Urban Food Security
and the Potential for Urban Agriculture

Jane Rabinowicz
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Developing a Working Definition of Food Security

The dominant theme at the World Food Conference in 1974, food security was brought to global attention as the ability of a country to produce enough food to feed its population (Allen 1999). Since then the concept of food security has expanded beyond simply the strict biological requirements of sustenance for survival. Food security does include consuming at a level adequate for physical and mental health, but also the right to cultural preferences, an appropriate manner in which the food is obtained, and sustainable cultivation methods (Robertson 1990). Food security is therefore presently understood as involving interconnected domains, with questions of agriculture, society, environment, employment and income, marketing, health and nutrition, and public policy (Pottier 1999). For the purposes of this paper, food security is defined consistent with definition established at the World Food Summit in 1996 as being achieved at the community level when "all people, at all times, have access to nutritious, safe, personally acceptable and culturally appropriate foods, produced in ways that are environmentally sound and socially just" (Fairholm 1998, 3). There are two key components to food security: the production or availability of nutritionally adequate and safe food, and the access or capacity to acquire nutritionally safe and adequate food (World Food Summit 1996).

The focus for this paper will be on urban food security and insecurity with attention paid to the nature of the urban food system, asking the questions who is food

insecure, and why urban food insecurity exists. An argument will be made for the role of the current food system, characterized by increasing globalization and commodification, in producing urban food insecurity. Community Food Security is an alternative approach at the local level empowering those most at risk to act to alleviate food security themselves. One of the means to do so is urban agriculture, and its potential to provide increased urban food security will be assessed through theoretical and practical analysis.

Hunger in the City

The phenomenon of urban food insecurity has been attributed to the following interconnected factors:

1. Income insecurity making an individual or household unable to purchase sufficient food or food with adequate nutrient content to assure food security
2. Spatial factors such as living in a neighbourhood without an affordable grocery store, markets or other outlets
3. Disproportionate income allocation to other areas, such as rent, leaving an insufficient budget for food
4. Isolation, loss of autonomy or a lack of a social network

(After Centraide Montreal 2002)

These sources of food insecurity are not related to food availability. Instead, hunger today is most often attributed to problems of distribution, with gaps increasing between poor and rich countries as well as between the poor and rich within countries (Maxwell 1998). Commonly cited reasons for hunger in cities in the developing world include high rates of population growth beyond productive capabilities, high rates of income inequality, land degradation and soil erosion, as well as a host of institutional and economic factors limiting developing societies from achieving food security (Allen 1993).

Income inequality is one source of food insecurity common to countries in the

developed and developing world. Aggregate statistics correlate increased overall health of a given population with minimal income inequality and the income gap in Canada is widening, presenting a bleak outlook for the future of food security if trends continue (Starkey et al 1998). Other common perpetrators of food insecurity in developed countries are unemployment and the welfare crisis (Riches 1998). For many Canadians, the increasing commodification of food supplies is removing the ability to access adequate and nutritious sustenance. Continued lack of recognition in social policy discourse suggests that these trends are likely to persist (Koc & Dahlberg 1999). With the increasing role of markets in shaping government policy, welfare systems have changed and governments are ignoring growing urban problems of hunger and food insecurity (Allen 1999, Riches 1998). As social justice is included in the definition of food security, so to should it be in strategies to alleviate hunger. In the forefront of any policy to eradicate hunger and promote food security in Canada must be the question of "a human right to food" in order to ensure ecological, economic, and social justice (Riches 1998).

Achieving Food Security in Canadian Cities

Developing the means to achieve food security in Canada will involve addressing both the causes and effects of urban food insecurity. A fuller understanding of food insecurity dynamics can then lead to the development and implementation of sustainable solutions (Centraide Montreal 2002). From a theoretical approach, the following questions should be addressed in determining the status of food security in Canadian cities as well as evaluating means of increasing food security into the future:

1. Who produces food for Canadian cities?
2. Who controls agricultural policy and for whose gain?
3. How sustainable is the current urban food system?
4. To what extent is hunger in Canadian cities an outcome of our food system?

