Harvested, Hunted and Home Grown: The Prevalence of Self-Provisioning in Rural Canada

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Abstract

This research examines self-provisioning activities in rural Canada and describes their prevalence both in terms of participation and the degree to which they make material contributions to households. Self-provisioning is correlated with a number of household characteristics, such as employment, income, and length of residency. Results show that self-provisioning activities are still common in rural Canada, particularly those requiring low capital investments such as gardening and wildcrafting. However the analysis reveals weak associations between socio-economic variables and self-provisioning, providing further evidence that, in aggregate, rural households have complex motivations for participating in self-provisioning activities and that economic need is not always the main driver. The data demonstrate a low level of participation amongst the very poorest households, implying structural barriers to participation for some of these activities.

Keywords: Self-provisioning, embeddedness, hunting, gardening, wildcrafting, domestic production, income, employment.

Introduction

Historically, informal economic activities have played a critical role in rural life. Self-provisioning activities form a subset of behaviors broadly subsumed under the heading "informal economy". Only a few generations ago, most rural households in North America actively engaged in producing some portion of their own means of subsistence. They did this by raising livestock, gardening, hunting, wildcrafting[1] and other activities. Although there is little doubt that these activities have diminished greatly in comparison to the past, they have by no means disappeared from rural culture. The immediate evidence can be seen in the form of backyard vegetable gardens, stacked firewood, and chicken coops. Few research projects have systematically investigated the contribution that self-provisioning activities make to the economy and culture of rural Canada.

[1] Wildcrafting refers to the gathering of wild plants, fruits and berries from their natural environment.

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Most research in North America looks at the informal economy at a broader scale, generally grouping land-oriented, other domestic activities, barter, and various forms of unpaid work together (Campbell, Spence, and Amonker 1993; Jensen, Gretchen, and Findeis 1995). Scholars that have previously examined this topic have noted that there has been little work done dealing with large samples that span large geographies (Tickamyer and Wood 1998). The norm is to focus on case studies of single communities or counties, to use small samples, and to generate data with qualitative methods. In fact, much of the literature on household informal activity focuses on economically marginal areas, in order to assess the contribution these activities make to household economic strategies (Duncan 1992; Felt and Sinclair 1992, Omohundro 1995).

In contrast to the micro-scale, qualitative methods approach in marginal or depressed rural regions, this paper looks at quantitative data from a broad geographical sample. By examining a national sample of households that span the diversity of rural community types and income brackets, we get a clearer picture as to how prevalent self-provisioning activities are amongst the entire rural population, rather than a narrow view of the contribution these activities make among only poor households or residents of marginalized rural regions. As well, we juxtapose a number of theoretical perspectives based on various self-provisioning activities themselves to illustrate that these activities are not only motivated by financial need but also by enjoyment and a connection to rural identity and traditions. While it is clear that self-provisioning is important for some households to help them "get by," this only explains a fraction of the total participation in these activities. Finally, we are able to demonstrate that not all self-provisioning activities are equally accessible to all, and that in fact, the poorest of the poor are shut out from participation in some activities due to a lack of access to land, materials or capital required to participate. We describe some of the contextual peculiarities around many of the activities themselves and why there may be structural barriers that prohibit these poorest of households from engaging in these activities.

Self-provisioning refers to activities that produce material goods, such as food and heat. The activities include hunting, foraging or wildcrafting, gardening, maintaining orchards, raising domestic animals for food and harvesting firewood. Thus, the products we focus on include vegetables, berries, meat, fish, firewood, eggs, and other goods that are consumed domestically or shared among households, but *not* sold for cash. Although today, less than three percent of the Canadian population is classified as farmers (Statistic Canada 2004), we nonetheless hypothesize that a substantial proportion of the rural population continues to engage in self-provisioning activities. Some scholars have suggested that this sort of activity is primarily motivated by household economics, and that, for low income households, self-provisioning may provide important income in-kind (Mingione 1991, Campbell et al. 1993). More recent literature suggests a much more heterogeneous set of motivations for engaging in these activities, ranging from cultural preferences, the maintenance of social networks, to simple lifestyle choices. For some, self-provisioning activities may be an important cultural link to the past. For others, engaging in these activities might contribute to a feeling of self-reliance and satisfaction in doing things for oneself. They may be important in maintaining social connections and informal relations of mutual dependency and reciprocity through the gifting, trade and barter of goods.

