The Role of Social capital in Community-Based Urban Solid Waste

Management: Case Studies from Ibadan Metropolis, Nigeria

by

Samuel Wahab

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis including any required final revisions, as accepted by my examiners. I understand that my thesis may be made available to the public.

Abstract

Urban solid waste management (USWM) problems facing cities in the developed and developing world are well documented; however, progress in tackling them is very slow in the latter. There are still many communities, neighbourhoods, and local markets where garbage is not collected for a considerable length of time. Many of the affected houses are situated in poor neighbourhoods on the edges and core areas of cities. In order to secure the future of urban environments in the developing world from continuous or perpetual decay, it is important to study the role of social capital in urban solid waste management. Toward this end, a case study research was carried out in Ibadan, Nigeria. For the purpose of the study, social capital was defined as the attributes of social organization, such as trust, cultural norms and social networks by which communities facilitate action. Emerging research suggests that social capital might have an important role to play in effective community-based urban solid waste management initiatives. Empirical evidence suggests that communities with a high level of social capital are in better shape to organize a community-based urban solid waste management project, if the other factors remain supportive.

This dissertation seeks to place the concept of social capital in the practice of urban solid waste management, especially at the community level as well as on a wider philosophical and policy levels. The intention here is to advance the understanding of social capital both in relation to its nature as a quality of community life and in terms of its significance as an instrument in the hands of the agents of change. Therefore, this research examines the degree to which social capital and community-based organizations are important in the overall functioning of urban solid waste management at the community level in Ibadan, Nigeria. The main objective of the research was to explore the role of social capital in community-based urban solid waste management and to understand why people participate in voluntary associations for the provision of common goods in Ibadan, Nigeria. This objective is pursued in three specific dimensions: (i) to understand and document the feature of the current solid waste management system in Ibadan; (ii) to explore the extent to which social capital affects community-based urban solid waste management success; (iii) to identify other elements that could facilitate successful urban solid waste management at the community and institutional levels.

This study adopts both quantitative and qualitative approaches using multiple data gathering techniques (e.g.) semi-structured face-to-face interviews, direct field observation, focus group, and information sections; conversations with community leaders, key informants, government officials and waste generators to gather different but relevant information and data. The secondary data includes data on waste management from Oyo State Solid Waste Management Authority (OSSWMA) and valuation data from the office of Sustainable Ibadan Project (SIP). The quantitative section of the research encompasses 66 core questions on Social Capital via Integrated Questionnaire. The structured questionnaire measures various elements of social capital using four proxies. The data set covered 7 communities and 385 households and the basic unit of analysis was the neighbourhood.

Major findings from the study include: (i) No evidence suggesting that homogeneity is a virtue for collective action in urban solid waste management at the community level nor is there evidence suggesting that homogeneity increases civic engagement in the communities studied. (ii) Empirical evidence suggests that to a great extent, social capital can influence the success of community-based urban solid waste management initiatives. However, social networks among private and professional associations, the density and diversity of social network differ within and between

communities. (iii) Empirical field observation results show that social capital had positive influence on the success of community-based urban solid waste management in Bodija, Ayeye, and communities. (iv)The study results indicate that the residents of Agbowo, NTC Road, Foko, and Sasa communities failed to establish community-based USWM initiatives for a range of reasons. Some of the reasons include the paucity of face-to-face interactions among households; resident's cultural and behavioural differences, lack of charismatic leadership and lack of cooperation among community members. (v) The study results and direct field observations also suggest that there is high-level of social capital among individuals involved in urban solid waste management at the community level in the city of Ibadan. (vi) Field information/observations from Ayeye, Bodija, and Alesinloye communities reveal that social networks and interpersonal relationships were constructed along the line of local identity among the residents. (vii) Empirical findings suggest that the presence of a network of ties based on acquaintances, business partnerships, religious groups, and people from the same region, living in the same community, serve as a foundation for building social relations.

The study concluded that Putnam's generalization and conceptualization of social capital is not completely or equally applicable to different social and political environments. Therefore, it needs to be contextualized according to local problems in order to obtain the gains. The research also reveals that social capital alone is not enough to form community-based urban solid waste management projects in Ibadan, Nigeria. It works well with other elements such as collaborative, incremental planning and community capacity building.

Acknowledgements

Dedication

To the memories of my late father Oke Idemudia and my beloved mother Osatohenwen OViasogie who in their lifetime toiled to put me through school.

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Acronyms and Abbreviations

BECA	Bureau of Education and Cultural Affairs
CBMW	Community-Based Waste Management
CBOs	Community-base Organizations
CCIs	Comprehensive Community Initiatives
EPC	Environmental Protection Commission
ESS	European Social Survey
GIE	Groupment d'Interet Economique
GRAs	Government Reservation Areas
HYSACAM	Hyduene et Salubrite du Cameroom
ICC	Ibadan City Council
IMG	Ibadan Municipal Government
ISWMA	Ibadan Solid Waste Management Authority
IUSC	Ibadan Urban Sanitation Committee
IWDB	Ibadan Waste Disposal Board
IWMA	Ibadan Waste Management Authority
KKK	Ku Klux Klan
LDCs	Less Developed Countries
LGA	Local Government Area
LISC	Local Initiatives Support Corporation
MTNF	Mobile Telecommunication Nigeria Foundation
MSE/COOPs	Micro and Small Enterprises and Cooperatives
NGOs	Non-Governmental Organizations
NIMBY	Not In My Back Yard
NINAAFEH	Nigeria Network for Awareness and Action for Environmental Health
OECD	Organization for Economic Co-operation and Development
OSSWMA	Oyo State Solid Waste Management Authority
PPPs	Public-Private-Partnerships
PRCs	Private Refuse Contractors
PSOFP	Pace Setter Organic Fertilizer Plant
SCAT	Social Capital Assessment Tool
SCI	Social Capital Initiative
SC-IQ	Social Capital and Integrated Questionnaire
SIP	Sustainable Ibadan Project
SME	Small-Micro Enterprise
SMRD	Sewage and Refuse Matters Department
SPSS	Statistical Package for the Social Sciences
SSW	Sanitation and Solid Waste
SWM	Solid Waste management
SWIP	Public Municipal Waste Incinerator Projects
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations International Children's Educational Fund
USAID	United States Agency for International Development
USWM	Urban Solid Waste Management

WVA-WWCA   World and the European Value Surveys

Chapter 1
Introduction to the Study

1.1 Introduction and Content for Research

Planning for effective urban solid waste management (USWM) is one of the most serious problems confronting many growing cities in the world, particularly cities in the developing countries. It constitutes a nuisance to urban environmental quality in those parts of the world. Over the last two decades, many urban centres have experienced dramatic growth; the world's economies have been transformed by a combination of rapid technological and political change, as well as rural-urban migration inter-alia (Bugliarello, 2006; Cohen, 2006). Urban centres are presently home to nearly half of the world's population and over the next three decades most of the two-billion-plus person increase in global population is expected to happen in cities in the developing world. This presents a vital departure from the spatial distribution of population growth in the developing world that occurred over the past four decades, which was much more evenly distributed between urban and rural areas. The scale of world urbanization today and the number and size of the world's largest urban centres are unprecedented in recorded history. At the turn of the twentieth century, only 16 cities in the world – the vast majority in developed industrial nations, had a million or more population.

Currently, almost 400 urban centres are inhabited by a million or more population and about 70 percent of them are located in the developing world (Cohen, 2006; Mongkolnchaiarunya, 2005). For the first time in human history in 2007, more people in the world were living in cities and towns than were living in rural areas and by 2017, only a few people will likely be living in rural areas in the developing world (Cohen, 2006; United Nations, 2003). Government officials have attributed this emerging shift in rural-urban population dynamics to unequal development and the neglect or absence of rural infrastructure.

In recent years, residents in many communities and neighbourhoods in urban centres in developing countries, frustrated by the situations and the inability of their municipal governments to provide adequate services, have initiated some innovative community-based programs to ameliorate

the environmental conditions of their neighbourhoods (Adama, 2007; Adeyemi & Adeyemo, 2007; Ahmed & Ali, 2004; Hasan & Khan, 1999; Olaseha et al. 2005). Urban solid waste management in some major cities in Less Developed Countries (LDCs) cannot be separated from the presence and function of neighbourhood associations. These associations perform waste collection on a daily basis as well as keep their respective areas clean by employing their own waste service workers (Pasang, et al., 2007).

Community or neighbourhood-based urban solid waste management is a promising solution for many cities in such places (LDCs) because it is more applicable and appropriate in their context where many other strategies have been tried with minimum success (Parizeau et al., 2008; Pasang, et al., 2007). The failure of prior strategies can be attributed to over-dependence on costly western technology intensive waste management techniques. Utilizing this high-end technology method failed because it was centrally organized, heavily subsidized, lacking in community cooperation, and is reliant on disposal. The best way to enhance waste services is to improve and empower the organizations that already exist and are acceptable to neighbourhood residents (Pasang, et al., 2007).

The manner in which 'community or neighbourhood' is conceptualized in USWM is crucial to the manner in which community is used as an agent of waste planning and management. Two distinct discussions can be identified, the "proximity" of community to environmental problems, in contrast to the remoteness of government, render community-based approaches potentially better agents in waste management. As Lane and McDonald (2005, p.713) put it, local communities should have a greater say in ecosystem management than national groups because solutions will only "emerge from a local process of dialogue and debate." The dedication of local communities to place, and their sense of attachment ensure that they have both the motivation and knowledge to effectively manage waste in their localities. There is an ethnical dimension in empowering communities to address environmental problem; it is important to restore harmony and balance between ecological and human systems (Lane & McDonald, 2005).

The importance of community participation in urban solid waste management in developing countries is well recognized and documented in the literature. There are a number of successful case studies of community involvement in urban solid waste management particularly in Less Developed Counties (LDCs) including, the works of Kironde and Yhdego (1997), Parrot et al., (2008), Rathi

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(2006), Mongkolnchaiarunya (2005) and Pasang et al., (2007). Evidence also shows that a substantial reduction in the cost of waste management with community involvement was achieved due to separation of waste at source, which in turn, led to a decrease in the requirement for community bins and transportation of waste to its final destination (Rathi, 2006).

In a situation whereby the municipality or the agency responsible for the provision of urban solid waste management services to the general population are unable to provide such services, community-based waste management seems to be a viable alternative. Evidence shows that urban communities generally are in good position to preserve rural traditions of mutual self-help and cooperation, which essentially promote the potential for community-based urban solid waste management initiatives (Schübeler, 1996). In the City of Ibadan, Nigeria, the municipalities are hardly functional and lack the capacity to effectively and efficiently plan for urban solid waste management due to a host of socio-economic, financial, technical, and institutional constraints. For example, the Oyo State Solid Waste Management Authority, the agency officially responsible for the management of urban solid waste in the city of Ibadan, is not able to provide such waste services to all residents in the city for numerous reasons. The Authority faces serious obstacles like human, technical, and financial resources that would enable it plan effectively for waste management in the metropolis. As such, there is an urgent need to have another agency, public or private, capable of shouldering that responsibility.

In light of the above problems, many scholars among them Kironde and Yhdego (1997) proposed community-based solid waste management techniques for wider adoption. It is suggested that the strategic approach to the non-conventional technique should be done in sequence in the form of incremental planning processes: elaboration, trial, evaluation and extension to other neighbourhoods or communities. These processes can only be achieved at the community or neighbourhood levels, not on a broader scale or regional level. This is where community participation proves to be very important in the management of urban solid waste in a city struggling to extend services to cover the entire cityscape. Communities or neighbourhoods are geographically defined areas within urban centres, are viable, recognizable units of identity and action. They are therefore the appropriate center for planning and delivery of community-based urban solid waste management projects. In addition, there are good reasons for choosing community or neighbourhood as the locus of intervention for

urban solid waste management initiatives, including: (i) the issue of empowerment, control and responsiveness; (ii) the need to work within a manageable scale or unit of operation; (iii) concerns about comprehensiveness, and the need to target a particular group or population.

1.2 Theoretical Framework

The theoretical framework that informs this study integrates three important fields of inquiry. *Social capital* in the traditional literature and policy arena is a way of speaking about how social relations within a community can affect a community's capacity to get residents involved in a collective action and share resources. The *literature on planning theory* and its implications for urban solid waste management. Importantly, the dissertation seeks to understand the links between planning theory and social capital research in urban solid waste management. Its main elements are social or organizational activity, orientation and identification of desirable futures, goal and problem solving accompanied by the resources and power necessary to achieve implementation. Planning theory contributes to governance through strategic long-term integrated policy development. The literature on *community and community-based organizations* particularly as it relates to urban solid waste management, is also relevant. Households and community-based organizations (CBOs) have vital functions to play not just as consumers, or users of waste collection services, but as providers and/or managers of community level services.

1.3 The Research Problem

The increasing rate of uncontrolled and unplanned urbanization in the developing world, particularly in Africa, has resulted in environmental decay and degradation. Part of the underlying causes of this problem is inefficient waste management services. In fact, one of the main concerns of urban expansion in developing countries, particularly in Nigeria, has been the issue of urban solid waste management. Current activities in major cities in the country demonstrate that the issue of urban solid waste management has become more significant than ever. Till date, the problem has resisted every endeavour by various levels of government to mitigate, despite technical and monetary assistance flowing from the World Bank and the United Nations in this regard. Elsewhere in the less developed world, the situation differs slightly. There have been modest success reports from Asia in recent years; the concept of social capital has been applied to urban solid waste management in some of the countries through the establishment of community-based initiatives to address waste problems in their communities. Putnam (1993, p. 167) defines social capital as the "features of social

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organization such as networks, norms and social trust that can improve the efficiency of society by facilitating coordinated action." As such, the appeal of 'social capital' in the urban community context is particularly powerful, both in research and in practice. It is not surprising that scholars, practitioners, policy-makers, and advocates in the discipline of community development have courageously appropriated the idea and incorporated it into their own work (Mayer, 2003). Notably, the innovative power of the city, neighbourhoods and community-based initiatives are increasingly viewed from the standpoint of the social capital everywhere including the Unites States (Mayer, 2003).

Today, there are certain common notions found in the academic literature about how urban solid waste management should be planned and managed, and these have relevance for Nigeria. National governments are expected to formulate policies and establish institutional and legal frameworks, while municipal governments are expected to provide or manage urban solid waste collection and disposal services (Schübeler, 1996). The private sector and community-based organizations are more favorably disposed to the management of the sector through collaboration and partnerships, while cooperation is required from people or households in areas of payment for services and proper waste management practices (Schübeler, 1996). However, the present condition in Ibadan does not reflect this trend, and at least one part of the problem is thought to be the lack of capacity and social capital found in community organizations or groups responsible for urban solid waste management. Therefore, one of the major problems to be addressed in this study is to explore the role of social capital in community-based waste management and to understand why people participate in voluntary associations for the provision of common goods. In addition, to examine the degree to which social capital and community-based organizations are important in the overall proper functioning of urban solid waste management at the community level in Ibadan.

1.4 Research Objectives

The objectives of the study are:

    (1) to explore the extent to which social capital affects community-based urban solid waste management success in the literature,

    (2) to identify means that could facilitate successful urban solid waste management at the community and institutional levels, and

(3) to understand and document the current solid waste management system in Ibadan.

In line with these objectives, the expected results of this study will illustrate that: the propensity to organize a community-based urban solid waste management project is higher in the neighbourhoods where relatively high levels of social capital exist. On the other hand, the tendency not to organize a community-based urban solid waste management project is lower in the neighbourhoods where relatively low levels of social capital exist.

1.5 Research Questions

The following research questions are designed for mapping the central interest of the study:

(1) Is there any links between planning theory and social capital research in USWM?

(2) What is the extent to which social capital does or does not condition the success of community- based urban solid waste management initiatives?

(3) How does heterogeneity, and the conditions of social capital that stem from this, promote or inhibit the operational success of community-based urban solid waste management initiatives?

(4) Is there any relationships between social capital and the formation of community-based USWM initiatives in Ibadan?

1.6 Relevance/Significance of the Study

In Sub-Saharan Africa, numerous social capital studies have examined the social relationships among entrepreneurs and manufacturers in different contexts, but have not extended research to encompass the theme of waste management. In general, many scholars view social networks as significant contributors to capacity building, technological change, and industrial development in the region (Mytelka, 1993; McCormick, 1996; Pedersen, 1996). Others have focused more specifically on the positive and negative features of business networks in Sub-Saharan Africa, Yankson's (1996) study of the Ghanaian aluminum industry and McDade and Malecki (1997) found an effective system of mutual assistance and information sharing among entrepreneurs in Kumasi, Ghana. Ongile and McCormick's (1996) study of the garment industry in Nairobi demonstrate the problems of weak social ties among manufacturers. Also, King (1996) has documented the collective efficiency of informal sector manufacturers in Kenya; Seierup (1996) found strong social ties among entrepreneurs in rural Kenya. In addition to this, Tripp's (1997) exploration of petty trade and informal businesses in Dar es Salaam demonstrates the importance of cooperative networks for the

survival of micro-enterprises in Tanzania and Francis et al (1998) documented the role of social capital in primary schools across Nigeria. The aforementioned slew of studies indicates a lack of relevant literature focused on the field of community-based municipal solid waste management and social capital in Africa in general and Nigeria in particular. Therefore, an in-depth study to explore the role of social capital in the growth of community governed solid waste management initiative would be timely and significant to help fill the existing research gap in the sub region.

In order for any community-based waste management initiatives to be successful, it requires strong public and private participation and the adoption of suitable management practices at the community level. Such an effort is likely to be strengthened through the use of participatory process. The overall aim of a community-based waste management initiative is to promote environmental sustainability, health, and safety of community members within their neighbourhoods. Environmental sustainability, and health, in this regard refers to the physical, mental, and social well-being of the community in harmony with the natural make up of the that community (WHO, 2004). It is understood that social capital and solid waste management are relatively less explored and are less attractive areas of study to the social science researchers in Nigeria. Plausibly because urban solid waste issue is not a research priority compared to other research areas and is unlikely to attract research awards and grants from the governments or other funding authorities. Therefore, it demands due consideration now and henceforth. It is hoped that this study will contribute towards specifying the role of social capital to promote or discourage community capacity to organize and manage their solid waste and other relevant environmental problems.

1.7 Organization of the Thesis

The chapters in the thesis reflect the principal themes in this study. No chapter is completely independent or self-contained. Rather, a continuous flow with cross-references to other chapters and materials is presented throughout. Chapter 1 provides introduction to and an overview of the study, the research problem, objectives, and questions of the study and the general idea of the study area. Chapter 2 sheds light on urban solid waste management in developing countries. Chapter 3 explores planning theories that are relevant to management of urban solid waste and illuminates social learning and its role in environmental management, and community and institutional capacity building. Chapter 4 presents the theory of social capital used in this thesis. How the theory has been made operational and contextualized is also presented. In chapter 5, the methodology employed in the research is discussed. Chapter 6 discusses the current state of urban solid waste management in

Ibadan. Chapter 7 presents the data collected through interviews, questionnaires, field observations, and secondary documents. Chapter 8 indicates and discusses the findings of the research work on the basis of the descriptions and interpretations drawn on the earlier chapters. Chapter 9 draws conclusions based on the research results, discusses both planning policy and academic implications, and suggests directions for future research.

1.8 Overview of Study Areas

Ibadan was founded in 1829 as a war camp for warriors coming from neighbouring towns such as Oyo, Ife, and Ijebu as a result of the collapse of Oyo kingdom. It quickly became the largest Yoruba city-state during the period up to its incorporation into the British Empire in 1893 (Onibokun and Kumuyi, 1999). It is now one of the largest indigenous cities in tropical Africa and the capital of Oyo state, one of the 36 states in Nigeria. Politically, Ibadan was chosen as the headquarters of the Western Province in 1939, which ultimately became the Western Region of Nigeria in 1952 (Mabogunje, 1962, 1968). The importance of Ibadan was further augmented in 1948 by the founding of the University College which later became the University of Ibadan. In addition, the construction of roads and railway links to the city helped attract people from other parts of Nigeria to settle in Ibadan. Over the years, as the railway network grew and the road system extended, more and more people moved into Ibadan from catchment areas such as Efiks, Ibibios, Ibos, and Ijaws from the east; Edos, Ishans, and Urbobos from the mid-west; and the Hausas, Igbirras, and Nupe from the north (Mabogunje, 1962).

Currently, there are 11 local government areas (LGAs) in Ibadan metropolitan area, five are located in the core areas of the city while the rest are located in the periphery. The study was conducted in 7 communities embedded in 6 municipalities. Agbowo and Bodija communities are located in Ibadan North Local Government Area of the city while Ayeye community is located in Ibadan North West Local Government Area. Foko community is situated in Ibadan South West Local Government Area of the city. Alesinloye and Sasa communities are located in Oluyole and Akinyele Local Government Areas and are both located on the fringes of the city, while NTC Road community is located in Ibadan North East Local Government Area. The 11 municipalities, as officially delineated, are represented in the map below. The monthly rainfall in Ibadan is estimated to be 123.05 cm (average of 46 years). The city is traversed by eight major streams/rivers. Importantly, the city is zoned into three socio-economic categories: (a) high income/low density (529,739 inhabitants), (b) medium income and medium density with population of (953,419), and (c) low income/high

density with a population totaling (1,811.790). Institutional areas include office areas, schools, tertiary educational institutions, local markets, taxi parks, and hospitals (101,030 populations).