The following is an examination of the food system in place in Canada today, followed by an investigation into the potential role for urban agriculture as an alternative means to provide food security in Canada, and a case study of food security and the urban elderly in Montreal.

Urban Food Security

In 2000, the United States Department of Agriculture (USDA) released a report stating that in 1999 a total of 31 million Americans were food-insecure, including approximately 12 million children (CFSC 2002). Estimates for Canada put the proportion of Canadians who are food insecure at about 10% (3 000 000 people) in 1998 (Che & Chen 2001). Urban centers are accounting for an increasing proportion of the Canadian population, making urban food security an issue of growing significance (UN 2002). Food security in North American metropolitan areas, especially in poor neighbourhoods, is becoming a focus for many community organizations. Those most susceptible to food insecurity are the following groups: those living below the poverty line, inner-city residents, children, minority groups, single parents (especially women), people living with disabilities, newly arrived immigrants, and the elderly (CFSC 2002). There are many social services available to these vulnerable groups, including Federal Employment Insurance, Old Age Security, Child Tax Benefit, and the Canada Health and Social Transfer Program. However, urban food insecurity is on the rise. This is evidenced by increases in visits to food banks, for example, 5% of seniors used food banks in 1995 compared with 11% in 2000 (Daily bread Food Bank 2000). Since this increase in urban food insecurity cannot be attributed to shortages in food produced, one must look for

deficiencies in the urban food system.

The Urban Food System

In urban environments almost none of the food consumed is grown locally. The food available for purchase by urban consumers comes from a variety of sources, including outlying areas, more distant farms within a country, and overseas. (Fairholm 1996). Attention and alarm are focused on the increasing globalization of our food supply, leading to social repercussions of increased inequality and poverty, environmental repercussions including pollution and loss of biodiversity, and political repercussions such as the loss of national and local political power due to increased corporate and economic clout (Koc & Dahlberg 1999). The social actors involved in food production and distribution processes are spatially, temporally and functionally separated from each other (Nelson 1996). People in urban settings may have no idea where their food is grown, how it is cultivated, and how nutritious it is. Although harvests are plentiful, the great productive success of modern farming methods is brought into question when viewed against increased hunger and malnutrition in industrial societies (Koc & Dahlberg 1999, Riches 1997).

Further uncertainties are evident in the ecological viability of the food system. Any food imported to cities is transported by car, truck, or airplane, and “this massive shifting of nutrients from rural to urban areas has already diminished the vitality of many of the planet’s most productive croplands, grazing lands, and fisheries, and the process could accelerate as more and more of the human population concentrates in cities in the

coming decades" (Nelson 1996, 10). In North America, the average supermarket item has traveled 1400 miles to end up on the shelf (Brown et al 2002). The fact that control over the global food system rests in the hands of a few is cause for increased ecological concern. Nine companies hold control over the entire global market for seeds (Norberg-Hodge et al 2002). These corporations are experimenting more and more with genetic modification of seed varieties, including the development of seeds which produce infertile offspring. This means that farmers are forced to buy new seeds in order to plant next year's crop, instead of relying on the seeds produced by the preceding year as they have done for centuries. Even if the so-called "Terminator gene" is outlawed, large corporations employ measures to ensure against seed-saving. For example, Monsanto forces farmers who plant the transgenic varieties developed by the corporation to sign contracts legally restricting them from saving seeds (Norberg-Hodge et al 2002). Such control in the hands of a few is alarming for the future of biodiversity and food security worldwide. The United Nations Food and Agriculture Organization estimates that 75% of the world's agricultural diversity has already been lost (FAO 2002).

The present urban food system confiscates control of both production and consumption from the urban consumer. Production is far removed from urban centers, and large conglomerates have increasing control over what is planted and therefore consumed. The social, economic and environmental repercussions go against the definition of food security as our food system is largely unresponsive to individual and community needs. Reversing dependence on distant corporations and becoming more autonomous in food production could bring increased food security to growing urban

populations, and one of the first places to look for a logical response is at the local level.