In this paper, we test the hypotheses that self-provisioning activities are primarily motivated by economic need. However, based on the literature, we do not expect to find support for this hypothesis. Rather, more and more evidence is emerging that a broad spectrum of household types engage in self-provisioning activities and that these things are not the exclusive domain of poor, lower income, or underemployed households. So we do not expect to find significantly higher participation in these activities among lower income or less employed households. Furthermore, we have data on the amount of material goods consumed that come from non-purchased sources. If economic need is the main driver for participating in self-provisioning activities, consumption of self-provisioned goods should be higher among households in lower income brackets or those with less employment. However, we again suggest that with a national sample of households from a range of rural community types, that consumption of self-provisioned goods will be relatively constant across a broad range of income categories.

Our data contain information about the participation in these activities. As well, we provide data on amounts of goods consumed that are obtained through self-provisioning. The data come from a large sample, close-ended survey questionnaire and do not include explicit articulations of the motivations for engaging in these activities. However, in the end, the data clearly demonstrate that, at a national level, these activities are not restricted to marginal rural regions nor to marginalized rural households.

The data for this project was collected as part of a national survey of almost two thousand households across 20 rural communities in Canada conducted by the New Rural Economy Project in 2001. Communities were sampled in order to represent the diversity of communities across Canada (Reimer 2002). Included in the survey were a number of questions pertaining to participation in, and exchange of informal economic activities including both land-based and non land-based activities, such as gardening, painting, automobile repair, and childcare. Despite being administered face-to-face, the survey consisted entirely of closed ended questions. With regard to self-provisioning activities, respondents were asked to report the amount of household meat and vegetable consumption coming from non-purchased sources. The purpose of this analysis, beyond documenting the prevalence and importance of self-provisioning in Canada, is to delve into the specific characteristics of households that do and do not participate in these activities. Information about household participation in self-provisioning activities is therefore correlated with a number of other household characteristics such as employment, income, and length of residency in the community. While this study did not set out to uncover the motivations for participating in self-provisioning, explorations of the relationship between self-provisioning and these socio-economic variables can nonetheless provide some clues about the nature of those households most and least likely to participate in these activities.

Literature Review

To situate our own work, we examine the intersection of three discrete literatures; informal economy (with emphasis on self-provisioning), embeddedness, and motivations for participation in particular activities such as hunting and wildcrafting.

Self-provisioning as part of the informal economy

While there are varying definitions of the informal economy, the characteristic on which most studies agree is that it encompasses activities that are not systematically recorded or regulated by the government. Skolka (1985) describes the informal economy as the output of hidden paid work and unpaid productive work. Beneath this umbrella falls everything from overtly criminal activities to barter, trade, volunteering and self-provisioning (Ellison, Arsenault, Reimer 1997; Nelson 1999; Tickamyer and Wood 1998). Levitan and Feldman (1991) make the point that non-monetary activity, whether done for household consumption or for social exchange, belong as equally to the informal economy as unregulated economic activities.

Our focus is on a subset of the activities that fall under the informal economy umbrella. We focus exclusively on a set of activities known as subsistence, domestic production or self-provisioning. There is a good deal of definitional overlap between the terms subsistence and self-provisioning. The term subsistence economy, on its own, has often been associated with the traditional activities of Aboriginal populations such as hunting, trapping and fishing, and as such has often been the domain of anthropologists (Beckley and Hirsch 1997; Usher 1981; Nord 1994). The term has been used less often in relation to the population at large. In their study of the Mississippi Delta, Brown, Xu, and Toth (1998) put forward the concept of "mixed economy" to describe systems where both non-market and wage-based characteristics coexist. They describe participation in the mixed economy as a situation where: "participants both garner a wage or salary and participate in activities like hunting, fishing, and gathering wild harvested or home grown/produced products for reasons other than leisure (1998:600).” We chose to use the term self-provisioning because, like Brown et al. (1998), we were looking at households where these activities were a complement to purchased goods rather than a means of survival. As well, we look at the activities themselves and do not restrict our view to a subset of motivations for participation (e.g. for reasons other than leisure).

Not surprisingly, most research encompassing self-provisioning in industrialized countries has been conducted in rural areas. British researchers have a tradition of looking at household self-provisioning and informal exchange activities such as gardening, home repair and domestic services especially in the context of declining employment (Mingione 1991, Pahl and Wallace 1985). There have been several studies of a similar nature in the United States (Campbell et al. 1993, Jensen et al.1995). In Canada, research on self-provisioning has largely focused on the activities of Aboriginal populations, however, there are also a few case studies of self-provisioning in non-Aboriginal communities (Felt and Sinclair 1992, Richling 1985). Taken as a whole, the literature reveals that researchers are taking seriously the task of unraveling a complicated set of questions regarding who participates in the rural informal economy, in what activities they partake and their motivations for doing so. There is also a growing interest in studying the relationships of social exchange and reciprocity that surround the informal economy (Brown et al. 1998; Levitan and Feldman 1991, Richling 1985).