Figure1. Map of Ibadan Showing the Eleven Local Government Areas
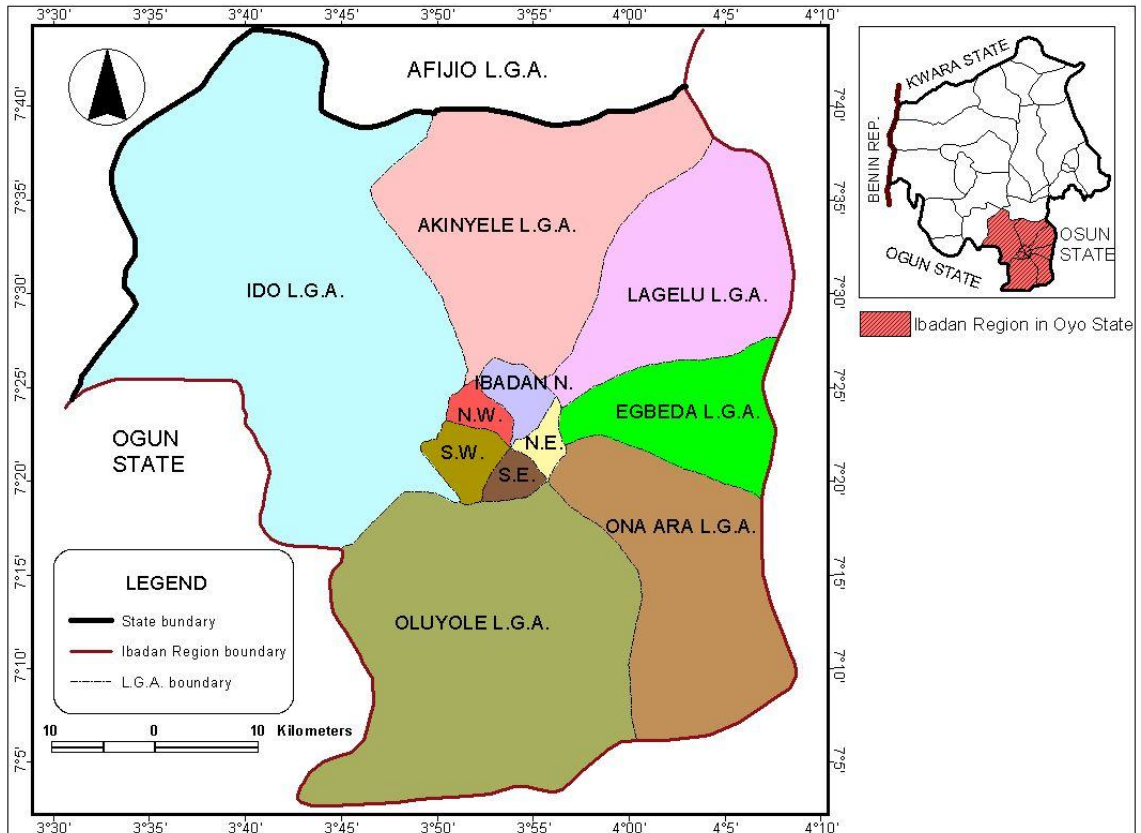
Source: Ministry of Lands and Housing, Ibadan, 2008

The city has grown from an inner core consisting of narrow roads, unplanned residential areas and inadequate amenities. The post-independence period witnessed a rapid growth in transitional areas characterized by modern architectural designs, improved road networks, aesthetic space and amenities. Further growth led to peripheral areas where the Government Reservation Areas (GRAs), Estates and Institutions were developed with their own improved social amenities such as clean water, private power supply, market and health facilities. The typical Nigerian city differs from cities in South America or Asia in the sense that the poor still remains in the inner core areas and development takes place away from the core towards the periphery (Ayorinde et al., 2010; Mabogunje, 1962). The landscape of the region is an undulating plain characterized by scattered knolls, hills, and a couple of

ridges. The general elevation of the city is 170 to 200 meters above sea level while the hills and ridges range in height from 215 to 275 meters. There are three main residential areas in the city of Ibadan ranging from high-density residential development (200 persons per hectare) in the inner core to medium density residential development (120 persons per hectare). Finally, there is the low-density residential development area (60 persons per hectare) mostly found at the outskirts. Approximately about 70 per cent of the population lives on an annual income of less than N65, 000 about ($400), –an instance of a place in modern times in which people vegetate below the UNO defined poverty line.

The city of Ibadan occupies a total area of 160.45 square kilometers with a population estimated to be over 2, 550, 592, growing from about 60,000 in 1851 as shown in Table 1. Ibadan is well known for its excellent medical facilities, particularly the University College Hospital with 1500 beds, by sub-Saharan African standards. Patients come from all over the country to patronize these facilities. To supplement the teaching hospital, there are about 400 registered private healthcare facilities in the metropolitan area.

Table 1.1 Population of Ibadan From 1851-2007

Year	Total	Year	Total
1851	60,000	1952	459,196
1891	120,000	1960-63	600,000
1911	175,000	1991	1,228,663
1921	238,094	2006	2,550,593
1931	387,133	2007	2,550,593

Source: The author, 2011

This dissertation seeks to place the concept of social capital in the practice of urban solid waste management, especially at the community level as well as on a wider philosophical and policy levels. The intention is to advance the understanding of social capital both in relation to its nature as a quality of community life and in terms of advancing its significance as an instrument in the hands of the agents of change. Therefore, the objective of the research is to examine the degree to which social capital and community-based organizations are important in the overall proper functioning of urban solid waste management at the community level in Ibadan. In line with this objective, the expected result of the research will show that the tendency to organize a community-based urban waste

management project is higher in the neighbourhoods where relatively high levels of social capital exist. On the other hand, the tendency not to organize a community-based urban solid waste management project is low in the neighbourhoods with low levels of social capital.

Chapter 2
Literature Review

2.1 Introduction

This chapter highlights various perspectives on municipal solid waste planning and management with a focus on developing nations. The chapter is divided into four parts. Part 1 sets out to examine two important concepts pertinent to this research: the concepts of community and neighbourhood as they relate to urban planning. The section also examines ethnic diversity and heterogeneity in a Nigerian society and associational life in urban Nigeria. Part 2 presents available literature on the importance of values and the conversion of waste materials from two different perspectives. It also examines the literature on the historical view of waste management in traditional Nigerian society. Finally, part 3 investigates urban solid waste and planning in developing countries, and the new paradigm in urban solid waste management.

2.2 What is Neighbourhood?

Government, private foundations, non-governmental organizations, local services, and development agencies are focusing substantially on intervention action at the neighbourhood level. The assumption here is that neighbourhoods are geographically defined areas within urban centres, are viable, recognizable units of identity and action. They are therefore the appropriate center for planning and delivery of various urban services and activities (Chaskin, 1997, 1998; Forrest & Kearns, 2001). Although there is strong consensus among scholars that neighbourhoods or communities are viable units of action, the operational definitions of these units vary enormously. The social science literature that addresses definitions of neighbourhood revolves around three standpoints: "the neighbourhood as a social unit, the neighbourhood as a spatial unit, and the neighbourhood as a network of relationships, associations, and patterns" (Chaskin, 1998, p. 12).

One historical definition of neighbourhood provides a clutch bag of possible components that might distinguish individual neighbourhoods in the broader metropolitan landscape. According to Chaskin (1997, p. 523), neighbourhoods are regarded as:

> Distinctive areas into which larger spatial units may be subdivided….The distinctiveness of these areas stems from…geographical boundaries, ethnic or cultural characteristics of the

inhabitants, psychological unity among people who feel that they belong together, or concentrated use of an area's facilities for shopping, leisure, and learning.

In the urban context, the neighbourhood is often thought of as a primary unit of real and potential solidarity and social cohesion. Urban neighbourhoods continue to play essential, but more specialized roles in people's lives and well-being in parallel with increased extra neighbourhood organizations. Just as the role of family, work and other areas of social life are being altered, so too is the role of the urban neighbourhood (Forrest & Kearns, 2001). Its traditional role as an arena for extended domestic actions such as shopping and laundry is now displaced as these roles are done either at the home or beyond the neighbourhood. In the same vein, the neighbourhood may actually become more essential as a focal point for recreation and relaxation in urban centres. In the logic that the neighbourhood becomes an extension of the home for social purposes and hence crucially vital in identity terms: 'location matters' and the neighbourhood becomes part of our daily statement of 'who' we are (Forrest & Kearns, 2001).

It is essential not to view the neighbourhood as a mere territorially bounded unit but as a series of overlapping social networks. There is no need to underrate the significance of physical alteration, physical boundaries and local landmarks in producing a sense of belonging and identity. Forrest and Kearns (2001) has noted that the differences between neighbourhoods may sometimes be understood as the difference between the form and substance of social networks. That "it is these residentially based networks which perform important functions in the routines of everyday life and these routines are arguably the basic building-blocks of social cohesion – through them we learn tolerance, cooperation and acquire a sense of social order and belonging" (Forrest & Kearns, 2001, p. 2130).

The problems of urban centres and specifically the problems of the level of poverty in low-income neighbourhoods in urban centres are major concerns for societies' cohesion. There is a common understanding that there is less social cohesion in some disadvantaged neighbourhoods due to lack of the qualities and characteristics which create and sustain social cohesion. Furthermore, the very poor in disadvantaged neighbourhoods are disconnected from mainstream society (Forrest & Kearns, 2001). Nevertheless, Pahl (1991, p. 345) observes that:

In the search for social cohesion there is a consistent tendency for some sociologist, both classical and contemporary, to become prophétes manqués. They regularly affirm that there has been some fall from grace and that the morality of their times is confused and

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impoverished. The golden age of traditional morality is, typically, not very precisely described and nor, for that matter, are the future consequences for society.

One can infer from the foregoing section that these occasional predictions of cohesion and crisis typically rest on postulations that the social cohesion of a previous period is eroding and that we are being collectively cast adrift in a world in which the former rules or social interaction and social integration no longer apply (Forrest & Kearns, 2001). As we entered triumphantly and gallantly into the age of the industrial city with the social fabric in confusion, so too have we entered the information age. Information technology, a new form of social networks and a greater variability and superficiality in social contact are further corroding the residential bonds of spatial immediacy and kinship (Forrest & Kearns, 2001).

The terms themselves are the root of some confusion, and the distinctions between them are often unclear. Community means connection: some combinations of shared beliefs, circumstances, priorities, relationships, or concerns (Chaskin, 1997; Forrest & Kearns, 2001). The networks of association that bind individuals of a given group to one another as a community may or may not be grounded in place. To illustrate, ethnic and religious communities are bound by cultures and belief. Furthermore, common interests, circumstances, or priorities bind professional communities and other "communities of interest." In either case, the community described may be more or less formalized through such local institutions as churches or social clubs or organizations such as professional associations (Chaskin, 1997).

As housing mobility and the heterogeneity of urban populations increased, connections among people deteriorated and resulted in increased dependence on secondary rather than kinship bonds (Wirth, 1938). At the same time, segregation of the workplace from the residential neighbourhood and technological advances, specifically in the disciplines of telecommunication and transportation are seen to have pushed the disconnection between residence and workplace at the local level because they literally "freed urbanites from traditional spatial constraints and expanded their range of social choices" (Lee et al. 1984, p. 1163).

Healey (1998) opines that neighbourhood provides an essential scale for studying the social relations of "everyday life-world." It is this setting that the neighbourhood provides an essential focus, viewed not as socially and spatially integrated 'gemeinschaft' community…as a key living space through which individuals get access to material and social assets, across which they pass to

reach other opportunities and which symbolizes aspects of the identity of those residing there, to themselves and to outsiders. The above conceptualization of the 'neighbourhood' as a 'living space' clearly demonstrates both social and spatial dimensions. Davies and Herbert (1993) provide an essential distinction, in the setting, between 'neighbourhood' and 'community' in their argument for the continuing relevance of communities in urban environment.

2.3 Community what is it?

The notion of 'community' was far removed from the field of sociology in the 1960s, for various reasons, yet it has continued to be used in related disciplines of social policy and 'community development,' and if anything has implicit growing importance within political debate (Bhuiyan, 2005). Like many other terms in social science literature, there is no consensus among scholars on the definition or what constitutes community. For example, Max Weber (1968) defined an urban community as "predominance of trade-commercial relations in an area" (as cited in DeRienzo, 2008, p. 182). On the other hand, Wendell Berry (1993) defined community as the "locally understood interdependence of local people, local culture and local economy" (as cited in DeRienzo, 2008, p. 182). Some definitions of community take on relational dimensions in which "community implies connection: some combination of shared beliefs, circumstances, priorities, relationships, or concerns" (Chaskin, 1997, p.522). The networks of linkages that bind people of a given group or locality to one another as a community may or may not be grounded in place. For example, ethnic and religious communities are bound by same culture and systems of belief; while common interests, situations, or priorities linked professional communities and other "communities of interests" (Chaskin, 1997). In another definition by Khan (1999, p.233), a "community is regarded as an undifferentiated entity unified for common action by its needs/demands."

Others see community as a geographical boundary or groups of people who have similar interests, purposes, or values (Falk & Harrison, 1998). Some scholars classify communities as a learning organization (More & Brooks, 1996), as an area of development (Shortfall & ShuckSmith, 1997) or as a group of pro-active people (Topolsky, 1997). As Chaskin (1997) argued, local communities are place based; they are not regarded as simply geographically bounded subdivisions of land. They are units in which some set of linkages is concentrated, either social linkages (such as in kin, friendship, and acquaintance networks); functional linkages (such as the creation, consumption, and transfer of goods and services); cultural linkages (such as religion, tradition, or ethnic identity); or situational linkages (such as economic status or lifestyle). In both the local community and the

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community of concerns, it is the existence of some type of communal linkage among people – it does not matter whether or not such linkage is locally based, and provides the opportunity for group identity and collective activity (Chaskin 1997).

Interestingly, Davies and Herbert (1993) favour the definition of "place-based communities," however, they acknowledge that these are more intricate and more difficult to describe than 'neighbourhood'. Communities, regarded as area within urban centres, are collective units that have a physical plan, particular land uses and amenities, such as shops and places of worships, and contain individuals with different features such as gender, family, age, and ethnicity (Meegan & Mitchell, 2001). On careful examination, it appears that the sense of community is restricted to small cluster of neighbourhoods, who cooperate with each other (Bhuiyan, 2005). These definitions of community are somehow ambiguous, because they do not properly consider some important questions such as: (a) what influences people to organize or establish a community? (b) Are the communities lobbying the state or local municipality to attain or fulfill a common interest?

To sum this up, the term, community in this dissertation, means a group of people who interact directly, frequently and in multi-faceted ways. Thus, it is an interacting segment of population living within the purview of a particular territorial boundary with shared common beliefs and culture. Despite the existing slight conceptual distinctiveness between the concept of neighbourhood and community, this dissertation uses the terms interchangeably to refer to a specific region inhabited by people who share not only common interests, but also bonded with closely similar social, political, values, beliefs and cultural attachments.

2.4 Ethnic Diversity and Heterogeneity

There are numerous theoretical and empirical studies asserting that racial diversity seriously demoralizes a sense of community and social cohesion (Letki, 2008). For example, Alesina and Ferrara (2002, p. 225) point out a very powerful negative relationship between racial diversity and levels of interpersonal trust across the United States. To clarify this pattern they refer to the "natural aversion of heterogeneity." In one of their studies, they argue that diversity has a negative impact on social interactions among people and note that, "in our model individuals prefer to interact with others who are similar to themselves in terms of income, race, or ethnicity" (Alesina & Ferrara, 2000, p. 850). Their works have been corroborated by other researchers including Costa & Kahn, 2003; Putnam, 2003. In the same vein, fears about the overpowering and negative impacts of diversity on

social cohesion and national identity have been a major concern for some journalists and policy-makers alike in modern Britain (Letki, 2008). For instance, David Goodheart, editor of *Prospect* wrote an article in February 2004 that focused on the detrimental impact of ethnic diversity in Britain, on the sense of community and solidarity among individuals and on the practicality of the British Welfare State (Letki, 2008). He said that individuals will always favour their own families and communities; however, it is the responsibility of a realistic liberalism to strive for a definition of community that is broad enough to embrace people from different racial backgrounds, without being so broad as to become worthless.

Ethnic identity is one of the many urban social problems in Nigeria. The country is a complex society, having as many as 400 ethnic groups with varying socio-religious values and belief systems as well as traditions and cultural practices (Otite, 2000). People use their ethnic ties to achieve their objectives, whether these are in housing, employment, scholarships, admission to secondary and post secondary institutions, or political appointments. To illustrate, an Edo, Yoruba, Igbo, Hausa, or Calabar person who needs something from the state government "may be quite aware of the official procedure to secure it, nevertheless, he/she is also aware that things are done unofficially through the strategic use of ethnic, friendship or pecuniary ties" (Igwara, 2001, p. 87). Consequently, ethnic ties often hold together the different levels of the Nigerian society –from the economic to the social-political. A renowned scholar in Nigeria defines ethnicity as "the employment or mobilization of ethnic identity and difference to gain advantage in situations of competition, conflict or cooperation" (Osaghae, 1995, p. 11). Likewise, Ukiwo (2005) notes that ethnicity is the conduct of ethnic groups. Ethnic groups are groups with assigned membership often based on claims or falsehoods of common identity, history, ancestry, language, race, religion, and culture.

In Nigeria, to some degree, the statement that Nigeria is a collection of citizenship characterizations is another way of noting that the post-colonial nationalist scheme has been a fabulous failure (Kraxberger, 2005; Otite, 2000). Core to the philosophy and practice of citizenship in Nigeria are the notion of "indigenes," "strangers," and "homelands." One's status as an "indigene is based on biological and ascriptive characteristics, and a person can only be an indigene of one area" (Kraxberger, 2005, p. 18). This means whenever a person lives outside his or her local area of patrilocal ancestry, that individual is viewed as a "non-native," even if the individual was born in that community or has lived there for decades. At present, there is no means for non-natives to become "naturalized" natives or indigenes. The designations of native and non-native status are paramount

since they are closely linked to citizenship practices and rights. In fact, the intentional favouring of natives over non-natives is so pervasive that Nigerians often refer to these practices as "statism" (Kraxberger, 2005). A person's best chances are in his state of origin or his state of patrilocal ancestry. However, economic advancement is unequal; cities like Lagos, Abuja, Port Harcourt, Ibadan, Benin and other cities in the southern part of the country are generally in advantaged positions. These cities are administrative and political headquarters in their respective states and are government favoured in terms of economic development. As a result, the majority of Nigerians are seriously disadvantaged in their pursuit of employment in other regions. The practices of indigenization within Nigerian society have led to rivalries, ethnic tensions, and lack of cooperation for local development among Nigerians for decades (Anugwom, 2000; Igwara, 2001; Okolie, 2003).

As mentioned earlier, Nigeria is a complex society, the most influential and populous country in South-Saharan Africa. Many Nigerian politicians and government officials are known for their corrupt practices and decades of diverting the nation's funds to individual bank accounts in the western world (Eddy & Akpan, 2008). As a consequence of this malpractice, it has become an open secret in Nigerian cities that there is an association "between environmental corruption and the country's political corruption" (Werlin, 2005, p. 75). In every nation where corruption prevails, it undermines every area of policy implementation. In other words, the political process cannot be carried out for the purpose of development or improving the quality of life and neighbourhood improvement. Thus, Nigeria as a nation can be characterized as a distrusting nation and its citizens have lost their hopes and aspirations to a significant degree. In spite of its wealth, the country's public servants are under paid; they may work for months without salaries and this often results in briberies and other corrupt acts. For example, you just cannot walk into a public office in Nigeria hoping to get your file signed without paying money to the person in charge of the file (Werlin, 2005). Politically appointed office holders who have to buy their way into positions are tacitly permitted to use these positions as an avenue to recuperate their losses and accumulate personal wealth. It is more or less a perpetual arrangement. Nigeria is not a trusting society because of its ethnic diversity; people from different ethnic groups are often disinclined to work with each other. For example, the Hausa-man/woman will not trust a Yoruba-man/woman and will not likely work with him/her to effect any change. This is also true of an Ibo-man/woman who will not trust an Edo-man/woman. As a result, it is not clear at this point the role that trust will play in community-based solid waste management projects in Nigeria.

