

**Binners in Vancouver:
A socio-economic study on Binners and their Traplines in Downtown Eastside.**

by

Crystal Tremblay
BA Honours, Concordia University, 2001

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

MASTER OF ARTS

in the Department of Geography



Informal resource recovery in Vancouver. Photo: M Strutt

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University of Victoria

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Abstract

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Abstract

This thesis examines the informal recovery of recyclable beverage containers in Vancouver, British Columbia, Canada. The socio-economic characteristics and structure of the informal recycling sector is explored using a case study of the United We Can bottle depot in Vancouver’s Downtown Eastside. Results indicate that informal resource recovery, also known in local vernacular as “binning”, has the potential to make a significant contribution to poverty alleviation, social inclusion and waste management. Further, the informal recycling community is comprised of a highly diverse range of individuals. Society’s acceptance and integration of this sector could contribute positively to both the social economy and the environmental movement. In order to do so, however, a collaborative effort between government and community is required to build capacity and an adequate infrastructure.

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Dedication

I would like to dedicate this thesis to the men and women that participated in this research, to honour their spirit, and dedication to making a difference and shifting the paradigm to a more inclusive, and sustainable world.

Chapter One: Solid waste as a resource and opportunity

1.0. Introduction

The concept of waste as a resource is increasingly being recognized in developed countries where generating income through informal resource recovery and recycling is becoming more common. This mostly unregulated, urban economy often exists in the presence of extreme poverty and social exclusion in most large cities (Gutberlet 2003). The flexible and autonomous character of informal resource recovery, known in local vernacular as “binning”, offers an opportunity for economic survival and social inclusion to individuals living on the margins of society. Despite their potentially valuable social and environmental contribution, this population frequently remains stigmatized, further reinforcing their low social status. This thesis explores the complex economic, political and social factors that drive the informal recycling sector and it emphasizes the role of social exclusion¹ and extreme poverty² as primary causes for this activity.

Informal resource recovery contributes to the livelihoods of a diverse population of individuals struggling to survive in the formal economy. These livelihoods are characterised by “increased dependence on cash incomes often earned in the informal sector” (Fonchignon 2005, p. 243). In an attempt to break down negative societal

¹ I apply the term social exclusion in the context of lack of recognition, belonging and acceptance by the wider society (Brady 2003).

² Poverty is defined and measured in many ways. For the context of this research, poverty is understood as the deprivation of essential goods and services (food, clothing, shelter and health care), social needs (i.e. the ability to participate in society), and income (Wagle 2002).

stereotypes of the binning population, this thesis examines (a) the social structure and diversity of the individuals involved (b) the complexities of their spatial territories, and (c) the positive impact of recovering recyclable materials from the waste stream. It will highlight a case study of successful, organized resource recovery, a social enterprise called United We Can (UWC) in Vancouver, British Columbia. The resultant organization and empowerment of the binning community in Vancouver's Downtown Eastside (DTES) has contributed to social inclusion, economic development and environmental awareness among the individuals involved, and has also led to increased support from the local community and the municipal government. The broad concept of community is used in this thesis to describe both geographic units and communities of interest bound by culture (Meyer 2006).

This first chapter provides a re-definition of waste and the resultant implications for waste management strategies, followed by a brief discussion on opportunities for income generation through informal recycling. The emergence of informal resource recovery in developed economies is discussed, particularly in Canada, where the activity is seen as an economic survival strategy for marginalized populations. A section of this chapter will focus on recent public disputes and policy changes that could potentially impact this population in a negative way by prohibiting access to recyclable materials. This discussion reveals the urgent need to generate awareness among elected municipal officials and the public about this sector's environmental contribution.

1.1. Re-defining waste

The concept of waste has a long history. Throughout the 19th and early 20th century, the re-use and sale of scrap metals and other valuable material was widespread (Gandy 1994). Today, the incentive to hoard, recover and reuse materials has been replaced by a one-way, disposable mind-set (Ackerman & Mirza 2001). The definition of waste, although vitally important, has until recently been vague and inadequate. Internationally accepted definitions of waste³ include the idea that waste is something that the “holder has disposed of/discarded or is going to dispose of/discard” (Pongracz & Pohjola 2004, p. 142). Pongrasz and Pohjola stress the development of more appropriate and sustainable definitions of waste so “that what is commonly perceived as waste will in fact be increasingly seen as resource-rich non-waste” (2004, p. 141).

Waste is best thought of as a resource that is in the wrong place, and discarded because it ceases to have value to its owners (Hetherington 2004). Redefining waste as a resource, and subsequent access to these resources are critical within the context of the increasing competition for recyclable materials. Socio-economic considerations of the informal waste sector are therefore an essential element in this debate.

1.2. Urban poverty and social inclusion – opportunities for income

Urban poverty is increasing in Canadian cities (Hajnal 1995; Smith 2003). One of the outcomes is growing exclusion of individuals from the formal economy, who

³ The European Union (EU), the Organization for Economic Co-operation and Development (OECD), and the United Nations Environment Program (UNEP) have established definitions of “waste” (Pongracz & Pohjola 2004).

consequently look for alternative sources of income for their survival. A common source of income for the unemployed almost everywhere has been through informal economic activities (Beall 2000), particularly resource recovery and recycling (Romanos & Chifos 1996; Medina 1998, 2001; Jaffe & Nas 2004). In Canada, this population has been largely ignored by all levels of government, despite the health, social and economic implications of this activity. Poverty alleviation initiatives that have been introduced are not reaching this population, and recent welfare restructuring has made the situation worse (Reitsma-Street & Wallace 2004; Klein & Long 2003; Hajnal 1995). Although research has been conducted in Vancouver on the structural and spatial causes of marginalization⁴ (Raoulx 1999; Gotham 2003; Wacquant 1999), polarization⁵ (Smith 2003) and concentrated urban poverty (Smith & Ley 1997), limited attention has been devoted to the economic survival strategies of individuals living under these conditions.

Informal economic activities are used as a survival strategy by the poor and unemployed (Beall 2000; Ackerman & Mirza 2001; Medina 1997). Informal urban activities are defined as “market transactions taking place on the margins or completely outside the formal economic and legal structure of the urban economy, not being subject to government regulation and policing, and not contributing to the income of the public sector” (Romanos & Chifos 1996, p. 125). Although individuals facing extreme poverty engage in informal resource recovery for economic survival (Royse

⁴ Marginalization refers to trends in society whereby those perceived as lacking desirable traits or deviating from the group norms tend to be excluded by wider society (Wacquant 1999).

⁵ Polarization is characterized as the contrast between distinct neighborhoods of intensifying wealth and poverty (Smith 2003).

1987), the phenomenon has recently become more widespread. Working class individuals are increasingly engaging in binning to supplement their incomes. For example, New York City recycling advocates claim that as many as 8000 workers are involved in the trade (Pogrebin 1996). Binning is becoming economically significant among individuals in increasingly diverse economic situations and social conditions (Ackerman & Mirza 2001).

1.3. The emergence of informal resource recovery

Recycling incentives such as bottle deposit laws in many industrialized countries have encouraged redeeming recyclable material for cash. This has stimulated the activity of “rag-picking”, “scavenging”, or “binning” as an economic survival strategy. These terms are used interchangeably to describe the informal recovery of recyclable materials (e.g., raw materials such as glass, paper or aluminium) from the waste stream. The increasing visibility of this activity in affluent countries is of serious concern highlighting social and economic inequalities.

The culture of consumption generates large amounts of disposed materials that are collected from the streets, dumpsters, beaches, and parks by the informal recyclers. The increased manufacturing and consumption of disposable packaging, such as beverage containers, combined with a lack of environmental awareness and education among the general population, have resulted in a significant volume of valuable material introduced into the waste stream. Many of the materials that are disposed of are retrieved by inner city residents, many of whom are homeless and make an honourable employment collecting materials in this way. Although it is difficult to measure the

extent of this activity, research suggests that every major city with bottle deposit laws has a sub-culture of traders and stores whose focus is the informal recovery and recycling of resources (Rendelman & Feldstein 1997).

This thesis does not promote the consumption and generation of recyclable materials as a solution for poverty reduction. Rather, it underlines an opportunity to engage, integrate, and build capacity⁶ among those that have limited economic options, who in turn can contribute to the construction of a more sustainable and inclusive urban environment. In developing countries, innovative and locally-driven strategies for waste management problems go beyond the ecological implications of resource recognition and consider both social and economic goals. These initiatives include: improving the livelihoods of poor people dependent on waste through encouraging “safer and more acceptable work; promoting the separation of waste to facilitate more efficient recycling and developing community / private-sector / municipal partnerships” (Furedy 1993, p. 18). Inclusive waste management approaches in these countries facilitate mechanisms to improve the socio-economic conditions of those working in the trade. By contrast, in Canada, ecological considerations such as conserving landfill space and resource depletion are a primary focus of recycling policies, and there is limited interest in promoting these programmes as an economic opportunity for the poor (Jaffe & Nas 2004).

⁶ Capacity building can be characterised as activities which strengthen the knowledge, abilities, skills and behaviour of individuals and improve institutional structures and processes such that the organization can efficiently meet its mission and goals in a sustainable way (Saegert 2006).

1.4. Resource recovery in Canada

In the late 1980s municipal recycling programmes expanded across Canada. As consumption and associated recycling rates increased, legislation was produced as a result of pressure from consumers and NGO's that included extended producer responsibility for product "take back" and recycling (Sheehan & Spiegelman 2005). In 1997, British Columbia enacted the beverage container recovery program replacing the deposit-refund requirements of the Litter Act (1970) requiring all beverage brand-owners or ready-to-drink beverages – with the exception of milk, milk substitutes, liquid meal replacements and infant formula – to establish a province wide return collection system for beverage containers under a deposit refund system (BC Ministry of the Environment 1998). The regulation established the goal of a minimum 85 percent recovery rate and requires that redeemed containers be either refilled or recycled. As a result, three stewardships agencies were established by the beverage industry to meet their responsibility under the new regulation. The stewardship agencies are Encorp Pacific (EP) (non-alcoholic beverages), the Liquor Distribution Branch (LDB) (alcoholic beverages excluding domestic), and the Brewers Distributor Ltd. (BDL) (domestic alcoholic beverages). The deposit/refund system became applicable to all sealed, ready to drink beverage containers originating at the importer distributor level. Between 2004 and 2005 over 1.7 billion beverage containers were sold in the province, of which over 1.4 billion were recovered - a recovery rate of 81.3%. The re-use or recycling of these containers is important waste management strategies, both to control beverage-related litter and to divert containers away from incinerators and landfill disposal (BC Ministry of Environment 2005).

1.5. Binning in Vancouver: some recent challenges

Binning is a widespread economic activity in Vancouver for a diverse range of low-income individuals. Despite this sector's positive contribution to resource recovery and litter reduction, the activity remains severely stigmatized. Some aspects of this activity have become a major challenge for the city, often fuelled by public complaints surrounding noise pollution, stolen shopping carts and litter strewn in the alleys. The noise impacts and mess that some of the binners leave behind have been a major irritation for businesses and residents, especially in the West End where high density and affluence has created an extremely competitive binning environment.

The problematic noise results from the use of shopping carts to transport heavy loads of recyclable materials down alleys and streets. Most shopping carts used by binners are taken from local supermarkets and the police often confiscate them, forcing binners to discard their collected material and often personal belongings. As a result of littering and over-flowing dumpsters in the alleys, the City of Vancouver initiated in 2005 a pilot project in the Downtown Eastside requiring all businesses to lock their dumpsters. This posed a major threat to the economic livelihood of binners. Aware of the economic impact this by-law would have on the binners, a local social enterprise (United We Can) and the binning community formed a Binners Association. The association requires binners to carry ID cards and abide by a code of conduct (Appendix D) with hopes that these practices will help binners engage in community partnerships and facilitate further responsibility in managing waste and recycling disposal in the city. The establishment of the United We Can bottle depot in 1995 has

provided opportunities for empowering binners by connecting them with each other and with their wider community.

1.5.1. A case-study of social enterprise: the United We Can bottle depot

The United We Can (UWC) bottle depot is a successful social enterprise, earning revenue and employing inner-city residents in the Downtown Eastside of Vancouver, British Columbia. The Downtown Eastside struggles with many complex socio-economic challenges such as drug addiction and dealing, HIV infection, prostitution, crime, lack of adequate housing, high unemployment, and the loss of many legitimate businesses. UWC is actively engaged and dedicated to improving the socio-economic conditions of the Downtown Eastside community, and plays a significant role in mobilizing and supporting the binning community. The goals of UWC are to create self-sustaining urban environmental enterprises, and to create jobs for inner city residents. UWC acts as a support system for binners throughout Vancouver, providing a sense of community and belonging to those that may not have a family and are often socially and economically excluded.

UWC is constantly exploring ways of improving the living and working conditions of Vancouver's inner city residents. In pursuing alternative approaches to environmental initiatives, UWC recognizes the significant opportunity and vital need to build the

capacity of this community in order to encourage economic development and social cohesion⁷.

1.6. Value of study and research objectives

Despite the prevalence of informal resource recovery in many developed countries, research has been generally limited in both quantity and scope, especially in comparison to the developing world where a number of studies have been completed to date (Gutberlet 2005, 2003; Adeyemi et al. 2001; Medina 2000). More specifically, studies focusing on creating opportunities for environmentally sound economic development through recycling are rare in the developed world. Acknowledging this activity as important income generation for marginalized and socially excluded populations could also contribute significantly to future policy development directed towards poverty alleviation and social inclusion in Canada.

This thesis attempts to contribute to knowledge on informal resource recovery in Canada. More specifically, the aim of this research is to stimulate dialogue on waste management alternatives that contribute to poverty alleviation and social inclusion to provide a more comprehensive understanding of informal resource recovery systems and the underlying social structures. As such, the following research objectives and research questions have been identified for this study:

⁷ Social cohesion can be defined as the interactions among members of society, characterized by a set of attitudes and norms that includes trust, a sense of belonging and the willingness to participate and help, as well as their behavioral manifestations (Chan et al. 2006).

Research objectives

1. To document the process of resource recovery through the activity of binning in a case study of the United We Can bottle depot in Vancouver's Downtown Eastside.
2. To examine the existing socio-economic paradigm by exploring the significance of informal resource recovery and the contribution of the United We Can bottle depot in Vancouver's Downtown Eastside.

Research questions

1. What is the socio-economic diversity of individuals involved in resource recovery at the United We Can bottle depot?
2. How does recycling contribute to the socio-economic livelihoods of the individuals involved?
3. In what ways do binners perceive informal recycling activities as a valuable contribution to society and/or the environment?

1.7. Summary

Identifying waste resources as an opportunity for income generation and social inclusion is spearheading a paradigm shift towards inclusive waste management policy development and urban sustainability. As urban expansion continues under the current consumer-driven disposable culture coupled with rising poverty and socio-economic exclusion, recognizing this opportunity is paramount. Successful examples of waste management initiatives such as social enterprises in Canada and other countries are encouraging the public to re-evaluate waste as a resource, and to legitimize the act of

recovering these resources as an honourable and timely endeavour. Documenting the process of informal resource recovery and the social structure of the binning community through the case study of a social enterprise presents an opportunity to understand the socio-economic significance of this activity for a growing population of urban poor.

This thesis consists of six chapters, including: a description of the methodology (chapter two), a literature review (chapter three), results and discussion chapters (chapters four and five), and a final conclusion (chapter six). Appendices include: (a) a copy of the participant consent form, (b) participant questionnaire, (c) in-depth interview, (d) the Binner's Code, e) copy of recommendations to lock dumpsters, f) copy of Council amendment to locking dumpsters, and g) list of interviewees.

Chapter Two: Research with the binning community

2.0. Methodology

This chapter outlines the theoretical framework and research methodology, followed by a description of research methods, and analytical tools. The main objective of my research is to explore the socio-economic significance of informal resource recovery in Vancouver's Downtown Eastside. In order to understand the contribution this activity makes to poverty reduction and social inclusion, documenting the experiences and perceptions of the binning community is imperative. To do this, I used qualitative research methods to bridge the gap between my understanding of poverty and social exclusion theory and the experiences of the binners I interviewed. My methodological framework for this research is therefore drawn from a humanistic perspective and weaves theories from sociology, political ecology, and the social economy. Within these theories, I explore concepts of social cohesion, community empowerment, sense of place and the existence of a shared identity.

I use a multi-methods approach drawn from ethnography and phenomenology to understand and interpret how marginalized and excluded populations interpret their economies, their communities and their sense of belonging (Buttimer 1999). An ethnographic approach records the life of a particular group and thus entails sustained participation and observation in their community, or social world (Charmaz 2006). Rather than the empirical investigation and measurement of poverty, I found it necessary to recognize individual experiences as playing a significant role in

understanding the effects of poverty and the consequent survival strategies. This phenomenological approach seeks to describe things as one experiences them, as the subjective perception of individuals (Johnston 1997). Rodaway (2006) describes this research strategy as “knowledge of the world that derives from human consciousness and our relationship to other things (objects, people, places) that make up our everyday individual and social environment” (p. 264). I therefore adopt a number of methods including participant observation, and in-depth interviewing supplemented with critical reflection of my own involvement in the research process (Rodaway 2006). As researcher, I had to consider my position within the research, reflect on and anticipate preconceived ideas from my observations that may influence my interpretation (Graham 2005; Rodaway 2006). Buttimar (1999) suggests the best mode of observation for a humanistic approach is one of empathetic ‘insidedness’, a position where the researcher tries to be open to place and understand it more deeply. Here, an authentic “understanding is sought through a concept of shared knowledge, or interpersonal knowing”, requiring interest, empathy, and heartfelt concern (Rodaway 2006, p. 266). As an example of my approach, I attempt to capture the lived experiences and perceptions of the participants through dialogue in a research process of partnership rather than adopting the traditional hierarchy of knowledge. In this way, I was able to break-out of the preconceptions of the research literature on informal waste systems, and seek to understand the experiences of the participants as they perceived it.

Through an inductive approach (Rodaway 2006), I searched for consistencies and shared themes from the participant’s experiences. In so doing, I shared my

interpretations with the participants during the research to refine and develop an authentic understanding. This process reduces the distortion of research interpretation and translation, hence I often used participants' own words and cultural lingo to describe their experience and tie together common themes. The attempt to profile the socio-cultural demography of the population for example was largely drawn from participant's dialogue of their understanding and experience of where they place themselves and others within the structure and process of the activity. This research interaction essentially became a mutually creative process of "translating text and distilling the essential geographic themes within a coherent conceptual framework" (Rodaway 2006, p. 267). My findings are rooted in the exploration and interpretation of my experience in conducting and synthesizing the conversations and observations I made. This research is therefore situated and provides a snapshot of phenomena that is subject to change.

2.1. Theoretical framework

In an attempt to understand the complexity of political, social, economic and cultural themes that emerged from this research, I explore and link theories from various disciplines including social theory, social economy and political ecology. Social theory concepts contribute to understanding the relationships and positive networks identified within the structure of the binning community, and provide an avenue to highlight the social economy as a catalyst and opportunity for social cohesion and political activity.

Further, concepts from political ecology such as common-property resources⁸ is used to analyze the problem of 'exclusion' in the management of waste materials and seeks to challenge the current regulations prohibiting open-access. Additionally, I borrow themes from resource management (such as the model of extractive resource reserves) to emphasize how cooperation and organization of the binning community can lead to adaptive co-management strategies that improve access and rights to waste resources. The following figure (Figure 1) attempts to weave the social, economic and environmental considerations of this research within a theoretical framework.

Theoretical Framework

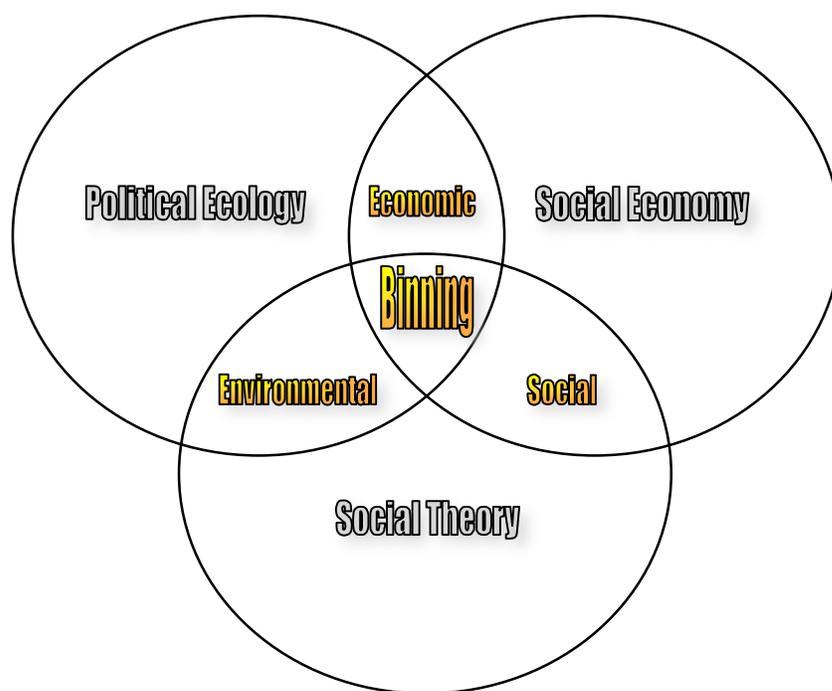


Figure 1. The political, economic and social theories used in this research.

⁸ A common-property resource is a particular type of good and/or resource system, whose size or characteristics make it costly, but not impossible, to exclude potential beneficiaries from obtaining benefits from its use (Agrawal 2003).

2.1.1. Social Theory: exploring a sense of community

Social theory seeks to explain and analyze social patterns and structures. From a geographical perspective, social theory examines how society affects geographical features and how environmental factors affect society (Benko & Strohmayr 2004). Ley & Cybriwsky's work in social geography is particularly guiding by describing an "existential space inherent in street gangs, their sense of belonging and security as attached to certain 'turfs' covering specific city blocks" (1974, p. 493). According to these authors, the social geography of the inner city is linked to philosophies of social cohesion by concentrating on "the meanings which drive human thoughts and actions, as constructed in the everyday interactions and practices of people living and working in social groups" (p. 494). Using this approach, Ley & Cybriwsky (1974) examine the coalescence of shared meanings and the importance of place as symbolic of a group's identity and material support. Escobar (2001) stresses that the absence of recognizing place in geographical research has profound consequences for understanding culture, knowledge, nature and economy. The perception of place plays an important aspect in the lives of people, provides an understanding of experiences of location, sense of boundaries, and connection to everyday life. The significance of place contributes to my understanding of how the participants situate themselves in the binning community and society. Social geography theory embraces the subjective, experiential 'life worlds' within the spaces of society. I use elements of social geography theory to understand the shared identity and social cohesion of the binning community within the territorial boundaries of the city.

Speer et al. (2005) discuss the relationship between social cohesion and empowerment, and expand this emphasis to include notions of trust, connectedness and civic engagement. Empowerment has been defined as “an intentional ongoing process centered in the local community, involving mutual respect, critical reflection, caring, and group participation, through which people lacking an equal share of valued resources gain greater access to and control over those resources” (Speer et al. 2001, p. 716). Participation within community allows for opportunities to enhance empowerment and supports the connections between individuals so that a collective sense of trust can be developed. Social cohesion involves the “development of organizational and community rules that facilitate a sense of order necessary for members to commit to communities” (Speer et al. 2001, p. 729). By exploring the individual’s sense of community and participation, important components of social cohesion, I reinforce the important social benefits of community recycling initiatives through social enterprise.

2.1.2. Social Economy: opportunities for more than economic development

The social economy⁹ addresses socio-economic justice issues and solidarity, providing an avenue to examine opportunities for social integration and economic development. Within the social economy, there are various forms of organization and structure, such as cooperatives, social enterprise, charities, and non-governmental organizations. There are no easy boundaries to define social enterprise, although

⁹ The social economy is part of the economy that includes organizations (i.e. social enterprise) with social objectives whose surpluses are reinvested for the community, rather than being driven by the need to maximise profit (Moulaert & Nussbaumer 2005).

Peredo & McLean (2006) describe it as an “activity that is commonly equated with social entrepreneurship” (p. 57). Among other elements, “social entrepreneurship is exercised when some person or group 1) aim(s) at creating social value; 2) show(s) a capacity to recognize and take advantage of opportunities to create that value; 3) employ(s) innovation in creating and/or distributing social value; 4) is/are willing to accept an above-average degree of risk in creating and disseminating social value; and 5) is/are unusually resourceful in being relatively undaunted by scarce assets in pursuing their social venture” (p. 64). Peredo & Chrisman (2006) highlight social capital and positive social networks as useful concepts in understanding community-based enterprises, and are seen as necessary components for economic development. It is within these networks that “communities are able to build strong relationships, which, over time, allow trust, cooperation, and a sense of collective action to develop among members” (p.314). Social capital creates economic opportunity, builds political activity, and promotes social, cultural and environmental goals. Within this framework, I explore how individual participation and organization through social enterprise contributes to improved co-operation, conflict resolution, and political activity. By exploring the individual’s sense of community and participation, important components of social capital, I reinforce the important socio-economic benefits of social enterprise.