A central point of debate in the literature is the role that economic need plays in driving the informal economy versus other factors such as lifestyle and cultural practice. Some researchers have characterized the informal economy as being the domain of the poor and disenfranchised who are unable to enter the formal

workforce. In a qualitative study, Campbell et al. (1993), describe the production and trading of informal goods and services to be one of few options for underemployed residents of the Missouri Ozarks. Mingione (1991) describes informal economic activities in the context of the employment crisis and emphasizes the role of these activities in bolstering low-income households.

However, several more recent studies find no clear relationship between income and participation in the informal economy, nor evidence that those excluded from the formal labour force are more likely to partake in informal economic activities. The Jensen et al. (1995) study of the informal economy in rural Pennsylvania found little variance in participation among households of different incomes. Although there was a trend towards higher participation among low to middle-income families and lowest participation amongst the poor, the relationship was not statistically significant. Jensen et al. (1995) also found that older respondents were more likely to participate than younger respondents, with the exception of the elderly. Longer residency in the community resulted in diminished participation. In their study of the Isle of Sheppey in Scotland, Pahl and Wallace (1985) found a similar proportion of informal work reported within each social class, although differences existed along gender lines, with unemployed women and employed men most likely to participate. Brown et al. (1998), in their study of another economically depressed region, the Mississippi Delta, found higher participation amongst households with higher incomes. This was true for both those activities classified as driven by 'economic' need and those classified as 'lifestyle' oriented. Younger respondents, white, males, and those working many hours were most likely to be involved in informal activities in general. They also found a positive relationship between the number of adults in the household and the degree of participation.

Two Canadian studies of self-provisioning in the Great Northern Peninsula in Newfoundland describe self-provisioning as part of a cultural tradition of self-reliance.

These activities play an important role in counterbalancing a marginal economic situation, however, neither Felt and Sinclair (1992) nor Omohundro (1995) found a relationship between economic need and involvement in self-provisioning activities. For example for the communities of Main Brook and Conche, Omohundro (1995) observes that about half the households in "comfortable" and "average" income categories maintain gardens, compared to one quarter of those in the "struggling" economic category. Nor did gardening households have significantly more able-bodied workers or fewer income-earners than non-gardeners. He attributes participation to factors such as the pride associated with skilled gardening and the superior taste and quality of home-grown foods.

Lower participation in informal activities among the poor is also attributed to the issue of resource constraints; meaning that households with little extra cash may not have the capital to invest in the implements necessary for these activities. Both Pahl and Wallace (1985) and Levitan and Feldman (1991) found that households with access to land, capital and labour were more likely to be active in the informal economy, although the latter found that social networks helped to buffer poor households from outright crisis.

The issue of access to resources also manifests itself in the types of activities in which rural households engage. Nelson (1999) for example, in her study of

Coolidge County Vermont, found differences between households where one or more adults worked in a "good job" (stable, full-time, year-round) versus those who worked in a "bad job" (casual, low-paying). The former were more likely to have an informal entrepreneurial business on the side, separate from formal employment, such as repair services, yard work, landscaping or crafts. The "bad job" households lacked the skills and capital to invest in a business and were more likely to pick up additional wage work or participate in the sale of goods and services on a more casual basis. Furthermore, for "bad job" households, informal activities were an explicit strategy for generating income while for "good job" households it was more a question of creating additional economic security, exercising a valued skill and receiving social rewards. Nelson also found that the activities practiced by women, in addition to being different from those of men, tended to be less profitable and less demand-driven but were cost saving instead. Similarly, Jensen et al. (1995) found that low-income families were more likely to engage in the provision of personal services requiring minimal capital investment like babysitting or cleaning while the sale of products like crafts and firewood was more common in middle-income categories.

Embeddedness

Many authors have looked at the complex social relations and cultural context of so-called “non-economic” or marginally economic activities (Hinrichs 1998, Bell 1992). Rural residents have participated in many self-provisioning activities because the activities themselves are attributed to rural culture. As employment in farming and other traditional, natural resource-based commodity production wanes, participation in self-provisioning activities such as hunting and wildcrafting provides a connection to the rural past, it legitimizes residents “ruralness” in suburbanizing or exurbanizing regions, and it may also contribute to social capital and social networks through complex webs of exchange and reciprocity.

Granovetter (1985) highlights the complex, social and relational aspects of work, enterprise and economic action. Rather than view humans and human economic behavior as consisting of atomized units attempting to maximize utility, Granovetter urges us to consider constellations of work, unpaid work, household economic security, embedded social relations across a broad range of economic activity.