Heterogeneity in its various shapes (class, race, religion, ethnicity, and gender) is prevalent in major cities and can impact collective actions in many ways. As already mentioned, it is argued that heterogeneity can weaken social cohesion between groups and hence reduce the possibility of collective action, (Adama, 2007; Andrews, 2009). On the other hand, heterogeneity within groups, communities or neighbourhoods has been seen as a key factor in collective action and natural resources conservation (Ballet et al. 2007). Moreover, others have argued that, it is not necessary for people to know each other to feel that they are part of the neighbourhood or community (De-Shalit, 2000; Mayer, 2003). However, one way in which this is pertinent is through the impact of social capital. The influence of community heterogeneity on social capital creation has featured in the literature. The assumption is that social capital is likely to be less in heterogeneous communities or neighbourhoods because people have more trust in and feel more comfortable with those who are similar to themselves, in terms of race, ethnicity and social class (Alesina & Ferrara, 2000; Coffé, 2009 ; Knack & Keefer, 1997).

Several empirical studies on heterogeneity and collection activities have dwelled mostly on economic or social (race, caste, and ethnicity) heterogeneity. It has been observed that a negative association does exist between racial/ethnic heterogeneity and the provision of public goods (Leigh, 2006; Mansuri & Rao, 2004). Majority of these studies emanate from developed nations. For example, in fruit-harvesting team on a UK farm, Bandiera et al. (2005) revealed that ethnic heterogeneity is responsible for lower productivity. Across some United States municipalities, Vigdor (2004) noted that higher ethnic fractionalization was to be blamed for a lower rate of completing and returning the 2000 questionnaire on a survey activity that guaranteed important federal money for communities. Exploring the elements that contribute to the establishment of US political jurisdictions such as school districts, Alesina et al. (2004) revealed that racially heterogeneous municipalities are more likely not to cooperate in order to take economic advantages that stems from consolidation (Leigh, 2006).

Other empirical studies on the relationships between diversity and the provision of public goods also originate from Third World countries. Across Indian districts, Banerjee et al. (2005) revealed that more caste or religious fractionalization is correlated with lower levels of public goods provision. Likewise, across neighbourhoods in northern Pakistan, Khwaja (2002) revealed that public infrastructure and facility projects were better taken care of where there is less heterogeneity in terms

of clan, religion and political conflict. Across Kenyan schools, Miguel and Gugerty (2005) found that ethno-linguistic fractionalization is correlated with poor school facilities and poor voluntary fundraising activities (Leigh, 2006). In other cross countries investigation, Easterly and Levine (1997) revealed a negative correlation between ethnic fractionalization and growth, which they linked to ethnic rivalry making it harder for communities to come to consensus on how to access the provision of public goods.

The question then is whether trust can be measured in a country like Nigeria where ethnic rivalries and corruption seem to have permeated every aspect of society. For example, do non-indigenes trust indigenes when dealing with each other? What will be the best indicators for measuring heterogeneity and trust in such a polarized society? Will people actually trust one another for the provision of public goods in the midst of ethnic conflict and ethnic marginalization within the states and community boundaries? In fact, can people of different ethno-cultural and religious background work together in community-based urban solid waste management projects? These are some of the questions that were embraced in the fieldwork for this study.

2.5 Associational Life in Urban Nigeria

Urban researchers over the years focused their studies largely on unveiling the conditions that make communities and neighbourhoods liveable built environments. One of the most pertinent strands of such studies dwelled on analyzing the determinants of residents efforts to maintain the quality of the community and their neighbourhoods (Believed et al. 2009). These actions include both formal types of political engagement and informal governance, consisting of the direct efforts of citizens themselves in the provision of public goods in their communities and neighbourhoods. Notably, urban researchers have put their trust in the possible contribution of civic organizations to the quality of urban environment at the neighbourhoods and community levels (Believed et al. 2009; Fortney & Berry, 1997). This is in part due to their ability to address neighbourhood issues while at the same time linking the local citizenry in various ways. This combination of a public intention with the potential to connect to residents explains why so many urban researchers and policy-makers see increasing roles of civic society organizations, rather than for-profits organizations or governmental agencies as an important component of liveable communities and neighbourhoods (Believed et al. 2009). It is broadly understood that these organizations are in good position to generate solutions that are both effective and democratic and thus are able to ensure the legitimacy of the activities of community governance in general.

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As far back as 1939, N.A. Facia described the relevance of associational life in Nigeria and pointed to four principal areas that constitute associational life – political, religious, occupational, mutual help and conviviality (Barman et al. (1991). These scholars noted that,

> The tendency to form associations and corporations is very strong among the Yoruba tribe. To a large extent it derives from the organization of the people into compounds. They are formed for the purpose of promoting and protecting common interests in the field of politics, economics, religion, recreation and enjoyment…. One interesting result of this tradition of associations is that whenever there is an appreciable community of Yoruba, ether outside Yoruba land or even only outside their own particular communities, an organization will spring up complete with officers. This organization will certainly have judicial functions, and will have its convivial and mutual help features strongly developed (Barman et al, 1991, pp. 460-461).

Other distinguished scholars such as Peter Marries (1961), Kenneth Little (1965) and many others have presented similar findings for other communities in West Africa. Previous empirical works stemmed from sociology and anthropology disciplines, emphasizing their functions in maintaining and promoting ethnic identities and regional loyalties (Barman et al. 1991). The focus was mostly urban and stressed the function of support organizations promoting the entry and assimilation of recent newcomers from the countryside. Some scholars have attributed urbanization to a consequence of associational life, since ethnic organizations and tribal associations provide important resources for newcomers in strange and in most cases hostile urban environment (Barman et al. 1991). In general, associations as they are often called exist in many villages, towns and cities in Nigeria. Some of them have functioned for more than 70 years, starting in the colonial epoch and continuing through the vicissitude of four democratically elected governments and seven dictatorial military administrations (Barman et al. 1991; Francis et al. 1996). The most successful of these have provided wide varieties of basic essential services to residents of neighbourhoods and local communities. In the area of education, they have built primary and secondary schools; provided medical services through building and staffing of medical clinics and hospitals; electricity and telephone poles, water, roads, town halls, and postal services through the construction of the necessary infrastructures (Barman et al. 1991; Francis et al. 1996).

In this regard, some associations have taken on the form and have assumed many of the duties of municipal governments. Membership in the associations is open to all descendants of the community, who may participate in meetings to discuss needs, set priorities, and plan of actions (Barman et al. 1991). Members contribute financially to the running of the associations according to

the levy set by the organizations. However, payment cannot be enforced in the same way as by the state. Nor, in most cases, are members banned from benefiting from the services provided by the organizations if they are unable to contribute. Nevertheless, through instruments of social pressure, including ostracism, these organizations have proved to be very effective at ensuring compliance to their rules and regulations. To some degree, all members comply with the decisions of the group, community organizations make "public policy" though remain private entities. In some instances, they have emerged as the legitimate "apex" of the community's associational life, and in many others, they seek to serve the function (Barman et al. 1991).

In a trend similar to that which unfolded in other places in Africa, initial attempts at "self-help development in Nigeria were a response to the unwillingness and failure of the colonial administration to provide social welfare service widely, and coincided with the rise of African nationalism in the epoch immediately before and after World War II" (Barman et al. 1991, p. 463; Ogbuozobe, 2000). As with the nationalist movements, these attempts were organized by men in their thirties who where highly educated and in better positions to establish community associations. In most cases, these earlier organizers had spent long periods of time outside their communities and often continued to live and work in major cities. These men evolved over time to become local community leaders, later became the "power elite" of their communities and continued to exert influence at the beginning of the 1990s and into the twenty first century (Barman et al. 1991; Francis et al. 1996; Ogbuozobe, 2000).

2.5.1 Values and the Conversion of Waste Materials

Waste in urban centers in developing countries has no important value. Consequently, the full potential of urban solid waste is not being realized. Instead, municipal authorities expend their scarce funds to deal with the burgeoning problem associated with waste –that of removing waste from the site of production. As illustrated by Tebo (1997) "waste is really a mindset, all we really have are ingredients that have not yet found a home" (as cited in Oladimeji et al. 2002, p. 21). Byrne (1997, p. 206) notes, that "waste is a material, which has no direct value to the producer and so must be disposed of." Haight (1994, p. 2) differentiates waste from garbage. The author describes waste as "any residual materials which arise from human activities and which are not considered to be of immediate use," while garbage is "any object which has no possible further use." For the purpose of this study, urban solid waste includes any material that enters the waste-management stream, that is

organized schemes, and central facilities deemed not only for final disposal but also for composting, recycling, reuse, material reclamation and for conversion from waste-to-energy or waste-to-wealth.

In order to understand the value societies place on refuse material, the author brings to the discourse a perspective derived from two works, *Rubbish Theory: the Creation and Destruction of Value and Wasting Away* in which the authors presented historical perspectives of waste. Although divergent in many aspects, both Michael Thompson (1979) and Kevin Lynch (1991) in their separate works describe how people perceive the notion of value and the conversion of what is often regarded as valuable to worthless. This perceived notion of how people believed what is considered valuable or worthless reflects on material objects that are discarded or abandoned as wastes.   For Thompson, "rubbish is an index of values and behaviour just as those objects are generally given high value in society." He conceptualizes the dynamics of rubbish giving examples of formerly worthless objects, which are now highly priced. Lynch on the other hand, examines the notion of waste; what it is, how it happened, and the reason people are afraid of it.

Thompson's argument, as indicated by the title of his book, is concerned with the idea of the value society places on physical objects and the transformation of the things that are thought to have value. The author (1979, p. 77) asserts that "physical objects have certain important properties imposed on them as a result of the processes of human social life, and, on the contrary… if these properties were not conferred upon them then human social life itself would not be possible." He went further to explain the relationship between 'status' as the possession of objects and the potential to dump objects. He notes that perceived values of object are not static, but changes overtime depending on various influencing elements or events. Thompson uses two distinctive concepts: 'transient' and 'durable' to delineate various values assigned to objects. He conceptualizes objects in the transient group as goods that depreciate and have a restricted lifespan; while durable goods are those objects that are said to have immeasurable value. Thompson's idea of social bases of value does not ignore individual utility and marketplace utility. To illustrate, his fundamental social basis of value is not static, but dynamic, continuously negotiated, and cultural. According to this author, there is a continuous change, which he refers to as "flexibility" in goods sometimes viewed as durable at one point in time and at other times as transient, depending on market forces. Thompson gives examples of "Queen Anne tallboy" (1979, P.7) as something with durable value. Such objects he asserts falls within the durable group because their value increases overtime. On the contrary, he

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reflects on used cars as transient objects due to their depreciation in value overtime and finite lifespan.

The way individuals behave towards objects often stem from the group membership defining such objects. For Thompson, the value groups assigned to objects are not free flowing. Instead, he points out that such groups are "closely tied to the social situation that they render meaningful" (1979, p. 7). To illustrate, whether individuals treat Thompson's indisputable example of the Queen Anne tallboy and the used cars as antique or second hand when on display depends on their "group membership" or worldview.

Thompson provides countless examples to illustrate how old durable goods are changed from 'rubbish' to 'antiques' and vice versa. This includes how houses marked for demolition can become part of a 'glorious cultural heritage'; or how a piece of art is assigned a value in the marketplace. Thompson also shows how material objects as items of no value at one point in history can turn into items of great value through social label of value and scarcity. He clearly illustrates this cycle of perceived change in value with what he called "Stevengraphs – yesterday's kitsch" English woven pictures that depreciate in value. Nevertheless, it was not until the 1970s when an article was published that mentioned Stevengraphs as collectable items that they gained value. This article did not only arouse interest among collectors, but defined Stevengraphs as modestly expensive "antiques."

Thompson went further to argue that even today, it has become a common phenomenon for once rejected Victorian objects to be hunted after as antiques. He uses Bakelite ashtrays that have become collectors' item and old bangers have been changed into classic vehicles to buttress his point. This only goes to show how opinions of increase and decreased value of materials are based on historic, aesthetic as well as economic factors. As the example of Stevengraphs shows, items can move from the transient group to the durable.

The Rubbish Theory that Thompson espouses further shows that all that society often labelled rubbish is not necessarily waste or garbage; rather it is society's way of producing worthlessness to suppress or disregard assessment of worth because of individual's fear of the worst, "garbage." One can infer at this point, as Thompson advocates, that change in the assessment of objects takes place

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through a third group of zero and timeless worthlessness, often labelled rubbish. Treated or regarded as taboo in some culture, waste then becomes an object of aversion and repulsion, something that society loathes and is unmentionable in polite conversations.

Thompson's description of what is thought useful or worthless in value is less essential to the perceived concept of material waste in developing nations, where the same objects are thought to have varied lifetime by individuals; however, the criteria conferred on objects are generally functional rather than aesthetic or symbolic in nature. Transformations in perceived values of goods are influenced by such objects moving from the major functional or practical purpose to an aesthetic or symbolic one (Inebode, 2003; Widianto, 1992).

Like Thompson, Lynch (1991) in his work *Waste Away* argues that what is regarded as waste usually shifts as one moves from one culture to another, and feelings reversed from individual to individual. He points out that the notion of waste as perceived by people is a mindset. "Dirt or waste," as Lynch puts it, is a concept bound to specific environment and culture. Lynch succinctly points out that "dirt" is a matter out of place, particularly matter that is distasteful, hazardous, and difficult to remove from a place. He notes that what is regarded as distasteful, hazardous, and out of place are socially constructed and relative to situations. Thus, such terminology or social consensus about what is tainted not only alerts us to what is naturally useful, it also helps us to sample the world.

Lynch went further to describe waste production as a biological process that characterizes all living things. Yet, all societies are so afraid of this biological process that they have developed pornographic conceptualization of waste reflected in our pollution jargon – dirt, filth, shit, or pus to signify things that are regarded as useless. According to Lynch, society simply appropriates materials and energy, use or extract that which is important, and then waste or discard that which is regarded not essential. He provides his audience with help to see beyond the taboo that is generally surrounding the discourse on waste, dirt, and excretion. He asks his audience to problematize romantic ideas of waste such as those entrenched in ruins and to challenge the scientific engineering attitude that it is not just a matter of discovering the right approach to put it away, but the right technological fix.

The argument Lynch puts forward in his work is that the appropriate management of urban solid waste is essential in achieving a life-enhancing sustainable environment for the present and

future generations. The problems of urban solid waste management in urban centres are given considerable publicity, with the answer being that the solution is with the needs of the beholder whether or not waste is compared with loss. Lynch asserts that the lack of integrated urban solid waste management at the source of waste generation contributes to increasing problem of refuse in urban centres. Another interesting point Lynch raises in his book is the constant conflicts between waste generators and waste workers. He Notes that the failure of urban residents to effectively, and efficiently separate household wastes put waste collectors and residents on a collision course. What follows are poor performances and unsatisfactory services from waste workers at the neighbourhood and community levels. Lynch therefore, challenges our psyches to view waste as a resource and bring it into our lives rather than tossing it away into the shadows of taboo or technique. Lynch encourages us to look from different dimensions personally, professionally, and globally, to locate it in the human psyche and settlements. To support the effectiveness of efficient urban solid waste management, Lynch argues that there should be a system in place that teaches people to act properly with respect to waste, thereby allowing collectors to do their work properly. Lynch's description of waste is broad and include phenomena as diverse as everyday refuse, trash and garbage. He also suggests philosophical and social investigation into processes of wasting and expertise to the technical aspects of urban solid waste management and planning. Lynch's rendition of waste raises many unanswered questions, to which he himself does not offer solutions.

In summary, Lynch and Thompson's arguments of the perceived value society places on material objects illustrate what has become waste that should be disposed of. Not until people begin to view waste materials as valuable resources that should be transformed and managed will the full potential of these resources be known and fully taken advantage of. What becomes apparent from this exposition is how what is commonly regarded as valuable also tends to evolve to the realm of waste with time and changing demands.

2.5.2 Waste Management in Traditional Nigerian Society

A review of the literature on the traditional approaches to urban solid waste management in Nigerian society indicates that before the advent of the Europeans, most towns with substantial urban populations had poorly defined rules in place for the development and management of their communities (Onibokun & Kumuyi, 1999). As Johnson (1921) writes,

> For keeping the town clean every compound [household] looks after its own frontage and surroundings…the system of sanitary arrangements is the most primitive imaginable; near

every large thoroughfare or a market place is a spot selected as dust heap for the disposal of all sorts of refuse and sweepings of the neighbourhood, and at intervals, fire is set to the pile of rubbish. Here and there around the town are found leafy groves, usually clumps of fignut trees, the neighbourhood of which is unsavoury from the disposal of sewage. These sites are always infested by crowds of those keen-scented scavengers of nature, the hungry-looking vultures. Important chiefs have a large area of land enclosed within their compounds within which spots are selected for sanitary purposes (as cited in Bigon, 2005, p. 260).

A parallel picture was described by Izomoh (1994, p. 182) who writes on traditional facilities and sanitary systems in Nigeria. According to Izomoh,

As to waste disposal in the traditional setting, the main category of refuse was domestic. It included remains of cooked food or deposit of open kitchen fire. The methods by which these were disposed off were quite simple…they were thrown either into nearby bushes or into the pits from which soil for the construction of houses had been dug out.

Other traditional approaches to USWM in Nigerian cities indicate that before colonization, places that had substantial urban populations had well defined rules in place (Olokesusi et al., 2005; Onibokun & Kumuyi, 1999). In such areas, public places such as local markets and local squares were swept in rotation by groups of women according to their age and bushes were cut by men groups. Household and other wastes collected were dumped in the surrounding wood as designated by the community. In small towns and villages in Nigeria there is no provision for house-to-house collection, neither is there any provision for waste bins at central points (Abel, 2007). In addition, there are no private waste collectors, formal or informal. At the same time, there is no legal solid waste disposal site, but households in small towns or villages have often had dump sites at the back of their houses where refuse is dumped and burnt occasionally. Currently, among the Ngwa community in Nigeria, various indigenous waste management approaches are used in handling their waste, including burying, composting, burning, conversion, mulching, and recycling (Izugbara & Umoh, 2004).

One interesting aspect of traditional waste management in African towns is the daily sweeping of the compounds by children very early in the morning before breakfasts are served. For every African person, it is a 'taboo' not to clean the house before leaving for work. This system still operates today in small towns, villages, and even big cities (Abel, 2007; Kinako, 1979). However, the indigenous physical planning approaches were inadequate to cope with the increasing rate of urban sprawl and the demand for services at the time of European intervention (Izeogu, 1989; Omuta, 1987; Onibokun & Kumuyi, 1999). The demand for collection, transportation, transfer, disposal, and sanitary landfill of USWM in cities in developing countries is a fairly recent practice (Blight &

Mbande, 1998). It appears that as a city expands in population and size, its land use becomes even more intricate. Simultaneously, the solid waste produced increases in volume and variety (Ayotamuno & Gobo, 2004; Cointreau, 1982; Gotoh, 1989; Stock, 1988; Yudoko, 2000).

2.5.3 Urban Solid Waste Management and Planning in Developing Countries

If historical study truly benefits the understanding of the impact of changes in a society, it will as well enlighten the present. Through this, we can understand why some countries are having a tough time in managing their urban environment in developing countries. Thus, the goal in this section of the chapter is restricted to explicating the conventional approach to urban solid waste management and planning in developing countries.

2.5.4 Urban Waste Handling and Storage at the Source

One of the key elements of effective urban solid waste management is proper storage at the source where the waste is generated. In most cities in developing countries, households typically use various materials for storing their waste. For example, it is not uncommon in Nigerian cities to see households storing their waste in locally made open baskets, plastic containers, open metal drums, cardboard boxes, and polythene bags (Boadi & Kuitunen, 2003). Cointreau (1982) notes that the different types of bins used in storing household's waste can be classified into standardized and non-standardized. Local authorities are responsible for the provision of these standardized bins and residents pay for them. The purpose of the standardized bins is to enhance the collection of refuse by the local government waste workers. These bins are made of plastic for durability and portability reasons (Yudoko, 2000). In Accra, Ghana, about 42 percent of residents store their waste in open bins (Boadi & Kuitunen, 2003). Because of the high mixture content, waste deteriorates very quickly. In contrast, 65 percent of high-income residents store their waste in closed bins, about 50 percent of medium income earners, and only 32 percent of poor households keep waste in closed bins (Boadi & Kuitunen, 2003). The use of standardized containers in developing countries had posed a serious problem for effective urban solid waste management, such as the loss of the containers through theft, the diversion of their use to other household purposes, and in some cases through vandalism. As a result, some local governments have asked their citizens to provide their own containers for waste storage (Yudoko, 2000).

2.5.5 Urban Solid Waste Collection System

The delivery of urban waste collection and transportation service is a veritable public good (Bose & Blore, 1993). In developing countries, waste collection system can be categorized into six types namely: house-to-house collection, bin, block collection, curb side collection, communal collection, and the non-collection system (Adeyemi et al. 2001; Fantola & Oluwande, 1983; Flintoff, 1994; Korfmacher, 1997; Werlin, 1995). In some cities such as Dar es Salaam in Tanzania, Accra in Ghana, Lagos, Benin City, Akure, and Ilorin in Nigeria, collection of urban waste at the household level are split into two types, door-to-door and transfer point's collection (Adedibu, 1985; Adedibu, 1986; Addo-Yobo & Ali, 2003; Kassim & Ali, 2006; Nwankwo, 1994). In affluent areas, collection is done door-to-door; however, such services are not available in the poorer neighbourhoods. In most African cities collection rates varies from 15 percent in Ndjamena to 45 percent in Nairobi (Songsore, 1992).