2.1.3. Political Ecology: access to waste resources

A political ecology framework has also informed my research analysis by examining how political, economic, and social factors affect environmental issues, providing a venue for a multidisciplinary look at socio-ecological interaction (Belsky 2002). Political ecology inquires into politics, ethics and social justice in relation to human

activity and environmental change (Jarosz 2004). This framework informs my understanding of how individuals affected by poverty interact with their environment and use resources to improve their situations.

Political ecology frameworks acknowledge that both nature and society are significantly, but not entirely, socially constructed (Steinberg 1997). M'Gonigle (1998) highlights environmental variables as a central necessary component for political decision-making and economic development. Political ecology also recognizes theories of value, that is, the assigning of value to things. In this approach valuation must be recognized as a subjective, cultural, and contextual phenomenon (Hornberg 1998). This perspective acknowledges the culturally-defined construction of waste in society, and the different value attached to it (Blinchow 1986). Koponen (2002) describes the valuation of recycled materials from previously defined "useless trash", and the changing dynamics of the commodity chain. This is particularly relevant in understanding the notion of waste as a resource, and the process of added value along the commodity chain. A commodity chain has been defined as "sets of inter-organizational networks centered around one commodity or product, linking households, enterprises and states to one another within the world economy" (Koponen 2002, p. 550). In the post-consumer recycling chain of resource recovery, goods are moved from the worthlessness of the garbage dump to the worthiness of re-consumption, moving back into the commodity chain.

Literature on common-property resources has informed my understanding of resource use, property rights¹⁰ and subsequent access to resources. There has been widespread political expression towards decentralizing resource use to community based environmental management (Agrawal 2003). These political shifts are redefining resource management and how communities manage common-property resources. Exploring common-property theory reveals the importance of community participation, co-operation and voice as the predominant means of achieving collective management and use (Anand 2000). Johnson (2004) discusses the influence of moral economy and entitlement on common-property theory, and is “concerned with the problem of creating and sustaining resource access for poor and vulnerable groups in society” (p. 409). I discuss access to waste resources within political ecology theory, and the socio-economic implications in the management of this commodity.

My research approach and theoretical understanding is partly influenced from similar case studies and experiences in developing countries. These experiences uncover the possibilities of waste management initiatives that support poverty alleviation and social inclusion. They also provide inspiration and successful examples of inclusive waste management initiatives that can be adjusted and applied to other parts of the world (for example: Gutberlet 2005; Medina 2001).

By embracing multi-disciplinary perspectives, an understanding of the importance of social economies among low-income populations may be acknowledged and in the

¹⁰ Common-property rights are described as “sets of rules that define access, use, exclusion, management, monitoring, sanctioning, and arbitration behaviour of users with respect to specific resources” (Agrawal 2003, p. 244).

process generate more sensitive policies. These theories offer important perspectives when attempting to unbind the complex sphere of dynamic processes involved in urban poverty and social exclusion. They lend aspects of understanding the processes of urban poverty while acknowledging the relationship between humanity and environment and the meanings of place and landscape for human creativity and health (Buttimer 1999).

2.2. Methods

The methods used in the data collection of this research include participant observation, surveys, in-depth interviews and mental mapping. This methods section provides a description of the case-study site United We Can, and describes the research methods.

2.2.1. Description of case study site – The United We can bottle depot

The selected case study is the United We Can bottle depot located in Vancouver's Downtown Eastside (Figure 2). Site selection was influenced by the socio-economic characteristics of the Downtown Eastside, characterized among one of the poorest neighbourhoods in Canada (Smith 2003). Recent welfare restructuring in the province of BC (Klein & Long 2003) and the high incidence of homeless in the Downtown Eastside (Woodward et al. 2002) suggest that informal recycling constitutes an important economic livelihood for many individuals. Further assumptions arise from a study in Vancouver's Downtown Eastside in 1997 (Raoulx 1999) that highlight binning as a common activity among lower income/unemployed individuals. There have been no studies that reveal the extent, socio-economic background and demographic

characteristics of informal recyclers in the Downtown Eastside. United We Can is an ideal case study, given the large number of informal recyclers that deposit there; UWC employees have estimated that approximately 1000-1500 regular customers use their services. The United We Can bottle depot was established in 1995 and is the only recycling-based social enterprise in Canada.

Case study research is the investigation of one or more phenomena in one place, region or country. Serving an important function in human geography, case study research reveals the world to be persistently diverse arising out of multi-scaled relations (Castree 2005). Case study research tends to be researcher-centered, often involving observation on participants, and attempts to provide a holistic portrayal and understanding of the research setting (Cousin 2005). A limitation to case study research is the belief that a limited number of cases cannot offer grounds for establishing reliability and transferability of findings (Cousin 2005). Numerous researchers however have developed tools for enhancing the credibility, dependability and transferability of qualitative case-study research (see Crang 2003; Baxter & Eyes 1997).

In approaching the research, participants were presented with a letter of intent (Appendix 2) describing the nature of the study and a statement of participation, which they were asked to sign. Participation in the research was entirely voluntary and the participants were able to withdraw at any time. This research was accepted for human participant research under the University of Victoria Human Research Ethics Board.

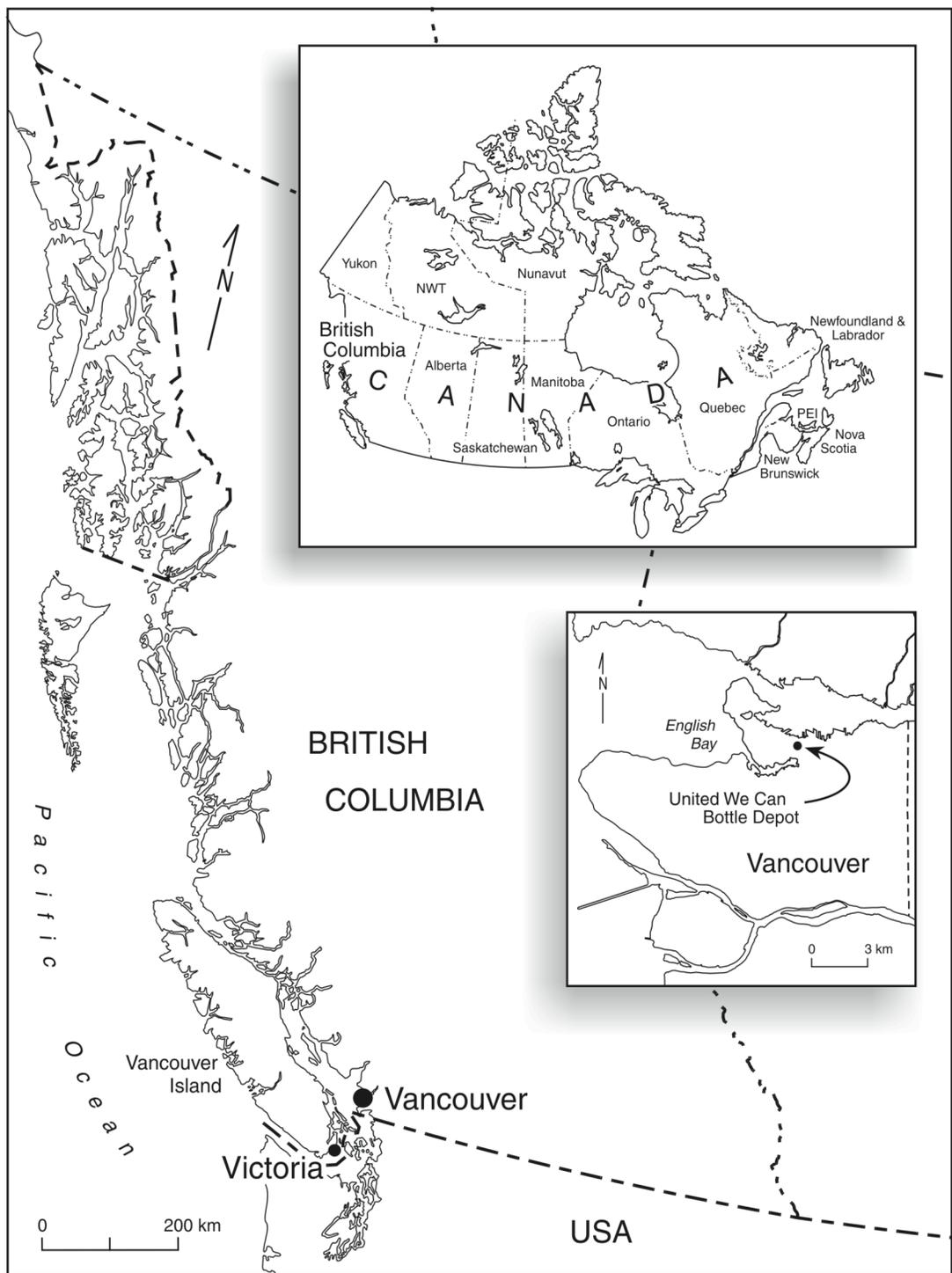


Figure 2. Map of study area showing the United We Can bottle depot.

Additionally, confidentiality is guaranteed by assigning each binner with a pseudonym in order to protect anonymity (Jones 1985). Given names (pseudo) are therefore only referenced to binners in this thesis (see Appendix H for list of Binners). Key-informant names are maintained with their consent (see Appendix G for list of interviewees).

Throughout the development and final stages of the thesis, I was available to discuss concerns and questions in person, phone or via email with United We Can, and key informants. A follow-up meeting with United We Can and the Urban Binning Unit (UBU) members in July 2006 facilitated the dissemination and feedback of research results, the exchange of experiences from similar projects in Brazil (Gutberlet 2005), and further development of the UBU¹¹ project.

2.2.1. Participant observation

In order to respond to the objectives of this research, the process of binning and the socio-economic description of the recyclers needed to be understood. I used an ethnographic approach based on the method of participant observation. In this method, the researcher tries to understand the world through the eyes of the participants in a social situation (Hogart et al. 2002). This method enables the researcher to be acquainted with the daily patterns of the participants' lives, and become familiar with the dynamics of the selected research site. The one-month period of participant observation also served to identify recyclers who are interested and willing to

¹¹ The Urban Binning Unit (UBU) project is an initiative of United We Can and part of a continued strategy to develop an effective and inclusive inner-city recycling program.

participate in the interview stage of the research. This method involves the researcher to be engaged in recording, and interpreting what is observable and accessible. My role as the researcher was overt (Hoggart et al. 2002). Prior to any formal or informal discussion with participants, I provided the binners with a detailed description of the nature of the research, and my role as researcher. My genuine interest and desire to understand and discuss participant's experiences and perceptions of the activity encouraged positive feedback from the community. I truly felt the desire and interest of the community to voice their opinions, thoughts and experiences by approaching me to participate in the research.

The phase of participant observation occurred at the United We Can bottle depot in Vancouver's Downtown Eastside during the month of August 2005. During this time and throughout the field-work I was actively engaged in recording personal observations and informal discussions with binners, employees and interested members of the community. When possible, direct quotes were recorded after the discussions with recyclers and employees. Information such as the number of binners, variations in the influx of binners at specific times of the day, the type and quantity of material, the equipment used, and the social-economic variations among the binners was recorded. This method was an extremely important part of the research, particularly for gaining insight into the breadth of this activity. During this time I realized the vast diversity in the characteristics and quantity of individuals, the different methods of collection and transportation use, and the social interaction between the binners and with United We Can. This method enabled a constant state of reflection and observation, formulating new ideas and direction concerning the structure of the community and the process of

the activity. For example, my observations of the social interaction of this population reflected the strong social cohesion within the community, which in turn guided my analysis of describing the social significance of this activity.

This method also contributed to establishing initial communication and relationships with binners and employees at the United We Can bottle depot. Through these relationships, I was introduced to participants that became an integral part of the information retrieved.

2.2.2. Survey

Since there is relatively limited information available on the socio-economic characteristics of the sample population, a close-ended one-page questionnaire was conducted anonymously at the United We Can bottle depot (Appendix C). This is a widely used way of quantifying information provided by participants (Lindsay 1997), and allows the researcher to make acceptable inferences about populations from a sample. A total of 100 surveys, based on the estimated total population of 1000-1500 (approximately 10% of population), were used to record information necessary for reliable analysis. The survey included a variety of questions focusing on the socio-economic and environmental aspects of informal resource recovery. The questionnaire gathered information on the quantity, type, and source of material collected. Socio-demographic information such as age, gender, place of residence, occupational background, and level of education was gathered.

Open ended questions were employed that focused on environmental and public perception, health implications, territoriality and competition, social hierarchy and community involvement. This was also an opportunity to find out about the role that the United We Can bottle depot plays in supporting this activity, and any recommendations for improvement of their services. The survey is intended to complement the interview and participant observation phase of the research by responding to the research objectives on a larger scale.

2.2.3. In-depth interviews

The focus of this research is on the socio-economic and environmental aspects of binning and the individuals involved. The experiences and perceptions of this activity were assessed through semi-structured in-depth interviews (Appendix B). The semi-structured interview is organized around ordered but flexible questioning, where the role of the researcher is recognized as being more interventionist than non-structured interviews (Hay 2000). This method involved documenting the experiences, perspectives, and recommendations of individuals that are directly engaged in informal resource recovery. In-depth interviews were also used to gather information from the director and employees of the United We Can bottle depot, and from key informants within the waste management department in the City of Vancouver.

The binners were encouraged to reflect on:

- their integration with waste management;
- the economic significance of binning in their lives;
- their perceptions of this activity as contributing to the environment;
- the social organization of this activity; and

- their sense of belonging to a community.

Participants were partially identified using a snowball sampling method. This sampling method relies on contacts made in the field to provide third-party references to appropriate participants (Hay 2000). Many of the participants were recommended by UWC employees and other binners based on their experiences and length of time involved in the activity. The remaining participants were chosen for interviews after engaging in conversation from participating in the survey. These participants were chosen based on their duration of time involved in the activity, their experiences, socio-economic situation, age, gender and willingness to participate. The participants selected revealed a very diverse background, experience, duration of involvement, and socio-economic motivations for engaging in this activity. The sample of full-time/part-time and established/new binners provided a wide range of perceptions and attitudes about this activity, and their place within the community.

The interviews with binners were conducted at various locations in the Downtown Eastside, although the majority took place at a coffee shop down the street from the UWC bottle depot. The interviews were recorded using an audio-tape recorder, followed by a period of written reflection. Throughout the interviews, notes were taken as to context including the perceived researcher-participant relationship, researcher attitude, interruptions, dominant facial expressions, and repeated movements. A total of eighteen in-depth interviews were conducted (see Appendix G for list of interviewees and Appendix H for list of binners) with binners (10), employees and director of UWC (4), director of the Urban Binning Unit initiative (1), and key

informants from the City of Vancouver Department of Waste Management (2) and Engineering Services (1). Ten in-depth interviews were recorded with binners, lasting from forty-five minutes to an hour and a half. Four in-depth interviews were recorded with selected employees of UWC, based on their experiences, knowledge of the community, work position and duration of time employed. One interview was conducted with the director of the Urban Binning Unit (UBU) initiative, a cart designed specifically to improve the efficiency of collecting materials, and to placate some of the problems associated with the traditional shopping cart commonly used by binners. Semi-structured in-depth interviews were employed with three key informants; two with Waste Management services and one with Engineering Services particularly involved in the DTES and UWC. Interview questions were also sent by email to Encorp Pacific, the Beverage Container Stewardship governing body in British Columbia. The responses were received promptly and related specifically to the perception and awareness of the informal recycling community in Vancouver.

2.2.4. Mental maps

Mental maps are a diagramming technique used within participatory research (Cornwall & Jewkes 1995). A person's cognitive map¹², or knowledge of large-scale space, is built up from observations gathered in the environment (Kuipers 1978). Spatial information was collected from the recyclers that participated in the in-depth interviews. The binners that participated in the in-depth interviews (10) were given a blank piece of paper on which they were asked to draw or describe their selected route,

¹² Cognitive maps or mental maps are a type of mental processing by which an individual can acquire, code, store, recall, and decode information about the relative locations and attributes of phenomena in their everyday or metaphorical spatial environment (Kitchin 1994).

their “trapline”. Most often, bidders have one or two routes that they travel to recover recyclable resources. These routes or designated territories reveal the spatial distribution of the activity throughout the city. The spatial data was transferred to a base map of Vancouver to reveal the spatial boundaries and distribution of this activity. A variety of variables compiled from the survey were incorporated into the distribution map such as the location of where the materials were recovered, the distance and time traveled, and the location of middlemen that collect materials once the depots are closed.

2.3. Analysis

Analysis of this research is highly qualitative in nature, relying on the quality and breadth of narrative interviews and my own observations. Through qualitative analysis of the narrative material, principal ideas and themes emerged. Quantitative analysis is used as a tool to examine the socio-economic demographics of this population, and to highlight significant socio-economic characteristics.

2.3.1. Qualitative analysis

Field notes were recorded in a personal log that included comments relating to the practice of the interview, such as the wording of questions and missed opportunities to prompt. Through journaling the research process was documented and used throughout the analysis to reconnect with the data (Hay 2000). The in-depth interviews were transcribed and theme coded to highlight extremes and commonalities within the data, and to illustrate diversity among the individuals involved. The relation between variables and patterns in the data were constructed through content analysis (Hay

2000). This form of analysis requires a determination of the underlying meanings of what was said, referred to as a form of open-coding (Hay 2000). Coding is a process whereby data is broken down into component parts, examined, analyzed and categorized into concepts (Bryman 2004). For each interview, significant passages were outlined and thematic elements were extracted and categorized. Themes emerged that are indicative of the socio-economic and environmental aspects of the activity and process of binning. Using this data, a descriptive profile of the binning community emerged. Interviews from employees of the United We Can bottle depot and key-informants from the Department of Solid Waste Management and Engineering Services and were also theme coded to reveal complementary data for discussion.

2.3.2. Quantitative analysis

The surveys were manually tabulated into an electronic worksheet, recording the quantity of responses for each question. A variety of responses from open-ended questions were also recorded for frequency. This data was further categorized into themes and sub-categories, which were eventually illustrated with graphs, charts and maps. Analysis of the surveys provided information on the extent of the activity, and the empirical investigation of the socio-economic and environmental objectives of the research. Secondary data sources were also used within the quantitative analysis, including data on homelessness and poverty in the study area, on waste generation and recycling, and information about the United We Can bottle depot.

2.4. Limitations

Since only one research site was selected for sampling, a particular demography of individuals is reflected in this thesis. There are other recycling depots in the city of Vancouver that are frequented by binners that could possibly provide a different demographic population than the chosen sample site. The lack of base information on the demographics of binners in the study area also limits knowledge of this population. A major limitation, and one that requires attention, is the lack of information regarding the Asian population that participates in this activity. It is estimated that up to 20% of the informal recycling population that use UWC are Asian women, often accompanied by members of their family, most often their children. Due to language barriers, I was unable to include these women in the data collection. There was, however, an opportunity to interview an employee of UWC who is a member of this community and who provided insight into this phenomenon. It needs to be noted that these women are highly productive in recovering resources, and are among one of the most marginalized segment of this community primarily due to language and cultural differences.

Another limitation relates to the time of year the data was collected. The sampling occurred in one of the busiest months of the year representing a wide variety of individuals that would normally not engage in this activity. As I will discuss in chapter four, there are many types of informal recyclers, some of which are only active in the summer or on week-ends and holidays. Sampling in the winter months might reveal a different population and a different dynamic within the social network of the community.

The sample population is located in one of the poorest communities in Canada, giving an overrepresentation of drug/alcohol abuse and mental instability among the participants. The significant substance abuse challenges in the Downtown Eastside need to be recognized when discussing poverty and social exclusion, although this is not a primary objective of this research.

2.5. Summary

This chapter describes the methodological tools used in the research design, in selecting participants, collecting information, and in analysing and interpreting the results.

The following chapter presents an exploration of recent literature and research that touches on the underlying theoretical framework. The review focuses on poverty and social exclusion as the underlying impetus for engaging in informal resource recovery, describes the negative social perception of informal recyclers, provides an overview of economic opportunities deriving from resource recovery, introduces the concept of common resources and access to waste, and highlights the significance of community enterprise in the organization and inclusion of this sector.

Chapter Three: Exploring poverty and informal resource recovery

3.0. Literature review

There is consensus that deindustrialization¹³ has created a fundamental shift in the division of labour and a reorganization of domestic and global capital resulting in a process of polarization¹⁴ (Badcock 1997; Wacquant 1999; Cox & Watt 2002), characterised as the expansion of high and low-level service occupations (Cox & Watt 2002), the retrenchment of welfare states (Wacquant 1999), urban restructuring (Smith 2003), and spatial concentrations of poverty (Hajnal 1995; Fraser 2004). A highly influential study by Wilson (1991) highlights these spatial concentrations of poverty in US cities and the emergence of an urban “underclass” detached from the rest of society. While poverty was once seen as a cyclical process in western capitalist economies, it now seems to be increasingly long term if not permanent (Wacquant 1999). Rising inequality in overall economic advancement influenced by processes such as the reduction of wage labour, the expansion of temporary employment with fewer benefits, and the growing privatization of social goods is a source of fragmentation to those on the periphery of the employment sphere.

¹³ Deindustrialization is the decline in the manufacturing sector and rise of the services sector of the economy. Since manufacturing jobs pay well, one consequence of deindustrialization is a decline in wages and the average standard of living (Badcock 1997).

¹⁴ Polarization is characterized as the contrast between distinct neighborhoods of intensifying wealth and poverty (Smith 2003).

Ley and Smith (1997) emphasize the spatiality of urban poverty, and the potential role that geographical concentration plays in the perpetuation of poverty conditions, and perhaps in the development of a poverty sub-culture. Despite the limited amount of research on concentrated urban poverty in Canadian cities, Hajnal's (1995) comparative research suggests that there is a distinctive inter-city geography to deep poverty in Canada.

3.1. Understanding poverty and social exclusion

The relationship between poverty and social exclusion is well documented; particularly in the agreement that one is inextricably important in explaining the other (Silver 1994; Room 1999; Waggle 2002; Legros 2004). The concept of poverty primarily refers to distributional issues (the lack of resources at the disposal of an individual), while social exclusion concentrates on relational issues such as inadequate social participation, limited social integration and lack of power (Gerometta et al. 2005). The concept of social exclusion first originated in the European Commission during the 1970s, and refers to the process that led many people to be excluded from the market, mainly due to chronic unemployment (Wagle 2002). This concept evolved to include groups of people who are partly or completely outside the scope of human rights (Strobel 1996), or denied access to services that will enable them to engage in the economy and in society (Beall 2000). Urban poverty is increasing globally (Hjorth 2003), and as a result large proportions of people are being excluded from the formal economy (Beall 2000). Hajnal (1995) reveals that poverty in Canadian cities is an extensive problem highlighting a variety of social disorders that may ultimately lead to social exclusion.

Social, cultural and economic variances throughout the world define which groups are excluded from the economy and therefore engage in the informal economy, including recycling. Despite the inherent problems associated with making broad assumptions about informal recyclers, attempts have been made to describe the economic characteristics and demographics of this group. Medina's (1997) overview of common characteristics and generalizations are applicable to informal recycling systems. Although certain criteria from Medina's overview are consistent with other research, some have been debated. The assumption that informal recyclers are poor and marginal is challenged in a subsequent study by Medina (1998), whereby it is found that informal recyclers that work at the dump in Nuevo Laredo, Mexico earn 225% the minimum wage that formal sector employees earn. This assumption is reinforced by Jaffe & Nas (2004), who argue that too little academic research has been done to be able to make broad assumptions and universal statements.

In Canada, homelessness is in many ways related to the transformation of the economy. These changes have been attributed in part by the process of globalization, which has led to polarized occupational structures, with a larger percentage of the population living below the poverty line, working in low wage, temporary or part-time occupations (Gaetz & O'Grady 2002). During the past ten years, there has been a withdrawal of government from funding and supporting social housing, unemployment assistance, and a reduction in services targeting the poor.

3.1.1. Perceptions of informal recyclers

Due to their daily contact with waste, informal recyclers are usually associated by society with disease and squalor, and perceived as a nuisance, or even as criminal (Medina 1998). Various factors influence the negative impression of informal recyclers, such as their personal appearance, their behaviour, and the equipment they use (Medina 1997). Informal recyclers in developed countries are not seen as providing a service, and their association with waste reinforces their low social rank (Sicular 1992).