This attention to the complex motivations for self-provisioning is also advocated by Tigges et al. (1998) who look at self-provisioning and other informal economic activities in the context of rural economic restructuring. Rather than simple survival strategies to supplement incomes, self-provisioning provides meaning, and feelings of self-worth and self-reliance. In many cases, the additional food or fuel is important to a household’s overall livelihood strategy, but it is wrong to assume a one-dimensional view of the motivations behind participating in such activities. Hinrichs (1998) details with great richness the highly contextual factors behind motivations for participating in a highly seasonal, economically marginal activity of maple syrup making in Vermont and Quebec. Some of her most important observations involve the way this activity is nested within other household work, the importance for some in maintaining links to an agricultural family heritage, the maintenance of connections to community and cultural through sugaring, and direct economic benefits (regardless of economic need). In the end, Hinrichs describes the practice of sugaring as part of a “cultural economy.”

Motivations for self-provisioning

One indicator that motivations for participating in self-provisioning activities are diverse is the number of popular magazines catering to individuals who want to be self-reliant. Some of these, such as Mother Earth News and Harrowsmith started during the 1970s in order to cater to participants in the back-to-the-land movement. These early issues were filled with helpful advice for formally educated, urban and suburban youths who were moving to the countryside in large numbers. While many of these individuals were highly educated, few had the practical skills necessary to thrive on the small farms and homesteads that they established. Jacobs (1997) provides an extremely detailed and in-depth look at this social movement and the people who participate in it. Jacob's work articulates the philosophical and ideological motivations for a broad spectrum of individuals to participate in self-provisioning activities.

Starting from the position of the activities themselves and then moving to look at who does them and why, it becomes clear that financial need is not the main motivator for most of these activities. Hunting is a prime example. While hunting still carries a stereotype of being over-represented among the rural poor, research has demonstrated that it is actually common across a broad range of income categories. There is a vast literature that documents motivations for hunting, and that also looks at the demographic profile of hunters in North America. While there is some segment of the universe of hunters who are "food hunters", there are many more who focus on the experience of hunting. Many of these fall into high or middle income categories and rather than receiving income in-kind from game they may harvest, they invest hundreds and thousands of dollars into this activity in the form of equipment, travel, and the purchase of services (guides) to enhance their experience (Stedman and Heberlein 2001, Heberlein et al. 2002) Again, the vast array of popular magazines oriented toward hunters, and gardeners for that matter, are clear evidence that these activities are popular across a broad spectrum of income earners, classes, and household types.

The literature on non-timber forest products provides similar evidence of multiple motivations. While some participate in fiddlehead, mushroom and berry harvesting, wreath making and other crafts for income supplements to other work, or for nutritional supplements to purchased food, many more participate in these activities for the simple pleasure of doing these activities and out of preference for wild or specialty foods. Much of the sociological research on things like mushroom and berry harvests in the Pacific Northwest have focused on economically marginal ethnic minorities, but in fact these activities are also common across income categories (Carroll et al. 2002, Richards and Creasy 1996).

These three areas of sociological research; informal economy, embeddedness, and motivations for self-provisioning intersect to demonstrate the broad array of reasons that rural people participate in self-provisioning activities. While it is true that these activities are important livelihood strategies for some, they are not always the most important motivations for engaging in this sector of the informal economy. While the survey format did not allow us to directly ask respondents why they engaged in these activities, the data do have the capability to disprove the hypothesis that these activities are strongly associated with income and employment. Based on the diverse theoretical literature on the complex and non-exclusive motivations for self-provisioning, we expect to find no strong relationship between income, employment and participation in these activities.

Furthermore, we do not expect to find that low income or under and unemployed households consume more goods obtained through self-provisioning than other income and employment groups.

Context and Methods

This research was conducted as part of the New Rural Economy (NRE) project. This endeavor involves 13 researchers at 12 universities across Canada. The broad objective of this research project is to identify and understand rural problems associated with economic, social and policy changes. As an initiative of the Canadian Rural Revitalization Foundation, the NRE project includes a consideration of the policy relevance of the research[2].

Early in the project, a sampling frame was created to categorize the diversity of rural communities found in Canada. All rural census subdivisions in Canada were stratified across five variables[3]. These included: 1) Degree of connectedness to the global economy, 2) Relative stability of the local economy, 3) Adjacency to metropolitan areas, 4) Level of institutional capacity, and 5) The extent to which the site is "leading" or "lagging". These variables were constructed with secondary data (for more, see Reimer 2002) and resulted in a sampling grid with 32 cells. Rural census subdivisions were grouped into these 32 groups and one site was randomly selected to represent each cell in the matrix[4]. Random-based substitutions were made in a few cases as we wanted to ensure that we had broad geographical representation, proportionate representation among Francophone communities, etc. The resulting sample frame of 32 sites is broadly representative of the types of rural communities that exist in Canada. Some of our sites represent "open country", others are small towns or villages. Our sites include fishing, mining, forestry and agricultural communities as well as others that rely on services, small manufacturing enterprises or tourism for their economic well-being. Because of the leading and lagging variable, which differentiates between sites based on their economic and social performance (indicators include employment rate, median income, government transfer payments, divorce rate) we have some rural sites that are thriving and others that are having difficulty coping with policy changes and structural changes in the economy. Due to issues of resource, time, researcher capacity and in some instances, a lack of interest from the sites themselves, we have been working actively with people in 20 of these field sites since 1997.