In Accra, Ghana out of a population of 1.4 million only 11 percent are provided with waste delivery services while the remaining 89 percent make use of community dumps as well as illegal dumping in rivers and other places (Ogbonna et al. 2007). As Kulaba (1989) points out, in Tanzania on average, municipal workers collect about 24 percent of the waste. In Kinshasa, Zaire, Mbuyi (1989) notes that urban solid waste management services are confined only to the wealthy areas in the city. In other areas, wastes are dumped along roads including illegal dumps in storm water drains (Ogbonna, 2004). In the case of Nigeria, Ogbonna et al. (2007) note that 35 percent of households in Ibadan, 28 percent of households in Port Harcourt, 33 percent of households in Kaduna, and 44 percent of households in Enugu do not have access to waste collection. The reasons for this vary and it ranges from dearth of passable roads and poor mechanical condition of vehicles to poor management of available resources (Kofoworola, 2007; Parrot et al. 2008).

2.5.6 Transfer and Transport

Transfer and transport are the most difficult aspects of urban solid waste management in developing countries because the activities are capital intensive. It involves huge investments in human and physical capital (Agunwamba et al., 1998; Fantola & Oluwande, 1983). Even in advanced capitalist countries where door-to-door collection has been perfected, more than 60 percent of the budget is often devoted to transportation (Agunwamba et al. 1998). In most cities in Africa, there are no transfer stations, necessitating direct conveyance of wastes to their final destination from

collection points. The city of Abidjan did have some measure of this but was discontinued a long time ago (UNEP, 1996). In many cities, transportation for collection involves the use of power tillers, pick-up trucks, side loaders, and tipper trucks. Currently, compaction trucks have become part of the logistics (Awortwi, 2006). In some cities in Nigeria, Ghana, South Africa, Kenya, Tanzania, to mention a few, tipper truck has been the most commonly used transportation vehicle in urban solid waste management since the 1980s. However, there is a drawback in this, "the height of the truck makes manual loading difficult and time consuming and hence the tipper truck is deemed inappropriate for waste collection" in the light of increasing labour costs (Awortwi, 2006, pp. 225-226). Likewise, in Latin America cities, transporting garbage to its disposal point has become increasingly problematic and expensive due to increasing urbanization, inadequate, and lack of suitable final disposal sites (Moreno et al. 1999). For a fact, the long distance between final disposal sites and pick up stations has led to an increase in the use of transfer stations in this sub-region.

2.5.7 Processing and Treatment

The primary objective of waste processing is to recover valuable materials from the waste stream and where possible convert some to other usable materials. This is commonly known as resource recovery. Resource recovery is defined by Bartone (1990, p. 7) as "the repairing, refurbishing, or remanufacturing of discarded goods; the separation, or reprocessing, and recycling of raw materials; and the processing of selected fraction of waste stream into new products such as compost and energy." In this research, solid waste processing will be categorized into composting the organic fraction, recycling the inorganic fraction, and energy recovery through combustion process. One of the objectives of waste treatment is to convert waste into safer material before heading to final resting place.

Composting or anaerobic digestion is another waste reduction strategy. It is the process by which organic waste is changed into fertilizers without the use of oxygen (Sakai et al. 1997). Composting is regarded as an economically viable way of permanently removing the organic matters from a waste stream. However, its success is determined by the availability of stable markets and quality of the waste (Furedy, 2004). Over the years, composting in developing countries has been widely experimented but success has been slow coming (Yousuf & Ali, 2007). In the 1980s, for example, centralized and mechanized composting plants were established with aids from foreign donors and consultants in many cities in developing world (Ambrose, 1982; Yudoko, 2000). Sadly, many of these plants were eventually abandoned due to the problems of high operating and

maintenance costs. Also, the lack of human capital, the high price of the compost produced, poor quality of the compost, and improper sorting or segregation resulting in contamination from hazardous matters. Recognizing this drawback, recent efforts at composting in developing countries have shifted to small-scale, community-based programs.

It is essential to mention, however, that composting and reuse approaches to waste have been recorded in Africa and Asia, for centuries. Urban organic solid waste has become universal in the framework of environmental thinking about refuse reduction, strategic planning for urban solid waste management. This has become instrumental in helping urban small-scale farmers and livestock producers to regard urban organics as recoverable resources (Furedy, 2004; Page, 2002).

With increasing awareness of environmental degradation caused by intensive human activities and the reliance on renewable and non-renewable natural resources, it has become increasingly imperative to convert a major proportion of urban solid waste into reusable materials for the environment (Furedy, 2004). The notion of endless circle of nutrient dictates that there is in fact no waste. Waste generally results from the inefficient conversion of materials in useful commodities, since individuals engage in process of take-make and discard that which is regarded as not useful. If one pursues this idea of materials having an infinite circle, organic material simply represents the mined fertility of our soil and if this fertility is to be replaced and sustained then it is fundamental that the nutrients contained in our waste be recycled and subsequently returned to the soil (Ezedinma & Chukuezi, 1999; Yousuf & Ali, 2007).

In some cities, neighbourhood-scale composting projects are sponsored through international agencies, bilateral aid schemes and non-governmental organizations (NGOs). The pilot programs are often operated by NGOs and community-based organizations (CBOs) at the community level. They have been found to be appropriate considering the climatic conditions, waste characteristics and socio-economic context (Furedy, 2004Yousuf & Ali, 2007; Hoornweg et al. 1999, Mockler, 1998). However, Yousuf and Ali (2007, p. 422) comment that, "they are experiencing multiple problems: of a general lack of environmental concern in the community, of local government priorities, of feedstock materials, of plant operation, of the quality and price of the product, of the consumers' perception of values, and of institutional support" or lack thereof. Small-scale community-based composting initiatives are being piloted in major cities in Nigeria, Ghana, Kenya, Tanzania, and Bangladesh (Asomani-Boateng, 2007; Olanrewaju & IIemobade, 2009; Solomon, 2009; Yousuf

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&Ali, 2007).   These pilot-plant initiatives are operating with the aim of reducing the amount of waste to be disposed of in landfill, placing value on waste as a resource and recycling it into valuable products, which can be used to enhance soil quality and crop yields. Community-level composting projects have an important function to play in educating the public about solid waste management; compliance with source segregation or doorstep sorting is important in these schemes. It is essential to emphasize that most of their initiatives are still in their infant stages and their success hinges on donor and government supports through policy framework.

Developing countries in tropical regions of the world are more favourably disposed to composting. In addition, the amount of organic material in the waste generated is very high, making composting a viable option. However, in West African cities, a rosy picture about the foregoing is difficult to paint. In cities like Dakar, Senegal and Abidjan, Cote d'lvoire, there were in operation two sophisticated composting plants in the 1970s. They were unsuccessful, and soon phased out because of falling short of expectations as a result of mechanical failures, frequent power outrages or failures (Adama, 2007). According to Onibokun et al. (2000), composting has also been tried out in Kano, Kaduna, and Maiduguri in Nigeria in the past, but for the same reasons mentioned above their operation was reduced to small-scale endeavours. Nevertheless, in recent time, the Lagos State Government has taken a bold step in re-initiating composting plants in some communities in the Lagos metropolis in order to address the waste problem in the province/state.

Many urban communities around the world, in order to address the problem of burgeoning heaps of waste, are integrating management alternatives such as source reduction, recycling, and composting (Inebode, 2003). It has also become popular to recognize urban solid wastes as resources –a development that has brought about a shift away from emphasis on disposal towards one of waste prevention and reuse (Furedy, 1992). In recent years, urban solid waste experts have increasingly recognized the potential of waste material reuse in urban farming to help tackle refuse collection and disposal issues. Essentially, urban solid waste in developing countries is no longer viewed as something repulsive, unwanted, useless, and hazardous, rather as an underutilized resource. The following table illustrates the emotion: table 2 below.

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Table 2. Re-Use Practices and Issues in Developing Nation

Residential kitchen and yard waste	Kitchen wastes with some garden trimmings, leaves grass cuttings	Backyard composting for home gardening; domestic animal feeding; community composting and vermi-composting
Restaurant and canteen food wastes	Raw peelings and stems, rot-ten fruits and vegetables and leftover cooked foods, bones	Sold to poultry, pig, goat farms; bones to feed and fertilizer factories
Commercial/institutional wastes	Organic and food waste, may contain other wastes as waste separation is often not done carefully	Households, commercial, institutions may separate organics for community composting
Local market waste	Organic wastes of vegetable markets, tuber and root crops	Sold or given to farmers; collected for centralized compost plants
Processed industrial waste (canning industries, breweries and others)	Food wastes, bagasse, organic matters	Sold to fertilizer companies; sold for domestic fuel
Parks and road verges	Grass clippings, braches, leaves	Composted by parks departments; scavenged for fuel and construction; use as animal fodder
Mixed municipal solid wastes	Full range of local solid wastes, include small industries' wastes bio-medical wastes, human and animal excreta	Diverted to peri-urban farms, 'central' compost plants, community compost programs
Organic matter 'mined' from garbage dumps	Decomposed mixed municipal wastes with non-biodegradable resources	Nearby farmers collect waste from current and old dumps; municipality may auction waste pits; waste may be sieved at the site
Old garbage dumps	Decomposed garbage	Old dumps are often cultivated in Asia, and to some degree in Africa
Animal excreta	Cattle, poultry, pig dung from urban and peri-urban farms and stables	Used as fuel, for construction, fertilizer
Slaughterhouse, butcher, tannery wastes	Bones, skin, intestines, horns, scraping, etc	Sold to fertilizer and feed factories: rendered, composted, sometimes applied to farm fields with minimal processing

Source: Furedy, 2004, p. 201.

The function of the informal sector in urban solid waste management is well documented in the literature. Their engagement in urban solid waste management is generally referred to as

unregistered, unregulated or temporal activities carried out by individuals, family, or neighbourhood small-scale enterprises (Afon, 2007; Wilson, 2006). They do not pay tax revenue to the municipal governments, have no trading license and they are not qualified to collect unemployment benefits if there is any in the countries where they operate (Wilson, 2006). Many scholars have argued that the coming to stage of the informal sector is a direct response to all levels of governments' failure to provide their citizens with urban solid waste services (Afon, 2007; Rouse, 2006). Participation of the informal sector; however; is not free from issues. For example, since informal activities entail a large number of waste collectors, some local politicians, local officials, and residents alike are against their activities. They view informal waste collectors as a nuisance to the society, perhaps because of their indiscriminate dumping of refuse (Indrayana & Silas, 1993).

Versnel (1986) illuminates the reason many municipal officials in Indonesia are against informal waste collectors: that waste collecting activities are regarded as conflicting with policies on land use, town planning, and the philosophy of modern development. Some waste collectors "do illegal activities, such as stealing belongings from residents' home" (Yudoko, 2000, p. 12). Waste collectors' presence and actions have been challenged not only by the local government officials but also by many urban dwellers. According to Yudoko (2000), in Bandung, Indonesia, for instance, police arrested informal waste collectors, sent them to rehabilitation centres, and transported them to transmigration areas outside Java.

Informal sector involvement in urban solid waste management has taken different approaches over the years in some developing countries. In Indonesia for instance, the sector employs the neighbourhood worker who provides door-to-door waste collection services. The main technology used in collection is the 'human driven cart'. As noted by USAID (1990), the local leaders collect fees from neighbourhood residents to the full cover of neighbourhood collection costs. Such costs may include workers' wages, equipment repair or replacement, and supplies of different types and to keep the system on continuously. In many countries, the very poor and marginalized social groups do informal waste collection and recycling. They often establish discrete social groups or belong to minority clubs as table 3 shows below.

Table 3. Different Names Given to Informal Sector

Country	Local Names for Informal Sector
Costa Rica	Buzos
Colombia	Basuriegos, Cartoneros, Traperos, and Chatarreros
Argentina	Cirjas
Ecuador	Chamberos
India	The Harijans are a caste of untouchables that deal with collection and recycling of waste
Mexico	Pepenadores, Catroneros, and Buscabotes
Egypt	Zabbaleem and Ewaabisi are minority Christians
Nigeria	Alabaru (a local name for informal waste collectors)

Source: The author, 2010

Informal waste collection activities have not only created employment and supported small-scale enterprises, they have also contributed to diverting significant portions of urban solid wastes that would otherwise go to the final disposal site. For example, in Karachi in 2002, it was estimated that about 1500 men, women, and children were living and working at the Jam Chakro disposal site, but that number has now increased to as many as 3000, that is about 350 households living at this site (Rouse, 2006). In addition, in Harare, Zimbabwe there are over 1200 waste pickers participating in waste recovery activities at the dumpsite; while at the Richmond landfill site in Bulawayo, there is an estimated 2000 waste pickers directly earning a living from informal waste recovery activities (Masocha, 2006). In Cairo, Egypt, evidence shows that the informal sector is recovering 80 per cent of waste collected. These activities provide incomes for approximately 16,000 people while protecting the urban environment. Likewise, in Mexico City, more than 10,000 people's daily livelihood depends on the city's dumps (Afon, 2007; Agunwamba, 2003). The inescapable fact that emerges from the foregoing observations is that recovery of recyclable materials is a low-skill work with relatively free entry, low capital investment but offers enormous on-the-site training for those participating. In other words, informal waste collection activities, carried out by waste collectors, can directly decrease waste management costs borne by local government authorities (Yudoko, 2000).

As in other developing countries, recycling operations in Nigeria are highly labour intensive (Solomon, 2009; Agunwamba, 2003) and are largely carried out by the informal sector also known as "Scavengers." Since there are no formal planned recycling facilities in the cities it is not unusual to observe scavengers operating at dumpsites in cities across the country (Agunwamba, 2003). For example, at the sanitary landfill in Onitsha, it is not uncommon to see scavengers sorting through heaps of recyclables every day. These scavengers make their living by selling the sorted recyclables to intermediaries. An interesting point to note is that landfill officers on the site often permit scavengers to sort through these materials at no cost. In some cases, however, these officers collect token fees from them, albeit illegally (Agunwamba, 2003).

2.5.8 Urban Solid Waste Disposal

Generally and historically, in developing countries, three disposal approaches have been used in urban solid waste management: open dumping, controlled landfill, and incineration (Bartone et al. 1991; Cointreau, 1982; Holme, 1984; Yudoko, 2000). Currently in many African cities including those in Nigeria, the approaches to urban solid waste management include open dumpsites, controlled landfill, and open burning (Adeyemi et al. 2001; Ayininuola & Muibi, 2008; Kgathi & Balaane, 2001). In Nigerian cities, as in other less developed places, landfills are prevalent in large towns, villages and even some big cities such as Lagos, Ibadan, Benin City, Accra, Kumasi, Bobonong, Selebi-Phikwe, and Francistown. Land is typically allocated for such projects by the municipalities and operated by them. The procedures that guide these operations and the sites are prescribed in an arbitrary manner, without inputs from the general public (Kgathi & Balaane, 2001; Kofoworola, 2007; Omoleke, 2004).

Most municipalities opt for simple open dumping because it is very cheap, fast, convenient, and technical skills are not required to carry out the tasks involved. Open dumping of urban solid wastes in African cities is associated with open burning –a practice that can be detrimental to the environment and humans due to air and groundwater pollution. Such a consequence was evident in the village of Akouedo, Abidjan due to illegal dumping and uncontrolled tipping of garbage in open dumping sites. The end result was that environmental quality in the village was significantly despoiled (Attahi, 1999). Rudimentary burning of refuse as mentioned earlier in this chapter frequently takes place at dumpsites in most developing countries (Ogbonna et al. 2007; Olanrewaju & Iemobade, 2009). The reason for this approach to urban solid waste management is to reduce the

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amount of solid waste disposal. According to Kgathi and Balaane (2001), crude burning is even encouraged and promoted in Botswana by community health workers who ask residents to dig waste pits and burn their wastes inside, mindless of the consequences. The disadvantages of open dumps are that it encourages uncontrolled burning of wastes, contributes to the burning of recoverable materials such as documents, rags, and tires in homes. These are common in most urban places in developing countries. Worst still, different kinds of wastes and hazardous materials are tipped in the same place without knowledge of their compatibility (Agunwamba, 1998; Kofoworola, 2007).

Sanitary landfills are facilities planned and designed for the final disposal of urban solid waste and occupy the lowest level on the waste hierarchy. An essential part of the planning and design is the lining of the bottom and sides of the disposal site with liners in order to restrict leachates from polluting nearby bodies of water like streams and rivers or even aquifers (Adama, 2007). The common practice is that after disposal, refuse is supposed to be covered with a layer of earth daily. It is essential to point out at this junction that sanitary landfill requires huge investments and political will because it often attracts opposition from special interest groups and community residents -a phenomenon often known as "not in my back yard" (NIMBY).

In Nigeria, about 163 municipalities claim to use landfills for their waste disposal. However, further investigations revealed that all were operated as open dumps (Adama, 2007). The reality is that at present, there are only two sanitary landfills in the country. For a country with a teeming population of more than 140 million people, this is grossly inadequate. The first of its kind is situated 10km northeast of Onitsha on the road to Nkwelle Ezunaka (Agunwamba et al. 1998). In Egypt for example, a study reports that 95 percent of the urban solid waste collected by municipal councils end up in open dumps. Also, it is not uncommon for household and industrial waste to be dumped on the same dumpsites without proper sorting or separation at the sources where they are generated. In Abuja the Federal Capital Territory and other cities in Nigeria, illegal dumping is a common phenomenon. Piles of solid wastes are commonly found along roads, underneath bridges, in culverts, drainage channels and in other open spaces (Imam et al. 2008; Kinako, 1979). In some cities, some street corners, particularly those in the high-density areas, have become final disposal sites for all practical reasons (Sule, 1981).

To complicate problems of Solid waste management further in Nigerian cities, scrap metals from auto bodies, heavy machines and equipment, broken furniture are dumped indiscriminately,

even on roadways. Since the rate of biodegradation of these materials is relatively low, the speed of accumulation is apparently much faster. Some of these heavy objects are found dumped along street sides or sunk in open storm drains. These scraps are piled up on city streets by the innumerable auto workshops in many of the cities in the country, thus aiding environmental degradation and pollution. According to Sule (1981, pp. 422-423), "this situation is indicative of auto scrap disposal in most cities of Africa and some cities of Latin America."

In some developing countries including Nigeria, the debate is that there has not been the political will and financial commitments from all levels of governments, or the enforcement of regulations to initiate or articulate waste reduction at source, an important requirement for recycling (Ayininuola & Muibi, 2008; Onibokun et al. 2000). Recycling activities that take place in these countries in general are done by informal sectors otherwise known as scavengers or small-micro finance family businesses.

2.5.9 The New Paradigm in Urban Solid Waste Management

Urban solid waste management in developing countries presents a growing urban, environmental and social concern. In spite of numerous enthusiastic efforts at providing solutions in recent years, there are only a few municipalities in these countries, which have been able to adequately and efficiently manage the escalating production of solid waste in their urban and sub-urban areas. Frustrated by the inability of their governments to provide waste collection and disposal services, the civic society organizations and the private sectors have taken on active roles in urban solid waste management at the neighbourhood or community levels. As such, it merits dedicating a section of this chapter to the core functions of community-based organizations, small-micro enterprises (SME), and privatization/partnership, international aid and their roles in urban solid waste management in developing countries.

2.5.10 Community-Based Organization (CBOs)

In a research on community-based solid waste management, Ali and Snel (1999) noted three broad categories of primary collection projects. The first is when an advocate or group of households obtains the services of a person, settling for a minimum fee and paying personally. In the second case, an advocate or group of household manage the system; arrange the collection of fees and payment to the contractor. The third case involves a small contracting operation where an individual or group starts the collection as an enterprise taking on various risks. This may include responsibility for

investments and the hiring of waste collectors. For the above activities to occur, Ali and Snel (1999) went further to identify three major players: households, waste collectors and intermediary organizations such as non-governmental organizations (NGOs), community-based organizations (CBOs). Nevertheless, some one is needed to start the process. This is where the role of NGOs, CBOs, community groups, and other special interest groups become essential.

Evidence has shown that NGOs can enhance people's understanding and awareness of urban solid waste management issues in their community as well as enhance their organizational capacity. Beall's (1997) study in Bangalore, India, identified some groups of NGOs in this framework. Some of these NGOs dwelled on poverty reduction strategy, and social justice using waste recovery and recycling for social mobilization amongst the youth. Others focused on environmental justice and started citywide programs. Interestingly, Beall (1997) concluded that in low-income neighbourhoods, NGOs are catalysts for CBOs self-help programs. Some of the problems noted by Ali and Snel (1999) earlier exist in Ibadan. To illustrate, as a result of the poor state of urban waste services, there are households in need of urban services and (informal) waste collectors are needed to provide these services. The good news is that there are numerous advocates in the form of NGOs and CBOs that help bring them together to create the type of initiatives that Ali and Snel (1999) observed in their research. There are organizations and individuals in Ibadan interested in initiating urban solid waste management services.