An Alternative Model: Community Food Security

The community food security model was borne out of individuals' concerns about distancing of their food supply as well as lack of local control over food. In contrast to the impersonal fragmentation of food production and distribution with globalization, the community food security movement is founded upon central principles of prioritization of food needs of low-income people, skill development, urban greening and community building, and strengthening local food resources to meet local needs (Allen 1999, Fairholm 1998, Fisher 1997). This approach to food security is similar to the ecosystems approach in ecology, in the sense that it is a whole-systems approach combining community food planning, community gardening and urban food production, direct marketing, strengthening food assistance, farmland protection, food retail strategies, and community and economic development (Allen 1999).

Difficulties in implementing this model include variation in goals and interests of community members, participant regulation, decision-making, and the emphasis on the local scale means that many problems caused at the global scale cannot be fully rectified even though they are manifest at the community level. What will be an important determinant to the success of community food security initiatives is allocating responsibilities appropriately between local and national bodies. While some analyses and actions will require local implementation for optimum success, other challenges will be best dealt with at the national or international level. Because the "community food

security movement" is relatively new, these challenges are to be expected and the framework for policy remains vague (Anderson & Cook 1999). This is a growing movement, and despite obvious challenges, community organizations are re-evaluating the processes of food production and distribution. Outcomes include a resurgence of farmers' markets, urban gardens, Community Supported Agriculture and community kitchen programs. These efforts combined represent compelling alternatives to the currently dominant corporate urban food system model. Local food production has the potential to increase food security and environmental sustainability by cultivating varieties best suited to grow in the local climate and soil conditions, cultivating a diversity of crops, and decreasing greenhouse gas emissions from transport.

Urban Agriculture

Urban agriculture is one way in which communities are regaining control over their food supply, bettering their nutritional intake and supplementing incomes. This is not a new practice, but has been growing over the past few decades in response to increased food insecurity in urban areas. There is room for this growth in many cities, with an abundance of vacant lots, rooftops and balconies suitable for agricultural use. For example, in 1995, a Vancouver study estimated 6, 500 acres of cultivable land in the City of Vancouver (Levenston 1995). In this sense it is not a question of land availability but feasibility issues that will determine the success and sustainability of urban agriculture into the future. Issues such as soil contamination, funding to community groups wishing to instigate an urban agricultural project, property rights and restrictive urban planning remain significant impediments to garden development (Fairholm 1998). The following

pages provide an analysis of the benefits of urban agriculture to urban food security in all its elements, including social, environmental and economic stability.

Health and Economics

Donna Armstrong (2000) reports increased consumption of fresh vegetables among community gardeners versus non-gardeners, coupled with lower consumption of sweet food and drinks. Further, the community development and empowerment stimulated by a community gardening initiative have been documented to bring about general health promotion in the community (Armstrong 2000). Locally organically grown food is more nutritious and fresh than imports. At the Berkeley Youth Alternatives (BYA) Community Garden Patch in West Berkeley, households supplement their budgets by growing their own food, as well as selling excess for profit. The garden is "a place that provides physical resources and community services that help a diverse, working class neighbourhood sustain itself" (Lawson 1995, 47). Household food production frees up income for other needs, providing increased food security on one hand and increased economic security on the other.

Community Development

Many who participate in urban agriculture do so out of a desire to connect with others who share in their frustration with the loss of community in the urban landscape. The groups susceptible to food insecurity have been among the most successful and have been in the majority of active participants in community development:

> many neighbourhoods defy commonly held negative characterizations of urban life, exhibiting instead enduring bonds of reciprocity and trust that tide family, friends, church members, and whole communities over hard times … many inner-city communities are

> rich in social and environmental capital even while they re poor in economic resources. (CFSC 2002, 14)

In this sense, poverty and community fragmentation both cause food insecurity and spark movements for its eradication.