Perceptions of informal recyclers have been further exacerbated by the attention received for removing materials from recycling bins that are revenue for municipal recycling programs (Goff 1994). Throughout the United States, removal of materials – particularly paper and aluminium cans – from municipal recycling programs has increased dramatically (Medina 1997), resulting in a ‘recycling battle’ between informal recyclers and formal recycling companies (Goff 1994). Numerous cases of ‘theft’ from curb-side recycling bins have resulted in the loss of thousands of dollars annually for recycling businesses (Goff 1994). This is partly caused by organized poachers that use vehicles to ‘steal’ large amounts of recyclables. Due to an increase in the market price of recyclables in 1995 an activity that was primarily performed by low-income citizens now involved organized crews with vehicles (Powell 1995). The removal of recyclables from recyclable bins has prompted municipal officials and private collectors to introduce a variety of techniques to discourage this activity. One

of these techniques is the anti-scavenging by-law¹⁵ (Powell 1995). Although most municipalities in Canada and the United States have instituted these by-laws, limited research has been devoted to the resulting socio-economic impacts.

3.2. The informal economy

A growing body of research suggests that the informal sector--also called the underground, unofficial, black, subterranean, or non-registered economy--is an extremely large and highly productive subsection of the economy (Daniels 2004; Cox & Watt 2002; Torgerson 2001). The informal economy refers to the market sector where certain types of income and the means of their generation are unregulated by the institutions of society (Williams & Windebank 1995). A variety of different groups engage in informal economic activities for a variety of different purposes (Beall 2000). Often, this includes the poor, who implement a variety of survival strategies to make ends meet (Snyder 2004; Leonard 2000). These activities, of which street vendors are amongst the most visible, are symbolic of the informal economy in cities. These activities provide much needed work, introduce some social stability and offer prospects of new economic opportunities and a better quality of life (Daniels 2004). In many areas of developing countries the informal waste sector provides a much-needed service when there are no official waste collection services or recycling facilities available (Medina 2005; Ojeda-Benitez et al. 2002).

¹⁵ Anti-scavenging bylaws provide a mechanism to discourage, or minimize, large-scale removal of recyclable materials from municipal recycling containers (Powell 1995).

A number of factors constrain informal economic activity. Some economic constraints are institutional such as labour law (informal work was created by government rules and restriction), and welfare benefit regulations (Leonard 2000). Notably among the most influential work on the informal economy is Hernando de Soto's *The Other Path* (1986), in which he argued that excessive regulation in the Peruvian economies forced a large section of the economy into informal economic activities. There is an emerging recognition that eradicating the informal economy through deterrence (levels of punishment) is unrealistic (Williams & Windebank 1995; Beall 2000). Formalizing the informal sector and supporting the goal of full employment is therefore increasingly discussed in economic development literature (Williams 2005; Mansoor 1999; Medina 1997). Integrating the informal sector into community-based and social enterprises, cooperatives and unions is becoming a widely used approach in Mexico (Medina 2005), Columbia (Moreno-Sanchez & Maldonado 2006) and Brazil (Gutberlet 2005).

3.3. Economic opportunities

When individuals have been excluded from the formal economy, income is often obtained through informal activities (Beall 2000), including recycling (Medina 1998, 2001; Jaffe & Nas 2004). No reliable data exists on the current number of individuals engaged in informal recycling, since it is an unregulated and unrecorded activity. Studies suggest that this flexible and often variable source of income is a survival strategy that individuals with no or very limited income depend on (Royse 1987; Hill & Stamey 1990; Gaetz & O'Grady 2002).

A study by Hill & Stamey (1990) found that, due to increasing competition for recycled bottles and aluminium cans in many American cities, individuals were collecting other materials such as scrap metal to earn money. Rendelman & Feldstein (1997) also found that in American cities paper, metal, wire, and cardboard are involved in the trade. Where markets exist, the use of various materials has the potential to support small-scale waste-based businesses (Ackerman 2001). Estimates from a study in Portland, Oregon, reveal that waste collected by homeless individuals has produced a million-dollar industry (Rendelman & Feldstein 1997). The study also revealed that recycling supports as many as 8,000 workers in New York City, placing this activity on the scale of a small trade.

Generating income from the recycling of waste is not new in affluent countries. Street and landfill scavenging were once a common occupation among immigrants and poor individuals throughout American history (Ross 1996; Medina 2001). The New York garbage barge¹⁶ at the end of the 19th century provided many Italian immigrants with income (Medina 2001). This also occurred in California during the end of the 1960s, where a group of informal recyclers known as the ‘Sunset Scavengers’ survived with income from waste (Perry 1978). Recycling waste not only provides income for poor individuals, but also plays a role in local economic development by supplying materials to various industries (Medina 1998). This was also a widespread occupation in the postwar reconstruction of countries such as Germany and Japan, where scrap

¹⁶ Until 1878, the city of New York paid ‘scow trimmers’ for their services and allowed them to keep what they recovered from the wastes. These individuals rummaged through mixed wastes on the dumping scows — barges used to transport the refuse from the city to the disposal sites — searching for reusable and recyclable items (Medina 2001).

collecting provided needed income (Ross 1996). Employment in this industry was common in Japan, where the number of 'rag pickers' increased during the early post war years (Taira 1971). Informal recycling is clearly established as an income generating activity in solid waste management throughout the world. This activity is a common survival mechanism in the absence of a social security system (Ali 1999), and has been predicted by Medina (2001) to increase significantly in the event of a downturn in the US economy.

3.4. Recycling as a waste management strategy

Although the collection of materials and processes used in recycling have environmental impacts, this method of solid waste management is regarded as environmentally beneficial. Recycling conserves natural resources by substituting secondary resources for raw materials (Denison 1996; Grant 2003), decreases the demand for landfill space and generally involves savings in energy consumption (Craighill & Powell 1996). Powell (1996) argues that the energy inputs associated with recycling more than compensate the energy and emissions savings made by replacing primary materials with recovered secondary materials in the manufacture of new products.

Various researchers have attempted to measure the environmental impacts of recycling using the technique of lifecycle assessment (Denison 1996; Craighill & Powell 1996; Subramanian 2000). This technique quantifies and evaluates the environmental impacts of a product from the acquisition of raw materials, through manufacture and use, to final disposal (Denison 1996). One case study in central

England shows that the recycling system generates fewer impacts than the waste disposal system in terms of contribution to global warming, acidification effects and nitrification of surface water (Craighill & Powell 1996). A study by Denison (1996) found that systems based on recycled production and recycling offer substantial environmental advantages over systems based on virgin production and either incineration or landfilling, across parameters such as solid waste output, energy use, and air and water pollution. Grant (2003) found that certain recyclable materials have higher potential for recycling and less environmental impact than others. Although the most effective and often unrepresented waste management method is waste minimization (Dean 1995; Tonglet et al. 2004), the environmental benefits of resource recovery facilitated through recycling are well documented (Powell 1996; Grant 2003).

A number of policies aim to increase the volume of waste recycled, such as 1) promotional and support activities (public educational campaigns to promote source separation and recycling; programs to research on-going resource recovery efforts, monitor and evaluate their progress); 2) incentives for engaging in resource recovery activities (appropriate environmental regulations and standards for solid waste management); and 3) incentives to stimulate the market for recovered material and products (tax credits to industries that use recycled materials, stabilization of markets for recyclables through price supports).

Pro-recycling attitudes are the major contribution to recycling behaviour, and these attitudes are influenced firstly, by having the appropriate opportunities, facilities and knowledge to recycle, and secondly, by not being deterred by the lack of time and

inconvenience of recycling (Tonglet et al. 2004). There are additional benefits from participating in a recycling program including increased environmental awareness (Craighill & Powell 1996), improved knowledge of the environmental impacts of urban waste, and the promotion of environmentally responsible consumerism (Ebreo et al. 1999).

Recycling programmes are often the highest priority for waste management strategies. As a consequence of growing environmental concern for increased consumption of disposable products, recycling programmes have increased on a global scale (Gutberlet 2003). The commitment to recycle is driven by the need to conserve natural resources, reduce imports of raw materials, save landfill space and reduce pollution from landfills. Recycling in North America is becoming a competitive waste management option given the high costs and environmental concerns of landfilling and incineration. Despite waste reduction initiatives in Canada and the United States, a large proportion of municipal recyclable material is found in the waste stream (Geis 1996). In the Greater Vancouver Regional District (GVRD) for example, the overall per capita disposal rate was 0.678 tonnes in 2002, compared to 1.38 tonnes in 1990. Approximately 50.6% of the municipal solid waste generated in the GVRD was recycled in 2002. Although recycling rates have increased over the last decade, there is still a significant amount of waste that could be diverted, and therefore a need for alternative policies to increase recovery.

3.5. The commons and access to resources

Literature on common-property resources is primarily focused on showing that variations in forms of property rights affect resource management outcomes. Common-property rights are seen as “a set of rules that define access, use, exclusion, management, monitoring, sanctioning, and arbitration behaviour of users with respect to specific resources” (Agrawal 2003, p. 244). There have been attempts to classify waste as a common resource once the user of that resource finds it no longer useful and relinquishes ownership (Hetherington 2004). At that point, once the material has been re-assigned value and enters the waste stream, that resource becomes accessible to anyone (open access). Important distinctions exist between common property and open access. Common property is shared property whereas open access refers to a situation in which there are no legal property rights: resources are unregulated and free to anyone (Pinto da Silva 2004). Considering that the recovery of secondary resources has become ‘big business’ (McBean et al. 2005) in the global economy, there is increasing demand and conflict for these resources. In the theoretical investigation of the recycling commodity chain, Kopenen (2002) writes that “recyclables, garbage and waste are owned by the local governments” (p. 553) and therefore it is the government’s responsibility for negotiating the hauling and sorting of waste.

Global concerns about environmental degradation and resource depletion have stimulated interest in common-property resources (Agrawal 2003). Recognizing the socio-economic dependence on common resources has paved new avenues for resource management, particularly among traditional communities in developing countries (for

example: Carlsson & Berkes 2005; Armitage 2005; Anand 2000). One of these avenues is through the model of extractive resource reserve, which guarantees the management of environmental resources while sustaining livelihoods (Brown & Rosendo 2000). In this regime resources are held by an identifiable community of users who may exclude outsiders while regulating use amongst members. These rights are often of equal access and use (Pinto da Silva 2004). These experiences reveal that communities are capable of independently developing management systems for shared resources that do not depend on privatisation (Ghai & Vivian 1992). These examples highlight collectively managed schemes that govern resources and establish incentives for co-operation, questioning the validity of past resource management theories. Furthermore, these experiences have led to a growing belief that there are other policy options that are more appropriate and effective, particularly for the management of resources at the community level.

3.6. The social economy

The social economy is characterised as that part of the economy “that functions primarily according to principles of democratic co-operation, guaranteeing a high level of equality and distribution in order to satisfy human basic needs in a sustainable way” (Moulaert & Nussbaumer 2005, p. 2079). Organizations such as cooperatives, social enterprises, non-profit organizations and charities are examples of the social economy. Gerometta et al. (2005) discuss social economy initiatives as a form of ‘social innovation’ with the aim of countering social exclusion. The model of social economy is further reinforced by Peredo & Chrisman (2006) as an alternative form of entrepreneurial activity that contributes to alleviating chronic poverty. Social economy

organizations contribute to socially inclusive wealth creation, the regeneration of local neighbourhoods, delivering of public services (often to individuals that have been ignored or inadequately fulfilled by the private or public sectors), and active citizenship (Gerometta et al., 2005).

3.6.1. Organized informal recycling through social enterprise

The integration of informal recycling into social and community-based enterprises has gained considerable attention in developing countries (Peredo & Chrisman 2006; Gutberlet 2005; Medina 2000). In the case of developed countries, waste management research has tended to focus on technological development, involving the collection, transport, and disposal of waste materials. In cities where informal recycling is found, the general attitude has been to exclude this activity from the recovery process (Berthier 2003). Authorities view this sector with suspicion and often refuse to admit to its existence and the important role that informal recycling groups play in waste management operations (Bartone 1990). Limited academic attention has been given to the potential of community-based organizations involving informal recycling in resource recovery efforts, although some cases exist. Similar community recycling initiatives fostering social inclusion and economic development operate in other industrialized countries. The Community Recycling and Economic Development (CRED)¹⁷ programme for example, supports organizations throughout the UK that promote and encourage community-based sustainable waste management. One of these organizations is the Community Economic Regeneration Team (CERT), a social enterprise that specializes in managing and delivering job creation and community

¹⁷ CRED founded in 2003, operates in the UK. Website link: <http://cred.rswt.org>

economic projects. Through their SecondByte electronic recovery and recycling initiative, valuable opportunities for training and personal development are available. Although this potential is becoming acknowledged, few governments have started to include informal recycling in their policies (Baud et al. 2001). With the growing need to address waste management issues coupled with rising unemployment, the importance of highlighting successful waste-based initiatives that foster socio-economic approaches are essential.

Community-based and social enterprises can be a means to provide a better standard of living for its members, dignify their occupation, and provide a valuable link to the rest of the community and the government. These enterprises are an essential link between the informal and formal waste management systems and strive for recognition of informal recycler's humanity and value (Baud et al. 2001; Jaffe & Nas 2004). "These organizations have been recognized as important urban partners, reaching where governments and international agencies cannot reach, effectively addressing urban poverty and representing the urban poor" (Beall 2000 p. 850). In São Paulo, Brazil, several co-operatives have organized informal recycling activities into community programs providing new employment, improved working conditions, and increased environmental education (Gutberlet 2003).

3.7. Summary

The informal activities in solid waste management systems play a key role in the delivery of waste management services in developing countries. This activity provides opportunity for income generation and social inclusion among marginalized

populations. Social enterprises and other forms of social economy structures provide an important link between the informal waste sector, government and society through capacity building, education programmes, and occupational health guidelines. There is tremendous potential to improve the quality of life of the informal sector while improving the urban environment. Limited research exists on informal waste systems in developed countries, despite the growing visibility of the socio-economic dependence on this activity in many urban centres.

The following results chapter provides a detailed description of the process of resource recovery, the social structure and hierarchy of the binning community, and describes the diversity of the informal recycling population in Vancouver, British Columbia.

Chapter Four: Breaking down stereotypes and recovering citizenship

4.0. Results

There needs to be more knowledge of the people, and what we do, one bad apple will spoil it for everyone (Informal interview with male binner, approximately 40-45 years old and binning for 5 years, August 20th, 2005).

The process of informal resource recovery in the study area (Vancouver's Downtown Eastside - DTES) is organized around an unwritten set of codes and conducts primarily based upon territoriality and seniority. Attachment to territory provides a sense of security and is recognized within social geography theory as an indicator of social cohesion (Benko & Strohmayr 2004). I discuss the attachment to territory as symbolic of the community's identity, re-enforcing the link between place-based concepts and social inclusion. I also identify elements of community cooperation, organized through a model of social enterprise (United We Can). The contribution of social enterprise towards adaptive co-management strategies that aim to guarantee rights and access to resources is highlighted.

There exists within the binning community an extensive social hierarchy, ranging from low to high levels of productivity¹⁸. Attempting to break-down the stigma of waste recyclers as low functioning members of society¹⁹, this thesis examines the diversity of individuals involved, and their motivations for engaging in this activity.

¹⁸ Based on interviews with binners, productivity is measured by the amount of recyclable material recovered and returned for income.

¹⁹ Bidders are often stereo-typed by society as drug addicts, mentally challenged, socially dysfunctional, and not contributing to society.

The wide diversity of individuals involved reveals that this activity creates opportunity for those that face multiple barriers for social and economic integration. Furthermore, my research found that income generation is not the only determining factor, and that social motivations are an important reason for participating in resource recovery for some.

Informal resource recovery has increased dramatically over the last 10 years, primarily as a response to welfare restructuring and social-cutbacks in the province (discussed further in Chapter 5). Due to the increase in the number of individuals working in this trade and in the value of recyclable materials, competition has created a significant amount of conflict over territory and resources. The increased conflict, manifesting in loud noise and fights in the alleys and streets, has consequently resulted in further negative stigma towards this community. Despite these difficulties, innovative and creative approaches have been initiated through UWC to improve relations between binners and the public, with the intentions of ensuring improved access to materials and social inclusion of this community.

4.1. Social structure of the informal community

I have come to realize there are so many stories out there, they are mostly different, many of them are on welfare, many of them are not, generally they are fiercely independent, they love their independence, they love being entrepreneurs, they don't want to be conformed to any part of a system (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005).

A diverse group of individuals are involved in this activity, and attempting to categorize this population is difficult. Socio-demographic characteristics such as age, gender, educational background, and occupation suggest that this sector provides

income for a wide range of individuals. Within the last five to ten years informal resource recovery has become much more visible in Vancouver. In the early 1990s “it was way more discreet because it wasn’t nearly as accepted and even amongst poor people it wasn’t cool to dig in the garbage can and so a lot of it was done by stealth” (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005). When the province of British Columbia introduced the stewardship program in 1997 as an incentive to return recyclable/re-usable materials, an opportunity existed for individuals to earn money by retrieving materials from the waste stream, and the surrounding urban environment.

It wasn’t very visible and it was much less organized, because it was all ‘return-to-retail’²⁰, people were taking them to the corner stores and when they got the idea that they could take in all this non-refundable stuff and get money for it, they liked that (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

With the introduction of bottle depots and the expansion of the beverage stewardship program in 1997, the opportunity to recover more recyclable materials from the waste stream increased. With more materials available for refund, there was an increase in the number and diversity of individuals engaging in this activity.

A lot more younger people and a lot more Orientals...when I was doing it 10 years ago there weren’t that many...before you could go to the sandwich lines you wouldn’t see one girl in line...or in a bin, now you are seeing a lot more girls out there ...because they don’t want to work on the street so they go binning and make their money there and there are a lot more in the food lines (Interview with Raymond, a male binner approximately 35-40 years old and binning for 3 years, August 9th, 2005).

Through the analysis of age, gender, and family participation, it is revealed that this activity supports a community of socially and culturally varied individuals.

²⁰ Prior to the introduction of bottle depots, recyclable materials were returned to retail stores (i.e. return-to-retail). Retail stores do not have the capacity to refund large volumes of material and often only accept certain products.

4.1.1. Age, gender, family participation and nationality

Everybody is picking cans, even people in a wheelchair, there are more people on welfare cuts, and their main income is binning (Informal interview with male binner, approximately 40-45 years old and binning for five years, August 20th, 2005).

In some countries, waste pickers are mainly men organized in groups (Ojeda-Benitez et al. 2002). In other countries, studies have found women or entire families are involved in this activity (Adeyemi et al. 2001). My research revealed that the majority of individuals involved are male (90% of respondents), between the ages of 40-49 (53% of respondents). The youngest male respondent reported being 19 years old compared to the oldest male at 75 years old (Table 1). There may be a distinct connection between the influx of males between the ages of 40-49 and the impact of welfare cuts on this demographic. As will be discussed further in Chapter 5, some of the major cuts in welfare affected primarily single males in this age category, contributing to significant poverty and economic exclusion.

Male respondents below the age of 30 (6 respondents) all reported binning as their main economic activity and have started within the last year. The majority of male respondents above the age of 30 (84 respondents) reported having started binning more than 2-4 years ago. Of these 84 respondents, 49 reported earnings from binning as their main income source. The dependence on informal recycling as a main economic source suggests that options for alternative sources of income are difficult to obtain if not impossible. Theories of social exclusion, whereby certain segments of society are seen as isolated in terms of economic and social opportunities (Waggle 2002), reinforce the research findings that this population faces exclusion.

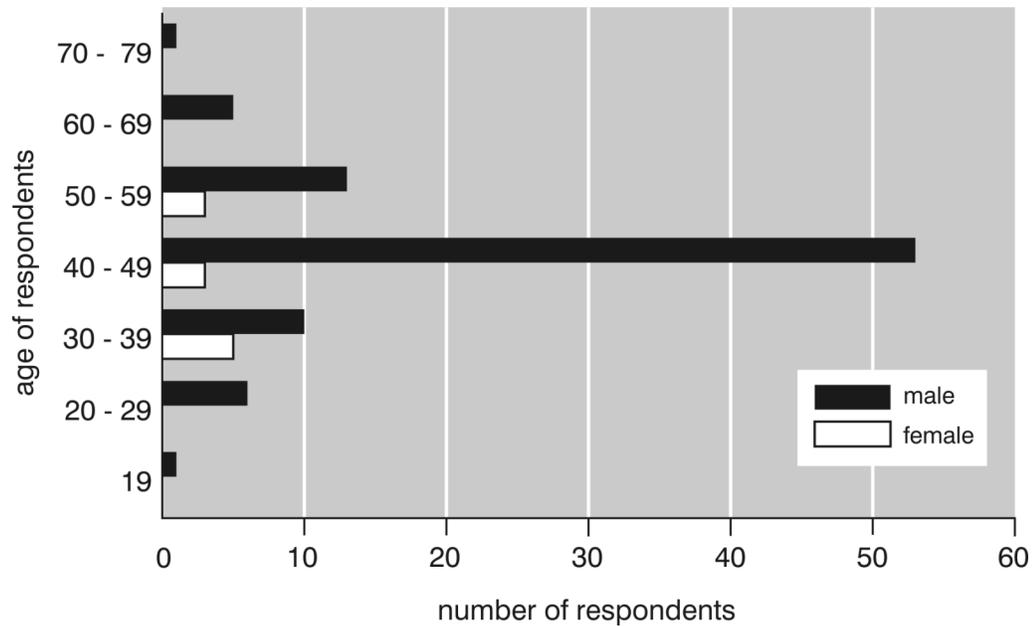


Table 1: Age and gender of Binners at United We Can bottle depot, 2005.

This research revealed that 10% of the total sample population are female, half between the ages of 40-49 (5% of participants). One of the first self-reported female binners in Vancouver explained that there is much more acceptance for women binning by the other binners, mainly men, than there used to be, and this could account for the increasing number of women getting involved. “There is more variation in binners than there used to be, I even saw a pregnant girl binning” (Informal interview with male binner, approximately 50 years old and binning for 10 years, August 21st, 2005). Six out of the ten female respondents reported earnings from binning as their main income source. Although this research does not particularly address gender inequalities within the informal waste sector, the results may reveal that women are increasingly involved as members of the community. Furthermore, female binners suggest that the opportunity to generate income through recycling has decreased the level of dependence on sex trade work. Further research investigating this trend could reveal

that women in the Downtown Eastside (DTES) have limited options for economic and social integration.

Binning in the DTES is male dominated for a variety of reasons. Primarily, the population most affected by social assistance cut-backs in Vancouver are male (mostly between the ages of 40-49). These findings highlight what Gotham (2003) describes as social inequalities in the structural framework of the welfare system, whereby certain populations are limited in political and economic options. Secondly, Smith (2004) suggests that the concentration of social services and low-income housing in the DTES reflects the high percentage of marginalized population living there. Concepts within poverty theory highlight the potential role that geographical concentration plays in the perpetuation of poverty conditions, and perhaps in the development of a poverty sub-culture (Ley and Smith 1997). The high concentration of binners living in the DTES (discussed further in section 4.3.2) documents that polarization, a concept within poverty theory, does facilitate socio-economic exclusion.

In many countries it is common to find entire families involved in the recovery of resources for their economic income (Beall 1997). I found that resource recovery is primarily a solo activity, although it was observed that some binners work in partnership to maximize profit and/or for social interaction. The majority of respondents revealed no family participation in binning (85%), while some reported working with their partners (5%), brother (4%), daughter (2%) or other family members (5%).

Many immigrants enter the informal economy because they are precluded from formal sector employment due to their immigration status, language barriers or their lack of recognized skills (Cox 2000). A significant representation of female Asian women is involved in resource recovery in Vancouver, particularly in and around Chinatown. Although this representation was visible in the sample population, primarily due to language barriers, they were not included in the sample population of the study. An interview with Yvonne Tham, an employee of United We Can, noted that Asian immigrants face multiple barriers, primarily language, and that “even engineers and the well educated cannot find jobs” (Interview with Yvonne Tham, receptionist at the United We Can bottle depot, August 4th 2005). Although this population is not formally included in the research study, they contribute significantly to recovering resources so much that Chinatown is recognized as their territory by other binners. Often, these women travel by foot, using shopping carts to collect material and are accompanied by one or sometimes two of their family members, mainly children. “A lot of Orientals are binning now, but they came from a poor country and they know what it is like” (Interview with Kevin, a male binner approximately 40 years old and binning for 14 years, August 9th, 2005). Further research exploring the socio-economic exclusion of immigrants, particularly women in this case, could provide insight to the barriers of their integration.

4.1.2. Education and occupational background

“It’s not uncommon for them (binners) to come from relatively low income backgrounds, there are all kinds of exceptions to that, so it’s not really fair to characterize. I would say that most of the people have come from a working class background, so they have some consciousness of the work ethic, which is interesting. So it is not uncommon for people to have had a significant work history before they

arrived at the circumstances that they are at now” (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

The educational background of recyclers is quite diverse (Table 2). Contrary to the general perception of binners having little or no educational background, I found 13% (13/100) of the population have attended college, 11% (11/100) have attended university, and that 37% (37/100) have completed high school. The remaining 33% (33/100) have attended high school, and 7% (7/100) have primary education. This reveals that many binners engage in this activity out of socio-economic circumstance rather than due to a lack of education.