Community-based organizations (CBOs) and non-governmental organizations (NGOs) are playing fundamental roles in urban solid waste management (USWM) in various communities and neighbourhoods in the developing world because of the dismal failure of the existing systems (Ahmed & Ali, 2004; Schübeler, 1996; van de Klundert, 1995). Community-based organizations are informal institutions that are established by community members to provide environmental services that are lacking in their neighbourhoods. In most cases, these organizations respond to deplorable environmental conditions in their communities by initiating urban solid waste management project, mainly primary collection and street cleaning. Women and youth with support from the community often operate these organizations across their cities (Ahmed &Ali, 2004). In many poor urban communities, community-based waste management (CBWM) is the only alternative feasible and affordable solution to the deteriorating environmental situations, particularly waste collection and disposal provision services (Hasan & Khan, 1999).

Attempts to engage CBOs in urban solid waste management alongside formal services are however not new in developing countries (Pasang et al. 2007). Generally, they appear in the low-income neighbourhoods that often receive marginal or no services in terms of public transit, electricity, safe drinking water, sanitation, drainage and refuse collection. A good number of them can be found in Burkina Faso, Ghana, Nigeria, India, Bangladesh, Indonesia, Tanzania, Kenya, Mexico and many other countries in Latin America. In spite of their differences, there are similarities between nations in Asia, Africa and Latin America (Pasang et al. 2007). As Pfammatter and Schertenleib (1996) succinctly put it, there are differing arrangements according to the degree of community participation; this is illustrated with organizational chart they put forward as a community-based model. To illustrate, urban waste collectors are paid by the community-based organization, which recovers the service costs through fees collection system. In some cases, the collectors themselves may actually collect the fees.

The proponents of community-based solutions call for awareness building measures, financial support, as well as organizational and technical support for local organizations providing environmental services to their communities. They argue that local non-governmental organizations and leaders in the community may actually provide important inputs towards building community capacity for urban solid waste management (Rathi, 2006; Schübeler, 1996; Yousuf & Ali, 2007). Although waste management is normally restricted to local collection; nevertheless, it may also include waste treatment, and disposal (Mongkolnchaiarunya, 2005; Parrot et al. 2008). It is essential that community-based collection system be linked to an already existing municipal waste operation system. In some cases, local collection activities may breakdown if waste disposal at municipal transfer stations accumulate and over stress the system; instead of being transported to final disposal site by municipal workers (Parizeau et al. 2008).

It would be off beam to paint a rosy picture of importance of CBOs in the provision of urban solid waste services at the community-level without touching on some of their challenges. A common challenge in community-based waste management (CBWM) is the establishment of sustainable funding structures for its operation. Numerous studies have reported a wide range of financial constraints and successes in these kinds of projects after they have been executed (Parizeau et al. 2008; Zurbrugg et al. 2005). At present very little in the existing literature discusses the process of financial planning for community-based waste management (CBWM), the only work known is that of Zurbrugg et al (2005) which mentions the community-based composting initiative in Bangladesh. A

significant hurdle for many community-based waste management (CBWM) initiatives is the relative inability for cost recovery. This arises out of the relative incapacity of beneficiaries, serviced inhabitants, to pay up agreed upon fees as at when due. Therefore without sustainable funding, reliance on non-governmental organization for funding can actually perpetuate external dependency. In many cases municipal governments are unable to contribute funds to CBWM initiatives due mainly to scarcity of resources. Another drawback in CBWM is that the pay and status of workers participating in waste collection are often too low compared to other sectors. This brings about a situation of low turnover rate, since there is paucity of motivation either to work effectively or stay on over the long term. In addition, difficulties in financing CBWM may actually impact the continuity of payments to community-based waste workers and ultimately derail the initiative all together (Parizeau et al, 2008).

2.5.11 Small-Micro Enterprises (SMEs)

One of the most important approaches to urban solid waste management that is less explored in the literature, which is gaining momentum in Latin American cities, is the small-micro enterprises (SMEs). In the aforementioned sub-region, SMEs have a long-standing tradition in the provision of urban solid waste management services. For example, the first known small-micro enterprise/Coops operating waste collection services in Latin America were registered in Guatemala in 1950 and in Costa Rica in 1952. These were initiatives of individuals who found in them a means to meet an unsatisfied community need and simultaneously create a means of livelihood for themselves (Moreno et al. 1999). In other countries in the sub-region, the emergence of this type of small-micro enterprises/Coops started in the eighties, beginning in El Alto, Bolivia in 1987, in Peru 1989, and in Colombia 1990. In recent years, the establishment of these enterprises was made possible with the help of non-governmental organizations and some municipalities to tackle emergent serious waste management situations in the region. At the same time it provided livelihoods for immigrants living in urban peripheral quarters. One important dimension to this is that, in these cities, the small-micro enterprises/Coops are integrated with and act as substitution to the traditional urban solid waste management system (Moreno et al. 1999).

Municipal governments contract out the services to small private businesses. The contract is based on a written understanding and agreement, which define the tasks and functions of both players (Pfammatter & Schertenleib, 1996). While the investments capital is usually covered by loans from the bank, operating costs are recovered through municipal taxes. In some cases, banks and non-

governmental organizations provide technical and financial assistance together. As the contract with the local government authority is the key component of this approach, successful execution is dependent on a good working relationship and cooperation between the business owner and the municipal authority. Once small-micro enterprises (SMEs) are firmly established, this institution is likely to promote easy flow of communications between the players and may also have lasting implications for technical interfaces (Pfammatter & Schertenleib, 1996). Small-micro enterprises are for-profit business ventures. They are operated by local entrepreneurs and by definition they are innovators and agents of change because their interests is in creativity, innovation and the steady search for new products or new ideas (Ahmed & Ali, 2004).

In recent years, due to economic meltdown, reduced public expenditure, and the failure of municipal governments in developing countries to provide basic urban services to their citizens, the way has been paved for small-micro enterprises to flourish (Ahmed & Ali, 2004; Carson, et al. 1995). They entered into urban solid waste management services because they were able to locate a gap in the provision of a service and the existence of demand for fulfilling that gap. For example, they found demand for door-to-door waste collection that the local government could not provide, and seized the opportunity to provide that service in communities or neighbourhoods at affordable costs to the households (Ahmed & Ali, 2004).

In cities across Latin America, Asia and Africa, small-micro enterprises have virtually taken over the provision of solid waste management services where local governments have failed (Korfmacher, 1997). They employ simple and small local equipment such as tricycle vans in their daily operations to provide house-to-house refuse collection for a small monthly fee charged to each household. Any valuable items are salvaged and sold to small or large recycling companies to maximize gain (Ahmed & Ali, 2004; Moreno et al. 1999). The model is in the form of demand–response exchange system, and they keep close relationships with their clients. As there is profit to be made and efficiency on the part of service providers, there is potential for sustainability. This is indicated by their decades of services in Latin American cities and Bangladesh in the India sub-continent. The question one needs to ask at this point is whether the above experience can be replicated in Nigerian cities where there is no such experience?

The diversity of entrepreneurial forms of small-micro enterprises identified in Latin American cities operates in every part of the waste stream. Some of them are concerned with waste

reduction at the sources while others are engaged in the sweeping and cleaning of public streets, waste collection and haulage to final dumpsites (Moreno et al. 1999). In many cases, an enterprise has one principal duty with many secondary ones. These types of MSE/COOPs arrangements are prevalent in Cochabamba and Bolivia, where they engage in waste collection, street sweeping, cleaning of canals and storm drains, as well as park maintenance. In certain instances, the terms of contracts with cities require the MSE/COOPs to perform complementary works for which they are not paid. It is important to note that a majority of the entrepreneurial set-ups reviewed in this section were envisioned and promoted as a means of urban solid waste management services delivery to the poorer neighbourhoods or communities in those cities.

Table 4. Types of MSE/COOPS in Latin American Cities

Types of MSE/COOPS	Cities Where They Can Be Found
1. Groups of small entrepreneurs providing services directly to the population with municipal approval	• Guatemala City, Guatemala • Alajuela, Costa Rica • San Salvador, El Salvador • Cochabamba, Bolivia
2. Informal sector waste pickers who have been organized to protect their livelihoods	• The Canoes Association of waste pickers and carters and the Coopamare Cooperative, Brazil, • The National Association of Recyclers (ANR, Colombia) • Recuperar Cooperative, Colombia
3. Collection enterprises backed by the community.	• Some mostly in Costa Rica • Some micro-enterprises in Lima, Peru
4. Collection organizations established by the community	• Sao Francisco Community Centre, Brazil • Prevalent in Costa Rica
5. MSE/Coops sponsored by International development aid organizations	• Micro-enterprises in Lima, Cajamarca, Iio and Piura, Peru • El Alto, Bolivia • Pre-cooperatives in Cucuta, Colombia • Alameda Norte, Guatemala
6. MSE/Coops established by and with the help of municipal governments	• La Paz, Bolivia

Source: The author, 2010

2.5.12 Private Sector Involvement in USWM

Historically, there was the wide perception that the private sector (private company) could not participate in the provision of urban solid waste management. However, during the 1970s, public opinion shifted towards their inclusion because of the increasing costs of waste collection and disposal rendered by the municipal governments. Consequently, competitive bidding for contracts was introduced in the area of municipal waste management services. In the 1980s, intensification of the political swing towards a market-oriented ideology and the rearrangement of public sector role in the provision of services added to the demands for the privatization of waste management. Thus, the liberalization agenda of that historical epoch vis-à-vis the call for the government to hands off certain responsibilities was broadened to encompass the privatization of waste collection and disposal functions of the municipal authorities (Davoudi, 2000).

The World Bank in 1994 advocated three basic strategies necessary for restructuring the provision of infrastructural services in developing world. These strategies comprised a broader application of financial principles in service provision, broader competition and increased involvement of users (Ogu, 2000). One of the components of these strategies was to encourage the public sector to provide enabling mechanism for private sector through regulatory, institutional and fiscal framework, instead of taking on the direct role in the provision of infrastructure services. In addition, an enabling mechanism was also proposed by the World Bank, which encourages private sector involvement and public-private sector partnerships and other types of engagement. This strategy, called for the involvement of non-governmental organizations, communities and households to be adopted as a policy in the housing sector of the Global Strategy for shelter to the year 2000 (Ogu, 2000; World Bank, 1994). In another development, Member Countries of the United Nations at the City Summit held in Istanbul in June 1996 endorsed the facilitation of private sector involvement in urban infrastructure service development and management by the public sector through various arrangements.

The poor state of solid waste management and the degeneration of urban landscape in most cities in developing world, partly results from heaps of uncollected waste in neighbourhoods and public places. Compounded by the inability of municipal officials to respond effectively to the challenge, it necessitates searching for alternative service providers to salvage their cities from continuous deterioration (Awortwi, 2006; Ogu, 2000). Toward this goal, four broad types of private sector involvement in urban solid waste management have been identified. Firstly, contracting out

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through a competitive bidding process, a private company can be awarded the contract for refuse collection, transfer and dumpsite operation. Such a company would be paid for its services by the local authorities as set out in the contract. Secondly, franchises can be conferred on private individuals or enterprises, this process would entail a competitive selection process for private companies, which can be asked to deposit a performance bond with the local government and undertake the provision of urban solid waste services in some quarters of the city. In this type of arrangement, the private company would recover the costs of the services directly from clients, but the government may be obliged to set the price. Thirdly, the concession approach which includes a long-term contractual agreement can be adopted. In this arrangement a private company is authorized to build and run a waste management facility in a specified area or community. Fourthly, open competition, this involves issuing out licenses to multiple qualified companies to compete and operate in any area of the city, providing urban solid waste services to residents. These alternatives are designed mainly to bring private sector capital into waste management and to promote efficiency in service provision (Ogu, 2000)

In Nigeria, the history of private company participation dates back to 1980 when open competition approach to waste management was implemented for half a decade before it was replaced by the contracting out approach in 1985 (Ogu, 2000). Municipal authorities in Ibadan awarded franchises to some waste operators in 1985 to provide waste collection and disposal services in the high-income residential neighbourhoods in the city. By mid-1998 the city authorities had switched to the contracting out approach. Through this process, forty-nine companies were contracted to collect and dispose of waste in the city. Likewise, in 1995, Benin City authorities adopted the contracting out strategy of private sector participation in urban solid waste management covering all areas of the city. This was labelled the "commercialization" of waste services in apparent public disgust for the approach (Ogu, 2000).

Privatization of urban solid waste management in Tanzania took a somewhat different approach. Here there are two alternative strategies to privatization. First alternative: a city would literally hand over the service to private firms and pay them for the services rendered. The second alternative: a private company would take over the entire responsibility for the management of solid waste and revenue collection. In Dar es Salaam, the second alternative was the preferred option. The municipal Council entered into an agreement with a private contractor for a 5-year period (Yhdego, 1995). In urban centres in Ghana, private sector involvement in sanitation and solid waste (SSW)

services is divided into two different arrangements. These are the commercial sector/neighbourhood, operated by private companies, and the non-commercial sector is operated by community-based organizations (Awortwi, 2006).

2.5.13 Public-Private-Partnership (PPPs)

The literature is replete with evidence documenting and analyzing the realignment between government, the private sector, and civil society at the community, regional, and international levels (Post & Obirih-Opareh, 2003; Takahashi & Smutny, 2001). Also, there is a rich body of literature documenting the relationships between public sector and non-governmental organizations in the provision of urban solid waste services at the community level. However, less attention has been paid to collaborative practices among local, small, and informal sector and community-based organizations. Small community-based organizations have looked to collaborative partnerships for many reasons. First, services provided by non-governmental organizations are spatially uneven; second, there remain huge service gaps. The public and foundations funders are asking for coordinated service delivery and are increasingly making third mandates inevitable (Takahashi & Smutny, 2002). This section of the chapter will henceforth focus on the roles and actions of public-private partnerships in urban solid waste management in developing countries. In doing so, this section will examine some of the works of prominent scholars in the field of urban solid waste management in the less developed world.

In deliberating on how to make city management and local governance more effective in the developing countries, it is imperative to re-enact the connectedness between government, the private sector and civil society. The new understanding will enable the governments to focus on creating the institutional framework that authorizes private-sector players, both commercial and non-profit, to participate directly in providing housing and urban services. The rearrangement will engender another approach to governing that acknowledges the contribution of various players such as public organizations, private enterprises, non-governmental organizations, and community-based organizations in the administration of public affairs (Awortwi, 2006; Post & Obirih-Opareh, 2003; Stoker, 1998).

Within this deliberation, much attention is given to the power of partnership or co-management arrangements between different actors in realizing such delivery of services (Dohrman &Aiello, 1999; Post and Obirih-Opareh, 2003). Post and Obirih-Opareh (2003), comment that

partnerships promote effective actions especially when they include all-important stakeholders, and avoid the problems of exclusion and fragmentation. Partnerships must also acknowledge the intricate social dynamics surrounding interventions, and take these into consideration in the design and implementation of projects. According to these authors (2003, p. 46), "partnership is a more or less enduring mutually beneficial relationships between two or more actors based on a written or verbal agreement and having a concrete, physical, manifestation." Under mutually favourable environments, it is advantageous to have both the public and private sectors playing active roles, thus seizing on the strengths of each sector in the provision of public good (Ahmed & Ali, 2004; Ahmed & Ali, 2006).

In recent years, there has been a paradigm shift in the provision of urban solid waste management services in developing world. As Ahmed and Ali (2004) commented, public-private partnerships are considered as options to complete privatization in which government and private firms co-share responsibility in the provision of urban services. As such, many local authorities are now pursuing public-private-partnerships (PPPs) as a means of addressing the mushrooming and long-neglected issue of urban solid waste management. The overriding objective is to extend services to previously disadvantaged and marginalized low-income communities or neighbourhoods (Dohrman & Aiello, 1999; Parrot et al. 2008). As Ahmed and Ali (2004, p. 471) succinctly put it "through these partnerships, the comparative advantages of the private sector-dynamic, access to solid finance, knowledge of technologies, managerial efficiency, and entrepreneurial spirit – are combined with the social responsibility, environmental awareness, local knowledge and job generation concerns of the public sector."

Public-private-partnerships could provide the best of both sectors, and one can conclude that such a triad of relationship are naturally inclined to maximize benefit or synergy for all concerned. In an ideal situation, partnership between the two is not difficult to achieve, but an environment that is conducive is needed to foster trust and good working relationships because public-private-partnerships go beyond the public sector just offering co-operation to the private sector to promote the profitability of local companies (Ahmed & Ali, 2004; Ahmed & Ali, 2006; Parrot, et al. 2008). It is way beyond infrequent meetings between municipal officials and local business organizations because partnerships are shared obligations to pursue common interests. Ahmed and Ali (2004, pp. 471-2) went further to provide a list of enabling conditions that are required to establish successful public-private partnerships, which are:

- "Positive culture that encourages leadership and citizen participation, and that is related to the long-term development concerns of the community."
- "A realistic common acceptable vision among the sectors public, private and the community members that is based on the area's strengths and weaknesses as well as on a common understanding of the potential of the area."
- "A participatory ethos in concerned organizations that can blend the self-interest of members with the broader interest of the community."
- "Continuity of policy in the sector including the ability to adapt to changing circumstances and reduce uncertainty for business and individuals who want to take economic risk."

Ahmed and Ali (2004) also illuminate the theoretical background of public-private-partnerships to further elucidate the legality of such arrangements with regard to urban solid waste management. From sociological perspectives, public–private-partnerships in urban solid waste management can be seen in light of sociological theories of functionalism and general systems. Functionalism theory believes that institutions must survive by adapting to changing environments by means of initiating interdependence between its different branches or partners. According to these authors (2003), PPPs in urban solid waste management adapts to this theory perfectly well if we see the partners as parts of a whole organization that provide services. Again, those partners that are public or private may be viewed as interdependent organs of a bigger organization each having its specific duty working towards one common goal of providing effective services.

The general system theory differs from the functionalism theory because it sees partnership from three different perspectives. (1) system relations to decide the nature of relationship between different elements of a system; (2) systems effectiveness to probe how satisfactory are relationships among different elements of a system for the entire system to endure; and (3) system vibrancies to scrutinize what forces a system to change and the direction in which the change happens. Ahmed and Ali (2004) believe that this theory is important to public-private-partnership for urban solid waste management. Because it is a precondition to have clear division of function and defined relationship to make PPPs work in the USWM sector. It is essential that the private sector be given the function in which they have the highest potential to succeed or comparative advantage. For instance, the private sector has a competitive edge over the public sector in the area of primary collection. On the other hand, financial and management inputs for running secondary collection may be beyond the ability of some private sector organizations to handle, it is a good idea to leave this work to the public sector. It is also vital to make an evaluation of how comfortable the partners are in a PPPs co-management. Adaptation in the way each sector functions is also important to nurture and sustain the partnership so that the best resource utilization is guaranteed. The partnership arrangement should be dynamic, as

different elements like population growth, new legislations and acquisition of new skills will demand change in the arrangement over time. The force and direction of change in the work carried out by the private and the public sectors should be carefully considered to maintain the best balance (Ahmed & Ali, 2004).

Evidence shows that the private sector constantly generates high returns and operates more efficiently. There are also indications that in the private sector, entrepreneurs and commercial enterprise succeed by minimizing costs i.e. by not paying out more than what is necessary to acquire what is needed (Ahmed & Ali, 2004; Hart, 1998). For decades, there have been increasing concerns about government expenditure at all levels of government; as a result an alternative economic arrangement has been coming forth. In the early 1950s, scholars such as Dahl and Lindblom nurtured the concept of public and private sectors (Ahmed & Ali, 2004; & Larkin, 1994). As co-existence of the two sectors became more broadly accepted, a new concept of 'mixed economy' was coined to explain such arrangements. Some scholars such as Hull and Jhern, (1983) cited in Larkin, (1994) investigated some features of mixed economy in detail. They posit that commercial ventures are becoming more independent of government agencies and many government agencies are becoming more like business ventures (Larkin, 1994). They further comment that both public and private sector agencies behave in a conventional way with regard to some problems and display the behaviour of their counterpart. Others have used the term "hybrid" to describe the new forms of public and private sector as well as speculate that these "hybrid" or ''third sector organizations'' hold a great deal of promise for various domestic issues. They believe that these third sector organizations provide a way to merge the 'efficiency and expertise' from the commercial world with public sector concern, responsibility and broader government planning agenda (Ahmed & Ali, 2004; Larkin, 1994).

In some cities in developing countries, public-private-partnerships (PPPs) have been viewed as alternatives to traditional model for urban solid waste management, particularly in terms of innovation (Ahmed & Ali, 2006; Parrot et al. 2008). For example, since early 1992, the municipal authorities of Jakarta, Bandung, and Surabaya in Indonesia have collaborated at the regional level sharing their work experiences, capacity building, formulation of waste management approaches, and the improvements of the role of scavengers in urban solid waste management (Indrayana & Silas (1993). Also, the non-governmental organization (NGOs) in the three municipalities has collaborated to organize various meetings on how to combat the problem of waste. Presently, the focus of the

NGOs is to help municipal governments, especially those outside of Jakarta, Bandung, and Surabaya to make the role of waste pickers more effective and their work safer (Indrayana & Silas, 1993).