Environmental Benefits

There are a multitude of environmental benefits of urban agriculture. Organic wastes can be better cycled because the urban environment is the locus of both food production and consumption, instead of purely an endpoint (Nelson 1996). Decreased fossil fuel emissions are an obvious outcome, as transporting and refrigerating food over long distances would be no longer necessary. Urban biodiversity increases due to habitat provision in the form of gardens as well as the tendency of urban growers to cultivate a variety of foods (Fairholm 1998). Finally, urban agriculture reduces packaging, mitigates storm-water runoff, increases oxygen production, controls temperatures through shade and transpiration (Lawrence 1996, 9).

Through these interrelated benefits, urban agriculture has the potential to combat food insecurity by providing affordable culturally appropriate foods and fostering autonomy in food provision for low-income and other vulnerable urban households.

Case Study: The Elderly and Food Security in Montreal

Older Adults and Food Security

Lifestyles and nutrient requirements differ between the elderly and general population, as aging affects mobility and access to food as well as absorption, utilization and excretion of nutrients (American Dietetic Association 2002). There are many factors

that affect the nutrient intake of the older population, including poverty, social isolation, depression, dementia, dependency, functional disability, poor dentition and oral health, chewing and swallowing problems, chronic diseases or conditions affecting diet, minority status, and living alone (American Dietetic Association 2002). In general, low incomes, limited mobility and/or poor health are the factors most often attributed to causing food insecurity among older adults (Brink 2001, Wolfe et al 1998). Poverty is an extremely strong indicator of nutrition risk and food insecurity. Seniors who are poor or living on a fixed income may not have the money for adequate sustenance or may opt to eat fewer meals to make their income go farther. The combination of limited funds and limited mobility to go shopping put older adults at an increased risk for food insecurity (American Dietetic Association 2002, Lee & Frongillo 2001).

Wolfe et al (1998) identified "inadequate usual means of food acquisition" as a precursor to food insecurity among the elderly, which then progresses in the following four stages:

1. Compromised diet quality and variety and a limited ability to obtain foods recommended for health problems
2. Anxiety or uncertainty of food resources and food management strategies
3. Having to eat meals that are not socially acceptable or eating less
4. Having to use emergency food management strategies

(Wolfe et al 1998, 333)

Increased hunger among senior citizens has been documented in a Daily Bread Food Bank survey comparing hunger status of older adults using Toronto food banks in 1995 with that of 2000. The proportion of food bank users over the age of sixty increased from 5% in 1995 to 11% in 2000, substantiating hypotheses that Canadian seniors' food security is in question. Out of these food bank users, only 4.5% visited more than once in 1995 compared to 26% in 2000. Seniors visiting food banks are reporting increased

frequency of hunger, from 26% in 1995 to 31% in 2000 experiencing hunger weekly and 34% to 47% experiencing hunger monthly (Daily Bread Food Bank 2000). Many seniors discussed mobility difficulties as well as transport costs as impediments to adequate nutrition.

Despite the fact that incomes for older adults have on the whole risen more in the past two decades than any other age group, their mean income remains below that of younger cohorts in all provinces (Statistics Canada 2001). Approximately one fifth of Canadian seniors live below Statistics Canada's Low-Income Cut-offs. There is a wide range between provinces, with 30% of seniors living below the cut-off in Quebec and 14% in Ontario (Statistics Canada 2001). Further, in the context of increasing income inequality in Canada, those low-income seniors vulnerable to food insecurity are more at risk. For example, the mean daily income of people over sixty using food banks in Toronto decreased from $11.50 to $6.54 per day between 1995 and 2000 (Daily Bread Food Bank 2000). The majority of Canadian seniors' livelihoods are supported by public pensions, and typically these pensions are so low that those who do receive them cannot meet rising health care costs and other living expenses. In Toronto, for example, each year seniors' pensions pay $6,500 *below* Statistics Canada's Low Income Cut-Off, often referred to as the poverty line (Daily Bread Food Bank 2000).

Food Security and Older Adults in Montreal

The income of senior citizens in Quebec is much lower compared to incomes of the same age group in many Canadian provinces. Average incomes for older Quebecers

was $18, 600 in 1998, compared to $22, 000 in Ontario and British Columbia and $15, 000 in Newfoundland. More importantly, the proportion of low-income seniors is higher in Quebec than in any other province (Statistics Canada 2001). One would therefore expect substantial food insecurity among senior citizens in Quebec cities.