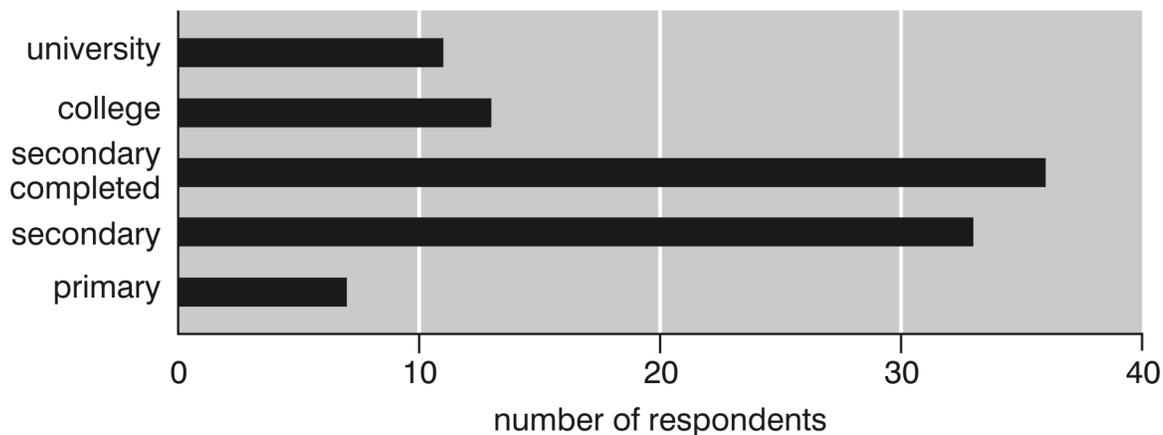


Table 2: Educational background of Binners at United We Can, 2005.

The occupational background (Table 3) among the recyclers is highly diverse with 52 reported categories. These responses are categorized under trade (33%), service (28%), primary industry (17%), and other (22%). The most common occupational background is construction (15%), followed by general labour (6%).

Trade		Service		Other		Primary	
Car restoration	1	Business auditor	1	Drug dealer	1	Shellfish farmer	1
Mech. Engineer	1	Correctional	1	Disability 2	1	Tree faller	4
Pressman	1	Caretaker	1	Disability 1	5	Mining	2
Boiler maker	1	Car washer	1	Home maker	1	Oil rigs	1
Auto body	2	Hairdresser	1	Artist	2	Iron worker	4
Woodworker	4	Bartending	2	Photographer	1	Fishing	3
Denturist	1	Volunteer	1	Chef	3	Forestry	2
Plumber	1	Hotel mgmt	1	Student	2	Total	17
Tile setter	1	Dishwasher	1	Prison	2		
Electrician	1	Car manufacturer	1	Criminal	1		
Cabinet maker	1	General labour	6	Native housing	1		
Framer	2	Furniture mover	1	Never had one	1		
Social worker	1	Truck driver	4	Prostitute	1		
Construction	15	Baker	1	Total	22		
Total	33	Landscaper	2				
		Film industry	1				
		Telemarketing	1				
		Bike courier	1				
		Total	28				

Table 3. Occupational background of Binnners at United We Can, 2005.

4.1.3. Homelessness and the informal community

The homeless in the last year has jumped, probably about 75% more people out there (Interview with Raymond, a male binner approximately 35-40 years old and binning for 3 years, August 9th, 2005).

Homelessness has been defined as lacking a fixed, regular, and adequate night time residence (Farrell & Reissing 2004), and is considered a major consequence of social exclusion (Somerville 1998). Vancouver has a large homeless population, with deinstitutionalization of mentally ill patients considered to be one contributing factor (Acorn 1993). Acorn (1993) estimates that shelter users in Vancouver are predominantly a young, male, single and mobile population. About half of the

respondents in her study reported a current health problem, and 44% reported use of non-prescriptive drugs (Acorn 1993). There is no prior research indicating a connection between homelessness and participating in informal resource recovery in Vancouver, although a study by Royse (1987) found homelessness in Portland, Oregon to be a major contributing factor to participation in this activity.

Among the survey respondents, 15% reported to be homeless, with 66% of the population reporting to live in the Downtown Eastside (DTES) (see inset on Figure 3). The survey did not distinguish between homelessness (no-fixed address) and unstable housing situations. Given that some of the respondents at the time of the survey might have been experiencing temporary or unstable housing situations, this could result in an under-representation of actual homelessness. Further research exploring temporary or unstable housing among the binning population could be beneficial to understanding socio-economic barriers for inclusion. In-depth interviews with binners that are homeless revealed they are extremely dependent on this income for their survival. These binners also benefit from retrieving other materials such as clothing and food from the waste stream.

For many binners that are homeless, finding secure places to sleep with their ‘loads’ (materials) is a challenge. “Every time I have gone by there, there have been people cashing in their empties with them (middlemen), but I think it is more out of not having anywhere to put them overnight than anything else...the homeless sleep with their empties, so they do it all night” (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005).

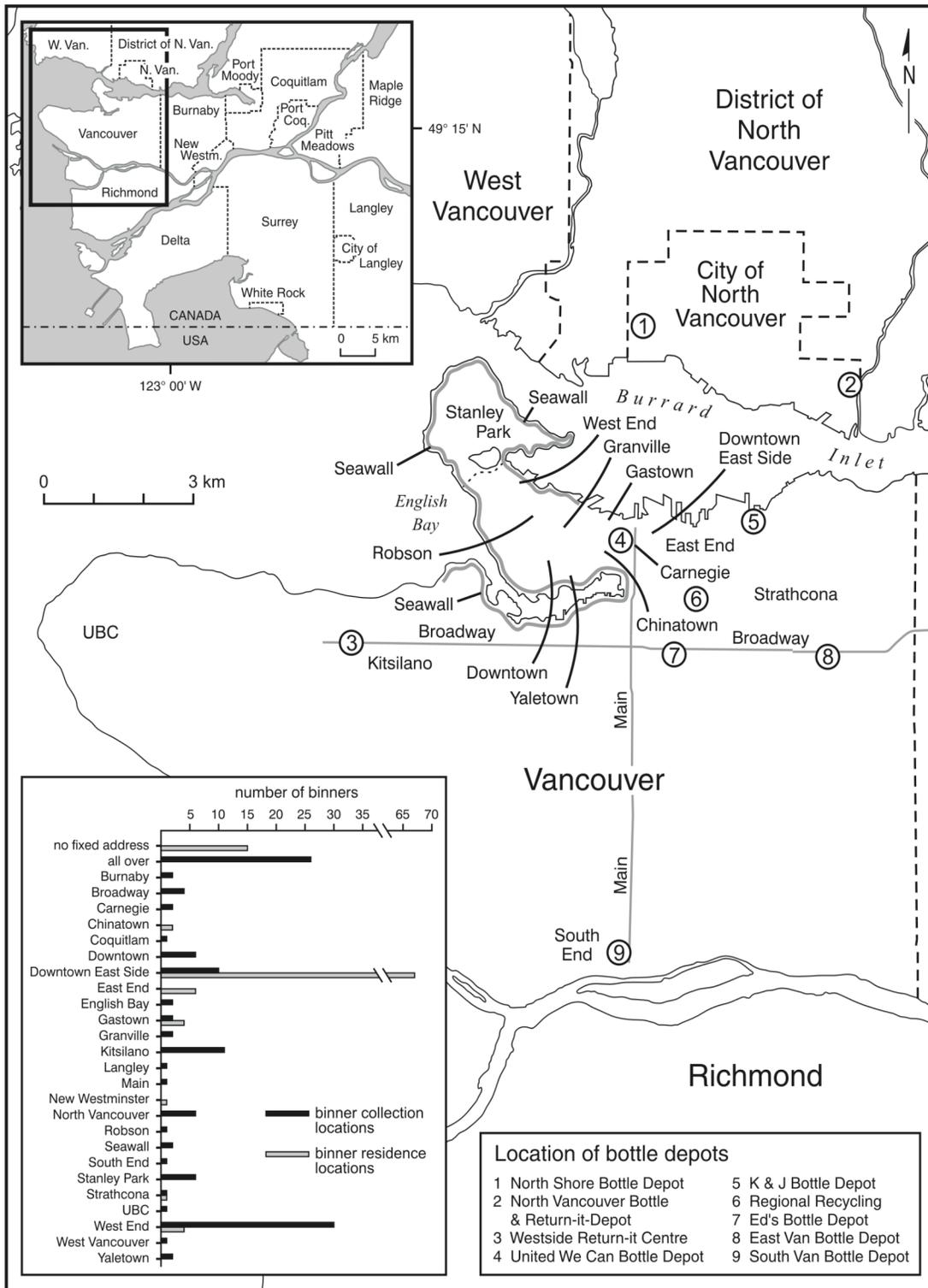


Figure 3. Map of bottle depots, binner residence and collection locations

In many cases, working throughout the night is an only option for binners that have nowhere to store their materials. Since the bottle depots do not operate throughout the night, many binners have no other option than to return their empties to middlemen that operate when depots close. The role of middlemen is discussed in more detail in the following section. Since income earned from binning is a sole economic source for many homeless individuals, they are extremely productive in retrieving materials and build partnerships with residence and businesses for secured and regular access to materials.

Building social capital, a measure of the extent of social networks in a community, is particularly important in creating opportunities for homeless and excluded individuals to be engaged in civic life, and to promote greater economic prosperity. Social capital can be seen as “a shared resource, which is derived from and renewed through interpersonal networks, voluntary associations and trust generating interactions among citizens” (Luckin & Sharp 2005, p. 63). These interactions have been shown to promote population health and effective civic institutions (Lochner et al., 1999). As will be discussed further in chapter five, the model of social enterprise plays a valuable role in promoting social capital and community participation among the binning population.

4.2. Searching for socio-cultural diversity among informal recyclers

It really surprised me because he drives a limo and here he is in his suit...and he stops and picks up stuff in the alleys...and he has two jobs and is a recycler...in a suit (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005. Alex is commenting on the diversity of individuals engaged in binning such as a man he witnessed collect recyclables wearing a suit and driving a

limo – reinforcing this activity as an income generating activity for a wide-diversity of people).

There is the younger crowd, there is the jibber crowd, there is the beer drinking crowds, there is just the binner crowds (Interview with Kevin, a male binner approximately 40 years old and binning for 14 years, August 9th, 2005).

There is an extreme variation in the level of productivity within the binning community. Productivity is measured by the binning community as the amount of recyclable material recovered and returned for income. Within this community, a multitude of niches are made available through a system of hierarchy; those with extreme poverty and disabilities that rely on this activity for their daily survival to part-time and seasonal workers, to those that are highly productive at retrieving recyclable materials as full time employment. The activity enables all levels of productivity, given the need and limitations. Although extremely difficult to classify such a flexible and variable activity into a structured social system, I attempt to categorize this population.

4.2.1. Scavenging for survival

At the lowest functioning end of the system are those that rely on this activity for their food and subsistence. They will find anything of value to sell including recyclable materials and are often those that are “outside the social security network such as illegal immigrants and people who are unable to qualify for social benefits or who want to remain anonymous because of alimony issues” (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005). It is difficult to quantify how many individuals recover recyclable materials for survival, since the activity is so transient. That is, its informal nature can be almost impossible to predict since there are so many different individuals involved at

different times. Individuals that are recovering resources to survive are competing with those that have 'seniority' and territories that are high volume and lucrative, established partnerships, and better equipment that enables large volumes of material. There are various terminologies used in the binning community, particularly with the long-term binners, to describe the variation of people involved. Some binners have mental health, and serious drug related issues, and are highly stigmatized.

A major finding in a study by Eikenberry & Smith (2005) is that binning/dumpster diving is common among low-income urban dwellers as a way to obtain food in an honourable and relatively consistent fashion. According to the 2002 status report on Hunger and Homelessness in America's Cities, 'dumpster diving' is a term generally used for obtaining items, in this case recyclable materials, from the dumpster, including food and other merchandise. Although the investigation of food recovery is not included in this study, field observations revealed that a considerable quantity of food products is recovered and consumed from the waste stream. Further investigation into the quality and source of food products would be beneficial in responding to food security issues, and health implications. Given that 16% of the Greater Vancouver Regional District (GVRD) waste stream consists of food waste, the opportunity to implement food recovery programs is worth investigating (GVRD 2005).

4.2.2. Seasonal or 'tourist' binners

Its summer right now and there are tourist binners, we call them tourists...there are a lot of people doing it that are a hell of a lot better dressed than us...I don't know where these new people are coming from...if its kids maybe its spending money you know (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 20th, 2005).

Seasonal or ‘tourist’ binners are those that engage in this activity on a part time basis, or when the need arises. Binners consider themselves part time or collect materials only in the summer, on week-ends or holidays when there are more materials to be collected and the weather is more tolerable. For them, this is an important income source that can hold them over until the next job or opportunity arises. Since materials are deposited in dumpsters at any time throughout the day, there is opportunity for more than a few binners to cross paths or duplicate territory and retrieve material. Since there is no way of knowing the territory of the more established binners, part time collectors find their own temporary routes and often overlap territories. The increase in competition for territory is also a major cause of conflict that contributes to noise complaints. Among the respondents, 56% reported the earnings from binning as a necessary additional source of income needed to supplement inadequate welfare payments, disability, and pension. Edward, a 20 year old part time binner reported “binning as the need arises” and did it “everyday for the past month...when I make \$20 I have done my goal” (Interview with Edward, a male binner approximately 20 years old and binning for 1 month, August 10th, 2005). Discussions with long-term full time binners have revealed that there has been an increase in seasonal part time binners.

4.2.2.1. Opportunist collectors

Considered to be opportunist collectors also on a part time basis are those referred to as ‘skimmers’ or ‘beach combers’ that do not necessarily collect in the alleys or dumpsters, but retrieve recyclable containers on the streets, beaches, public spaces, and street bins. ‘Skimmers’ would not necessarily consider themselves a binner as they don’t actually go into the dumpster, but rather collect when they find bottles exposed in

open areas. Harry, a part time seasonal binner, has been binning once a week during the summer for the last four years; “there is nothing better to do than be outside and so I do it at the end of my day....I try and work five days a week this time of year” (Interview with Harry, a male seasonal binner approximately 40-45 years old and binning for four years in the summer, August 8th, 2005). “A skimmer will go across, they won’t go near the really nasty garbage and they will just pick things off the top of the garbage that may seem to be worth money or of interest. Now there are thousands of them, the real binners there is maybe 120 to 150 tops, and in the winter when it is continuously raining there is probably about 30 of us” (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 11th, 2005).

Also considered opportunist collectors are those that are more inclined to collect for non-economic reasons. In general, senior collectors (above the age of 65 years old) tended to work on a part time basis as a social activity rather than economic incentive. Although this is considered to be a small proportion of the population, it is interesting to note the social relations that this activity can promote. A man in his late 70’s reported collecting bottles a few times a week “to keep me busy” either “I would just be sitting around my house”, and he mentioned that “it feels like I am doing something productive” (Informal interview with male binner, approximately 75-80 years old and binning for 5 years, August 21st, 2005).

4.2.3. The professional binner

They make 20-30 or sometimes 40\$ a day, depending on the day, work at it about 5 days a week, and they work hard and are competitive and they are the true entrepreneurs...and they have sort of a trapline that they become familiar with and they work that trapline well, they actually get the businesses and residences to contribute, to wait for them, and put stuff out, marked for them in a way to make sure that they get it, and those people may or may not spend much time in the bins (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005).

Professional or full time bidders are highly productive at retrieving recyclable materials, have established traplines and partnerships with residences and businesses, and are most often completely dependent on this income for their livelihood. Professional bidders are typically recognized pushing a shopping cart or pulling one on a bicycle, enabling them to recover heavy loads of materials and travel long distances (Figure 4). Many of them have honed their skills over an extended period of time becoming experts at retrieving material from dumpsters, bins, streets, public spaces and through established partnerships. Almost all professional bidders have partnerships with businesses and/or residences. They either arrange for residents to leave materials for pick-up or they have arrangements with building owners that allow them to sleep and provide overnight security in exchange for the bottles.

Considered by most professional bidders as an honourable living in the face of economic circumstance, this activity contributes to a sense of contribution to society. The autonomous and flexible lifestyle of recovering resources is a major advantage to bidders.

I could go get a job no problem, I know I can, I could get a 9-5 job, where I do the exact same thing everyday like a robot. Now, binning...I work my own hours, I am my

own boss, I can work in any direction I want, I work any hours I want, I don't know who I am going to, I don't know what I am going to find, how much I am going to make, everyday is a brand new adventure (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 9th, 2005).

The idea of extractive resource reserve²¹ as an avenue for sustainable resource use and management can be applied to the informal waste sector. Similar to a traditional community's reliance on forest products as described by Pinto de Silva (2004), bidders rely on access to recyclable materials for their income and social well-being. Privatizing and monopolizing the collection of recyclable materials poses a significant threat to low-income population's ability to generate an income. Although there is no evidence of extractive resource reserve being applied to an urban waste management setting, similar socio-economic considerations can be adapted to inform sensitive policies. Government leaders that recognize this resource as a tool for socio-economic development can promote appropriate programs that secure open access and/or apply common property regimes to waste.

4.2.3.1. Seniority

I will stay away from certain places...like I will stay away from the Hyatt...a hotel bin that the native guy has and that is like 100\$/day in just plastic bottles...he got it off of somebody else, who got it off of somebody else, who got it off of somebody else. Or they screwed up and he moved in, one day I hope to move in there (Interview with Kevin, a male binner approximately 40 years old and binning for 14 years, August 9th, 2005).

It is shown that certain areas or even specific bins are passed down from veteran bidders in a seniority system.

²¹ A form of property right used as a model for preserving the extraction of non-wood forest products (NWFP) through the combination of economic competitiveness and conservation of biodiversity (Goeschl & Iglioni 2004).



Figure 4. Binner returning to UWC bottle depot with recovered beverage containers.
Photo: C.Tremblay, 2005.



Figure 5. Recovered beverage containers from middleman outside UWC bottle depot.
Photo: C.Tremblay, 2005.

“I do one hotel bin and it’s been handed down to me from one old timer to another old timer to another old timer and eventually to me right...I always do that bin, and I used to get out of that bin at least like 10-20\$, but now I get like 5-10\$ everyday out of that one bin. And I get food out of there, it’s a hotel bin. And the management, the hotel people are pretty good with me about that” (Interview with Kevin, a male binner approximately 40 years old and binning for 14 years, August 9th, 2005). It is interesting to note that within the social hierarchy of the binning community there exists this recognition of territory that belongs to more established and senior binners. Access to a lucrative dumpster or partnership therefore is a highly valued commodity to be passed down or made available to someone else. The system is maintained through unwritten communication of common territorial knowledge passed on from senior to novice binners.

Concepts of social cohesion such as conflict resolution and participation are evident in this process of group organization (Pinto de Silva 2004). From this perspective, group rules and codes determine access and management of these common-pool resources. Resources under common use are referred to as common-property or common-pool resources. These communal management systems differ from conventional approaches because ownership, in many cases informal, is based on group control. Here, participation, trust, and feelings of a shared identity play an important role in overcoming conflict due to resource competition and can provide incentives for collective resource management. The seniority and territorial system of the binning community provides an example, although not perfect, of community common-pool resource management. As will be discussed further in section 4.5, the collective

identity of the binning community contributes to promoting cooperation and social cohesion.

4.2.4. Middlemen

Middlemen make good money, I don't like them, they prey on the desperation (Informal interview with male binner, approximately 40 years old and binning for seven years, August 22nd, 2005).

Middlemen, also referred by Romanos and Chifos (1996) as 'small scale entrepreneurs', make profits by purchasing materials from the collectors, often at a reduced price, and then selling them to industry. The participants in the study revealed six different established locations where middlemen operate in the city (Figure 5), often in back alleys or street corners. The level of productivity varies among the middlemen, depending on the customer base, availability of equipment to transport material (e.g. vehicle) and price paid for materials. Most often, middlemen operate throughout the night when recycling deposit centres are closed. Once a regular customer base is established, this can be quite a consistent and lucrative business (Figure 4). Roy, a middleman that was interviewed in this research revealed making on average \$300/day by purchasing recyclable materials during the night from collectors (middleman #1 in Figure 5). According to Roy, there is only one other middleman operating at this scale in the city and "he's actually got a truck, he only pays 50 cents on the dollar and I pay 75 cents so as soon as I arrive he drives away" (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 11th, 2005).

Negative social implications accompany the presence of middlemen in these types of systems. Most often it supports those that struggle with drug addiction and are desperate to find a way to support their habit. “It does revolve around people purchasing narcotics. If it wasn’t me doing it, there would be some one else standing there” (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 11th, 2005). Although one can say middlemen have found a niche in the system, it is often the most desperate and economically isolated people that sell their material to middlemen. There is “just one person in the downtown area that does it, he has a cubed van and he usually does it after hours when nobody can get rid of their empties. So, at 11 at night, when the liquor stores close, his truck is open” (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005).

In developing countries where middlemen exist, recyclers are often highly exploited for profit (Medina 1997). In many cases, eliminating the middleman is a major motivation for creating cooperatives and social enterprise to improve the earnings and independence of the workers (Gutberlet 2005).

4.2.5.1. The ‘Key’ to binning

Another type of middleman is also identified, one that provides access to materials through having acquired keys to selected dumpsters in the City. Romanos and Chifos (1996) refer to these employees as ‘freelancers’ within the trade, working as a subcontractor because they have either no option or the activity presents a lucrative outcome. Some key holders become ‘employers’ in a sense through providing other

binners with access to materials by opening these dumpsters. Roy, a key holder in Vancouver, has five regular employees that collect for him and get a percentage of the return (Figure 4). “How I make my money is that I ride around on my bike and open, give access to dumpsters so that other people can do it and clean it out at a percentage, I keep half of what is collected and on the side I purchase bottles for 75 cents on the dollar” (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 11th, 2005).

It is not uncommon for professional binners also to acquire keys to dumpsters on their trapline, ensuring a more secure and controlled access to the materials. Usually, keys are used exclusively by binners and are regarded as a highly valuable commodity to obtain. Keys are acquired in a number of ways, “sometimes you pay, sometimes you get lucky, sometimes you find them sticking out of the lock” (Interview with Kevin, a male binner approximately 40 years old and binning for 14 years, August 9th, 2005). Since there is value in securing exclusive access to high producing dumpsters, a system of buying and selling keys exists within the binning community. “I have seen rings of keys sell for a couple hundred bucks”, reported one binner (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 20th, 2005), reinforcing just how valuable access to these materials have become.

4.3. Process of informal resource recovery

The process of informal resource recovery is complex since it is an unregulated and unrecorded activity engaging up to 1500 hundred people (at United We Can bottle depot) on various spatial and temporal levels. In an attempt to understand the use and

extent of this geographic space, I use a map to illustrate territoriality and the spatial distribution of this activity (Figure 6). The extreme distances and time engaged in this activity reveals the intensive physical labour involved. Due to an increase in binning activity, consequent competition for these resources and conflict between binners over territory is common. In an effort to reduce conflict and improve their image, UWC and a group of binners have established a 'Bidders Code' (Appendix D) as a guideline with the aim of avoiding conflict with residences and among binners while at the same time enhance their small profits and improve the city's overall rate of recycling.

4.3.1 Territory and traplines

It's not a violent protection you know, its just that's mine, that's where I work, this is my work (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 20th, 2005).

Territorial boundaries exist within the binning community, designated by established routes called 'traplines' that binners work on a regular basis (Figure 6). These routes are highly diverse in the size and location of area, contributing to an interwoven and complex system of spatial territory. Many professional binners have established partnerships with residences or businesses along their trapline, and become familiar with the most lucrative areas to work. While becoming familiar with these set routes, a sense of ownership and territory develop.