Surabaya, the second largest city in Indonesia with a population of approximately 3 million in 1992, developed a partnership approach to urban solid waste management by involving actors along horizontal and vertical levels including university professors and enterprises. Another strategy developed was the inclusion of the informal sector as an integral part of the urban solid waste management system with status in urban solid waste management (Indrayana & Silas, 1993; Silas, 1992). At the neighbourhood level, the Kampung Improvement Program in Surabaya has drawn national and international attention because it tackles the basic urban infrastructure need of the low-income urban residents in a sustainable manner. The scheme was based on the notion that sustainable local development can only be achieved through partnerships between the public sector and the community (Silas, 1992). To be certain of regular waste collection service, some communities in Kampung made provision for the collection of their wastes. About 12,000 waste collectors/street sweepers in yellow uniforms (Yellow Army) were hired for the collection and disposal of waste. The municipal government hired additional 1,300 street sweepers and cleaners to supplement those hired by the communities (Silas, 1992).

Many urban centres in Africa are pursuing alternative approaches to urban solid waste management including pursuing public-private-partnerships (PPPs) as a way of tackling the escalating and long-neglected problem of urban solid waste management. They are particularly looking for ways to extend services to previously disadvantaged, low-income communities (Dohrman & Aiello (1999). In Cameroon, several non-governmental organizations (NGOs), and community-based organizations (CBOs) are participating in the collection and recycling of waste, along with the official agency responsible for solid waste management. Hydiéne et Salubrité du Cameroon (HYSACAM) is a private firm that has been operating in Yaoundé since 1979 and in Douala since 1969. The local authorities decided to enter into a partnership with the private firm based on its innovative strategy and its reputation in the city of Douala (Parrot et al. 2008). In the city of Douala, HYSACAM introduced local equipment, a management strategy geared toward meeting local needs, and appropriate for the local environment, built or natural. HSYSACAM employs about 1200 employees and operates in major cities in Cameroon (Parrot et al. 2008). As a result, the HYSACAM has set up public-private-partnerships between the Urban Community of Yaoundé (UCY) and informal agreements with small collector operators to collect waste in upper class neighbourhoods are in effect.

The public-private-partnerships between UCY and HYSACAM carry out the collection, transportation, processing, streets and markets cleaning in many cities in this West African country.

Some West African countries like Burkina Faso and Mali have shown great interest in public-private-partnership arrangements as a way of providing urban solid waste management services. Eaton and Hilhorst (2003) note that immediately after the attainment of self-rule, the local government authorities in Ouagadougou and Bamako in Mali, and Burkina Faso took over the management of solid waste collection and disposal services. These authors further noted that the local authorities pooled their resources together and invested in trucks and other waste disposal equipment. But by the 1990s, due to rapid urbanization and urban sprawl compounded by inadequate administrative systems, the governments reluctantly accepted private sector and non-government organizations' participation in waste management enterprises. As a result, in Bamako, a number of small enterprises called "Groupment d'Interet Economique" (GIE) started to flourish in the areas of waste collection and disposal services in some communities. They charged user fees for collecting and dumping their wastes using carts and donkeys. In some cases, some kind of sorting was done by each enterprise before local government's trucks hauled the remaining waste to their final disposal sites (Eaton & Hilhorst, 2003)

In Ghana, various public-private- partnerships for the provision of urban solid waste management services are in operation. Under the contracting-out arrangement, the municipal government hired a private operator to perform one or more specified tasks of services for a given period. The municipal government sets the performance standard for the service, evaluates competitions and prospective tenders, supervises performance and pays agreed fees for the services delivered (Awortwi, 2006; Post & Obirih-Opareh, 2003).

In other cities such as Ibadan, Kano, and Enugu, the PPPs arrangements were to some degree similar to what obtained in Lagos. In the city of Ibadan, the private enterprise arrangement for the collection and disposal of solid waste worked very well to some extent between 1985 and 1987, before failure set in. Thereafter, it became the responsibility of the State Environmental Protection Agency to collect and dispose of wastes in the city. As a result of this new arrangement, the Ibadan Waste Management Authority (IWMA) was established to take over the management of solid waste in the city (Olokesusi et al., 2005). In a recent development, in the city of Ibadan, the state government in partnership with the Bodija Market Traders Association, Sustainable Ibadan Project

(SIP) and technocrats drawn from the University of Ibadan set up a Pace Setter Organic Fertilizer Plant (PSOFP) in 1998 (Adeyemi & Adeyemo, 2007; Ogu, 2000, Olaseha et al. 2005; Onibokun et al. 2000). The PSOFP pilot project is conceptually a "Waste-to-Wealth" initiative of utilizing part of the organic waste generated in Bodija market. It grew out of the necessity to get rid of the enormous organic waste produced in the densely populated Bodija market in the core city of Ibadan, regarded as the second largest indigenous city in Africa (Ogu, 2000, Olaseha et al. 2005).

In principle, PPPs provide each of the actors involved with some benefits. However, this does not imply equality among them because there is problem of power relations between internal and external actors, between municipal governments on the one hand, and actors on the otheer (Post & Obirih-Opareh, 2003). It is important to mention that public-private-partnership system has not proved to be a panacea or remedy to the urban solid waste management problems in developing countries. This is so because public and private operators such as local NGOs and CBOs participating in the provision of urban solid waste management services face enormous financial, institutional and technical problems (Henry et al. 2006; Kassim & Ali, 2006; Mosler et al. 2006; Parrot et al. 2008). Other challenges facing PPPs in developing countries include the lack of policy frameworks and implementation strategies at the regional and local levels. For better performance, there must be appropriate policy frameworks and implementation strategies that must be accompanied by new forms of governance to increase efficiency and maximum people involvement in the delivery of services (Ahmed & Ali, 2004; Onibokun & Kumuyi, 1999). For sustainable and effective public-private-partnership in urban solid waste management to hold, both public agency and private operator must change to a new way of doing business (Ahmed &Ali, 2004). It is difficult for public agencies such as local governments to shift from their conventional role of service providers to adapt to a new role of service partner and regulator. This is a dilemma that municipal government must overcome if they (municipal governments) must enter into partnerships with private operators for the provision of urban solid waste management services.

Many public-private-partnerships have met the expectations for which they were set up in the first place. However, in some other cases, there are challenges to be overcome. A study on a public-private-partnership involving community leader, an NGO, State agencies, and the Zabbaleens, a group of immigrants with a long tradition in recycling in Cairo, Egypt acknowledges its relative success. There is a consensus that the experience of the Zabbaleens could be replicated in other cities in the developing world (Adama, 2007). On the contrary, in Hanna Nasif, Dar es Salaam, Tanzania a

partnership between municipal authorities and a community-based organization (CBO) face many problems due to unequal power relations. The high-handedness of municipal authorities, unnecessary interference in the daily affairs of the CBO and the failure to seek the views of the CBO and local residents on major issues were cited as elements that contributed to its failure. In the case of Cairo, relations between the State and community leaders and organizations were labelled as cooperative. While the Dar es Salaam study validates the notion that public-private partnships are often besieged with the practice of exclusion. This can be attributed to the unequal capacity of actors based on differential access to the corridor of power. Those that are influential and powerful exercise the most influence over the weaker ones in the final analysis (Adama, 2007; Elander, 2002).

2.5.14 Gender Dimension in Urban Solid Waste Management

Governance often raises the question of who participates as participation in public management can be based on existing social stratification such as class, ethnicity, age and gender. Among these, gender and class are socially constructed and said to be the most insidious (Kabeer, 1994). Public-private-partnerships in urban solid waste management do have a gender element.

Men and women may have different knowledge of waste disposal sites in their communities or neighbourhoods. They may also have conflicting understanding of different types of waste. For example, in Szentendre Island, Hungary, a separate-sex mapping exercise resulted in maps drawn by men's group showing junks and scrap metal from abandoned vehicles, tires and farm tractors. Other maps drawn by men have shown demolition materials from buildings and construction wastes materials. On the contrary, maps drawn by women revealed more disposal sites for household wastes when compared to some of the disposal sites mapped by men (Scheinberg et al. 1999).

In many urban centres in Latin America, evidence shows that participation of women and men in the micro and small enterprise and cooperative (MSE/COOPs) differs from region to region. In the Central American countries, urban solid waste collection activities are men's sphere. However, in Peru and Bolivia a good number of women are taking part in waste collection (Moreno et al. 1999). The Peruvian street sweeping enterprises favour the hiring of women because governments considered them more observant and efficient at work than men. This notion is based in part on the stereotype that women are more likely to carefully identify areas that are dirty due to their diligence and innate domestic responsibilities. Others believe that the initial decision to start MSE/COOPs in Peru and Bolivia with women's strong involvement had much to do with an understanding of the

relative disadvantages faced by women in urban peripheries (Moreno et al. 1999). However, in some cities in Peru, there is no gender differentiation in terms of sharing the responsibilities of work between men and women. Women and men earn the same wage for the same job. No problems have arisen due to unfair treatment or personal confrontation because of gender differences (Moreno et al. 1999). Yet, this is not to suggest that cooperation between men and women is always harmonious.

In Dar es Salaam, Tanzania women's community-based organizations (CBOs) dominate waste collection activities. Women head these organizations and employ female subordinate workers. Only two of such organizations are managed by youths in the city (van de Klundert & Muller, 1998). It is argued that tradition, culture, religion, image, ideologies, and social norms combine to delineate and dictate the tasks to be executed by women and men in a particular society. Essentially, culture and religion exclude women from decision-making processes in community efforts to provide solid waste management services (Adama, 2007; Moreno et al. 1999; van de Klundert & Muller, 1998). Likewise, in Ouagadougou, Burkina Faso, community-based organizations involved in waste collection at the inception of the initiative hired men only as waste collectors, but denied women the same opportunity. The men only stayed on the job for a few months and left for better paying jobs. Thereafter, the CBO hired women as waste collectors in the community. These women stayed with the organization much longer than the men because they were determined to keep the job in spite of their family responsibilities (van de Klundert & Muller, 1998). And we can ascribe this tendency to their level of education and aspiration, no doubt.

Ideally, collaboration between community and government can make an impact through the stated objectives and the establishment of committees. The formulation of the aims and objectives at the initial stage is the right time and place to tackle the gender issue. Nevertheless, as Ashworth (1996) puts it, the "lack of a written and citable political commitment to social and gender equality from the executive or any national plan of action to make changes to current disparities" (Adama, 2007, p. 80), is one of the obstacles confronting women in solid waste management service jobs as well as other areas. Closely related to this is the failure to introduce affirmative action. This is especially important when it comes to choosing members into a partnership. As Adama (2007) writes, power is not confined to any single entity of the social system but in the social relations, which enable men to mobilize a greater range of assets – political or economic.

The issues discussed in the chapter presented a review of the literature pertinent to urban solid waste management in developing countries and some of the problems associated with it. At the outset, two important concepts of waste management, the 'value' and 'conservation' of waste materials were elucidated. Importantly, the chapter discussed waste management systems in traditional Nigerian society as well as reviewed urban solid waste management and planning in the developing world in general. Finally, this chapter reviewed some literature on community-based organizations, the role of small-microenterprises and PPPs in waste management in developing countries.

Chapter 3

The Role of Planning Theory in Community-Based USWM Initiatives

3.1 Introduction to the Chapter

Planning theory is another aspect of the available literature that informs this research. It provides specific planning tools for analyzing strong relational resources through networks and activities that may be used to facilitate urban solid waste management at the community and institutional levels. The objectives of this section are to review planning theories that may be relevant to social capital and community-based urban solid waste management research. In addition, to understand how planning theory can be integrated into social capital and urban solid waste management research at the community and institutional levels. Toward this end, this chapter is structured into two major sections. Subsequent to this introductory part are two sections that examine four important planning models pertinent to community-based urban solid waste management at the community level. The next section examines social learning, community and institutional capacity building in relation to social capital and community-based urban solid waste management at the community and institutional levels.

There are various definitions of planning offered in the literature. Fainstein and Fainstein (1996, p. 265), for instance, defined Planning as "future-oriented, public decision making directed toward attaining specific goals." Alexander (1986, p. 43) defined planning as "the deliberate social or organizational activity of developing an optimal strategy for future action to achieve a desired set of goals, for solving problems in complex contexts, and attended by the power and intention to commit resources and to act as necessary to implement the chosen strategy." As implicit in the above, the main elements of planning are social or organizational activity, orientation and identification of desirable future goals as well as problem solving mechanisms, accompanied by the resources and power necessary to achieve or pursue their implementation (Alexander, 1992; Friedmann, 1997; Healey, 1987).

In one of the most highly regarded works on planning theory, Friedmann (1987) traces the origins of four traditions in planning: policy analysis, social learning, social reform, and social

mobilization. Policy analysis emerged from the fields of management and information science, public administration, and economics. It is usually a government activity which follows a rational process with public consultation. Social learning can be characterized as, 'learning by doing'. On the one hand, social reform focuses on the role of the state in societal guidance, framing planning as a 'scientific endeavour' and seeking to institutionalize it as a process. On the other hand, the social mobilization planning tradition seems to "depart from all others by asserting the primacy of direct collective action from below" (Friedmann, 1987, p. 83). It is quite essential in fostering and empowering social movements seeking to transform social structure and processes (Friedmann, 1987). The aforementioned four planning traditions revolve around one main interest that is "how knowledge should be properly linked to action" (Friedmann, 1987, p. 74). Friedmann comments that the government has a duty in articulating societal guidance towards a change in society. This statement can be equated to his previous delineation of planning that "planning attempts to link scientific and technical knowledge to processes of social transformation."

There are different ways of categorizing planning theories. As pointed out by Hudson (1979), for instance, Faludi (1973), planning theories falls into two sub-categories; substantive and procedural models. Healey (1997) on her part delineated traditions of the American and European planning thought into three groups: economic planning, physical development, and public administration (policy analysis). On the other hand, Alexander (1986) organized planning theories into three groups: substantive, which entails physical planning, land-use planning, transportation planning, public investments in infrastructure, housing, environmental and resource planning, social and economic planning. The second group of planning model 'instrumental' include, regulatory planning, allocative planning, development planning, and the last group 'contextual' includes, comprehensive planning, social planning, advocacy planning, radical planning, and incremental planning. In considering field pertinence to the use of social capital and community-based solid waste management and intervention, planning discipline is probably the most applicable. This is in part due to its economic, political, social, cultural, and ethnic dimensions and its relation to community development.

3.2 The Rational Comprehensive Planning Model (RCM)

The rational comprehensive planning model (RCM) has been one of the prevailing planning traditions in the United States (Hudson, 1979; Mitchell, 1997; Yudoko, 2000) and it was very famous between 1950s and early 1960s (Alexander, 1986). It perceives issues from a systems view (Hudson,

1979) as such it considers a broader range of issues and depends heavily on quantitative analysis (Alexander 1986; Hudson, 1979; Mitchell, 1997). Some of the assertions of the rational comprehensive model include pre-eminence of the planners' as experts deciding other people's needs and the obligation of a central planning body with the power to formulate plans (Alexander, 1986).

The planning process of the rational comprehensive model normally comprises several stages: problem definition, establishment of goals and objectives, identification of alternative ways of achieving goals and objectives, measurement of the alternatives using some precise criteria, selection of a preferred solution and its execution, and monitoring and evaluation. Each of these stages allows iterations and they entail feedback instruments (Hudson, 1979; Mitchell, 1997). The RCM has been a major planning model often used by planners in waste management planning because the model has been a predominant theory in land use planning (Chen, 2008; Hostovsky, 2000). The focus of RCM in waste planning has been in the area of optimizing facility siting (Albakri et al. 1988; Frantzis, 1993) and approaches to treatment (Powell, 1996). The process of evaluation and optimization in RCM followed a rigid 'top-down' approach often depends on qualitative methods and rational processes. The decisive factor for evaluation could be comprehensive in nature, which entails environmental, social, and economic characteristics (Chen, 2008; Frantzis, 1993; Powell, 1996). It is important to emphasize that the mathematically optimized plans might face obstacles in execution because of other special interest groups, and neighbourhood groups that may vehemently oppose the waste siting.

Hudson (1979) comments that one distinctive advantage of the RCM planning model is its simplicity because it tackles important issues in terms of ends, means, trade-offs, and action. Nevertheless, this planning model has been criticized by some planning theorists because of its insensitivity to institutional capacities, reductionism, bias toward central control in defining issues and solutions. Importantly, for its failure to recognize the cognitive limits of decision makers (Hostovsky, 2006; Hudson, 1979; Mitchell, 1997).

3.3 Collaborative Planning Theory

Collaborative planning emphasizes the concepts of power, equity, and quality of processes in the field of planning. One pivotal name synonymous with collaborative planning is Patsy Healy with her ideas presented in the seminal work, *Collaborative Planning: Shaping Places in Fragmented*

Societies (Healy, 1997). Some scholars have concluded that the work of Habermas underlines Healy's collaborative planning theory. Innes (2004) comments that "Habermas' communicative rationality is an idealized process of knowledge creation in which a kind of truth emerged as interest groups engage in dialogue, undistorted by power and information disparities and where assumptions are challenged" (Innes, 2004, p. 10). However, Healy herself has disputed this conclusion and argues that "it is the work of Anthony Giddens on structure and agency that most closely resonated with her practical experience" (Healy, 2003, p. 106). Clearly, Giddens work provided Healy with a theoretical framework for situating the work of participants in planning or governance within a process through which institutional structures and processes are continuously established through individual human agency. Giddens' work highlights the fact that human agency plays a major role in planning and has the potential to change social structures.

The proponents of collaborative planning see it as a strategy for resolving conflict where other planning models have failed particularly in relation to partnership. The essential value of collaborative model lies in its role in building an institutional capacity concentrating on promoting the ability of stakeholders to enhance their power in order to be able to contribute to the quality of their environment (Healey, 1998; Peterman, 2004). It is believed to be part of a reaction by society to the transforming circumstances of increasing networks where power and information are evenly distributed (Booher & Innes, 2002; Lederer & Seasons, 2005; Margerum, 2002). Other scholars viewed collaborative planning as a planning process based on the principle of collaboration, communicative planning, consensus building, and institutionalization (Healey, 1997; Thomson & Perry, 2006). Through collaboration planning resolutions are more quickly executed in the planning process. Because relationships among decision-makers are built and well instituted – creating understanding among interest groups which in turn leads to creating new ways of reflecting and acting to gather (Healey, 2003). Collaborative theorists contend that fairness and equity are easier to attain with collaborative principles (Healey, 1997; Innes and Booher, 1999).

Collaborative planning is a promising concept in planning theory with respect to environmental management, particularly in the area of urban solid waste management (Andrew, 2001; Peterman, 2004). The fundamental importance of this concept hinges on the trust, responsibility and planning which it fosters amongst multiple stakeholders who participate in face-to-face discussions to arrive at consensus agreements (Day et al. (2003). For example, Andrew (2001)

investigated 54 cases of collaborative processes used in settling waste management conflicts in Ontario and Massachusetts. He concluded that the processes were successful in settling 81 per cent of the disputes and 75 per cent of the processes were seen to be more efficient than the alternatives, such as hearing or litigation. Apart from that study, Leach et al. (2002) investigated 44 cases of collaborative watershed planning in California and Washington through phone interviews. Their results show that collaborative planning has a positive effect in planning and managing watershed. The research also found that the processes were successful in attaining social capital benefits and agreement among stakeholders. In spite of the successes of collaborative planning in environmental management, other scholars have cautioned about the use of collaborative model in environmental management. Some scholars have argued that collaborative planning may not be suitable in many environmental planning circumstances that involve essential value differences among stakeholders (Painter, 1988; Rabe, 1988; Campbell, 2003).

The process of framework for collaboration suggests that collaboration occurs over time as organizations communicate formally and informally through repetitive series of negotiation, development of commitments, and implementation of those commitments (Thomson & Perry, 2006). Scholars have conceptualized the collaboration process in terms of a continuum of phases. For instance, Gary's (1985) three-stage of framework involves problems setting, direction setting, and implementation. Himmelman (1996) sees collaboration process as a continuum of strategies that ranges from improving the community to transforming it through "empowerment and collaboration." Ring and Van de Ven (1994) put forward a useful framework for thinking about the process of collaboration. The authors envisage the process as iterative and cyclical rather than linear. Thomson and Perry (2006) comment that by using this logic, if organizations that are involved in collaboration can negotiate and set aside their negligible differences, congruent expectations regarding their collective action can be attained. If the collective action is implemented in a give and take manner, then participating organizations will continue to expand their reciprocal commitments. If these commitments are not executed in a mutually beneficial way, then participants will initiate corrective measures either through renegotiation or by reducing their expectations. The degree to which organizations exercise their voice or exit often depends on the degree to which they have an aggregative or an integrative view of collaboration. As the framework illustrates, collaboration implies a cyclical process or renegotiation.