In the summer of 2001, the NRE group conducted a large household survey in the 20 active research sites. The survey covered themes of rural services, social cohesion, communication, governance, and community capacity. The self-provisioning and informal economy questions were included as part of the community capacity theme. The household interviews were done face-to-face by field teams (consisting of professors, students and local people) scattered across

[2] For more information see http://nre.concordia.ca
[3] Rural is defined according to Statistics Canada's Census Subdivision (CSD) classification scheme. For this project rural includes CSDs within the rural fringe of a Census Metropolitan Area (CMA) or Census Agglomeration (CA), urban areas outside CMA's and CA's and rural areas outside CMA's and CA's (for more information see Reimer 2002).
[4] No communities from Nunavut, the Northwest Territories or the Yukon were included. Nor are there any Aboriginal communities in the sample.

the whole country from northern British Columbia to the eastern shore of Newfoundland. From amongst the total number of households from each field site, we randomly selected households and recruited respondents by telephone. The sampling frame came from a variety of sources, depending on what was available in the sites including electoral lists, property tax lists, church membership lists, phone books, etc. In many cases multiple methods were used to get as complete a list as possible. Within the households we also randomized respondents by asking to speak with the person over the age of 18 who most recently had a birthday. We used our contacts in the rural communities to help advertise the fact that we were conducting this research. In some cases, local residents were hired to call households to recruit the local samples. Once recruitment was completed by telephone, we scheduled face-to-face interviews. All questions were closed ended and field staff asked questions and tallied the responses. These same individuals coded the data. We targeted 2200 households. Each targeted household was contacted a total of three times before another household from the community was randomly substituted. Overall, the rate of refusal for the 14 sites for which we have records was 48%. A total of 1995 surveys were completed[5]. The sample size is sufficient to generalize to each field site in a statistically reliable fashion.

In order to get fairly detailed data about people's self-provisioning habits, we asked a series of questions about a range of goods. We asked both about the production and consumption of two main categories of food – fruits and vegetables and meat. We also differentiated between fruits and vegetables or meat grown or raised versus those harvested in the wild. For those foodstuffs harvested from the wild we use the term 'foraged edibles'. These refer to wild fruits, vegetables and fungi such as mushrooms, berries, and fiddleheads. We also collected data on firewood as a fuel source. In this paper, we focus exclusively on firewood consumption and the four categories of food; domestically grown vegetables, fruits, berries and other produce harvested from the wild, domestically raised meat or eggs, and wild harvested meat and fish. The only product among this list that is limited by geography is firewood. There are few opportunities to harvest firewood locally in the five prairie sites, but virtually all other communities have access to public or private forestland for firewood harvest. The other products are universally available across rural Canada.

For all categories of goods, respondents were asked a simple yes/no question about whether or not they produce and/or harvest these products themselves, receive them from others, or share with others. Households were also asked to estimate the percentage of total vegetable and fruit consumption and meat consumption that comes from non-purchased sources. For the purposes of this analysis, results for the activities are presented individually as well as the results of the consumption question. Cross-tabulations were performed on a variety of household variables including income, employment, dependence on social assistance/employment insurance and length of residency. Significance tests were performed at a level of 0.05. Multiple regressions were also conducted for all variables exhibiting an ordinal sequence. The construction of each of these variables is described in more detail in the results section.