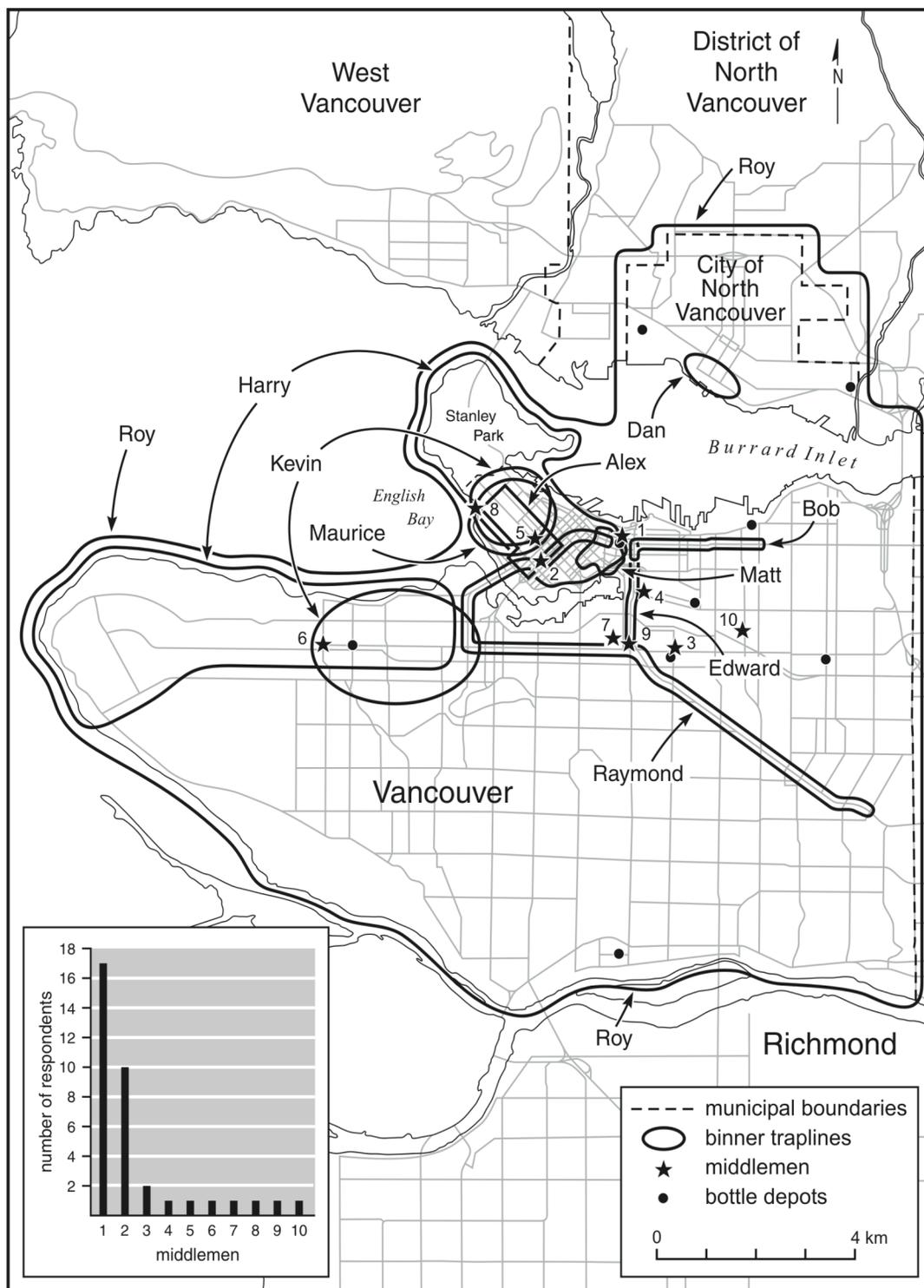


Figure 6. Map of Binner traplines, location of middlemen and bottle depots, 2005.

A trapline could have numerous binners working along it at various times “it gets refilled, you can tell that it has just been gone through and you just go the other way, and then you go in a circle and come back and it’s full again, so it really is like a trap line” (Interview with Harry, a male seasonal binner approximately 40-45 years old and binning for four years in the summer, August 8th, 2005).

Each trapline varies in the distance and time required to travel, collect, and return the materials for refund. Portraying a binner’s trapline spatially reveals the distribution and distance of this activity in relation to UWC. Many binners travel great distances to UWC even though there are closer bottle depots on or near their routes. This spatial observation reinforces the positive social network and allegiance that many binners recognize with United We Can and their community.

The results of my research reinforce David Ley’s (Benko & Strohmayer 2004) theory of social cohesion and attachment to territory. Here, sense of community and shared identity is reflected in the attachment and ownership of specific traplines. The recognition of individual traplines, and the consequent spatial organization and cooperation of the binning community reveal a distinctive shared identity. The daily interactions between the binning community, guided by self-governed rules and regulations (The Bidders Code) of resource use and management, strengthens theories of community empowerment and social cohesion. Furthermore, these results contain similar elements of resource co-management regimes, particularly in the organization and cooperation of this community pertaining to common-property resources. Rather than seeing other resource users (binners) as a potential threat, as pointed out in Pinto

da Silva's (2004) research on fisheries co-management, binners recognize solidarity²² within the community. Common interests and experiences are shown to enhance group solidarity, generating shared beliefs and norms. Shriver et al. (2000) define collective identity as "a sense of solidarity, and a political consciousness" (p. 45). Although competition and conflict over resources exists within the binning community, threats of resource exclusion from waste privatization and monopolization is an element that further solidifies this community's shared interests and identity.

4.3.2. Spatial distribution

A wide-ranging spatial distribution characterizes this activity throughout the city (Figure 3). The most common areas that binners travelling to UWC work are in the West End (30%), Kitsilano (11%), and the Downtown Eastside (DTES) (10%). The West End is located adjacent to the DTES, and contains a mixture of commerce and high-density apartment buildings contributing to a significant amount of waste. This is a highly serviced area due to its proximity to UWC and for the significant amount of materials available. The location of UWC services is crucial for the economic security of individuals collecting not only in these more proximate locations but for those that travel as far as Kitsilano, the University of British Columbia, and North Vancouver.

The spatial distribution of the activity makes it very difficult to distinguish how territories are divided. Some binners have proclaimed that territories are divided by proximity to the nearest depot, although in this case it would only include those that

²² A feeling or condition of unity based on common goals, interests, and sympathies among a group's members (Wilde 2004).

travel short distances or make multiple trips per day to the depot. It is also difficult to determine territorial distribution as some binners are loyal to UWC services and will travel up to 48 km (30 miles) to return their materials rather than take them to other depots that might be along their trapline. “There are binners that I have never even met before that are pushing shopping carts and doing the same thing, but they’re closer to two other depots” (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 11th, 2005).

Theories of polarization, characterized as the widening gap between rich and poor, are supported by findings in this research and by Smith’s (2004) analysis of public policy and planning in Vancouver’s Downtown Eastside (DTES). Smith (2004) points to historical planning and public policy as major consequences to the socio-economic conditions in this area. What Smith (2004) describes as a self-perpetuating ‘poverty industry’ is reflected in the significant concentration of binning activity in higher income areas such as the West End (see Figure 3), reinforcing spatial inequalities and access to resources.

4.3.2.1. Distance travelled

Some traplines have been established for as long as fourteen years (Kevin) or as recent as one month (Maurice), and can vary in distance from a few blocks to several municipalities away from UWC. It is common for a highly productive professional binner to travel up to 35-45 km/day, working seven days a week.

Survey data reveals that 51% of binners travel 16 km/day (10 miles) or more to collect, and return materials to UWC. The extreme distance that many binners travel to return their material reveals their allegiance to the United We Can bottle depot. Distances travelled less than 2 km are reported by 29% of respondents, highlighting the significant amount of locals in the Downtown Eastside that collect materials in this area. It is also interesting to note that some binners travel to UWC several times in one day, with 22% of the sample returning to UWC three or more times to return materials. There are probably numerous reasons for multiple trips such as the limited ability to transport heavy loads. The continuous supply of recyclable materials entering the waste stream also influences multiple trips to UWC.

4.4 Improving public perception

This is the poorest neighbourhood in the country...we're garbage. That's the way people look at us, we're criminal, we're drug addicts, we're dirt (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 2005).

A lot of people don't necessarily dislike binners or they don't have a real problem with binners themselves, most recognize that the vast majority are considerate, kind and are not real problems, it's the impact of the activity, the shopping carts in the lanes and some of the fighting that goes on over turf, and there are a small percentage of binners that everybody has challenges with, and those are the ones that are usually low functioning or have mental issues, or drug issues (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005, August 2005).

There is no middle class here anymore, the division between rich and poor in Vancouver is incredible, I had a bag of glass and I was walking passed stone temple on Granville, and three guys were walking towards me, I heard one of them say watch this and he reared back to hit me...I mean I got a bag of glass on my back...there is nothing I can do (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 20th, 2005).

Improving society's perception of binning is an important component of the social inclusion and economic development of this community. Despite the increasing trend of established partnerships (arranging bottles for pick-up) between binners and residences, there remains a lot of negative stigma towards this population. "Some actually see it as an offence because of circumstances, behaviour and conditions of the folks that are out there" (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005). Many binners feel their community is negatively perceived by society and that this activity is not viewed as a contribution.

To the general public we are low-life's and can't get a job, we've got low education, were drug addicted, or alcohol...we are just low-life's to the general public...you will get things thrown at you from high rises, I have seen booby traps where acid will start pouring over top of the garbage and things start melting right to the bottom of the garbage can, I am not kidding you (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 20th, 2005).

Although this is an extreme example of violent public reaction, it is a harsh reality that many binners endure when faced with those that are ignorant or scared of this population. Drug and alcohol abuse is an unfortunate circumstance for some binners, and often contributes to characterizing the entire community. "A lot of people look down on us because they figure that everyone that does it are junkies, and a lot of people making a bigger mess than there is in the first place" (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 11th, 2005). Society has created a negative image of binners, particularly those faced with extreme mental and health disabilities. As Raymond, a full time binner says:

I was up on Victoria and 41st just last week, and some guy came out and tried to hit me in the head when I was looking in the bin...he said "what are you doing", I said "looking for bottles", he said "they are no bottles in there", I said "ya there is" and I

started pulling out bottles and then he tried to hit me in the head and then he slammed the thing shut and I had to jump back and my fingers got caught, and I said "what the hell are you doing" and he started yelling at me... I have been going to that bin for four years and I have seen the guy and I never make a mess...and I told him that I never make a mess why are you being ignorant towards me...and he said "I don't like any of you guys (Interview with Raymond, a male binner approximately 35-40 years old and binning for 3 years, August 9th, 2005).

Society's generally negative image of bidders has created deep-rooted stigmatization and harassment towards this community.

Raoulx (2001) noted that bidders work typically at night to avoid being seen, perceived as a reflection of the garbage they associate with. Although many bidders choose to work at night (for reasons such as for lack of storage or refund facilities), the activity is becoming more common in the day-time especially in areas that have a significant amount of waste available, such as the West End.

People's perception of bidders has changed quite a bit. I know that a lot of bidders in the early days, they wouldn't make eye contact, they won't talk to anybody, they would be in the shadows, pick quieter times...that's what they had to do to survive, and a lot more is happening more in front of people because people are actually bringing them containers and leaving containers by the side of the bins, are initiating things in terms of making some extra money by suggesting different places to get containers, giving small jobs for \$5...those kinds of activities have changed tremendously, now people see it as ok, this is a guy and he is out there and doing things (Interview with Howard Henry, Floor Manager at the United We Can bottle depot,, August 4th, 2005).

Public support is changing however, as this research has evidenced. Increasingly, residences and businesses are supporting bidders and recognizing the hard work that is involved in retrieving these materials.

Some people go out of their way to let you know what your doing is ok. That comes with knowledge versus ignorance, prejudice. they aren't informed...if you just see the guys as legs sticking out of the bin and as a bum, you don't see the fact that he is keeping materials out the landfills...it's how they see it (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005).

Fifty-six percent of respondents reported that they feel the public perceives their work as a contribution to the environment. This public support is an exciting indicator towards greater awareness of this community and acceptance of this activity as a valuable service.

By perceiving this activity as productive work and as a contribution to the environment, those engaged in it become more respected and appreciated as providing a service in their community. Howard, floor manager at UWC describes this important mentality shift as an essential component of improving public perception of this activity.

When the public hears the word 'working', they see someone that is leaving their home going to a another person's business, and then be instructed by that owner for that activity, so if you're not in a sense doing that you're not working...here the perception is that if you're doing an activity you are working...so a panhandler is working, a binner is working, even if they may not be receiving a lot of money they are working, because they are initiating themselves to go out there, spend the time, and they are continuously trying to do this every day...that is what they do, they call this work, that is the idea (Interview with Howard Henry, Floor Manager at the United We Can bottle depot, August 4th, 2005).

As will be discussed in the following section, a sense of community and pride in this activity has improved the confidence and empowerment of this population.

4.4.1. Avoiding conflict through codes and conduct

It is getting more and more territorial now, there are more people finding out how much money is in it (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 20th, 2005).

Since competition has increased for these resources, it has become more difficult to claim territory over certain space and ownership of materials. In extreme cases, the

sense of territory is so strong that some bidders protect an area by sleeping in or around the dumpster in order to have first access to the material. “When you see a tarp over the bins and people living there...they are first to get the bottles” (Interview with Dan, a male bidder approximately 40-45 years old and binning for 2 years, August 20th, 2005). In areas such as the West End, it is much more territorial than other areas “because there are a lot more homeless in that area...many people were sleeping with their carts...the whole alley was filled with people, all young kids too...you come trucking through with your shopping carts they start yelling at you” (Interview with Raymond, a male bidder approximately 35-40 years old and binning for 3 years, August 9th, 2005).

Despite the solidarity and cooperation that exists in this community, conflict is still present. The increase in competition has resulted in more violence, less respect between bidders and a range of other problems related to the increased garbage strewn in the alleys. “I was knocked out cold after the fireworks and my load was taken by another bidder” (Interview with Dan, a male bidder approximately 40-45 years old and binning for 2 years, August 20th, 2005). The greater variety of people engaged in this activity has also caused some tension with bidders that are highly dependent on this income for survival. One professional bidder commented: “the tourists are the ones that kill us you know...we survive off this...if you’ve got four walls and a roof you have no business being out here” (Interview with Dan, a male bidder approximately 40-45 years old and binning for 2 years, August 20th, 2005).

In an attempt to relieve tensions between binners and ensure access to materials by improving relations with the public, UWC and a group of binners have created a Bidders Association and a 'Bidders Code' (Appendix D). The binners code includes behaviour and attitude recommendations when relating to other binners and the public, maintaining a clean environment when binning, and following guidelines concerning territorial boundaries. Although some binners already adhere to an unwritten set of rules, the Bidders Code serves a greater purpose. "If there is somebody in a bin, somebody doesn't come along and start diving into the same bin...they somehow have an unwritten street thing going on there" (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005). Due to the recent lock down of dumpsters in the City and the threat of losing access to resources, the Bidders Code is an attempt to legitimize the activity, instil a level of public confidence and improve the binners' image.

Currently, the Bidders Association has 46 members (October 2006). Members of the association are intended to "create the kind of presence amongst themselves to raise the bar on how they conduct themselves with the public" (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005). Members of the association carry an identification card, and there are plans to provide training in customer relations and other topics. The city is supportive of the Bidders Association and is currently working with UWC on the proposal of a pilot project that involves street collection of household and commercial recyclable materials (discussed in chapter 6 in 'dumpster free lanes').

I think this binners association is a good idea and we ought to give them a uniform and allow them to have some kind of identification and promote the stewardship of the environment aspect of what they do, that would help make them more legitimate and increase their exposure. We have to be inclusive of them whether they're binners or not, or marginalized people, we are not doing enough of that (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005).

Still, UWC is concerned with the social implications of those who cannot organize themselves due to health or mental disabilities. By organizing binners and supporting their capacity to be involved at the policy level, there is potential to relieve negative stigma and improve their livelihood.

And its not like excluding those folks but the fact is at this point this group (UWC) hasn't been able to touch some of the social conditions that we are concerned about and those that are least able to get to the table are the ones knocked off, those that are least able to find a place and a structure are the ones that slide off, and so its complicated because there is a social justice thing here (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

The organization of the informal waste sector into social enterprise has proven to be a successful model for social and economic inclusion (Peredo & Chrisman 2006; Gutberlet 2005; Medina 2000). Experiences from Diadema, Brazil reveal many socio-economic and environmental improvements for participants of the binners association (*Pacto Ambiental*) including a) increased income by strengthening ties with industry and the local government, b) social inclusion through improved organization and legitimization of activity, c) increased efficiency in resource recovery through capacity building to improve source separation and door to door collection services, and d) improved health awareness and education (Gutberlet 2005). Although still in its initial stage of development, the Binners Association in Vancouver is an important movement

and has the potential to benefit members of the association by building stronger social networks between businesses and residences.

Social capital is “a measure of the extent of social networks and norms of trustworthiness and reciprocity that exist in a community” (Luckin & Sharp 2005, p. 62). Luckin and Sharp (2005) use the concept of social capital to explore the significance of community participation and trust, thus promoting improved governance. Social capital is an important element of community capacity, and can generate a range of positive results including “greater economic prosperity, safer neighbourhoods and responsive governance” (p. 63). The development and maintenance of high levels of social capital is therefore an important part of supporting the community waste sector. Peredo & Chrisman (2006) highlight social capital as a necessary component in the development of community-based social enterprise and inseparable from economic considerations. Organizations such as United We Can contribute to enhancing the social capital of the binning community, an argument that will be further elaborated in the following section.

4.4.2. Urban Binning Unit (UBU)

...that hopefully over time will replace the shopping cart as the vehicle transporting the material and incorporating that into the street landscape and finding ways to maintain those kinds of hauling systems... so that kind of a model that isn't regimented but that has a quality about it that people can identify and that they feel identified with as a group (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

...as soon as the good weather comes along people downtown start opening their windows more, the noise impact all night long really starts to go up and you start to get a lot more complaints about shopping carts... it is an extremely noisy pile of product (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005).

Encorp has followed the development of this unit from its early stages. We are in the process of determining how we might assist in expanding the further use of it. In its discussions with City of Vancouver officials with regard to depot locations it has been noted many times that the major issue for many residents with regard to binners is the noise factor. Reducing noise may be a key measure in reducing neighbourhood concerns about binners and, consequently, the location of bottle depots (Interview with Sandy Sigmund, Marketing Manager, Encorp Pacific, October 11th, 2005).

The Urban Binning Unit (UBU) is an initiative of United We Can and part of a continued strategy to develop an effective inner-city recycling program. An innovative utility cart developed by local industrial designer Michael Strutt, with the collaboration of binners (Figure 7), is designed to improve the efficiency of the collection and transport of recovered materials, while promoting a positive image (Figure 8). The UBU is quieter than the typical shopping cart that has been the root of considerable complaints. Police often confiscate shopping carts as stolen property from binners (sometimes carrying the binner's belongings) and give punitive fines. Since the UBU carts operate under a lending scheme of the initiative (with opportunity to eventually own the cart), the potential for police harassment is significantly reduced.

Fabricated with recyclable and replaceable materials, the cart is made to be manoeuvrable. Equipped with a large canvas bag, the UBU can be easily collapsed and stored, and has an attachment for a bicycle, a common method of transportation among binners. The UBU has the potential to improve the image of binners by creating a sense of identity in the community, and by facilitating awareness for the service they are providing. The cart is a useful tool as well as "something that is going to mend together community a little better between businesses and residents" (Interview with Michael Strutt, Director of the Urban Binning Unit initiative, August 20th 2005). To

subsidize the cost of the manufacturing, local businesses can advertise their business logos directly on the cart. The UBU seeks to improve the efficiency of the activity, appeases local noise complaints, creates a sense of identity and promotes environmental awareness. The City of Vancouver and United We Can are supporting the UBU for potential street collection services.

Since the inception of the UBU pilot project, involving a dedicated team of local binners, the “response has been phenomenal...people are constantly making comments and tell me how much they appreciate the collection service I provide” (Interview with member of the UBU team, July 27th, 2006). The UBU provides opportunities for the public to engage with the binners, encouraging their participation in resource recovery and “helping the binners promote themselves as self-initiated urban recyclers” (Interview with Michael Strutt, Director of the Urban Binning Unit initiative, August 20th 2005).

4.5. Sense of community at United We Can bottle depot

I think that there is so much interchange that goes on between them that they have many of the elements of what makes a community (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

In the modern technological society I think there is still a hunger in people for having some sort of meaning and being part of the pack...so how do you do that? If you are not part of society it is very hard to figure out how you are included in it...our objective with UWC has meant to say if that is the commonly accepted value, that the dollar is an important piece of it, than to exclude people from participating in that is to exclude people (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).



Figure 7. UBU team members constructing carts at United We Can.
Photo: M.Strutt, 2006.



Figure 8. UBU team member using cart to transport materials.
Photo: M.Strutt, 2006.

Communities can be defined as networks of connection, with boundaries that delineate insiders and outsiders, and where members identify with one another or have what community psychologists in the 1970's began to describe as sense of community (Meyer et al. 2005). Sense of community is determined by "the extent to which community members experience a sense of solidarity and a sense of significance" (Young et al. 2004, p. 2628). Sense of significance entails members feeling that they are appreciated as important contributors in their community and society, thereby developing a sense of achievement, fulfillment and worth (Young et al. 2004, p. 2629). Feelings of community contribution and belonging can improve quality of life (Young et al., 2004), integrate individuals into society (Howarth 2001), and promote an interpersonal process that influences health (Hagerty et al. 1996). Sense of community is an important dimension of social capital and is associated with social, economic and health benefits for both individuals and entire communities (Meyer et al. 2005).

A shared identity and sense of belonging to a community exists within the binning population, especially at UWC. UWC is recognized by the binning population as part of their community, a shared space that is built and operated for and by binners (UWC offers temporary work for approximately 350 binners on a rotational basis). UWC is a strong advocate for improving the socio-economic conditions in the DTES and for building the capacity of those living and working there. For many, UWC provides a supportive environment that encourages social interaction, self-realization and acceptance.

The majority of participants (58%) reported benefiting from the community support and social activities offered at UWC. Community support through organized activities (e.g. Binner's Roadshow)²³, Alcoholics Anonymous meetings, public awareness and education, eliminating negative stigma and the supply of carts and bikes are just a few of the social benefits that UWC offers. The sense of belonging and participating in a community is shown in the loyalty and reciprocity between binners and UWC. Among the respondents, 24% reported coming to UWC to support the community, because of the facilities and services available (14%), because it is close to where they work (44%), and its convenience (11%). Since UWC is a supportive environment for this activity and the community, there is a sense of respect and friendship among the binners and employees. "Well, I get a job one day a week for one, and inside there it is a real good atmosphere" (Interview with Harry, a male seasonal binner approximately 40-45 years old and binning for four years in the summer, August 8th, 2005).

The primary reason for participating in informal resource recovery is economical. Social influences however, have also been considered a determining factor for some. Williams & Windeback (1995) found that dense social networks and acceptance of informal activities can enhance participation. Positive social networks, such as the ones observed at UWC, can have an influence on the participation of those that would perhaps feel too stigmatized or negatively perceived by society if this support system did not exist. In fact, it was reported by some that the improved social acceptance of

²³ The Binner's Roadshow is an event hosted by UWC where binners bring in recovered objects they consider interesting and display them for sale.

the activity has contributed to an increase in binning. Some of the changes noted by binners are both the diversity of individuals involved (such as students and seniors) and those that are engaged in this activity for non-economic reasons or as a social activity. “Because I like it, I like what Ken is doing, you know, mostly for social reasons not for the money” (Interview with Harry, a male seasonal binner approximately 40-45 years old and binning for four years in the summer, August 8th, 2005). In some cases, especially among senior citizens, engaging in this activity is a hobby enabling them to interact with other members in their community, and for physical activity. In these cases, the amount of money that was obtained (i.e. the number of bottles retrieved) was not as important for them as the act of participating in the activity.

Finding place²⁴ and a sense of community is an important perspective within the humanistic framework. The attachment to place is fundamental in the lives of many people, provides an understanding of experiences of location, sense of boundaries, and connection to everyday life. Ley & Cybriwsky’s (1974) theoretical analysis of territory and attachment to place is particular relevant given the results of this research. Similar to their observations of street gang territoriality related to certain turfs, the binning community revealed to be attached to certain territories and designated routes in the city (traplines). Theories of social cohesion and community can be further extrapolated from Ley & Cybriwsky’s (1974) analysis, and are particularly evident in the social organization and sense of community among the binners.

²⁴ Places are defined as socially and individually constructed landscapes (Tuan 1975), constrained by shared space, creating a common place based identity (Corcoran 2002).

Creating positive social networks within communities that are on the boundaries of society has a profound influence on the inclusion of a wide diversity of individuals and the potential to build capacity for improved quality of life. UWC is perceived as a place of community, supporting an identity of environmental stewards with no boundaries to social inclusion.

4.6. Occupational injuries and health risks

When you are going through those containers there are needles, there's the whole harm reduction thing, HIV, Hepatitis C, and there is excrement in there, cause when people are cleaning up their dog shit or even people are cleaning up human feces in the lanes and its going in the containers. So, I think it is a huge mistake to be doing this (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005).

If you get a cut you can get infected, and I don't wear gloves, I just wash my hands regularly. So, yes I think there are some things I won't touch. But the fact that you have to go through garbage; there can be sharp objects in there, that happens (Interview with Harry, a male seasonal binner approximately 40-45 years old and binning for four years in the summer, August 8th, 2005).

The health implications and risks of this activity are a major concern (Harpert 2003). Results from a case study in Santo Andre, Brazil, reveal that informal recyclers are exposed to severe physical, biological and chemical hazards (Gutberlet & Baeder 2007).