In the empirical and theoretical literature of collaborative planning discipline, implementing a collaborative model to tackle a problem patterning to multiple stakeholders, it is argued that it will result in a broad array of benefits. These benefits include:

- Combined information, knowledge and skills from multiple stakeholders (Mitchell, 1997; Margerum, 1999);
- Produce harmony over solutions (Innes & Booher, 1999);
- Establish a sense of ownership over the outcomes (Mitchell, 1997);
- Open interaction channels between actors (Buchy & Race, 2001; Tewdwr-Jones, 1998);
- Achieve reciprocal learning and personal development and growth from participants (Buchy & Race, 2001; Healey, 1997; Sager, 1994);
- Bring about increase democratization of the decision making process (Forester, 1985; Healey, 1997; Sager, 1994);
- Diversity provides the building blocks for a network to create new environments and solutions (Booher & Innes, 2002).

Both proponents and critics of collaborative planning have also point to some of the weaknesses and challenges of the collaborative approach (Army, 1987; Cormick, 1987; Forester, 1989). First, collaborative planning is established on the principle of stakeholders being inspired to negotiate with each other (Day & Gunton, 2003). In some cases, those stakeholders in upper echelons of power will try to avoid or simply undermine collaborative planning by using delay tactics, or pursue alternative means to achieve their aims, if they do not like the result of collaboration (Booher & Innes, 2002). Sometimes if those powerful stakeholders are encouraged to negotiate, the asymmetrical distribution of negotiating skills and resources can result in inequitable outcomes. Those in weaker position who are frustrated with the process may withdraw, thereby reducing the likelihood of mutually beneficial outcomes (Booher & Innes, 2002).

Stakeholder groups interested and able to participate in collaborative planning may represent a narrow spectrum of special interest groups that exclude broader public interests that may not adequately be represented by organized groups (Army, 1987; Beierle & Cayford, 2002; Gray, 1985; Gunton & Fynn, 1992). Consensus rule may motivate stakeholders to seek second-best answers, in order to reach attainable outcomes (Born & Genskow, 2000; Gregory et al., 2001; Griffin, 1999). However, complex issues or scientifically derived ecological constraints may be ignored in an attempt

to achieve a consensus and recommendations maybe too vague to guide execution. The result can lead to poor implementation of collaborative consensus.

It has been acknowledged that collaborative planning poses serious logical challenges. For instance, organizing a process around a large group of potentially aggressive stakeholders consumes substantial efforts, resources and time. This is complicated by the potential lack of enthusiasm in planning officials to support the collaborative process because of their unwillingness to relinquish decision-making power to outside stakeholders (Gunton & Flynn, 1992). Some scholars have argued that collaborative planning may not be suitable in many environmental planning circumstances that involve essential value differences among stakeholders (Painter, 1988; Rabe, 1988; Campbell, 2003). For example, Caton (2003) developed the framework of "intractable" environmental problems characterized by values and power disputes that are not easily amenable to collaborative planning. Some spectators have suggested that as high as 90 per cent of environmental issues are inappropriate for consensus-based mediated solution (Army, 1987).

3.4 The Incremental Planning Theory

The incremental planning model is highly political and dwells on crisis management and responses to fragmented environmental regulations (Hostovsky, 2000). This planning model was proposed by Lindblom (1959) who referred to it as "the science of muddling through." The incremental planning model was put forward as a response to the criticisms of the rational comprehensive model. Unlike the rational comprehensive model which assumes the view of 'economic person' who endeavors to find the best answer, the incremental planning model follows the idea of an 'administrative person' who looks to gratify his/her aims or objectives. This is so because of its acceptance of the concept of 'bounded rationality', acknowledging the limits of the cognitive capacity of decision makers in coping with the intricacies of the real world (Alexander, 1986; Mitchell, 1997; Yudoko, 2000).

Among the contentions of the incremental planning model are the beliefs that the issues are not clearly conceptualized and no single correct answer exists (Mitchell, 1997). There is no cohesive approach in the decision making process as decisions are often spread out among many actors and every actor decides in accordance with his/her inclination and ability to process information about different problems (Khakee, 1998). Alexander (1986) argues that policy can be developed by trial and

error, instead of purposeful planning, while people's attitude and interactions will ultimately generate social optimal results with little regulation and enforcement. Friedmann (1989) believes that, the context of the policy is often a normal situation, not a catastrophe. The main elements of the planning process of the incremental planning model are decentralized negotiation processes for policy decisions, and ongoing sequence of incremental decisions or incremental and marginal changes in policy (Hudson, 1979; Khakee, 1998; Mitchell, 1997).

Tarr (1989) analyzes the history of municipal solid and hazardous waste management in the United States and found that research on contaminations caused by improper solid waste disposal practices was a consequence of public policy and often initiated after the occurrence of calamities (Chen, 2008). Changes in municipal solid waste management are also associated with the promulgation of environmental ordinances. For instance, ordinances in the 1960s and 1970s motivated state government actions, and resulted in new attitudes and behaviours towards waste management and increasing waste diversion levels (Chen, 2008). In recent time, the European Union's directive was thinking about the main impetus in the UK to the shift in solid waste disposal approaches from landfill to alternatives such as incineration and recycling programs (Chen, 2008; Davoudi, 2000). Thus, it is important to understand that a good strategy cannot depend solely on legislation and needs to consider local environments and integrate other management mechanisms to achieve the best possible outcome.

3.5 Advocacy Planning Theory

Advocacy planning was developed in America during the 1960s by Paul Davidoff (1965). The main intent of this theory comprises defending the interest of the poor in society (Davidoff, 1965; Hudson, 1979), while at the same time permitting planners to act and represent organizations whose interests are threatened. It stands against the myth of a special public interest, while support for the development of plurality of plans (Davidoff, 1965; Hudson, 1979; Alexander, 1992). Davidoff (1965, p.332) argues that "…planners should be able to engage in the political process as advocates of the interest both of government and of such other groups, organizers, or individuals who are connected with proposing policies for the future development of the community." In waste management and planning, the values and goals of specific agents can be promoted through advocacy. For instance, Lang (1990) contend for social equity; Kovacs (1993) who is a proponent of waste industries, call for effective political leadership to protect and increase disposal capacity in spite of opposition from

special interest groups to stop facilities siting . Burkart (1994) contend that waste planning should direct attention to public relations and that the problem of special interest groups could be settled through communication. Robert (2004) debates the relevance of the role of environmental industries in fostering new attitudes and practices among stakeholders and providing financial rewards to communities. In spite of its advantages, there are two criticisms levied against advocacy planning (Alexander, 1992). The first is the relevance of the legal model in a political situation. The function of planners in the planning process is similar to that of lawyers, which is thought to be adversarial. The second criticism relates to its ineffectiveness in creating support for constructive alternatives.

3.6 Interface Between Planning Theory and Social Capital

The purpose of this section is to find out if there are any linkages between planning theory and social capital research as it relates to urban solid waste management initiatives at the community level. For this reason, only a few selected contextual planning and collaborative models that are considered relevant and could facilitate the success of USWM at the community and institutional levels are elucidated.

Since Putnam (1993) initiated the application of social capital theory in the studies of Northern and Southern Italy, many scholars have used the concept to investigate social, political, economic and cultural phenomena, but very little work in the literature has integrated planning and social capital theories in a single research. A panoramic review of the literature relevant to social capital and planning theory will help us provide an adequate answer to the question at hand. Available literature indicates that there are two elements of social capital that are relevant to planning theory and practice globally: "social capital as an individual good and a collective good" (Briggs, 2004, p. 152). Although some scholars have debated whether social capital is a collective good or public good, many are of the view that it is both a collective and an individual good; "that is, institutionalized social relations with embedded assets that are expected to benefit both the collective and the individuals in the collective" (Lin, 2001, p. 26).

In everyday life experience, social capital as an individual good – an asset that helps people and their neighbourhoods or communities to tackle problems, "from the everyday to the crisis level, reaching out along networks, drawing on norms of trust and reciprocity and other social bonds around

which so much of our lives are informally organized" (Briggs, 2004, p. 132). On the other hand, social capital as a collective or public good is a resource possessed by a social system that helps the system as a whole to solve collective problems. Much of the current debate surrounding the concept were in fact produced within the concept of collective good, which many people regarded as a community value, rather than individuals; social capital as an asset that permits action to take place (Briggs, 2004, Lin, 2001). AS Putnam (2000) and others posit, communities that are rich in civic engagement and relatively high levels of social trust are richer in social capital in the collective sense. Civic participation is an asset that many members of community may benefit from. Communities endowed with the spirit of civic engagement are in good shape to better organize with a view to addressing collective problems, from managing a scarce and fragile resource such as a squalid urban environment to providing an indispensable service. They are also in better position to tackle uncomfortable problems that seem to challenge community members' values and beliefs as well as their associations with the state (Briggs, 2004).

Social capital theory provides an explanation for how people use their relationships to liaise with other players in societies for their individual and for the collective interest. This public good (or welfare), has both material components and broader spiritual and social aspects. Consequently, the notion of social capital captures the nature of social relations and uses it to describe outcomes in society (Adger, 2003). The collective or public aspects of social capital relates to networks that are public goods. This type of social capital promotes the overall economic growth, rather than that of a particular agent. These pertain public or collective goods that are provided by the government, such as major infrastructural investment in flood, management of water resources, spatial planning, the judicial system as well as defence and police protection (Adger, 2003, Olson, 1965).

Table 5. Summary of Planning Theory

Planning Theory	Summary
Rational Comprehensive Model	• Has strong beliefs in control and prediction and faith in technical solution to problem solving, • planner – as- experts are modelling and logical, step-wise process (e.g. identify problem, evaluate alternative, select, implement, and evaluate), • Planners manage change by making decisions about human actions and urban systems (shopping patterns, commuting patterns and traffic flows) • hinges heavily on quantitative analysis • often used by planners in waste management planning • focused on knowable future
Advocacy Planning Theory	• Deeply personal and highly political in nature, • protecting the interest of the poor in society • planner as advocate for the society and agent of change • it deals with the issues of equity • pays attention to public relations and communicative rationality
Incremental Planning Theory	• it is concerned more with practice than theory – making sense of the world through practice, • there is no greater goal or vision other than a focus on day-to-day problems, and the ability to plan is constrained by time and knowledge, • highly political and dwells on crisis management, • it was developed as a response to the criticisms of the rational comprehensive model • it follows the idea of administrative person • it accepts the concept of 'bounded rationality' • policies are often developed by trial and error • the main element is decentralization of planning process • an ongoing sequence of incremental decisions
Collaborative Planning Theory	• the role of the planner is to create space for more discourse by questioning the dominance of instrumental rationality, • the planner is to foster collaboration among all stakeholders through education, providing information, and creating forums for open discussion • Planners accept multiple forms of rationality – both instrumental and communicative rationality • combined information, knowledge and skills from multiple stakeholders • a sense of ownership over the outcomes • increase democratization of decision making process • the building blocks for a network to create new environment and solutions,

Source: The Author, 2011

3.6.1 Social Learning

The notion of social capital is intertwined with the theory of social learning. Social learning theory assumes that:

> …human behaviour is learned (as per behaviourists); based on people responding to events and the behaviour of others based on learned responses and prior 'clues' which direct them; concepts of perceived individual self efficacy (the ability to determine and successfully carry out a goal-oriented course of action) and collective efficacy (a shared perception that members hold about their ability to achieve objectives; more than the sum of individual self efficacy e.g., solidarity (Hardcastle, et al. 1997, pp. 42-43).

Community or group members develop behaviour patterns in association to one another as a result of what they have acquired or learned from the rewards they have reaped, or conceivably punishments borne, which are the results of their social interactions. Individuals can be presumed to trust one another and anticipate with some level of certainty that kindness and sharing will or will not be returned in the social milieu. If this is so, then social capital is created and becomes a resource (Jaques, 2001).

Drawing on the literature from the field of social psychology and political science, social learning is described as the practice for long-term change of individual attitude and behaviour. Social learning is also defined as a collective action focused on obtaining knowledge. Knowledge itself encompasses cognitive, normative, as well as effective components. Nevertheless, social learning can only be noticed through the outcomes of this new knowledge, and if it results in real changes in attitude and behaviour (Benner, 2003; Siebenhüner, 2004). The literature on social learning conveys many of the flimsy epistemological problems around the nature of knowledge and practice of social learning (McCarthy, 2006; Petts, 2007). Webler et al. (1995) offer a pre-eminent overview of historical origins of the notion of social learning and record the disagreement between two fields - psychological and sociological perspectives. The psychological or pedagogical view of social learning, as symbolized by Bandura (1971, 1986, & 1991), is modeled after the work of social-psychologist Kurt Lewin and revolves around the individual process of being dependent on social communications. Conversely, the sociological perspective progresses beyond individual learning in a social environment to learning within social structure such as associations, or institutions (Argyris, 1993; Sims & Lorenzi, 1992). Another sociological approach that has gained attention over the years is the work of Habermas (1979) critical theory that describes social change as a process of social learning. As Webler et al. (1995) rightly put it: individuals in societies can learn to change in order to

help reduce obstacles to human health and environment at the same time reduce activities that will negatively affect the environment.

Essentially, Webler et al. (1995) offer important starting point for a debate on the nature and definition of social learning. They observe that "social learning means more than mere individuals learning in a social situation. Furthermore, they visualize a community of people with diverse personal interests and objectives, who must come together to reach an agreement on collective action to solve mutual problems" (p. 445). Then, they went on to define social learning as "the process by which changes in the social condition occur, in particular, changes in popular awareness and changes in how individuals see their private interests linked with the shared interests of their fellow citizens" (Webler et al. 1995, p. 445). These authors also recognize two general elements of social learning, "Cognitive enhancement" and "moral development." Cognitive enhancement is the attainment of knowledge while moral development denotes how people come to make decision about what is right or wrong.

3.6.2 Social Capital and Social Learning

Social capital is directly or indirectly associated with social learning because it advances productive, purposeful and collaborative communities which are ideal social milieus for learning. Social capital has been linked with active social learning and the development of civic action competence. As Fien and Skoien (2002, p. 270) observe: "action competence is the understanding and skills people learn from active involvement in collaborative problem solving at the community level." An erudite scholar Colquhoun (2000) linked social capital and social learning together with the notion of action competence. He recognized significant similarities between social capital and action competence, such as "shared goals, collective action and engagement of the community. Essentially, action competence and social capital can empower people and communities to facilitate change. However, it is important to emphasize that the two concepts are different in the sense that social capital stresses the social aspects that empower groups and communities, and action competence stresses the specific talents and knowledge vital to enable action to take place.

As mentioned before, the concept of social capital is associated with social learning because it enhances productive, purposeful and collaborative communities, which are perfect social situations

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for learning. As Falk (2000) puts it, social capital promotes learning through the purposeful use of talent and knowledge. He went on to provide some of the elements of social capital that are vital for adult learning as follows:

- tied to its community and other external sources;
- high levels of interpersonal trust and self-confidence that enable action;
- fosters informed decision making;
- works for universally identified values; and
- the existence of a clear rationale.

3.6.3 Social Capital and Environmental Management

Social learning is critical in order to address urban environmental problems because it is essential to understand the consequences of taking a specific action, cause-effect relations (Fien & Skoien, 2002; McCool & Guthrie, 2001). As such, there is concurrently both exigency and enormous potential for valuable learning from being engaged in an environment's group action. As Lee (1993, p. 185) pithily argues, "social learning can be a means to achieving sustainable use of the natural environment." For Lee (1993, p. 115), social learning "…comes from the accumulation of knowledge within a network of organizations as well as from conflict between organizations."

"social learning…is intended to help improve the quality and wisdom of the decision we take when faced with complexity, uncertainty, conflict, and paradox" (Röling & Wagemakers, 1998, as cited in McCarthy, 2006, p. 60). The concept is currently being applied to various intricate decision-making environments such as environmental management and planning, natural resource management, and environmental impact assessment (Daniels & Walker, 2001; Fitzpatrick & Sinclair, 2003; Simon, 2004; Sinclair & Diduck, 2001; Wostl & Hare, 2004). Environmental management and planning problems are often portrayed as delicate and highly unrealistic (e.g. Kay et al. 1999; McCarthy, 2006; Mitchell, 2004). Daniels and Walker (2001), in process Work *Through Environmental Conflict: the Collaborative Learning Approach,* investigates collaboration in environmental planning and policy-making context. The authors present an approach to "collaborative learning," that was modeled to "create a learning atmosphere, encourage systemic thinking about complex problems, discourage strategic…behaviour among actors, and focus on desirable and feasible change" instead of attempting to achieve absolute consensus on contentious land management issues" (Daniels & Walker, 2001, p. 248). Importantly, Tippett et al. (2005) have applied social learning concept to river basin management. According to these authors, (2005), social learning in river basin management is the ability of those in authority, experts, stakeholders, and the

general public to effectively manage their river basins by drawing from one another's experiences. In this situation, the authors note the significance of a vital reflection relating to the drawbacks of existing institutions, to think about multi-level, participatory types of governance of organizations involved in river basin management.

Simon (2004) takes system-based approach to social learning in a resource management setting. He notes that "social learning processes can improve stakeholders' awareness and participation in environmental deliberation and decision making and therefore contribute to practical change in environmental management as well as institutional change" (Simon, 2004, p. 473). From a systemic perspective of knowledge creation across different levels, social learning that results in a practical change as well as wider structural or institutional change enhances more social learning – triggering a positive feedback (Simon, 2004). Pahl-Wostl and Hare (2004), Pahl-Wostl (2006), Bouwen and Taillieu (2004), and Maarleveld and Dangbégnon (1999) take a similar approach to social learning, relating individual involvement and learning with wider structural change or social learning. Pahl-Wostl and Hare (2004) and Pahl-Wostl (2006) see social learning in relation to peoples' involvement in a collaborative planning process and how this involvement and associated communications may in turn alter social configuration. They describe social learning as "an iterative and ongoing process that comprises several loops and enhances the flexibility of the socio-ecological system and its ability to respond to change" (Pahl-Wostl & Hare, 2004, p. 195).

Bouwen and Taillieu (2004, p. 141) put forward a conceptual framework to investigate dual collaboration initiatives associated with natural resources problems. They point out that technical difficulties and socially embedded problems of natural resources need the collaboration of many organizations, and the incorporation of many forms of knowledge. Their description of social learning includes social organizational learning that happens at the systemic or cultural level during joint practices and experiences when interest groups meet in collective actions and communications of various scales of action.

In the same way, Maarleveld and Dangbégnon (1999) presented a social learning framework on how people can understand the learning process in resource management practice which can be applied to urban solid waste management. In the learning framework, four simple questions were presented to guide our understanding of the learning process: (1) who learns? (2) What is it to learn?

(3) How is it learned? (4) Why is it learned? In order for investigational based learning to take place Maarleveld and Dangbégnon (1999, p. 269) argue that "scientists, users, planners, and managers…need to interact continuously." From a social learning point of view, communicative rationality is the guiding standard for such communication. Through conversation and reflection, issues and questions are identified and alternatives pursuit may emerge. From a normative stance, a social learning view provides an alternative way for resource management perspectives that depend on reductionist, expert driven knowledge creation and management. It stipulates "collective and collaborative learning that links biophysical to the social, cultural and political spheres, the local to the global arena, and action to reflection and research" (Maarleveld and Dangbégnon 1999, p. 269). Moreover, the guiding standards give way for orderly and ongoing questioning, dialogue and testing of ideas and solution. As a result, a social learning view can be a guiding framework for achieving ongoing adjustment in managing resource system and urban solid waste management in developing countries.

3.6.4 Community Capacity Building

Many developing countries have witnessed deterioration in social, political, economic and environmental conditions of their neighbourhoods, communities, cities, and regions. Manifestations of these are clearly evident in the squalid condition of their urban environment. The need to protect the environment calls for building the capacity of institutions and communities in order to restore and maintain the quality of these environments (James, 1998). But what is the starting point? Capacity building was vigorously promoted at the Earth summit held under the aegis of the United Nations (UN) conference on the Environment and Development on June 13, 1992 in Rio de Janeiro, Brazil. Since then, schemes on capacity building have flourished and the elucidation of the notion of capacity building has been flourishing. To illustrate, 'Capacity 21 Initiative' of the UN Development Program (UNDP) describes capacity building as "the sum of efforts needed to nurture, enhance and utilize the skills of people and institutions to progress towards sustainable development" (Edoho, 1998, p. 234). Edoho (1998) conceptualizes capacity building as ongoing improvement in the capacity of individuals and the public to be in command of the forces of nature and to exploit them for their benefit. As indicated, this process has to do with the development of skills, and knowledge base of the society that enables it to advance the material conditions of its people. As such, capacity is a combination of a society's accumulation of managerial, scientific, technological, entrepreneurial and institutional abilities. In this regard, capacity building encompasses ongoing training of these capacities/resources

so that the public can endeavour to actualize its dream and allow its members to enjoy fruitful and fulfilled lives (Edoho, 1998). The skills and knowledge derived in resolving simple issues lead to self-confidence and self-reliance in solving delicate environmental issues.