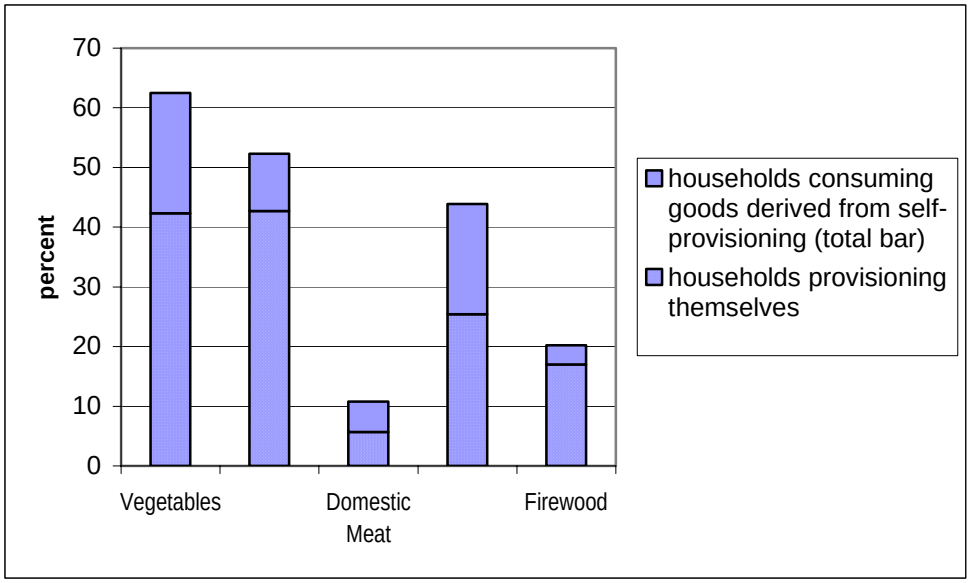
[5] The sample was made up of 63% females and 37% males. The average age of respondents was 53 years old. The average household size was 2.7 people.

Results

As there is virtually no broad historical or contemporary data with which to compare our findings, it is difficult for us to make definitive statements about the past prevalence of self-provisioning in Canada. What we can say is that certain activities are currently much more prevalent than others. As is show in Figure 1, both the consumption and production of domestic vegetables is very common, with 62% of sampled households reporting that they eat vegetables that were not purchased and 42% reporting that they grow vegetables themselves. Foraging wild edibles is also widespread, with over half our sample (52%) reporting eating foraged edibles, and 43% reporting harvesting them. Despite the fact that there are some regions in Canada where the availability of fuel wood, or at least quality fuel wood is scarce 17% of households harvest their own fuel wood. The consumption and production of domestically raised meat is less common however. Only 11% of households report eating meat that was not purchased and 5.7% raised their own animals for meat. This occurs despite the fact that in the past raising livestock for meat, eggs and dairy was commonplace among rural people. Eating wild game is more common, with 44% of the total sample of households participating and just over a quarter of all households hunting for wild game themselves.

Perhaps the most striking finding is the prevalence of some sort of self-provisioning among rural Canadian households. A remarkable 82% of households reported participating in an activity that fell under one of our four categories of self-provisioning. Furthermore, 47% of respondents reported participating in activities from two or more of our categories, and 19% reported participated in three or more. This suggests that self-provisioning remains an important part of the cultural landscape of rural Canada. Obviously, there is less reliance on these activities for fulfilling basic needs than was the case 100 years ago, but very large number of households continue to engage in these activities

Figure 1: Percentage of households consuming goods derived from self-provisioning activities and percentage of these producing/harvesting themselves



As has been reported in other studies such as Felt and Sinclair (1992) and Jensen et al. (1995), we did not find evidence of a clear relationship between economic status and participation in self-provisioning activities. Table 1 breaks the sample down into six household income categories (monetary references are reported in Canadian dollars))[6]. As can be seen, households in the mid to high income categories have highest participation in the harvesting of domestic meat, hunting wild game and harvest of firewood while lower income households are more likely to grow vegetables and harvest foraged edibles. The only clear trend to be found is that of low participation amongst the lowest earners ($0-9,999). This is the case for of all five self-provisioning activities and the difference is statistically significant in the case of vegetable production, firewood harvesting and hunting.

In terms of the amounts of these products consumed by households, we again find few clear trends other than lower-than-average consumption by the lowest earners (see Table 2). The group with the highest rates of consumption of fruits and vegetables was the $10,000 to $24,999 category at 15% and the group with the highest meat consumption were the $60,000 to $79,999 category at 9.5%. These consumption figures provide further evidence that self-provisioning does not seem to be a distinct economic strategy of the poor. In fact, it seems that for lowest earners, there may be certain barriers to participation, such as investments of capital, machinery, and/or access to land. In terms of both consumption and production, the activity that is the most expensive in terms of inputs (domestic meat production) is that in which low earners participate least while the least costly (harvesting foraged edibles) is that in which they participate most. This lends credence to the theory espoused by researchers such as Pahl (1988) and Nelson (1999), that access to resources is an important factor in determining involvement in the informal economy; and that the poorest households are often barred from participating due to financial constraints.