Senior citizens account for a higher proportion of the Montreal population than the rest of Quebec and Canada (15%, 12% and 12% respectively), and older adults account for a higher percentage of food bank users in Montreal than in Toronto (Daily Bread Food bank 2000, Starkey et al 1998). Further, a higher proportion of seniors in Montreal live alone (one third) and below the poverty line than in Quebec and the rest of Canada, and as many as 50% of Montreal seniors suffer from malnutrition (Santropol Roulant 2002).

There is need among the urban elderly of Montreal, and a variety of solutions have evolved in response to this need, usually falling into categories of food production or distribution. Due to the emphasis on encouraging autonomy in the definition of food security, the future potential of urban agriculture as a production option to assure food security is emerging in recent literature. *"The Vacant Lot"*, a film produced by the Canadian National Film Board, will be the subject of the first case study in this analysis. It documents a garden developed by senior citizens living around the Jewish General Hospital in Montreal. On the distribution side, a second case study will focus on Santropol Roulant, a not-for-profit community Meals-on-Wheels organization using food as a vector to foster intergenerational relations between young volunteers and older meal

recipients. These two cases demonstrate potential adaptations of the Community Food Security model in promoting better nutrition and community development in the city.

"The Vacant Lot": Combating Urban Food Insecurity Through Production

It's never too late to grow, Plants and Seeds to Sow,
To irrigate, plough and harrow,
To live fully today with the promise of tomorrow.
No greater sight, never more awesome,
Than seeing plants develop and blossom.
The birth of life, the spirit of elation,
All this and more is our remuneration
For doing God's handiwork in helping creation.
(Joseph Shechter, Publicity Director for
the Jewish General Hospital garden, 1977)

"The Vacant Lot" is a 1977 National Film Board production focusing on the development of a community garden instigated and operated by senior citizens. The City of Montreal provided a great deal of support, with then one of the most progressive policies on urban agriculture in the country. Montreal still today boasts one of the most well-organized and productive community gardening programs in Canada, with approximately 100 community gardens on the island (City Farmer 2002). Most of these gardens are maintained by the City of Montreal operating out of the Department of Sports, Recreation and Social Development. Montreal is the only city in North America to have official community garden zoning, and 13 gardens in Montreal are protected by this by-law (City Farmer 2002).

Gordon Ewing, a resident of the garden neighbourhood, spent two years raising support and the $3, 800 required to establish a community garden on a once-vacant lot owned by the Jewish General Hospital in Montreal. He lived near the unused land surrounded by other older adults with nothing to do with their time. The 176 gardeners in

the 1977 documentary were mostly Jewish of Eastern European descent. They ranged from experienced gardeners who grew plots in their home countries, to new gardeners with no previous experience at all.

The garden became a place to meet, eat, exercise, and be together while providing increased food security to this vulnerable group. One man says that “at the prices of today, I think that these are a godsend” (NFB 1977). Each gardener receives a 12x12 foot plot, and married couples get twice the amount plus an extra foot for good luck. One gardener says that through gardening “we know we’re not alone in the world and the worst thing for people of our age is loneliness and instead of making this a time of loneliness we make it a time of brotherhood” (NFB 1977). There is an annual picnic held at the beginning of September, and the next season is eagerly anticipated when the garden shuts down: “when winter comes I wait for spring” (NFB 1977). The gardeners interviewed appear happy and busy, despite the occasional squabble, and the garden has been hailed a success. Beyond providing increased food security, it is a venue for aged Montrealers to congregate and enjoy themselves.

Urban agriculture in this venue serves the dual purpose of assuring food security and promoting community development among an age-segregated population with ample time and experience. Data on this garden is limited, and research for this paper has been conducted beyond the growing season, therefore the extent of food security provided or supplemented by the garden is difficult to determine. What is clear is that the garden supplements nutrition from other sources and food security benefits are intricately tied to community development. This combination, achieved in this case through production, is

shared with Santropol Roulant, linking food security and community development on the distribution side.