Despite high risks of infections, disease, and injuries, limited precautions and/or concerns are adopted by this community. Among the ten in-depth interviews conducted in this research, six binners revealed having health implications/injuries as a result of binning. Common health risks include skin and viral infections due to broken glass and metal. Infections associated with used narcotic needles in bins are low as there is an

awareness of high-risk areas (such as the DTES), and binners have honed techniques for opening bags in these dumpsters. One respondent reported “I do know certain recyclers that have got Hep C and AIDS from sticking themselves in the bin” (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years,, August 11th, 2005). Considering the DTES has a significant amount of binning activity, often from those at the lowest end of the productive scale, and the “highest number of discarded needles in the city” (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005) the risk of infection and spread of disease is high. A binner commented on the dangers of binning in the DTES because “of the needle factor, in the West End and Kitsilano its not so bad on the needle factor but here even when you are walking on the street your going to run into a needle” (Interview with Raymond, a male binner approximately 35-40 years old and binning for 3 years,, August 9th, 2005).

Although some of the respondents reported having certain safety expenditures with this activity such as gloves (6%), boots (2%), tools (2%), and epsom salts for infections (1%), the majority responded that they did not wear gloves or protective clothing. Many binners have techniques for obtaining materials with limited harm (such as using sticks), and many are conscious and educated about personal hygiene (carrying water for washing hands). Nevertheless, the health implications and risks are high.

Through the establishment of social and community-based enterprise, provisions can be made for improved working conditions (e.g. gloves, first aid kits, facilities for sanitation/hygiene, improved equipment). Facilitating access to recyclable material and

promoting effective pre-sorting programs that includes the public is instrumental in improving the situation.

4.7. Chapter summary

The research results reveal that the informal resource recovery system in the study area is composed of a highly diverse community, encompassing a multitude of productivity, and spatial distribution. Within this community is a shared identity, fostered in cooperation, organization and solidarity. This sense of community is built upon an inclusive and supportive environment at UWC, creating opportunities for social cohesion, conflict resolution, capacity building, and community economic development. A significant social benefit exists with the establishment of social enterprise, contributing to the elimination of negative public stigma, government and industry support, and improving livelihoods through economic security.

The following chapter is an analysis of the economic significance of informal resource recovery to poverty alleviation within this community. The direct relationship between the provinces' social security cut-backs and the increased participation in this activity as a survival strategy is explored.

Chapter Five: Economic opportunity through informal resource recovery

What I see are people that are scratching on the edge and desperate and I also see a lot of waste, an abundance of material that flows through into the landfills, so maybe we need to rethink what that is and change the message of who we are out there doing this rather than seeing us as scavengers digging through your garbage. See us as environmental heroes that are doing a quite noble thing with material that is saving this planet, and if that message started to change in terms of people's esteem of what they are doing, that would probably change the look and the response (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

5.0. Results

Economic circumstances such as unemployment, limited and/or no social assistance are found to be the primary incentives for participation in informal resource recovery. There are direct links between provincial social assistance cut-backs, welfare restructuring and the number of individuals relying on this activity for economic survival. Furthermore, this activity provides a possibility to meet some of the basic needs, and for many it offers a meaningful stable income.

There is potential to create a sustainable and highly productive partnership²⁵ between binners, residents and the City of Vancouver in recovering resources. Building partnerships with residences and businesses is a common working strategy among many binners, and provides a consistent supply of non-contaminated and separated materials. Improving the public perception of binners as environmental stewards is an important and necessary step in providing a healthy and secure working environment.

²⁵ Partnerships refer to consumers participating in source separation of refundable materials for binners to retrieve at residential or commercial locations on a regular basis.

United We Can (UWC) provides an important support in this process. A strong and effective advocate for socio-economic development that contributes to improving the urban environment, UWC facilitates a unique link between this population, the public and the City of Vancouver. Established as a social-enterprise, UWC contributes to the local economy through bottle-refunds, casual and full-time employment that is geared towards building the capacity of individuals and improving the socio-economic conditions of its members. UWC offers a successful model of social enterprise contributing to poverty alleviation, social inclusion and environmental health that has the potential to be adopted and transferred to cities in other parts of the world where extensive informal resource recovery systems are present.

5.1. Economic significance of informal resource recovery

“I realized that this is a job, I work harder than anybody, I work longer than anybody and you know...binning is a full time job. You have to go out, find the money, make the money, and try not to get robbed for the money while you’re making it. There are a lot of mitigating circumstances that go along with binning” (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years,, August 11th, 2005).

“For the people that we serve, the return system is an important part of their economic circumstance” (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

The literature reveals that informal economic activities constitute a highly productive part of the economy (Williams 2005), and that they contribute significantly to the daily survival of low-income and marginalized populations. The findings from this research reveal that a productive informal economic system exists in recovering recyclable materials in Vancouver. The increase in value and variety of materials, coupled with economic insecurity has created this system of self-employed collectors. From meeting

basic needs to providing a decent standard of living, this activity offers a diversity of economic opportunity.

5.1.1. Income generation

I did a day in North Vancouver where I did exclusively dumpsters, and in 9 hours I made \$100, none of them came from the recycling bins at all (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 20th, 2005).

I had one in my lane the other day who is a resident of the Dominion Hotel and he's not on welfare and every cent he makes binning goes to pay for his living and doesn't want any damn government to be supporting him (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005).

Respondents that have no other income, and that rely completely on resource recovery for economic support - *'the professional binner'* - tend to earn more. Naturally, these higher incomes represent a greater number of hours involved in the activity. In-depth interviews reveal that these bidders earn on average between \$70 and \$260/day, with one bidder/middleman reporting earnings up to \$300/day. Four out of ten professional bidders that participated in the in-depth interviews revealed to be making over \$70/day. Bidders at this level of income reported to have partnerships with residences and businesses that supply regular and consistent material.

Working in informal resource recovery demands a significant amount of physical labour and time required to travel, retrieve and return the materials to deposit centres. For bidders that are completely dependent on this income, recovering resources is a full time job. It is not uncommon therefore to work between eight to twelve hours a day as a main activity for income. The quantitative results (survey) revealed that 40% of the

population work between one to four hours per day – ‘*part time/seasonal binners*’ -, 32% work between five and ten hours, and 8% report working twelve hours per days – ‘*professional binners*’. Half the participants from the in-depth interviews claimed to work in resource recovery seven days per week, revealing the significant amount of time required to obtain earnings at this level. The remaining 20% of the population work less than one hour per day, most probably to supplement other income.

5.1.1.1. Meeting basic needs

...\$20 on a good day, \$10 on a bad day. But that's because I don't go overboard on what I need...If I get enough to have something to eat and enjoy myself for the day than that is good enough (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005).

I can't live on welfare, I need to eat... the social system needs to be better (Interview with Raymond, a male binner approximately 35-40 years old and binning for 3 years, August 11th, 2005).

Bidders are having to go through garbage to eat, what are we doing wrong in society that that is having to happen and something that we do have to question ourselves (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005).

Wratten (1996) classifies poverty as “earning income less than that required to meet certain defined needs” (p. 12). Satisfaction of basic needs has been suggested to cover “not only food, clothing, good health and shelter, but also the autonomy or self-determination of individuals who require education, health and good governance” (Moulaert & Nussbaumer 2005, p. 2072). For the purpose of this research, basic needs allow for local variation in the meaning of poverty, encompassing the conventional economic definition (income, consumption) and human perceptions of non-material deprivation and social differentiation (Wratten 1996). Respondents were asked if income from binning was meeting their basic needs and what those needs included.

Rather than a 'basic needs' assessment of this community, the respondents provided their own perspective.

Just over half the respondents (54%) reported that earnings from binning are meeting their basic needs, and 25% reported that their needs are met sometimes. Some of these basic needs consist of food, spending money, beer, cigarettes, and drugs. Since the diversity of individuals involved is so great, basic needs and requirements vary depending on their economic situation. It is found most often that when individuals have no other income (i.e. welfare) their earnings are much more substantial (greater amounts) than solely supplemental. Bidders that receive additional income such as social security or disability earn a range of \$2 to \$35 per day, and tend to work up to 3 days/week or in the summer months only. This supplemental income supplies resources for additional needs such as "extra things that I might want, like I have always got the cereal but I run out of milk" (Interview with Alex, a male bidder approximately 40 years old and binning for 1 year, August 15th, 2005) and as the need arises "...whenever I am broke I can go and do this and I have enough money to buy food, smokes, a few beers...that is all I need" (Interview with Harry, a male seasonal bidder approximately 40-45 years old and binning for four years in the summer, August 8th, 2005). For bidders that have supplemental economic support, meeting their basic needs is still a struggle and the income earned, however small, is imperative for reaching the bare minimum of their necessities.

5.2. Linking welfare restructuring to an increase in binning

I think the changes that the liberal government made with the welfare rules have made for many people welfare impossible, even though they qualify for it, just the rules that you have to go through. And so, it is harder for them to get welfare, there is also I think the cutbacks that happened in all the social services here when the liberal government came in (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005).

Sometimes there is not very many empties out there, and closer to the end of the month the less there is...because people on welfare are out of money and there are more people out in the alleys binning that would normally not do it (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005).

The last Wednesday of the month, every month...I went binning on a Welfare Wednesday night before...that is a good night for binning...there is no competition (Interview with Matt, a male binner approximately 40-45 years old and binning for 3 years, August 21st, 2005).

People don't get enough money, about 60% of people are on welfare, and the other 40% have no other income (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005).

The last year especially...more cuts to welfare and stuff. You look at welfare, basic employable...a person gets \$6120 a year...now think about it?...knock \$350 off that for rent...your talking \$4200...you haven't even left \$2000 a year for everything else in your life (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 20th, 2005).

Increasing poverty due to welfare restructuring has driven a large population into the informal economy (Cox & Watt 2002; Mitchell 2001) and more specifically into the informal waste recycling sector (Medina 1998 2001; Jaffe & Nas 2004). Income assistance rates in British Columbia have been reduced to “a level that is no longer sufficient to meet basic needs” (CPA 2004, p. 33), and not tied to the actual cost of living (Reistma-Street 2002). The results from this research suggest that welfare restructuring and social assistance cut-backs in British Columbia are the primary driving forces behind the increase in binning in Vancouver.

Due to cuts in federal social assistance expenditures, rising numbers of welfare cases in BC, and the desire to curtail long term welfare dependency, a series of welfare cuts and structural changes were initiated under the BC Benefits Act of November 1995 (Province of British Columbia 1995). In an attempt to assist social assistance clients from 'welfare to work', the BC Benefits Act not only drastically reduced welfare rates but also made the process more punitive for those already using the system. Despite steady increases in the number of individuals living below the poverty line, recipients eligible for benefits decreased by 100,000 in September 2001 (Reistma-Street 2002). In April 2002, the social assistance program was further restructured with cuts in benefits, eligibility and appeals, and a drastic increase in surveillance of workers and applicants (Reistma-Street 2002). This reform cut thousands of the 246,000 persons receiving benefits immediately, and imposed a two-year limit for single persons that cannot prove they are facing serious medical challenges (Reistma-Street 2002). Despite personal circumstances or situations in the community, these people have been completely ignored and excluded, stripping their rights to live an adequate and decent life. The erosion of social policies has aggravated social exclusion and poverty, especially among already marginalized groups, and has implications of "withering social citizenship rights" and collective identities (Brodie 2002, p. 377). According to the United Nation's 'Universal declaration of human rights' Article 22, "everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international co-operation and in accordance with the organization and resources of each State, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality" (UN 1948).

Social assistance programs in Canada have experienced major cut-backs, and restructuring of social programs (Brodie 1995). Policies and programs are governed by what Brodie refers to as “restructuring discourse” in which “the central theme...is that we have no political choice left about how we shape our collective lives and future other than to follow a market-driven approach to the globalization of the international economy” (p. 49). The theoretical philosophy embedded within restructuring discourse is called neo-liberalism, an economic and political movement that de-emphasises government intervention in the domestic economy with a focus on free-market methods (Mitchell 2001). Neo-liberalism favours privatization over direct government intervention, and measures success in overall economic gain. In this scenario, taxes and social programs are understood as disincentives that hinder the free market (Reistma-Street 2002).

For bidders on social assistance, the restructuring of the welfare system in BC has had the effect of increasing their exclusion from the formal economy and deepening their reliance on alternate modes of livelihood, primarily informal resource recovery. The following section provides a link between a series of cuts in social assistance since the introduction of BC Benefits in 1995 and the emergence of a burgeoning binning community.

5.2.1. Binning as a response to social assistance cut-backs

What the hell do you do with somebody when you tell them that now you have nowhere to live and you have no money (Interview with Dan, a male bidder approximately 40-45 years old and binning for 2 years, August 20th, 2005)

About 4 years ago when Campbell came in that was his new thing...if you're on welfare for two years. That's what happened to me, and then when you reapplied you have to

have \$7000 in income in the last two years, they were trying to force me back on to the reserve, and there is nothing there for me (Interview with Raymond, a male binner approximately 35-40 years old and binning for 3 years, August 9th, 2005).

The research results reveal a direct correlation between BC's social assistance cut-backs (from 1995-2002) with an increase in binning during those years and a steady rise since then. Binning has increased in Vancouver, with 97% of the respondents reporting an increase in this activity. Of the 76 binners who responded to this question in the survey, 54 feel that the increase in binning was related to economic struggles caused by welfare cuts. A dramatic increase occurred in the number of people that started binning in 1995 and again in 2002 (Figure 10). These years correlate with the 1995 BC Benefits Act, and further welfare restructuring in 2002.

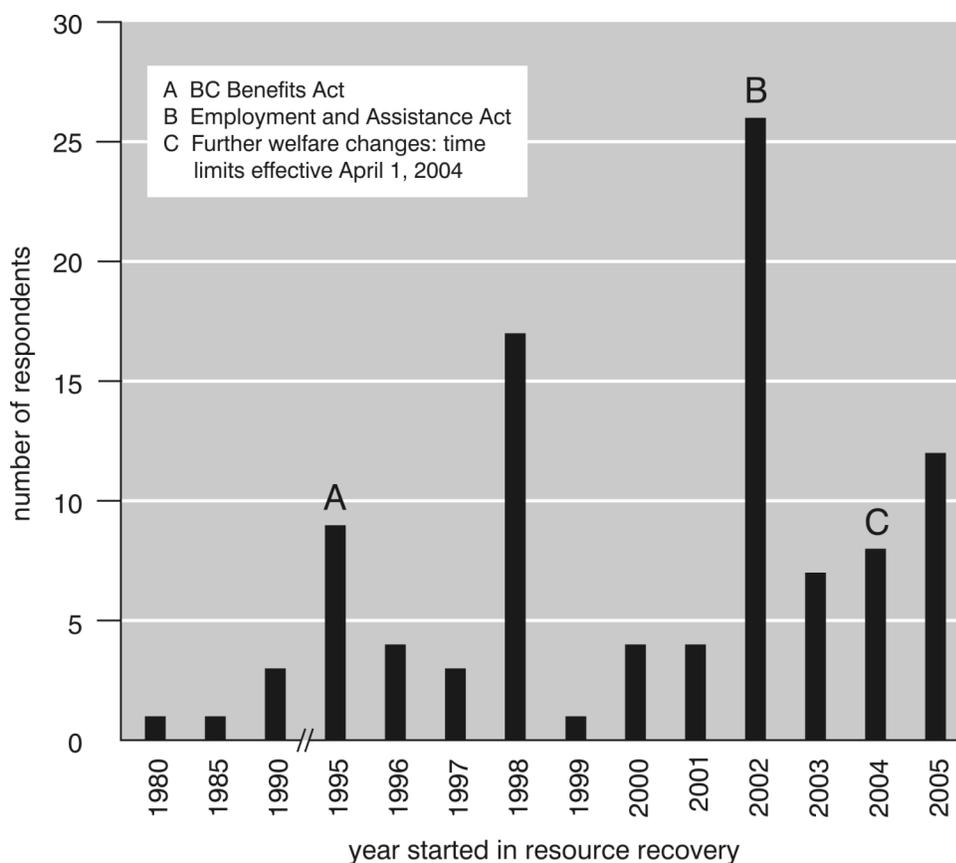


Figure 9. BC Social Assistance policy changes and year started in resource recovery.

The introduction of the two-year welfare limit in 2002 is seen to have an impact on the increase of this activity to date. As the two-year welfare limit continues to cut people off social security, Vancouver will presumably continue to experience an increase in this activity and other informal related economies.

The fluctuation of participation in this activity throughout the month reveals that many individuals work in this activity out of necessity for survival. This can be seen in the increase of binners working at the end of the month, which is directly correlated to the social assistance pay. One recycler commented on the day of ‘Welfare Wednesday’ in Vancouver, that the “streets are empty of recyclers, everyone just got their cheques so no one is out binning” (Informal interview with male binner, approximately 40 years old, August 15th, 2005). Binning activity drops so dramatically at this time of the month that UWC officially closes its doors, highlighting the extreme dependence on this activity from those that are supported by social assistance.

5.3. Recovering resources at United We Can

We are taking in approximately 20 million containers a year; it varies season to season, on average 55-60 thousand containers a day (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th 2005).

Binning is a sort of unfortunate but necessary or reasonable additional income for marginalized people and certainly there is a lot of sympathy, unless we have an alternative, to not just shut that off, cause there is still a lot of bottles that are going into Vancouver garbage containers and of course provincial recovery rate is somewhere in the high 80%, but they recognize that in Vancouver it is significantly lower than that and we are actually working with them and the GVRD to do some multi family audits in multi family buildings to find out exactly what is still going into garbage containers and maybe some of the why’s (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005).

It has been Encorp's experience that the majority of those who collect containers for income perform a valuable service by recycling containers discarded by others (Interview with Sandy Sigmund, Marketing Manager of Encorp Pacific, October 11th, 2005).

Through the bottle depot, United We Can receives a significant volume of recyclable materials recovered from the waste stream, contributing to resource recovery and waste management. This thesis does not attempt to provide a quantitative analysis of this contribution although it attempts to describe, through qualitative research, the measurable significance of resource recovery through UWC. On average, 50-60 thousand beverage containers per day are recovered at UWC (Figure 10), and approximately 20 million per year (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005). Considering that 95% of the customers at UWC are binners (Figures 11 & 12), a significant volume of material is recovered from the waste stream at varying sources throughout the city. Since UWC refunds only beverage containers at this point, the quantity of recovered material fluctuates significantly, with higher rates in the summer when more beverage containers are used and discarded.

United We Can not only provides opportunity for inner-city binners to return materials in large and mixed quantities, but welcomes their presence through the promotion of meetings and gatherings (discussed in section 4.5). As the value of resources increases in the global economy, so will the demand for retrieving these secondary materials from the waste stream.



Figure 10. Recovered beverage containers at United We Can bottle depot.
Photo: C.Tremblay, 2005.



Figures 11 & 12. Bidders returning materials to United We Can bottle depot.
Photos: C.Tremblay, 2005.

The switch from solely beverage containers to multi-materials²⁶ represents a significant opportunity for UWC to further support the economic development of the inner-city community while contributing to resource recovery and environmental awareness.

5.3.1. Source and type of material

They are their own mini recycling businesses; they're taking materials out of the waste stream generally. About half the bottles according to them come out of garbage, the other half they take from the blue box containers...but that is half that would otherwise end up in landfills, and they are getting other things out of garbage containers (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005).

Bidders access various sources to obtain recyclable materials throughout the city. These sources include dumpsters, recycling bins, street cans, beaches, streets, alleys, the seawall, parks, and other public spaces. Some bidders will access materials regularly from one source, such as 'beachcombers', those working in Stanley Park, along the seawall or even by means of established and regular pick-up times with business and residences. Most often, a variety of sources will supply bidders with access to materials. While the majority of bidders cover large areas such as the West End or Kitsilano, some work on specific streets or even at specific locations (Figure 2). Broadway Avenue (4%) and Granville Street (2%) for example are thorough fares that some work exclusively, picking up bottles on the street left by the public or in the curbside bins. Other locations include Stanley Park (6%), English Bay (2%), and UBC (1%).

²⁶ A strategy for waste diversion is to include multi-materials in recycling programmes (including waste that are banned from landfills such as tires, and wood waste).

The source of material will vary depending on the location of the activity. In areas such as the West End, where many of the residential apartments are not equipped with appropriate recycling facilities, the source of material is most often in the dumpsters. “I find more in the garbage can...you do find some in the recycling bin but I think you find more in the garbage” (Interview with Kevin, a male binner approximately 40 years old and binning for 14 years, August 9th, 2005). “Most of them are on the outside, but they get picked up real quick. That’s how I make my money; I actually go into the bags that are in the bins. You can look at a bag all day and can’t tell if there is anything in it...I rip it open and I find two dozen empty beer cans just like that and there was a guy there five minutes ago that didn’t find anything” (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005). Attempting to quantify the source of materials recovered at UWC is a challenge as each binner may have a variety of sources that change continuously.

The most common material collected at UWC is plastic, a range of plastics - polyethylene terephthalate (PET) and high-density polyethylene (HDPE) - have different values. Considering that plastic bottles and aluminium cans consist of the lightest material, they are often the most valuable to be recovered. “Cans are the best because they don’t weight as much, but the bottles, a lot of people leave those around, so there are always bottles to pick. The glass bottles are heavier so most people don’t want to carry them the distance to the depot” (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, 15th, August 2005).

5.3.1.1. Other merchandise

And if you are looking at waste stream totally, beverage containers probably represent between 5 and 10 %, so it's not like that's necessarily the most common in the waste stream, it might be fibres or organic waste (30-40%) (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

There exists an extensive underground economy consisting primarily of merchandise recovered from the waste stream. Many binners who recover refundable materials also retrieve other merchandise such as clothing, electronics, furniture and food, which they sell on the streets in various locations throughout the city. “Anything worth value...bottles are what we go for mainly, but if we see something in a bin, like if someone moved out or someone died then there are usually watches, rings...you name it, we find it” (Interview with Kevin, a male binner approximately 40 years old and binning for 14 years, August 9th, 2005).

Since most binners do not have a vendor's license, it becomes illegal to sell recovered materials to the public. Street vending in Vancouver requires a vendor's license with a fee of approximately \$700²⁷, which for many binners is impossible to obtain. Vending without a license has contributed to various struggles between the binning community and the police. Binners are often accused of stealing merchandise and are asked to show evidence of purchase: an impossible demand. During my field research, I witnessed the police confiscate merchandise that binners were selling on the street. I questioned police in the area about binners' rights to recover materials from

²⁷ Street vendors must adhere to a number of additional regulations including product approval, and valid insurance (for more information see: www.city.vancouver.bc.ca/engsvcs/streets/admin/vending.htm; accessed February 2007).

the waste stream. Their response was that they must assume the material is stolen if binners have no evidence of purchase.

The cops have been clamping down; they will pull up with a garbage truck and take everything in your shopping cart and throw your entire world in the thing and crunch it right in front of you, and then fine you for vending without a permit (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 11th, 2005).

The merchandise retrieved from the waste stream is an important means of obtaining resources, not only for income, but for providing other means of survival. The quality and usefulness of most of the materials retrieved from the waste stream truly reveal the extent of our society's throw-away mentality.

My merchandise has been taken; they think it's stolen, automatically. They don't believe people throw out what they throw out in the bins. They figure everyone that has merchandise is stolen (Interview with Bob, a male binner approximately 45 years old and binning for 2 years, August 11th, 2005).

In many developing countries, lack of necessary infrastructure and urban services result in an insufficient collection of wastes. In these cities, collection amounts to only between 50 and 80% of refuse generated (Medina 2000). As a result, the informal sector is an essential component of waste management services, recovering resources, often where recycling programmes are non-existent. In Columbia, for example, scavengers recover and sell over 300,000 tons of recyclables each year; Coopamare, one of the most successful scavenger cooperatives in Brazil, collected 100 tons of recyclables per month in 1995 in São Paulo, half of what the government run recycling program collected. In the city of Pune, India, approximately "6000 rag pickers collect and recycle up to 25% of the waste generated by the city's 1 million residents" (Medina 2000, p. 63).

5.4. Providing a service – building partnerships

Usually in my cart I have a broom and I will sweep up and stuff to help out and people will give me money for it...nobody owes me anything, I choose to live down here...and if you're kind enough to give me \$10 in bottles or \$5 in bottles, I am going to say thank you and I'm going to sweep around your bin (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August 20th, 2005).

I find that they are waiting for you to come and then when they see you they come out with them, they don't like putting them out there because the person just makes the mess digging in the garbage so when they see you coming and if you're taking clean of the area, they come and reward you for what you have done, if they see you picking up garbage (Interview with Raymond, a male binner approximately 35-40 years old and binning for 3 years,, August 9th, 2005).