Table 1: Percent of households involved in each self-provisioning activity by income category

Activity	**Total**	Annual household income					
		$0-9,999	$10,000-24,999	$25,000-39,999	$40,000-59,999	$60,000-79,999	+ $80,000
Grow vegetables*	**42.3**	19.1	46.4	46.6	41.7	42.7	34.4
Harvest foraged edibles	**42.7**	40.4	47.5	43.6	42.3	41.9	40.5
Raise domestic meat	**5.7**	2.1	3.6	5.5	7.6	4.8	5.8
Hunt wild game*	**25.4**	19.1	20.3	25.5	29.1	31	29.3
Harvest firewood*	**17**	10.6	12.9	14.5	19.9	17.3	25.5
Number of cases	**1995**	47	364	365	381	248	294

*Chi^2 significant at $p < 0.02$

[6] In the summer that the survey took place, the Canadian dollar was worth about $0.65 of a U.S. dollar

Table 2: Percent of household annual meat/produce consumption from non-purchased sources by income category

Activity	**Total**	Annual household income					
		$0-9,999	$10,000-24,999	$25,000-39,999	$40,000-59,999	$60,000-79,999	+ $80,000
% fruits/veg. Non-purchased	**10.4**	9	15	10.9	9.9	8.1	5.6
% meat non-purchased	**8.3**	5	8.4	8.7	8.4	9.5	7.5
Number of cases	**1995**	47	364	365	381	248	294

We also examined the level of employment of each household and the relationship between employment and self-provisioning. We created employment categories based on aggregated data from within each household. Survey respondents were asked whether members of the household were employed full-time year round, full-time seasonal, part-time year round and part-time seasonal or not employed outside the home at all. Self-employed persons were included in these employment categories. We then assigned relative weights based loosely on the methodology used in the Statistics Canada Labor Force Survey (Statistics Canada 2004a); full-time year round = 1; part-time year round = 0.5, full-time seasonal = 0.5, part-time seasonal = 0.25. We then tallied the total employment for the household.

As is shown in Table 3, the results of employment are consistent with those of income. There is no discernable relationship between the extent of employment in a household and self-provisioning. However once again, households with no employment appear to be least likely to participate. This group scored lowest for the raising of domestic meat, hunting of wild game, and the harvest of firewood. Households with highest employment (score of 2.0 or more) tend to have strong levels of participation, rating highest in all five self-provisioning activities. Again, high employment households have strong participation in resource-intensive activities such as the raising of domestic meat and the harvest of firewood. In fact, they are nearly four times as likely to eat domestic meat as unemployed households.

On the question of the overall amount of non-purchased foods consumed by households shown in Table 4, we see that in the case of fruits and vegetables, households with low and mid level employment consume the most. For wild and domestic meat, the more resource-intensive activities, we see higher rates of consumption amongst more fully employed households.

Table 3: Percent of households involved in self-provisioning activities by type of activity and employment level**

Activity		Employment level					
	Total	0	0.001-0.5	0.5001-1	1.001-1.5	1.5001-2	+2.001
Grow vegetables	**42.3**	43.2	46.2	37.3	44.2	41.3	46.7
Pick wild fruit and berries	**42.7**	40.4	51.5	41.7	46.1	38.9	47.3
Raise domestic meat*	**5.7**	1.6	5.9	5.2	7.4	7.2	14.3
Hunt wild game*	**25.4**	17.6	26	29.1	28.3	25.7	35.2
Harvest firewood	**17**	13.1	20.1	17 .5	15.9	18.8	23.1
Number of cases	**1995**	574	169	406	259	404	182

*Chi^2 significant at $p < 0.02$
**0=no employment, 0.25=quarter-time, 0.5=part-time, 1.0=full-time

Table 4: Percent of household annual meat/produce consumption from non-purchased sources by employment category

Activity		Employment level					
	Total	0	0.001-0.5	0.5001-1	1.001-1.5	1.5001-2	+2.001
% fruits/veg. non-purchased	**10.4**	10.6	16	11.6	9.1	7.9	9
% meat non-purchased	**8.3**	4.7	9.6	8.4	9.4	10.1	12.9
Number of cases	**1995**	574	169	406	259	404	182

Another economic variable that we examined was the difference in participation of households that receive social assistance and those that receive employment insurance[7]. Social assistance recipients had a sample size of only 69 households. Results show that these households are below average in every self-provisioning category except the harvesting of wild edibles. Employment insurance recipients do not distinguish themselves much from the sample as a whole; if anything they show slightly higher participation than the sample average.

The final variable we would like to discuss, length of residency, was based on how long the main respondent had lived in the site. We broke this down into four categories; households where the main respondent had lived there all his/her life, more than 20 years, between 10 and 20 years and less than 10 years. Table 5 shows that there were no clear trends in terms of the relationship between length of residency and participation in self-provisioning. While people who had lived in the community all of their life had highest participation overall, none of the results were considered statistically significant at p<02.

[7] Social assistance refers to benefits available to people whose resources are officially held to be insufficient to maintain a minimum standard of living without such additional help. Employment insurance provides temporary financial help to unemployed Canadians while they look for work or upgrade their skills, while they are pregnant or caring for a newborn or adopted child, or while they are sick.