Santropol Roulant: Combating Urban Food Insecurity Through Distribution

Founded in 1995, the mission of Santropol Roulant is to provide Montrealers living with a loss of autonomy with nutritious meals up to six days a week. The NGO now delivers meals to 132 clients in nine neighbourhoods throughout Montreal. The age distribution of clients is approximately as follows: 10% younger than 60, 20% between the ages of 60 and 79, and 70% aged 80 and up (Reid 2002). These numbers provide an indication as to the nature of need among older adults in Montreal, as the vast majority of those using Santropol Roulant's services are 80 years old and older.

The organization is run by young people (most of the volunteers are university students), and most of the clients are senior citizens. One of Santropol Roulant’s many goals is to bridge the generation gap through contact between clients and volunteers during meal delivery. Meals are prepared by volunteers and staff at the Santropol Roulant kitchen and delivered by bicycle, on foot and by car to those in need. In this sense food serves as a vector, and the Meals-on-Wheels program serves the dual purpose of food security provision and community development. Other programs include the Carrefour des Generations, a centre dedicated to promoting “Intergenerationalism” through regular activities for volunteers and clients such as yoga workshops, brunches and outings. University and CEGEP students participating in “Project Go” organize and operate their own “meals-on-Wheels club” out of their learning institution and deliver meals prepared

by the Santropol Roulant kitchen to clients in their neighbourhood. The only government funding Santropol Roulant receives is salary money from Emploi-Quebec. Otherwise Santropol Roulant operates without any government funding, supported by the $3.50 it receives per meal and by private foundations. Clients are referred to the organization by CLSCs, social workers, hospitals or family doctors.

Santropol Roulant looks at food provision as a catalyst for community development. Food is a vehicle in a network that serves to break isolation and brings people together through job training, volunteer work and other activities, and reaching out to people confined to their own homes. Why food? Eating enough is a basic need that every person understands. Due to its multiple goals of food security provision and community development, Santropol Roulant is a very idiosyncratic organization, not fitting squarely in the realm of other Meals-on-Wheels or Gerontological organizations. Organizations such as Santropol Roulant fall through the cracks in classification of organizations acting to increase urban food security due to the strong emphasis on encouraging autonomy. Instead, it is classified as a "service" organization, part of a food network but not promoting food security. Santropol Roulant's clients use the service because they have lost their autonomy, and for the many suffering from chronic illnesses, physical or mental disabilities, they will never regain the ability to purchase and prepare adequate sustenance for themselves. The organization's service allows these people to remain at home, to maintain their independence in whatever capacity they can, by providing nutritional requirements and social contact in meal delivery. Volunteer meal-deliverers can check in on clients, make sure they are in good health, and help them with

food preparation or other basic household tasks. For these reasons, Santropol Roulant is an integral component in assuring food security for urban residents.

Santropol Roulant has experimented with the possibility of incorporating urban agriculture into their programs. In the summer of 2002, they operated a small tomato and herb garden in the backyard of a local cafe. The tomatoes and herbs were used in the kitchen, and in an effort to incorporate homebound clients in Roulant activities, herb bundles were sent out on meal deliveries. In cooperation with the Urban Planning Department at McGill University, Santropol Roulant experimented with the idea of establishing a rooftop garden on their building. They received federal funding from Eco-Action to "green" the roof, but not to grow food, therefore in order to set up a garden for agricultural production, the Roulant will have to solicit funding from another source. The project is interesting to the organization because it combines food production with community development: people getting their hands dirty, gardening workshops, volunteers working together in the garden. Food produced would be for the Roulant kitchen or for a "Good Food Box" alike to the program operated by Foodshare in Toronto. The garden would never be able to produce enough food for all meals on any given day, or during all seasons, but would supplement purchases. Such a program would be an extension of Santropol Roulant's mandate to combine food security provision with community development.

