
 - Collective purchasing programs

Part VI: Conclusion

31. This concludes the interview. Thank you for taking time to talk with me today. I'd like to just give you the opportunity to make any final comments about anything we've talked about today.