Table: 5 Percent of households involved in self-provisioning activities by type of activity and length of residency

		Length of residency			
Activity	**Total**	Lived all life	20+ years	10-20 yrs	< 10 yrs
Grow vegetables	**42.3**	46.7	43.4	41.9	36
Pick wild fruit and berries	**42.7**	46.9	42.8	41.3	38.7
Raise domestic meat	**5.7**	7.1	5.3	5.7	4.5
Hunt wild game	**25.4**	25.1	23.8	26.5	27.3
Harvest firewood	**17**	17.6	19.4	15.8	13.4
Number of cases	**1995**	510	680	298	494

We also ran multiple regression using three of the independent variables (household income, level of employment and length of residency) against the dependent variable of participation in self-provisioning, expressed by a self-provisioning index combining participation in self-provisioning activities (one point was given for participation in each activity)[8]. The multiple regression revealed very weak associations between all three variables and the level of self-provisioning activity in the household—accounting for only 1.6% of variance in self-provisioning participation. The weakness of this relationship did not come as a surprise, given the non-linear trends we observe in variables such as household income and employment. These results also support the claim, put forward in other studies, that economic factors are not the overriding factor in determining whether or not households participate in self-provisioning activities.

Table 6: Multiple regression of household income, level of employment, length of residency and number of adults with self-provisioning index

R	R Square	Adjusted R Square	Standard Error
.099	.018	.016	2.1977

Coefficients

Variable	Standardized coefficients	t value	Sig.
	Beta		
Constant		14.984	.000
Income	-.050	-1.816	.070
Employment	.115	4.182	.000
Length of residence	.089	3.687	.000

Conclusions

To date, most studies of self-provisioning and the informal economy have focused on geographic areas that are economically marginal and where it is assumed that

[8] The highest correlation coefficient we found between the independent variables was 0.5.

chronic underemployment amongst the population creates a greater need for informal activities to supplement income. By sampling geographically dispersed communities of varying economic strength from across the country, this study substantiates the finding of previous research that suggests that economic need is not the main driver behind self-provisioning. Our data show that there is neither a significant relationship between income and self-provisioning nor employment and self-provisioning. This does not mean that economic savings is not a motivation for participating in self-provisioning activities, no matter what socio-economic strata to which one belongs. Self-provisioning contributes directly to the nutritional requirements of household members and to heat for rural homes (not an insignificant issue in Canada's northern climate). The income-in-kind generated through these activities frees up other wage and salary income for other expenditures. But given the widespread participation in these activities by all income and employment groups, this set of activities is clearly not the exclusive domain of those with low incomes or low employment.

Quite the contrary, our data show the least participation in self-provisioning among the very poorest in rural society. Households with incomes of less than $10,000, unemployed households and households on social assistance consistently score lowest on questions about the production and consumption of self-provisioned goods. This is especially significant because these are the same households which stand to gain the most economically from participating in the self-provisioning activities – whether it be through domestic production, trade or barter. We can only speculate that the lack of access to financial resources, to buy farm implements, machinery, materials and other infrastructure prevents or inhibits these households from participating. As well, the social isolation and inability to access information (due to literacy or exclusion) common among the poorest groups may contribute to their low participation rate in self-provisioning. The fact that the poorest households score lower on those activities which require these investment, such as the raising of domestic meat and the harvesting of firewood further substantiates the notion that some infrastructure is needed to participate in some of these activities. However, it would be useful to conduct more research, perhaps of a qualitative nature, to find out more about the patterns of participation for low-income households.

Overall, our data revealed very weak associations between self-provisioning and the socio-economic variables we analyzed. This indicates that participation in self-provisioning cannot be predicted based upon a series of simple characteristics such as economic status or employment. There are likely multiple and overlapping motivations for participation and we will have to dig deeper if we are to understand these motivations. One avenue to explore further are the "lifestyle benefits" discussed by Brown et al (1998) such as social capital, cultural continuity and a feeling of self-reliance that may inspire some to participate in these activities. It appears clear, however, that self-provisioning is a culturally embedded activity and that it is an important component of rural life for many households. We have documented participation in various activities as well as the amounts of goods consumed that are produced by these activities. While there is slightly higher participation among life long rural residents than more recent in-migrants to rural areas, there was not a statistically significant difference here and participation among newcomers was also fairly high. This lends support to the idea that self-provisioning or the opportunity "to do for oneself" is conceived as an important part of rural life both for long-term and new rural residents, for low (though not the

lowest), middle, and high income earners, and for employed, and partly employed households. Over four in five households engage in some sort of self-provisioning activity so we can only conclude that self-provisioning remains an important part of the fabric of rural life in Canada.

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