As a member of a Meals-on-Wheels association, Santropol Roulant is currently working to address the problem of succession currently experienced by many of their

counterparts in other areas of Montreal. Meals-on-Wheels organizations have difficulty in attracting volunteers to participate in their services, and because Santropol Roulant is so successful in volunteer participation, the organization sees a future in helping other groups define and implement alternative and economically feasible ways of engaging people in service provision. Santropol Roulant is also interested in experimenting with community economic development through promoting skill development centered around food production and preparation. This would potentially take the form of kitchen workshops on the preparation of products for the market. In facilitating such workshops and reaping profits, self-financing for Santropol Roulant would be tied in with community development, another example of integrated programs fulfilling diverse goals. All future plans are envisioned with the Meals-on-Wheels program remaining the core of the organization's operations.

Conclusions

Despite national governmental policies stressing food security, the urban food system in place today seems unable to provide food security for growing urban populations. The needs of marginalized urban communities are not being met, and urban food insecurity is growing in spite of abundant production. It is therefore time to look to alternative models to meet urban nutritional requirements, and in compliance with Community Food Security, local production and distribution solutions present socially acceptable means to do so. These solutions are being developed by those directly experiencing food insecurity or those who witness the need in those around them and are taking it upon themselves to help.

Urban Agriculture is a viable option to supplement nutrition from purchased supplies. Will it lead to cities self-sufficient in food security? Probably not. Continued backyard, greenhouse and community garden projects along with the prospective for cultivation on Montreal's profuse vacant flat roofs are promising options for the future. However, land is too scarce and populations too large to produce commodities such as wheat for the entire urban community. Further, the climate in a city such as Montreal restricts the growing season to just over one hundred days, and not enough food can be produced in that time for summer consumption, let alone all year round. However, integrated food security models such as Urban Agriculture serve multiple purposes. Montreal urban elderly came together to develop a garden cultivating food and enjoying a time of life that can be characterized by loneliness and isolation. With distribution as a vector, Santropol Roulant serves the same purpose, integrating food security with community development initiatives.

Those susceptible to food insecurity are the same targets for many community economic and human development initiatives and perhaps the future of urban food security lies in a pluralist approach combining benefits gained from many projects with a wide array of goals servicing a wide array of demographics. Undertaking small projects at the local level designed to target vulnerable groups in promoting development and increasing security could put control over food production and consumption back into the hands of the consumer. Such a change in emphasis away from increasing globalization towards our own backyards is a feasible means to empower urban residents towards the

end of food security while bringing communities together and changing the way we look at food in the city.

References

Allen, Patricia (ed.). 1993. Food For the Future. New York: John Wiley & Sons.

Allen, Patricia. 1999. Reweaving the Food Security Safety Net: Mediating Entitlement and Entrepreneurship. *Agriculture and Human Values* 16, 117-129.

American Dietetic Association. 2002. Food, Nutrient, and Supplement Needs of Older Adults. Accessed October 2002. http://www.eatright.com/adap0500.html

Anderson, Molly D. and John T. Cook. 1999. Community Food Security: Practice in need of Theory? *Agriculture and Human Values* 16, 141-150.

Armstrong, Donna. 2000. A Survey of Community Gardens in Upstate New York: Implications for Health Promotion and Community Development. *Health and Place* 6, 319-327.

Brink, Satya. 2001. Lack of Food Security: Focussed Literature Review and Research Framework. Prepared for the Applied Research Branch, Strategic Policy, Human Resources Development Canada.

Brown, Katherine H. 2002. Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *Community Food Security Coalition,* 1-10.

Carson, Joanne G. 2001. Community Foundations: A Growing Resourc for Community Development. *Nonprofit Management and Leadership* 12(1), 7-24.

Casey, Dan. School of Urban Planning, McGill University. Personal Communication: November 10, 2002.

Centraide Montreal. 2002. Food Security Guidelines. Accessed October 2002. http://www.centraide-mtl.org/centraide/static/where/food.shtml

Che, Janet & Jiajian Chen. 2001. Food Insecurity in Canadian Households. *Health Reports* 12(4), 10-22.