Invest in building up the capacity of people, and building the relationships between the people that are producing the waste and those that are gathering and how they see one another as part of something that works better than the way it is (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

Some of the binners could work their way up to be lane stewards and we could have some kind of a stewardship deal where one or two binners could be in charge of a lane, knocking on doors, provide security, try and create a partnership or at least some kind of relationship with the businesses or the residences along the lane, build some trust so that they might get asked to do odd jobs, that might turn into something of value for those binners (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005).

The public is engaging in this activity by leaving materials outside of the dumpsters and recycling bins for a binner to collect. “There are a few places, in the high end apartments downtown, when the folks are leaving for work and usually it's the girls, they take the bottles and put it by the gate, they don't put them in the blue baskets in the building, they put it by the gate for somebody” (Interview with Matt, a male binner approximately 40-45 years old and binning for 3 years, August 21st, 2005). Out of the 100 binners that participated in the survey, 74 reported they had established partnerships with businesses and residences. Partnerships between residents and recyclers improve the working conditions and valorization of this activity and lead to

more efficient resource recovery. These partnerships are an important means to obtain resources that would otherwise have to be sorted from the garbage, posing potential health and sanitation hazards. “I go to Richmond every Sunday and make \$40-50 from partnerships” (Informal interview with male binner, approximately 45 years old and binning for 4 years, August 19th, 2005).

Partnerships stimulate positive social cohesion between binners and the businesses and residences involved. Social cohesion involves “building shared values and communities of interpretation, reducing disparities in wealth and income and enabling people to have a sense that they are engaged in a common enterprise, facing shared challenges and that they are members of the same community” (Jaffe & Quark 2006, p.208). By choosing to source separate and create partnerships with binners, the public promotes small-scale economic development while contributing to resource recovery efforts, and community health. Many binners work very hard to establish sustainable partnerships and in many ways these positive outcomes contribute to validating this activity and improve their self-image. “People come walking up to me and hand me their bottles and complement me on the work that is being done” (Interview with Harry, a male seasonal binner approximately 40-45 years old and binning for four years in the summer, August 8th, 2005).

5.5. Unlocking a common resource

There isn't a huge appetite to lock the binners out, it is recognized I think that binning is a sort of unfortunate but necessary or reasonable additional income for marginalized people and certainly there is a lot of sympathy, unless we have an alternative, to not just shut that off (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005).

What are we supposed to do, die and just go away? Excuse me I am going to eat one way or another, if I have to run around with bull cutters and pop locks off of every single dumpster in this city I will...its ridiculous for them to try and cut this many people off of a little trickle of an income (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 11th, 2005).

What we have institutionalized that we need to change is our chronic consumption of uselessness. And mass-producing and mass consuming, and trying through these things to fill something that is not going to be filled by that. That is more likely to be filled by some of these other, dynamics, and that is the tragedy of this society, because that's driving the economic bus and it's missing the point (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

Access to waste resources in Vancouver was threatened in June 2005 when the City of Vancouver proposed to enforce locking dumpsters as an attempt to regulate overflowing waste containers and illegal dumping (Appendix E, section A). This proposal was initiated following a series of pilot lane testing to determine which dumpsters and specific problem lanes contained the most litter. The results from the survey indicated that a “garbage container that is locked is only about 1/3 as likely to be a mess or overflowing, and the secure containers were more likely to be locked than just the standard container” (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005). The more secure dumpster contains “a bar across the top and a hidden-away lock, something that is very hard to break into” (Interview with Bob Ross, Consultant with the Department of Engineering DTES Revitalization Project, City of Vancouver, August 9th, 2005). The report included a section on the social implications of locking dumpsters (Appendix E, under ‘social implication’), highlighting the loss of diversion of recyclables from the waste-stream. Given the support from the City Council towards the binning community and United We Can initiatives, the proposal was denied (Appendix F). The Council recommended that the City of Vancouver work with United We Can and the Business

Improvement Associations to develop solutions (City of Vancouver 2005).

Furthermore, that the enforcement of locking dumpsters be a three-step process “that begins with education to encourage re-use, donation and recycling over disposing of items of value” (City of Vancouver 2005, p. 9).

By cutting off or limiting access to these resources, the economic livelihood of binners is threatened. Ethically disturbing, it reveals our consumptive culture by attempting to take away what limited economic opportunities exist for those that are providing a service to the urban environment. Rather than attempting to lock away these valuable resources, easier access could be provided to those that need it most, and who contribute to a cleaner and more sustainable environment. Although this is a complex issue with no simple solutions, innovative and holistic attempts to include the binning community in the process of waste recovery are currently being explored. The ‘dumpster free’ pilot project (see section 6.2.1) demonstrates how involving the local community in waste recovery can provide economic development with environmental goals. Recent experiences in Diadema, Brazil offer successful examples of how integrating the informal recycling sector into formalized collection services can improve income stability, social inclusion and contribute to a cleaner urban environment (Gutberlet 2005). By involving this sector in the commodity chain of waste recovery, governments can stimulate economic and social inclusion of marginalized populations.

5.6. Social enterprise – economic development with a social conscience

It's investing in building the capacity of people themselves, to understand that they have the power to do that" (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

The intent was just not to be a bottle depot but to be an urban environmental group that was looking at ways to address urban environmental issues and at the same time recognize that part of the urban environment is the social environment...addressing air, water, soil and waste issues needs to include the economic aspect in relation to the social conditions so it is that sort of mix (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

We wanted to be a self sufficient enterprise in its own right, being able to stand on our own two feet without dependents (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

When successful, forming community-based and social enterprise can lead to recyclers' independence from middlemen, legal recognition, higher proceeds and improved living conditions (Gutberlet 2005; Jaffe & Nas 2004). Often governments are reluctant to become involved in projects involving the informal waste sector, primarily due to the lack of modernity associated with these systems and individuals. The role of social enterprise has been shown to be beneficial in the development of successful interventions as well as sustainable waste management (Jaffe & Nas 2004).

Social enterprises such as United We Can are becoming "prominent as a means of addressing deficiencies in the formal system and also addressing the social and health related dimensions of this activity" (Van Horen 2004). United We Can is a successful social enterprise contributing to economic development for marginalized and unemployed individuals, embracing the social challenges through capacity building and by providing opportunities for social involvement.

Social enterprise “aims in some way to increase social value...to contribute to the welfare or well being in a given human community” (Peredo & McLean 2006). The model of social enterprise can be applied to a variety of business ventures that contribute to sustaining social value. Similar ventures to United We Can are Albina Ruiz’s innovative approach to waste collection in the slums of Lima, Peru through the establishment of “a network of local micro-enterprises that visit each household weekly, collecting and recycling solid waste” (Peredo & McLean 2006, p. 61). Ruiz’s *Ciudad Salud* provides social benefits through improved health and working conditions, while making a significant profit.

Social enterprises explicitly aim at reaching very poor people and sustainability (Dunford 2000). This model enables non-profits to innovate and respond in a less dependent fashion, and tackle long term unemployment by providing paid work, vocational training and social support to the jobless. Social enterprises are concerned with social and occupational integration. They are seen as entrepreneurial because they perform a continuous economic activity and earn money to a considerable extent from sales, and fulfill certain social criteria. Social enterprises core idea is to identify fields concerned with the ‘production of welfare’ by considering informal groups and social communities (Bode et al. 2004).

United We Can’s goals are to “improve the urban environment, build capacity and increase employment, contribute to inclusive social and economic development, and sustain itself as a viable and self-sufficient social enterprise” (UWC Business Plan 2005-2010, p. 1). Over the last ten years, UWC has become an employer in the

Downtown Eastside providing needed waste collection, street cleaning and resource recovery services to local residents, merchants and the community at large. As of August 2005, there were “30 people on pay roll and then another 150 people with some sort of casual capacity. They are in a pool of in fact 350 people but at any given time there are about 150-200 of those that are coming through in one way or another” (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

Developing collaboration and building relationships between the City of Vancouver and the binning community is an integral step towards social and economic inclusion. Building this relationship represents a new attitude shift from the authorities in recognizing the importance of this job, and the contribution the informal sector makes towards the urban environment (Ojeda-Benitez 2002). United We Can actively supports the development of these relationships by participating in workshops, conferences, radio and TV shows with varying members of the community. UWC aims to obtain more support from government, residences and businesses. As a non-profit, UWC has a board of directors and a ceiling on how much anybody can earn. “The intention is that if there is revenue above the fences that gets ploughed into building up the opportunity to provide more people to participate” (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

UWC is hoping to expand their operations to include a larger collection facility, improved services such as toilets with showers, lockers where binners can store their property, and low income housing that will be available for purchase. UWC will also

be expanding their collection services to include a range of multi-materials such as metals, paper products, and construction materials. UWC is in the process of negotiating this initiative with the local government.

5.7. Binner's perception of the environment

Certainly, it keeps the streets clean and it keeps the landfills clean and it's an incentive for people who might not think about the environment but get involved in picking up cans for the money and then some people actually get involved in the environment because of it. Actually start thinking about it and start doing other things. I have seen art done with the beer cans so it opens up some avenues for other people (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005).

Definitely, that is one of the reasons I do it. That is what I felt about what I do, how I earn my money, it doesn't matter that I make 3\$ an hour cause I get fresh air. Well, you know what UWC does, they do over 1 million dollars a year, and most of that otherwise would of ended up in the landfills (Interview with Harry, a male seasonal binner approximately 40-45 years old and binning for four years in the summer, August 8th, 2005).

Contrary to some assumptions about low-income urban communities, environmental awareness among the participants in this research is very high (98%). The majority of respondents perceived this activity as a contribution to the environment in a variety of ways: reducing litter in the streets and public spaces (30%), recovering resources from the waste stream (26%), and reducing the garbage sent to the landfill (15%). Just over half the respondents (56%) felt that the public perceives this activity to be environmentally beneficial, based mostly on their verbal engagement and support in contributing to the activity with building partnerships. A study by Margai (1995) also revealed that residents of a low-income community were very concerned about their environment and willing to increase their efforts in waste recovery and prevention. Overall, the survey showed that 73% of the participants thought that recycling will help

improve the quality of their environment (Margai 1995). It was also found that very few residents recycled (3.6%) to earn money perhaps because such opportunities were very limited in the city.

5.8. Improving resource recovery through awareness and education

From a sustainability perspective we would want people to walk their bottles to the depot just like they can walk to Safeway and put them in a very high density and retail area and that is where it should be, but the experience has been that it is a real magnet for some of the negative binning and shopping carts and the noise...if we quickly put out 15 depots than the bidders will not be all concentrated at one depots and won't be such a negative impact...you might just have a few bidders and then it would be a non issue (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005).

I think that if people are going to buy pop and beer and they're not going to take the time to take them back they should take the time to put them out...not in blue bins. Put them on the streets...they are going to get picked up (Interview with Matt, a male bidder approximately 40-45 years old and binning for 3 years, August 21st, 2005).

There are still a lot of bottles that are going into Vancouver garbage containers and of course provincial recovery rate is somewhere in the high 80%, but in Vancouver it is significantly lower than that (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005).

...a way they could encourage people to put stuff into separate recyclable containers, and give people access to it...it is a way for a certain segment of society to make an honourable living (Interview with Harry, a male seasonal bidder approximately 40-45 years old and binning for four years in the summer, August 8th, 2005).

From a sanitation perspective, it is not a good idea to be enhancing or encouraging the public climbing into dumpsters and digging through garbage to try and support their living...we have to move away from having bidders going through garbage containers for pop bottles in order to sustain themselves...still have a market kind of system out there where the marginalized community can go around and collect goods and find services on their own terms and conditions, this works for them...but somehow we have to stop people from going into garbage containers; we have to get away from that (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005).

Beverage recovery rates are lower in Vancouver compared to provincial rates (high 80%) with “a lot of bottles going into Vancouver garbage containers” (Interview with

Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005). One contributing factor to these lower rates is the lack of bottle depots available in Vancouver compared to most outlying areas. “To meet the provincial average on a per capital basis we would need 15 more return centres, and this is one of the reasons we don’t have a high recovery rate” (Interview with Kevin Van Vilet, Solid Waste Management Engineer with the City of Vancouver, August 9th, 2005)”. Although Encorp. Pacific (British Columbia beverage container stewardship agency) has encouraged the implementation of new bottle depots throughout Vancouver, there has been significant community resistance to their establishment. Part of the resistance is due to the concentration of binners at depots being pushed to the loading bay areas to minimize their storefront presence. Noise and territorial disputes also accompany this activity. Community safety issues, property crime and property loss are being attributed to the concentration of this activity in these areas. Ironically, the higher density areas in Vancouver that need bottle depots are the ones resisting them due to the assumed impacts of the activity. Yet, the establishment of the proposed additional bottle depots has the potential to eliminate the concentration of binners and negative stigma associated with this activity, increase recovery rates by facilitating easier access to return materials, and improve the efficiency of this activity for binners by reducing the time required to travel to the bottle depots.

I just think there is not enough places to recycle...because the amount of people doing it is starting to outweigh the amount of places to take them...the line ups are starting...There are already people fighting in the line ups...they wouldn't have to be large capacity, there are a lot of empty buildings they could use...there are things that can be done (Interview with Alex, a male binner approximately 40 years old and binning for 1 year, August 15th, 2005).

It is estimated from talking to binners that there remains a significant quantity of materials in the garbage to be recovered. “I go to North Vancouver...that’s where I like to work...the streets are paved with gold over there...nobody recycles in North Vancouver, nobody...that’s why they need us you know” (Interview with Dan, a male binner approximately 40-45 years old and binning for 2 years, August, 20th, 2005).

5.9. Chapter summary

Informal resource recovery plays a role in providing economic opportunities for marginalized populations. These opportunities are vital as the safety nets for a growing population of urban poor are increasingly affected by economic uncertainty and a disintegrating social security system. Resource recovery has the potential to integrate more equitable and efficient participation of the informal sector. Social enterprises can bridge the gap between informal waste activities and government. Improved resource recovery and social inclusion of the binning community requires education and awareness of the socio-economic and environmental benefits of this activity.

The following chapter presents highlights from the research, some policy recommendations and opportunities for future research, followed by a summary. Finally I point to innovative initiatives and socio-economic development projects in Vancouver that are changing waste management strategies and legitimizing this activity.

Chapter Six: Solutions which address urban poverty and social exclusion

It is incumbent on us to work on changing the way we respond to the world rather than expecting the world to change how it responds to us and that is hard to do, hard as individuals and as groups (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

I think there is room to create little opportunities for people to be a part and work and invest in building their capacity, so if the person is falling off the edge in that one way how do you open that opportunity for that person to have their place and be a part of in another way, and at the same time allow the group to realize that even being able to create place within our group for somebody with a special need makes everyone richer (Interview with Ken Lyotier, Director of the United We Can bottle depot, August 16th, 2005).

6.0. Conclusion

As disparities between the rich and poor continue to expand, fuelled by the economic growth of a consumptive culture, there is an urgency to find poverty reduction strategies and to promote the sustainable use of resources. By recognizing the contribution of resource recovery to poverty reduction and social inclusion, developing community-based recycling programs and policies to support this paradigm shift is necessary. This chapter presents key research findings while linking theoretical implications where appropriate. Following are a description of local innovative initiatives to waste management that deserve recognition, selected recommendations derived from this research and suggestions for further research into the subject.

6.1. Key research findings

The purpose of this thesis is to stimulate dialogue on waste management alternatives that contribute to poverty alleviation and social inclusion while providing a more

comprehensive understanding of informal resource recovery systems and the underlying social structures. Although the analysis of barriers for successful integration of the binning community was not a particular focus in this thesis, many themes stimulate this discussion. Several recommendations emerged in this research from the binning community and waste management division, as well as informed from experiences in developing countries. This section of the thesis is an extremely important component of my research, where I strive to provide a voice for the binning community through documenting the structure, process and socio-economic significance of the activity.

6.1.1. Inclusive waste management policies

With the amount of waste increasing on a global scale, and the introduction of new waste technologies and privatization of waste, careful evaluation of the socio-economic impact of displacing the informal waste sector needs to be undertaken. Approaches that consider inclusive waste management, and recycling co-operatives and/or social enterprises are instrumental in improving the socio-economic conditions of the people involved in this activity and of the environmental health at large.

Inclusive policy formation places those that are faced with marginalization and poverty at the centre of social debate. Gaining the support from government is imperative in strengthening the capacity of recycling cooperatives and community waste initiatives to improve socio-economic conditions. These valuable contributions however, are not yet fully recognized by society or government and many political and economic barriers prevent inclusive public policies in waste management from

occurring. Recognizing resource recovery as a multidimensional environmental activity, with potential to expand existing services offers a broader framework for inclusion. Inclusion means that informal resource recovery finds an appropriate place in the future projects and policies on waste management. Although the City of Vancouver is supportive of the binning community in working with United We Can to provide economic opportunities to this community, many struggles and uncertainties remain.

Theoretical implications of these findings reinforce the importance of linking political, economic and ecological goals in the development of social policy. Political-ecology theory recognizes this link as imperative for achieving economic sustainability with social goals. Economic success needs to be measured by ecological sustainability and social development rather than “maximizing economic activity that requires high levels of resource throughput” (M’Gonigle 1998, p. 5). The findings of this research further highlight the social economy as an alternative economy that promotes social justice and community empowerment.

6.1.1.1. Expanding bottle depots

Expanding bottle depots facilities in Vancouver is necessary. Providing convenient depots throughout each municipality (i.e. within close proximity to high residential areas; with extended operating hours) improves the effectiveness of resources recovery. Given the great distances binners’ travel, and the increased time of waiting in line-ups to return materials, providing more facilities will improve their livelihood. Furthermore, an increase in depot centres will reduce the concentration of binning

activity in residential areas. Diluting the concentration of binning activity contributes to a reduction in noise complaints from residences, and conflict between binners over territory. An appropriate location for a new depot is the West End, given the high concentration of binning activity there.

6.1.1.2. Stewardship programs can provide socio-economic opportunities

Stewardship programs are highly effective in facilitating resource recovery. There exists within this system opportunity for social inclusion and income generation for the marginalized populations. The inclusion of the binning community in the framework to develop additional stewardship programs presents potential for policy that addresses poverty alleviation and social inclusion. The adaptable yet established social structure of the binning community contributes to developing appropriate programs that could enhance the social inclusion and participation of the community. Evidence of cooperation and conflict resolution, both important variables of social cohesion theory, suggests that this community has potential to adapt to inclusive waste management programs that enable open-access to waste resources.

6.1.2. Access to recyclable materials

From a sanitation and health perspective, encouraging the public to climb into dumpsters to support their living is not the answer. Until a system exists that supports the collection of material in a safe and efficient manner, securing rights to access the waste stream is important for the economic survival and social integration of a significant segment of society. A system where low-income, marginalized individuals can continue collecting goods and finding services on their own terms and conditions is

necessary. A policy that enforces the separation of valuable materials at the source, and enables the binning community to have access to those items before they enter the waste stream is vital. Government and society need to recognize the binning community as a contribution and asset to the waste management system. The promotion of initiatives that support improved access, collection and transportation of materials is needed. The implementation of appropriate collection facilities and containers needs to be more widespread and more available to encourage source separation and access to materials. By re-evaluating how municipalities manage waste, opportunities to include the binning community into the process of collection and transportation has enormous potential.

Most scavenging²⁸ activities have negligible impact on the city's solid waste management programs. There are, however, organized individuals who can pilfer large quantities of valuable materials from recycling containers (blue boxes), thus depriving the city of that revenue. As a result, anti-scavenging bylaws provide a mechanism to discourage, or minimize, large-scale scavenging activities. In Vancouver, binners face a penalty of \$100 if found taking refundable materials from recycling containers. Although waste management services in Vancouver rarely enforce the anti-scavenging bylaw on individual binners, the illegality of the act deters residences and businesses from supporting binning. Anti-scavenging by-laws need to be re-evaluated. A different system can exist that integrates binners into an inclusive programme of collection services.

²⁸ Scavenging is the removal of recyclable (most often refundable) material from household and commercial recycling containers.

The binning community has revealed inner-organizational rules and regulations for accessing and managing waste resources through a system of territory and seniority. Recognizing the significance of this social organization within resource management regimes (Pinto de Silva 2004) can provide a strong argument for guaranteeing open-access to waste and policies that encourage source separation and support for this community.

6.1.3. Public education and awareness

Public outreach and educational programs can highlight the benefits of source separation and diversion of recyclable materials to the binning community. Landlords and management officials need to be directly involved in the process of providing information on source separation to tenants and designate clean, accessible and safe areas for depositing materials. Furthermore, an area should be designated where refundable recyclable resources and valuable materials are accessible to the binning community. Supporting the recovery of resources by facilitating partnerships between binners and the community presents an opportune approach towards reducing society's environmental impact while contributing to poverty alleviation.

6.1.3.1. Reducing harassment

A major constraint to the inclusion of the binning community is harassment. In general, the public does not consider the involvement of binners in resource recovery an important contribution to current waste management services. Thus any system of waste management that seeks to include binners in the process may not get public

support. By generating awareness in our communities about the benefits of strong partnerships between consumers and binners, their dignity and integrity can be restored.

6.1.4. Re-evaluating the social assistance programme

Welfare restructuring, particularly BC Benefits (income assistance), has led to punitive and intrusive programs and practices. The findings from this research reveal that welfare re-structuring in British Columbia does not reflect the needs of individuals experiencing poverty, namely those in the binning community. BC Benefits legislation does not recognize the barriers this population faces in finding full-time employment, including adequate housing, and in being discriminated on the labour market. Furthermore, findings from this research illustrate that current social assistance legislation reinforces stereotypes that blame individuals for their own poverty rather than current economic realities. Challenging stereotypes of poverty and individuals on welfare is important since it provides the framework within which individuals are understood by the public and policy-makers.

6.1.5. The development of social enterprise

Supporting the development of social enterprises are vital for improving the socio-economic conditions of waste recovery, providing a voice for this community and reaching individuals that face exclusion, stigmatization and limited human rights. Social enterprise, like UWC, can ensure that the informal waste sector is provided with social opportunity within waste management initiatives. Working to solve more than environmental problems, this model of organization is taking a lead participatory approach to inclusive solutions. United We Can contributes to the economy from a

socio-economic perspective. Reinforcing the goals of the social economy, namely solidarity, cooperation, and empowerment, United We Can also serves an important function of promoting social cohesion within the wider community.

6.1.6. Injury and health prevention

Through minimizing contact with waste and ensuring that recyclable materials are sorted before they reach the waste stream, potential health implications can be avoided. Until established partnerships are formed between residents, businesses and binners that support and encourage resource recovery in an effective and responsible manner, provisions towards providing the necessary equipment and education is crucial. By promoting safety equipment and clothing such as “a good set of gloves, a small flashlight that could be attached to your head, and basic medical equipment to stop a huge cut if one was to happen” (Interview with Roy, a male binner/middleman approximately 40 years old and binning for 3 years, August 11th, 2005), injuries could be prevented or minimized. Improving household participation in the source separation of all recyclable materials, and the provision of separate containers for these materials is an important and necessary policy recommendation.

6.2. Innovative solutions to waste management

A number of successful case studies integrate the informal waste sector in waste management programs, particularly in developing countries such as Brazil (Gutberlet 2005), the Philippines (Gonzales 2003), Columbia, and Mexico (Medina 2000). This integration improves the economic situation and social wellbeing of low-income communities and marginalized populations, while contributing to environmental

management and health. The development of established programs in the South offers a plethora of options for integrating the informal waste sector into economic development and waste policies in the North.

The City of Vancouver, United We Can, and the Gastown Business Improvement Association have been working together in an attempt to eliminate the overflowing garbage in the alleys while potentially incorporating the local community in source separated resource collection. The Urban Binning Unit (UBU) project, an initiative of United We Can, is not only contributing to more efficient resource recovery in the spirit of legitimizing the activity, but presents an opportunity to disseminate the experiences in Vancouver to other parts of the world.

6.2.1. Dumpster Free Alley – recovering resources and citizenship

There are so many benefits that this can offer from just simply a creative way of managing our waste which could lead to waste reduction and recycling, but also the social capacity building aspects of that (Interview with Chris Underwood, Solid Waste Management Engineer with the City of Vancouver August 9th, 2005).

The Gastown Business Improvement Association has recommended the elimination of dumpsters from alleys to be replaced with a range of multi-material and waste street collection services. United We Can and the City of Vancouver are working with this association to involve the local binning community in the collection, and transportation of recyclable materials. A similar project called CleanScapes²⁹ has already been established in Portland, Oregon and is a successful trial of employing the local community and encouraging source separation. The organization of such a system,

²⁹ CleanScapes offers commercial and residential waste management services while providing employment opportunities. Website link: www.cleanscapes.com

potentially including multi-material and organic waste, is likely to increase source separation and recovery rates (reducing contamination of materials), improve the economic conditions and social inclusion of the community, and alleviate sanitation health problems.