City Farmer. 2002. Accessed October 2002. http://www.cityfarmer.org/canadaCC.html

Fairholm, Jacinda. 1998. Urban Agriculture and Food Security Initiatives in Canada: A Survey of Canadian Non-Governmental Organizations. *IDRC Cities Feeding People Series*, Report 25.

Food Security Bureau, Agriculture and Agri-Food Canada. 2002. About Food Security. Accessed October 2002. http://www.agr.gc.ca/misb/fsb/FSB2eng.html

Friedman, Selma & Nell Ahern. 1996. A Friendship Fence. *Horticulture* 74, 18.

Gilbride, Judith A., Elaine J Amella, Estelle B Breines, Carla Mariano & Mathy Mezey. 1998. Nutrition and Health Status Assessment of Community-Residing Elderly in New York City: A Pilot Study. *Journal of the American Dietetic Association* 98(5), 554-58.

Kantor, Linda Scott. 2001. Community Food Security Programs Improve Food Access. *Food Review* 24(1), 20-26.

Kim, Sue Kwock. 1998. The Korean Community Garden in Queens. *The Paris Review* 40(148), 141-142.

Koc, Mustafa and Kenneth A. Dahlberg. 1999. The Restructuring of Food Systems: Trends, Research and Policy issues. *Agriculture and Human Values* 16, 109-116.

Lee, Jung Sun & Edward A. Frongillo Jr. 2001. Factors Associated With Food Insecurity Among U.S. Elderly Persons: Importance of Functional Impairments. *Journal of Gerontology* 56B(2), S94-S99.

Maurer, Donna and Jeffery Sobal (eds.). 1995. Eating Agendas: Food and Nutrition as Social Problems. New York: Walter de Gruyter.

Maxwell, Daniel. 1998. Linking Policy Research to Policy Reform: Two Examples in Urban Food Security. *Food Policy* 23(2), 123-30.

Merritt, Judith. 1977. “The Vacant Lot” (videorecording produced by the National Film Board of Canada). Santa Rosa, CA: Arthur Mokin Productions.

Nelson, Toni. 1996. Closing the Nutrient Loop. *World Watch* 9(6), 10-17.

Norberg-Hodge, Helena, Todd Merrifield and Steven Gorelick. 2002. Bringing the Food Economy Home: Local Alternatives to Global Agribusiness. London: Zed Books.

Lawson, Laura. 1995. A Garden Grows a Community. *Places* 9(3), 47.

Pottier, Johan. 1999. Anthropology of Food: The Social Dynamics of Food Security. Cambridge: Polity Press.

Rainville, Bruno & Satya Brink. 2001. Food Security in Canada, 1998-1999. Prepared for the Applied Research Branch, Strategic Policy, Human Resources Development Canada.

Reid, Vanessa. Executive Director, Santropol Roulant. Personal Communication: November 25, 2002.

Riches, Graham. 1999. Advancing the Human Right to Food in Canada: Social Policy and the Politics of Hunger, Welfare, and Food Security. *Agriculture and Human Values* 16, 203-211.

Robertson, R. E. 1990. The Right to Food: Canada's Broken Covenant. *Canadian Human Rights Yearbook*, 6.

Roe, D.A. 1990. In-Home Nutritional Assessment of Inner-City Elderly. *Journal of Nutrition* 120(11), 1538-1543.

Santropol Roulant. September 2002.www.santropolroulant.org

Starkey, Jacobs et al. 1998. Demographic Characteristics of Food Bank Users in Montreal. *Canadian Medical Association Journal* 158(9), 1143-49.

United Nations Food and Agriculture Organization. 2002. http://www.fao.org

Whitener, Leslie A. 2001. Food Assistance and Welfare Reform. *Food Review* 24(1), ii.

Wilson, Beth with Carly Steinman. 2000. Hunger Count 2000: A Surplus of Hunger – Canada's Annual Survey of Emergency Food Programs. The Canadian Association of Food Banks.

Wolfe, Wendy S. et al. 1998. Hunger and Food Security in the Elderly. *Journal of Aging and Health* 10(3), 327-350.