The CleanScapes programme functions through a pay per bag system, where haulers collect material door-to-door and deliver it to a transfer station, where they would be paid per bag. The program requires an association of collectors integrating capacity building and skills training that would be conducive to relationship building with businesses. This programme mirrors the current municipal service of waste removal, with the aim of generating employment to inner-city residents. This type of capacity-building program exists in many developing countries, particularly Brazil, where door-to-door collection and transportation of materials is done on a small scale involving the informal sector in some cities (Gutberlet 2005). This type of program has proven to be highly successful, and has the potential to be disseminated to other areas of the world experiencing similar economic development opportunities.

6.2.2. Supporting the Urban Binning Unit (UBU) initiative

The UBU³⁰ project is an important asset to building the capacity and service recognition of the binning community, fostering connections between government, industry and society and providing a much-needed voice for the binning community. Applying the UBU as a tool for economic and social development to be included in

³⁰ The UBU is a utility cart designed to improve the efficiency of the collection and transport of recovered materials, while promoting a positive image.

waste management initiatives, such as the dumpster free alley project, has enormous potential. Improving the image of the binning community as environmental stewards begins with changing how they are perceived, improving their capacity and supporting the development of their skills. As a grassroots project, involving a dedicated team of binner representatives, the opportunity to include their voice and participation in policy decisions and public education should be harnessed.

6.3. Further research

In conclusion, there are numerous issues highlighted below that warrant further research and analysis in order to gain a more comprehensive understanding of the topic.

- It is important to perform studies that quantify the contribution of the informal sector regarding the recovery of recyclables (including the economic significance in terms of reduced landfill space).
- Comprehensive research on the health implications and hazards of informal resource recovery, and appropriate mitigation.
- The role of women in resource recovery demands further research, as an increasing trend towards their participation is noticed. Particular research follow-up could be geared to the movement of sex-trade female workers into resource recovery or other informal economic activities.
- The relationship between immigration and informal resource recovery, especially among Asian women, is visible and provides for important research on gender, immigration and the barriers to formal economy work and social inclusion.

- A more comprehensive understanding of the role of the informal sector to waste management.
- The recovery of food waste in relation to food security issues among homeless and vulnerable populations.
- A livelihoods assessment of binners; including assets and barriers to improving their quality of life and community capacity.
- A comprehensive follow-up study of United We Can as a model of social enterprise; including assets and barriers to this type of social economy.

6.4. Chapter summary

Individuals involved in informal resource recovery provide a valuable service to the urban environment. Dismissal of these contributions ignores the productive economic system of which poor groups are active agents in improving their urban environments.

Why use waste management to tackle social issues? Informal resource recovery is important for improving the urban environment, building social cohesion, and promoting economic development since:

- They fulfill a service opportunity by improving the urban environment via litter reduction and resource recovery and consequently by reducing landfill space.
- The income from this activity demonstrates an important survival strategy for a large number of poor people.
- In the absence of an adequate social security system, this activity provides a buffer against poverty.

- This activity creates employment for marginalized members of society.
- This activity is recognized by the binning community as contributing to society, providing a shared identity and inclusion within society.
- This activity promotes building social capital through the creation of partnerships between binners and consumers.

This population cannot be eliminated or ignored. A solution must be found to recognize their presence and maximize their role. Investments need to be made not just in waste management initiatives but also in the community of binners that have contributed to the management of waste. Acceptance and integration of this sector in waste management services reflects the recognition of the contribution to both the urban social-economy and urban environment. The integration of these aspects into municipal guidelines will result in greater efficiency and effectiveness of this activity, generating higher income and finally the potential to provide an overall improved quality of life for the binning community.

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Appendix A: Letter of Informed Consent

Title of Research Project:

Informal Recycling: Socio-economic and environmental perspectives.

This is to state that you agree to participate in a program of research for a graduate thesis being conducted by Crystal Tremblay of the Geography Department of the University of Victoria. The researcher may be contacted by email at crystalt@uvic.ca, or by phone at the University of Victoria at (250)721-7345 (office).

Supervisor: Dr. Jutta Gutberlet, Department of Geography, University of Victoria, BC.
Contact Information: Email: juttag@office.geog.uvic.ca; Phone: (250)472-4537

There is no toll-free number available at this time.

Purpose:

You have been informed that the purpose of this research is to collect information on the economic significance and environmental contribution of informal recycling through the activity of “binning”.

Procedures:

This research will be conducted at the United We Can bottle depot in Vancouver’s Downtown Eastside. Your participation in this research is voluntary. You are encouraged to participate in an in-depth interview concerning your average income and the amount and type of materials collected through “binning”. The interview will take between 30-50 minutes to complete and you will be asked to sign this consent form. All information collected in this research will be confidential.

- A copy of this consent form will be left with you and the researcher.
- The researcher is available to answer any of your questions concerning the procedures and research questions.
- You may verify the ethical approval of this study, or raise any concerns you may have, by contacting the Associate Vice-President Research at (250) 472-4545 or ovprhe@uvic.ca.

Conditions for Participating:

- You understand that you are free to withdraw your consent and discontinue your participation at anytime without negative consequences and the data will not be used in the research.

- You understand that your participation in this study is confidential (i.e. the researcher will know, but will not disclose your identity).
- You understand that the data from this study may be published.
- You understand the purpose of this study and know that there is no hidden motive of which you have not been informed.

Benefits/Risks:

- There are no possible or likely risks involved in participating in this research.

Compensation:

- Your participation in this research is voluntary. There is no payment, compensation or contribution for your participation.

Access to Information and Confidentiality/Publication of Results:

- Only the researcher will have access to the research data.
- Only the researcher will know the identity of the participants and signed consent forms will be kept in a secure location until no longer needed, at which time they will be destroyed.
- Research data will be kept in a locked cabinet at the researcher's residence.
- The research data will be used for analysis within a Masters thesis.
- The researcher intends to publish researcher findings and will maintain participant confidentiality by using pseudonyms.
- Dissemination of the research will include presentations at scholarly meetings, thesis presentation, published article, chapter or book.

Access to Research:

- A summary of the final thesis will be available at the United We Can bottle depot for you to view.
- Contact information is provided for you on this form.

YOU HAVE CAREFULLY READ THE ABOVE AND UNDERSTAND THIS AGREEMENT. YOU FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS RESEARCH.

Appendix B: In-Depth Interview Questions

In-Depth Interview Questions for Selected Binner Participants

Socio-Economic

1. Since when have you been involved in this activity?
2. How many days per week are involved in this activity?
3. On Average, how many hours per day are you involved in the activity “binning”?
4. What are your earnings on the best day/worst day/average day?
5. What was your occupation before “binning”?
6. Do you have any other occupation?
7. Are your earnings from informal recycling meeting your basic needs?
8. How many dependents live off this income?
9. Does it meet the needs of the family?
10. Are other family member’s involved in this activity? How many?
11. What is your highest degree in formal education?
12. Do you know about middlemen who buy recyclables besides UWC? How many?
13. Where do you live and where do you collect? (mental map)
14. Do you own or rent or live in a shelter?

Environmental

15. Where is the source of material (recycling bins/garbage/street)?
16. What do you collect?
17. On average, how many cans? bottles?
18. Do you perceive this activity as beneficial to the environment?
19. Do you think others perceive what you are doing as a contribution to the environment?
20. Are there any health implications for you as a consequence of informal recycling? (including accidents/injuries)
21. Have you heard about any health implications to other recyclers?
22. What could be done to make the activity more efficient, so that less recyclable materials are lost?

Organization

23. How many other informal recyclers do you know?
24. How well do you know them? (rank them very well to not well)
25. Is there an informal organization/community of recyclers?
26. Are there designated territorial boundaries or specific areas between recyclers?
27. How are the territories subdivided among recyclers?
28. Is there competition between recyclers?

29. Are there conflicts? What type of conflicts? How do you deal with these conflicts?
30. Why do you come to United We Can?
31. Do you feel like you are a member of a community?
32. What are the benefits for you from this organization?
33. What could be done to improve the organization of informal recyclers?
34. Have you heard of the recent discussions to put padlocks on dumpsters?
35. How would this affect your access to recyclable materials?
36. Do you have any suggestions to placate the problem?

In-Depth Interview Questions for Ken Lyotier, Director of United We Can

Socio-Economic

1. How many customers use UWC services?
2. Where do most customers live?
3. Where do they collect?
4. What social and economic background would you say are most of the customers?
5. What is the volume of materials collected on average per week?
6. Is there a relationship between the type of material collected and market prices?
7. Does the quantity of material fluctuate? Why?
8. Do you think that recycling is important to their livelihood?

Environmental

9. Who buys the material?
10. How many middlemen do you think are involved in the production chain of recyclables?
11. What material is the most common? Can you differentiate between them?
12. What types of environmental initiatives does UWC promote/facilitate?
13. Does the community and public administration recognize the benefits from informal recycling?
14. What could be done to improve the image of informal recyclers?
15. Do you know about any plans or policies to stimulate and improve informal recycling? local, provincial, federal policies?
16. Do you think they should provide support?

Organization

17. Can you tell me the story of UWC?
18. Why did UWC choose the particular model of social enterprise?
19. How does the model work?
20. What is the organization of the model?
21. What are the advantages of that model?
21. What is the sense of membership?

22. Are there social laws within UWC? (regulations)
23. What type of services does UWC provide?
24. Is there a sense of community among the 'binners'?
25. How does UWC measure performance/success?
26. What are the major goals of UWC?
27. What are the limitations of UWC?
28. How do government policies facilitate or inhibit UWC activities?
29. Do you know about other organizations and cooperatives that work with informal recycling in Canada and abroad?
30. Have you heard about the social movement related to informal recycling in developing countries?
31. How would you define a sustainable performance of UWC?
32. What are the major constraints for a better, more sustainable performance of UWC?
33. What are your thoughts on the proposal to put padlocks on dumpsters?
34. How would this affect the livelihoods of "binners"?
35. Can you tell a little about the idea to put badges and uniforms on "binners"?
36. What would need to happen for the padlocks not to be implemented?
37. Do you think that the coming Olympics in 2010 will have an effect on "binning" activities in Vancouver, and how?

In-Depth Interview Questions for Waste Management Division, City of Vancouver.

1. How long have you been working in waste management for the city?
2. How long have you known about "binning" in Vancouver?
3. Can you describe the community of "binners"?
4. Have you seen this community/activity changing over time? please describe
5. How does the city recognize/perceive this community/activity?
6. Do you recognize this activity as contributing to waste management?
7. Could you describe your experiences with this community?
8. What do you perceive are the public's perceptions towards binners and binning?
9. Could you describe the recent proposal to put padlocks on the dumpsters?
10. Do you think this measure will have an impact on binners?
11. Has the city consulted with this population to determine the impact of this policy?
12. What is your relationship with the United We Can bottle depot?
13. Does the city support this initiative? How?
14. Do you think the Olympics (2010) will have an impact on this community? How?
13. How do you think this activity could become legitimate (from public and from government's perspective) recognizing their contribution to waste management?
14. What are your thoughts on including this community in formal waste management policies?
15. Do you know about experiences with a co-management approach in solid waste collection and recycling? (Brazil)

16. What are your perceptions on forming partnerships between binners, the city and businesses? Could this help guarantee recyclable materials for binners?

In-Depth Interview Questions for Encorp Pacific, BC.

1. What is Encorp's function within the stewardship program?
2. What are the main goals of the stewardship program in BC?
3. What are the advantages/limitations of this program?
4. How effective is this program for recovering materials and how do you measure progress?
5. What programs are in place to encourage source reduction as apposed to recycling?
6. Are there plans to develop stewardship programs for other materials besides beverage containers?
7. Do you know of successful experiences with stewardship programs for waste reduction or recycling in other cities?
8. How does Encorp measure the quantity of depots needed and their location?
9. Are you aware of the population of individuals that informally collect recyclables in Vancouver, known locally as 'binners'?
10. What are your experiences with this population?
11. What are your perceptions of this population? Do you perceive this population to be contributing to resource recovery efforts in Vancouver?
12. What is your relationship with the United We Can (UWC) bottle depot?
13. Have you included this population into any formal policies? (for example: encouraging residences to put refundable bottles beside the bins rather than inside for easier access)
14. Are you aware of the Urban Binning Unit, a cart specifically designed for binners by a Vancouver industrial designer, aimed at improving the efficiency of collection and reducing noise complaints from the typical shopping carts used by binners? What are your thoughts on supporting the development of this cart?
15. What impact, if any, do you think expanding the stewardship program in BC would have on the population of 'binners'?
16. Do you know about experiences in other cities and countries related to informal waste recovery and recycling?

Appendix C: Survey Questions

1. Is recycling your main activity for income generation?
 Yes No
2. How long have you been recycling as a main activity?
 less than 1 year 2-4 years more than 5 years
3. Do other family members participate in this activity?
 Yes (How many?) No
4. What was your occupation before informal recycling? _____
5. What is your highest degree in formal education?
 high school college/technical university other
6. Does this activity provide you with income for basic needs?
 (basic needs: shelter/food/medical)
 Yes Sometimes No
7. Do you have expenditures with this activity? How much per day? _____
 (Type of expenditures: transportation, equipment, clothing, tools...)
8. Where do you live? (Neighbourhood) _____
9. Where do you collect recyclables? (Neighbourhood) _____
10. Why did you choose United We Can to recycle at today?
 nearness convenience only one known other
11. How far do you travel to return your recyclable materials?
 less than 5 blocks 5-10 blocks more than 10 blocks
12. How long (time) do you travel to get to United We Can?
 less than 5 min 5-10 min 10-20 min 20-30 min more than 30 min
13. How many trips/day do you make to United We Can?
 1 trip 2 trips 3 or more trips
14. What equipment do you use to transport your material?
 plastic bag shopping cart bicycle other (specify):
15. Why do you use this method of transportation? _____

16. Are territories designated to specific recyclers?

Yes Sometimes No

17. Do you know about middlemen who buy recyclables besides UWC?

Yes (Where?) _____ No

18. How did you learn about United We Can?

friend community center other (specify):

19. What benefits does United We Can provide to improve this activity?

utilities community support

other

(specify): _____

20. Do you perceive this activity as beneficial to the environment?

Yes (How?) _____ No

21. Do you think others perceive what you are doing as a contribution to the environment?

Yes (How?) _____ No

22. What could be done to further improve informal recycling?

23. Do you see any benefits in establishing partnerships with businesses? If so, what are they?

24. Has binning activity increased over the past few years? Since when? Why?

25. What changes have you noticed?

Appendix D: The Bidders Code

1. Leave the area around dumpsters cleaner than when you started
2. Watch where you step and put your hands. Wear protective clothing. Wear light and reflective clothing.
3. If someone is already binning when you get to a dumpster, move on.
4. If you find someone's ID while binning, contact the owner and return it to them.
5. Try to be polite to the people you meet and avoid swearing if you can.
6. If you run into problems – bullying, threats, assaults, car accidents ect. – report them.
7. Empty out the contents of beverage containers.
8. When binning at night or in the early morning, be extra quiet.
9. If you find something of value in the dumpster – TV sets, VCR's, jewelry, money, ect. – make a note of where you found it.

Appendix E: Recommendation to lock dumpsters in Vancouver



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: June 14, 2005
Author: Kevin Van Vliet
Phone No.: 604.873.7992
RTS No.: 4577
CC File No.: 3756
Meeting Date: June 30, 2005

TO: Standing Committee on Planning and Environment
FROM: General Manager, Engineering Services
SUBJECT: Management of Commercial Garbage Containers in Vancouver

RECOMMENDATION

- A. THAT Council require lids on all commercial-size garbage and recycling containers, on the street or visible from the street, over 1 cubic yard in volume to be locked at all times (except when they are being loaded or unloaded).
- B. THAT enforcement of locked containers be a three step process that begins with education to encourage re-use, donation, and recycling over disposing of items of value and that ends with notices of By-law violation.
- C. THAT the user address or addresses of commercial garbage and recycling containers be prominently displayed on all containers on the street or visible from the street and that the responsibility for ensuring compliance with this requirement rest with the person who contracts for the service.
- D. THAT mandatory garbage and paper fibre recycling service be imposed on all non-residential properties unless the owners or occupiers thereof can demonstrate that they contract for removal of the waste generated from their property as required by the By-law.
- E. THAT the current maximum penalty of \$100 for violation of the Solid Waste and Recycling By-law be changed to a minimum penalty of \$50 up to a maximum of \$2,000.

- F. THAT the Director of Legal Services be instructed to bring forward the necessary amendments to the Solid Waste and Recycling By-law to give effect to the recommendations of the Policy Report dated June 14, 2005 entitled "Management of Commercial Garbage Containers in Vancouver".
- G. THAT the General Manager of Engineering Services, the General Manager of Fire and Rescue Services, and the Director of Legal Services look into necessary consequential amendments to the Fire By-law and, if appropriate, that the Director of Legal Services bring forward any necessary amendment.

GENERAL MANAGER'S COMMENTS

Engineering Services is unable to adequately address overflowing waste containers and illegal dumping in City lanes under current By-law provisions. The changes outlined in this report are expected to have minimal negative financial impact on those who depend upon the value of recyclables recovered from commercial waste containers, while still providing the enforcement tools needed to deal with poorly managed garbage containers.

COUNCIL POLICY

On September 13, 2004, Council directed Engineering Services, in consultation with Legal Services, to negotiate with the waste management industry to require current property addresses be displayed on commercial waste containers on City streets and lanes.

In 1992, Council authorized the execution of the licence agreements between the City and the participating companies which implemented the City's garbage container permit program.

SUMMARY

As part of our ongoing efforts to improve lane cleanliness and ensure the appropriate use of commercial garbage containers, Engineering Services conducted a pilot study of locking garbage containers in 7 downtown lanes. The lessons learned from the pilot study include:

- Unlocked containers are 3 times more likely to be a mess than locked containers;
- Education and enforcement of inappropriate container use is extremely difficult as the container user is not identified on the containers;
- Properties that choose to have overflowing containers prefer to remain anonymous;
- Approximately 20% of all fires causing damage in Vancouver begin in waste containers (205 fires in 2004);
- Some properties continue to not have adequate garbage or recycling service (some have no service at all), a problem that is currently very difficult to rectify.

Requiring that waste containers be locked is the only direct and effective tool that will address messy, overflowing containers and should significantly reduce the number of container fires in Vancouver. Staff believe that with education as part of the enforcement process the impact of locking containers on the marginalized community can be minimized.

SOCIAL IMPLICATIONS

Cleaner lanes will reduce odours and improve the image of the City for visitors and residents alike. However, there are some negative impacts to locking containers. These include:

- A reduction in the amount of recyclables and other valuables recovered by people searching through the containers which would result in a loss of revenue from the sale of those recyclables. United We Can estimates that about half of the beverage deposit containers brought in by binners are recovered from commercial size garbage containers.
- An inconvenience to container users which could result in more work for property managers as garbage might be left outside the containers by users who forget their key. The greatest impact would be to multi-family residential properties with on-street containers that do not use managers to consolidate their garbage and place it in their container.

Consultation with the binning community at United We Can indicated that most of the beverage containers and valuables were recovered from waste containers at residential properties in the West End, Yaletown, etc. and that few recyclables were recovered from garbage containers in the most problematic lanes. Problem waste containers tend to be localized and originate in lanes where there are a number of properties without adequate service or where there is a high level of drug activity in the lane. The binners consulted indicated that they felt the most problematic lanes were often unsafe for them to work in.

Education and Enforcement Plan

Users of problem containers will be first educated about the negative impact their container management has on the surrounding community and the increased risk of fire that coincides with open and overflowing waste containers. Users will be reminded of the value and importance of reusing, donating, or recycling items of value instead of throwing them into garbage containers and that making these items available to the marginalized community reduces their incentive to remove waste from containers. Donating items of value, including beverage containers, can help some people meet their basic day to day needs. Education will gradually turn to enforcement over a three step process for the users of overflowing and messy waste containers. Staff will consult with the local downtown community (from BIA's to United We Can) to develop these messages.

Where waste in lanes continues to be a problem, or where staff have evidence that properties without service are contributing to messy lanes, staff will approach adjoining property managers or local businesses to verify that they are appropriately managing their waste. Businesses or residents without adequate waste disposal will be notified to obtain waste disposal services within 14 days or have garbage and or recycling service imposed by the City.

ALTERNATIVES/OPTIONS

Council may not wish to implement a By-law that requires waste containers be locked at all times. An alternative available to Council is to require locked containers in a more local geographic area with boundaries set by Council. This would potentially reduce the negative social impact on marginalized communities but would also limit the ability of staff to address problem containers outside the predefined area and limit staff ability to deal with new problem areas that might arise.

Appendix F: Council amendment to locking dumpsters

Standing Committee of Council on Planning and Environment
Minutes, Thursday, June 30, 2005

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MOTION AS AMENDED:

THAT the Committee recommend to Council

- A. THAT staff work with the Vancouver Agreement and related organizations such as United We Can and affected Business Improvement Associations to develop solutions for the difficulties highlighted in the Administrative Report *Management of Commercial Garbage Containers in Vancouver* dated June 14, 2005.
- B. THAT enforcement of locked containers be a three step process that begins with education to encourage re-use, donation, and recycling over disposing of items of value and that ends with notices of By-law violation.
- C. THAT the user address or addresses of commercial garbage and recycling containers be prominently displayed on all containers on the street or visible from the street and that the responsibility for ensuring compliance with this requirement rest with the person who contracts for the service.
- D. THAT mandatory garbage and paper fibre recycling service be imposed on all non-residential properties unless the owners or occupiers thereof can demonstrate that they contract for removal of the waste generated from their property as required by the By-law.
- E. THAT the current maximum penalty of \$100 for violation of the Solid Waste and Recycling By-law be changed to a minimum penalty of \$50 up to a maximum of \$2,000.
- F. THAT the Director of Legal Services be instructed to bring forward the necessary amendments to the Solid Waste and Recycling By-law to give effect to the recommendations of the Administrative Report dated June 14, 2005 entitled "Management of Commercial Garbage Containers in Vancouver".
- G. THAT the General Manager of Engineering Services, the General Manager of Fire and Rescue Services, and the Director of Legal Services look into necessary consequential amendments to the Fire By-law and, if appropriate, that the Director of Legal Services bring forward any necessary amendment.

Source: City of Vancouver, June 30th, 2005.

For a copy of the complete document: <http://vancouver.ca/ctyclerk/cclerk/documents/pe6.pdf>

Appendix G: List of Interviewees

Name of Interviewee	Affiliation	Date of Interview
Kevin Van Vilet	<i>Solid Waste Management Engineer, City of Vancouver</i>	August 9th 2005
Chris Underwood	<i>Solid Waste Management Engineer, City of Vancouver</i>	August 9th 2005
Bob Ross	<i>Consultant (DTES Revitalization), Department of Engineering</i>	August 9th 2005
Sandy Sigmund	<i>Marketing Manager, Encorp. Pacific</i>	October 27th 2005
Michael Strutt	<i>Industrial Designer/Project director, Urban Binning Unit</i>	August 20th 2005
Ken Lyotier	<i>Director, United We Can bottle depot</i>	August 16th 2005
Howard Henry	<i>Floor Manager, United We Can bottle depot</i>	August 4th 2005
Yvonne Tham	<i>Reception, United We Can bottle depot</i>	August 4th 2005
Dalores Jury	<i>Employee, United We Can bottle depot</i>	August 4th 2005

Appendix H: List of Bidders

All bidders that participated in interviews for this research have been given pseudo (alternate) names to protect their anonymity.

Name (pseudo)	1	2	3	4	5	6	7	8	9
Harry	4	5**	\$ 30.00	fish plant	Yes	University	Yes	rent	street bins beach
Kevin	14	7	\$ 100.00	sound engineer	No	Grade 8	Yes	NFA	street bins
Bob	2	4	\$ 70.00	carpenter	No	Grade 10	No	NFA	dumpsters outside dumpsters
Roy	3	7	\$ 400.00	entrepreneur	No	Grade 11	Yes	NFA	dumpsters blue boxes
Edward	1*	7	\$ 20.00	construction	No	Grade 9	Yes	rent	dumpsters street bins
Alex	1	7	\$ 20.00	auto restoration	Disability	Grade 11	Yes	rent	dumpsters outside dumpsters
Dan	2	7	\$ 260.00	hotel	No	Grade 12	No	NFA	parks blueboxes dumpster
Raymond	3	3	\$ 35.00	fisherman	Welfare	Grade 10	No	rent	dumpsters outside dumpsters
Matt	3	2	\$ 20.00	film	Disability	College	Yes	rent	blue boxes dumpsters
Maurice	1	1	\$ 2.00	unknown	Welfare	Grade 11	No	rent	bus depot street bins

* Edward has been binning for one month.

** Harry collects material in the summer only for the last five years.

Table Legend

1. Years involved in binning
2. Days/week binning
3. Highest earnings/day
4. Occupational background
5. Other income than binning
6. Level of education
7. Reported health implications from binning
8. Residence (NFA = No Fixed Address)
9. Source of recyclable materials