The concept of "capacity" and "capacity building" have been promoted in the areas of natural resource management, public administration, health sciences, community, and international development for quite a long time (Ivey et al., 2006). Capacity building is often referred to as "strengthening the competency of persons; groups, or line agencies to solve their own problems" (Dugan, 1993, p. 1708). The starting point of capacity building is at the individual level, followed by community, and associational resources in whatever situation. Essentially, the project managers and advisers, acting as catalysts, work cooperatively with these new assets and development roles (Breukers & Wolsink, 2007; Dugan, 1993). Ivey et al. (2006) point to the conceptual vagueness and methodological nervousness in which the notions of capacity building are entrenched. For example, whose capacity are being developed and for what reason? Arguments in the academic literature often focus on community and international development and public health promotion, which point to the differences between "capacity for action and capacity for self-determination" (Ivey et al. 2006, p. 946). In the former, capacity is defined from a functional stance that revolve around the ability of people, organizations, communities and government to be more effective and efficient in carrying out their duties. Alternatively, capacity for self-determination is based on a relational view that focuses on the ability of people, organizations, communities and governments to create and achieve their own objectives and programs. From a radical stance, capacity and capacity building are about empowering poor people in low-income communities to enable them participate in a meaningful way in issues that affect them now and may affect them in the future (Black, 2003; Ivey et al. 2006).

There is no doubt that enabling community capacity can act as social capital in the area of urban solid waste management initiatives. Putnam's well celebrated seminal work '*Making Democracy Work*" (1993) in Italy, in which he asserts that the tradition of strong community-based associations whether political, social, religious or sport enhances the community's civic capacity because individual members in these associations relate with one another and create social trust (Gittell & Vidal, 1998). Putnam's study of the North and South parts of Italy shows that the capacity of a democracy is fostered by the degree of citizen involvement in these associations and the linking

of these individuals in different associations with each other. Chaskin (2001) also provides a comprehensive definition of community capacity:

> Community capacity is the interaction of human capital, organizational resources, and social capital existing within a given community that can be leveraged to solve collective problems and improve or maintain the well-being of that community. It may operate through informal social process and/or organized efforts (Chaskin, 2001, p. 295).

Few other attempts have been made to conceptualize community capacity in the literature. Some scholars have concentrated on the contribution of commitment, abilities, assets, and problem-solving capacity often linked to specific schemes or institutions. Others have stressed the involvement of people in community in a process of creating bond, community planning, decision making, and activities. Other conceptualizations of community capacity are discipline specific; such as public health and organizational capacities of community development associations (Chaskin, 2001). Yet other definitions focus on community proficiency and empowerment, which tend to address the notion broadly as "the community's ability to pursue its chosen purposes and course of action" (Fawcett et al. 1995, p. 682). Or as the totality of people-and community-level endowments in communion with situations in the environment that obstruct or foster progress (Chaskin, 2001).

Yet, some scholars describe community capacity as a set of particular resources that exist within community's individual members and local associations (Kretzman & Mcknight, 1993). It is, however, important to point out that each of these definitions places emphasis on different components of community capacity. For instance, some concentrate on organizations or individuals while others concentrate on effective linkages and shared values and others on processes of involvement and engagement (Chaskin, 2001). Take together, efforts to describe community capacity reveal some agreements among scholars such as the existence of assets, networks of associations, leadership, and support for community involvement.

Recently, there has been a replenished policy attempt on community-based advances to foster social change and economic development, provide services and address the needs of people in abject poverty (Chaskin, 2001). For example, there have been unrelenting efforts to promote community capacity building throughout the United States, as indicated by growing number of "comprehensive community initiatives" (CCIs). The efforts concentrate in particular on creating the capacity of community, pin pointing priorities and opportunities with a view to promoting and sustaining helpful community change. This change can be in the area of community-based urban solid waste management initiative in a particular neighbourhood or community. Importantly, the overriding aim

of capacity building is to improve the ability of communities to care for the needs of their members and to advance their quality of life. To this end, capacity building should not be seen as an end in itself; rather it is a means to an end. As noted by Edoho (1998, p. 235) "the end purpose of capacity building is the development of human beings…a fundamental objective of capacity is to enable society to optimize the use of its resources to meet its immediate and future needs."

3.6.5 Institutional Capacity Building

One of the biggest problems confronting institutions in developing countries is the lack of management capacity. The lack of effective managerial, entrepreneurial and technical skills as well as strong public or private institutions account for poor performances, in every stratum, in those segments of the world (Edoho, 1998). The lack of management capacity does not only impede urban solid waste management activities, but actually helps to perpetuate the vicious cycle of dependency on foreign expertise in such a sector. The paucity of management capacity is evident in both public and private sectors and all levels of government institutions and organizations. For example, African countries are the most technologically dependent and economically vulnerable places in the world. Basically, many of the countries rely on advanced countries for technology transfer as a means to integrate technological change into their industrial systems (Edoho, 1998; James, 1998). In fact, most countries in developing world lack the ability to adapt/integrate imported technology into their industrial systems.

Healey's notion of institutional capacity building denotes the ability to foster open-policy process access to stakeholders and opportunity for different types of knowledge assets (Healey, 1997). She categorizes institutional capacity into three analytical elements: relational assets, knowledge assets, and capacity for mobilization (Breukers & Wolsink, 2007). Relational assets refer to the bond between individuals and associations that are grounded on shared understandings and mutual trust. Depending on the structure of the players and their collaborations, different knowledge assets are added or eliminated from the policy-making process. On the other hand, the capacity for mobilization pertains to the degree to which all players with an interest in the local decisions about any project or scheme are carried along (Breukers & Wolsink, 2007, p. 93). Breukers and Wolsink went on to define institutions "as the rules of organization or behaviour that are generally acceptable by members of social groups." In addition, Healey (1998) posits that social capital is one of the key elements of institutional capacity. It is added that knowledge has a social setting, and as such the

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significance of the networks that foster enough admiration, trust and interactive skill for stakeholders to find their 'voice' and 'listen' to others (Antolihao & Horen, 2005). In view of creating social capital, just as significant as what is conveyed is the process via which delivery takes place. Planning process that incorporates community dreams are more victorious than those that are driven in a top-down approach (Antholihao & Horen, 2005).

Institutional capacity building and institutional innovation are needed at all levels of government in the developing countries to foster effective urban environmental management. Institutions, within the milieu of a nation's development, can be considered an autonomous variable. This is so in part because they determine, to some degree, the result of planning for development. It is not only policies or bureaucrats that decide these things. Policies and bureaucrats often obstruct institutions and are characterized by the institutional culture whether it is, on one hand, readiness or eagerness to embrace change, or on the other hand, be adamant to change; lack of creativity or idea, or even the ability to resolve conflict (Hughes & Whyte-Givans, 2008).

Any institutional capacity building must include training and development schemes for local and regional government bureaucrats. For example, the US States Department, Bureau of Education and Cultural Affairs (BECA) in collaboration with the US Agency for International Development (USAID), have over the years helped tackle the problems of administrative reforms, curriculum development and institutional capacity building for East European countries. The first of its kind was a training and development program for Bulgarian local and regional government bureaucrats. This scheme was designed to contribute to the strengthening of local and regional government administration and government capacity in the former Soviet bloc nations (Desai & Snavely, 2007).

Capacity building is always vital for developing countries, due to the paucity of technology and environmental awareness (Geng et al, 2007). Specifically, human assets development in solid waste management is a crucial need in these nations. For example, environmental management schemes and facilities in institutions of higher learning are limited in scope. Worst still, most government bureaucrats "lack an understanding of environmental principles. Usually, there is a misfit between skills and jobs; business managers that are educated or trained in production/output activities may show no appreciation for the benefits of introducing an effective solid waste management system and collaborating with others" (Geng et al., 2007, p. 148).

In this chapter four planning models and their implications for urban solid waste management were presented. The merits and demerits of each of the planning models were highlighted. In addition, the interface between planning theory and social capital was also brought to the fore, albeit pithily. The chapter also examined the relevance of social learning, community and institutional capacity building in community-based urban solid waste management at the community level. The question to be addressed forthwith is: how will social capital facilitate the formation of a community based solid waste management project in urban Nigeria? To this, the paper now turns.

Chapter 4

Social Capital as a Means of Understanding and Facilitating the Formation of Community-Based USWM in Urban Nigeria

4.1 Introduction

The objective of this chapter is to develop a conceptual framework for analyzing the research problem. It will of necessity include examining the features and functions of community-based projects in selected communities in the city of Ibadan, specifically waste management projects. The general features of community-based organizations (CBOs) in most African cities include the encouragement of group responsibility, solidarity and fellows' sentiments through weekly and monthly face-to-face interactions, with a view to promoting and reinforcing social capital (Bhuiyan, 2005; Francis et al., 1996; Olson, 1965). These organizations are generally small, loosely structured and voluntary. They usually pride themselves on their ability to operate according to democratic tenets and are mostly location or community specific (Milofsky, 1988).

Although social capital is not a development theory, it is however, a concept that is vital to all aspects of social life with sub-concepts imbedded within it. It can also be a sub-concept within the new theories of development that deal with community-based activities and participatory principles. The contribution of social capital to urban development is examined mainly at the community or neighbourhood level rather than on broad societal, regional, national or multinational levels. Understandably, therefore, this case study approach focuses on an individual community as a unit of exploration and analysis. Yin (2003, p.13) defines the case study research as an "empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident; and where multiple sources of evidence are used." The notion of social capital is here treated heuristically since there is no physical or clear body of evidence about it, as to where it comes from or how explicitly it affects communities, economies or the quality of life. Nevertheless, it is an intriguing and noble concept that needs to be studied in detail as it holds promises as a strategy at the neighbourhood level and is intrinsically a potent element in broader policy consideration particularly in urban context. Mayer (2003, p. 116) notes that,

> The appeal of 'social capital' in the urban context is especially powerful, both in research and
> in practice. Scholars as well as policy-makers and activists in the field of urban development

have boldly appropriated the concept and incorporated it into their own work. Since social capital unfolds its very own effects particularly on the local/community. It is not surprising that its promise has been taken up in this field in so many ways. The innovative potentials of the city, of the community, of the neighbourhood and of the community-based initiatives are increasingly looked at from the perspective of social capital approach.

In view of the aforementioned, social capital can be regarded as the 'sine qua non' of development activities at the community or neighbourhood level. Therefore, in this research, the theory of social capital is use to explore the success and failure of the formation of community-based urban solid waste management projects in metropolitan Ibadan, Nigeria.

4.2 Conceptual Roots of Social Capital

The concept of social capital has gained wide acceptability as a productive theoretical perspective for understanding and predicting the norms and social relations lodged in the social structures of societies or communities. It is these models of social interrelationships that allow individuals to organize action to achieve desired goals (Narayan & Cassidy, 2001; Putnam, 1993). A trademark of social capital is that from its inception the concept has been strongly associated with the notions of action and application. It is sometimes best described as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" (Bourdieu, 1985, p. 248). It is equally argued that social networks are not naturally given, in other words they must be constructed through "investment" approaches that strive to institutionalize group relations and make them reliable source of benefits (Hanna et al. 2009; Portes, 1998).

The theoretical roots of social capital have been credited to Bourdieu and Coleman. However, it is evident in the literature that a number of other scholars had used the concept in their discourse prior to their own publication in 1985 and 1988 respectively. Bourdieu (1985) put forward the concept of social capital as a part of his larger scheme aimed at understanding the perpetuation of inequality in society. From the foregoing definition it is apparent that the amount of social capital to which an individual has access depends on both the magnitude of the network/connections that he or she can enlist and the sum of the amount of capital (human, cultural, financial) that each network member possesses (Glanville & Bienenstock, 2009).   James Coleman (1988, 1990), a sociologist, theorized social capital in an attempt to cement the gap between sociological and economic explanations of social action by showing how explanations based on rational action could fit into a

framework that also stressed the significance of social context. Essentially, his conception is more general than Bourdieu's. Coleman defined social capital as a "variety of entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors…whether persons or corporate actors…within structures" (p.S98).

In a series of books and articles Robert Putnam's (1993, 1995, 2000) use of the concept of social capital helped spark both its wide appeal and much of the criticism levied against it –the conceptual ambiguity of social capital (Glanville and Bienenstock, 2009; Lin, 2001; Mclean et al. 2002). According to Putnam (1993), social capital "refers to features of social organization, such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions" (P. 167). The author (1993) noted that regional levels of social capital account for why the twin government structure functions better in the regions of northern Italy than it does in its regions of the south. He also credited the decline in American political participation or engagement, as revealed by voter turnout, to a decline in social capital (Putnam, 1995, 2000). While adopting some components of Coleman's definition, his focus is on how social capital as a public good, influences outcomes at the community, regional or national scales. Putnam paid special attention to the type of social capital that Coleman noted would develop only as a by-product of other actions. Coleman noted that the direct accumulation of this type of social capital is troublesome because of the free-rider problems lodged in the emergence of public goods, and, this type of social capital emerges as a by-product of other pursuits.

Since then the concept has been further espoused, and has been used to investigate the antecedent of urban gentrification, and urban decay in both developed and developing world. It has also been instrumental in understanding the problems of local economic developments, environmental and resource management in developed and developing nations. Scholars affiliated with universities and international organizations such as the World Bank recognized the importance of social capital in environmental management in developing countries. Putnam's (1993) seminal work, *Making Democracy Work, in* which attempts were made to understand politics in Italy and civic engagement in the United States, goes a long way in describing the important place social capital occupies in the research agenda of many social science scholars, and practitioners, organizations, and community leaders (Smith &Kulynych, 2002).

A review of the historical development of social capital reveals that the lineage of the notion dates back to 'Aristotelian' age where man's conduct was seen as a paramount force in the pursuit of common interest. Over time, many factors refined and shaped the meaning of the notion to its present form. Individuals, associations, organizations, neighbourhoods, communities, regions and social structure as well as society have all influenced its evolution. Most current studies have included social relations within and outside the family and relations within and beyond the company. A summary of the historical evolution of social capital is presented in table 1.6 below.

Table 6. Historical Contributions to the Origins of Social Capital

Year	Author	Social Capital
4th Century BC	Aristotle	"Viewed man's behaviour as social and pursuing common interests"
1651	Hobbes	"Third party enforcement"
1762	Rousseau	"Shared values and a social contract"
1776	Smith	"Man pursues private interests in contrast to common interests"
1890	Marshall and Hicks	"Distinguish between temporary and permanent stocks of physical capital"
1904	Max	"All individuals voluntarily organize to act in their common interest. Emphasized the important of culture"
1916	Hanifan	"Goodwill, fellowship, mutual sympathy and social intercourse among groups of individual"
1919	Marshall	"Social capital between organizations, with the discussion of industrial districts"
1920/30	Hawrthorn studies	"The importance of the role of social psychological factors played in how people act in organization"
1973	Granovetter	"weak ties and embeddedness"
1974	Boissevain	"Friends of friends"
1982	Olson	"A high level of trust will benefit everybody, and prevent people from doing bad things to each other"
1986	Bourdieu	"Networks-particularly in which membership is relatively restricted"
1988	Coleman	"Social capital is productive, making possible the achievement of certain end"
1993	Putnam	"Features of social organization, such as trust, norms, and networks"

Source: Bhuiyan, 2005, p. 27.

4.3 Definition of Social Capital

In spite of attempts by well-known scholars to elucidate the concept of social capital, a complete understanding of the concept remains elusive and little consensus has been achieved among

scholars concerning the nature of its origins. Worse still is the lack of agreed-upon definition in the literature. Of course, there are different definitions and interpretations of the concept with each one premised on the theoretical interest of the authors (Edwards & Foley, 1997; Middleton et al. 2005; Portes, 1998). There is no doubt that the notion of social capital originated in the nineteenth century classics of sociology; however, three American scholars Roland Burt, James Coleman, and Robert Putnam have made substantial contributions to the current development of the concept. Each of these authors has presented a considerably different definition of social capital (Kim and Cannella, 2008). However, there is enough potency in the concept as it is and it continues to evolve despite the absence of an agreed-upon definition. Be that as it may, some definitions offered by famous scholars and development agencies pertinent to this study are presented below:

Table 7. Definitions of Social Capital

 "Social capital refers to features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions" (Putnam, 1993, p. 167).

"Social capital is defined by its function. It is not a single entity, but a variety of different entities having two characteristics in common: They all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure" (Coleman, 1990, p. 302).

"The aggregate of the actual or potential resources which are linked to possession of a durable networks of more or less institutionalized relationships of mutual acquaintance or recognition" (Bourdieu, 1985, p. 248).

Social capital is made of "friends, colleagues, and more general contacts through which you receive opportunities to use your financial and human capital" (Burt, 1992, p. 9).

"The ability of people to work together for common purpose s in groups and organizations" (Fukuyama, 1995, p. 10).

"The information, trust, and norms of reciprocity inhering in one's social networks" (Woolcock, 1998, p. 153).

"Networks together with shared norms, values, and understanding that facilitate co-operation within or among groups" (OECD, 2001).

Source: The author, 2010

For the purpose of the study, social capital is defined as the attributes of social organization, such as trust, cultural norms, and social networks by which communities facilitate actions. A careful examination of the above definitions of social capital reveals that Putnam takes a somewhat different approach from his contemporaries in the field of social sciences. For example, Bourdieu and Coleman both agreed on many vital aspects of social capital. Foremost, both authors recognize social capital as something that lodges in social relationships rather than as something that is tangibly possessed by individuals. In fact, that is the 'social aspect of the concept'. Second, both these authors treat it as "capital" in the sense that it is 'fungible' and that relationships invested in, whether knowingly or unknowingly, provide indirect gains as a facilitator or means of creating an ultimate "consumable" good. Both authors also recognize that investment in interpersonal relationships is what generates social capital and that social relations originating for one reason can be appropriated for other uses. To illustrate, Bourdieu noted that obligations that accrued in one context could be translated to others. This view is seconded by Coleman who opines that social capital is often created because of other actions (Glanville & Bienenstock, 2009).

In spite of the above convergent notions of social capital, Bourdieu and Coleman's conceptualizations still differ in significant ways. First, consistent with their different reasons in introducing the notion of social capital, they differ in the phenomena that they use social capital to illustrate. Bourdieu uses social capital to describe how inequality or how individuals and groups maintain advantages over others in a society. Whereas, Coleman's concentration is less specific, explaining a broader array of outcomes including dropping out of high school and involvement in democratic social movement. In short, Coleman's explanation is sufficient to include Bourdieu's.

Although for both scholars social capital is real in collective actions, there remain crucial differences in their conceptualizations at this level. In his narrative of social capital at the group level, Bourdieu refers to "homogeneous" cliques that have a unified set of interest. Conversely, Coleman's theoretical debate does not explore the repercussion of "homogeneity versus heterogeneity" for the formation of social capital. The conclusion one can draw from this debate is that, for Coleman, social capital can be found in large groups, such as neighbourhoods or communities that have a number of subgroups within them. On the contrary, Bourdieu attributes the activities of special interest groups as attempts to reinforce the consolidation of social capital within more unified groups. Coleman does

not explicitly mention the type of groups as classes or agents that act in ways to solidify social capital within their boundaries.

On his part, Putnam sees social capital as a property of neighbourhoods, communities, cities, region and even nations. Johnston and Percy-Smith (2003, p. 324) note that Putnam "equates social capital, in practice, with the level of associational involvement and participation that exists within a community and makes the distinction between 'bonding' social capital – links to people 'like me' – and 'bridging' social capital – links to people 'unlike me'. In other words, the former tends "to reinforce exclusive identities and homogenous groups," whereas the latter is "outward looking and encompasses people across diverse social cleavages" (Smith & Kulynych, 2002, p. 159). Putnam (2000) explicitly states that bonding and bridging types of social capital are not interchangeable and emphasizes that there is no important relationship between a given level of either bonding or bridging social capital and the level of other.

Adler and Kwon (2002) further categorize the definitions of social capital presented in (Box:1) into three broad types depending on whether they focus principally on the relations an actor maintains with other actors, or on the structure of relations within an organizations or allow for both perspectives. To illustrate, the first group (e.g. Bourdieu) focuses principally on social capital as a resource facilitating action by a central actor, a resource that is lodged in the social network tying central player to other actors. The actions of individuals and cliques can be facilitated by their membership in social network. Conversely, Coleman, Fukuyama, and Putnam focus on social capital as an attribute of the structure of the internal linkage that comprises collective actors such as groups, organizations, neighbourhoods, communities, regions, cities, and nations as different from individual players that can give these players cohesiveness and its associated benefits. According to the third category of definition, a collective action participant such as a firm is persuaded by both its external linkages to other firms and institutions and by other structure of its internal linkages – its capacity for effective action is generally a function of agency such as the Organization for Economic Co-operation and Development (OECD).

4.4 The Element of Social Capital

In spite of the conceptual ambiguity and confusion trailing the development of the concept of social capital, a constellation of writers have come up with different ways of clarifying the concept by

offering their own definitions of what social capital is (Adler & Kwon, 2002; Burt, 1997; Glanville & Bienenstock, 2009; Paxton, 1999; Rydin & Holman, 2004; Woolcock, 1998). Since there is no consensus in these definitions on the key elements or dimensions of social capital, the proliferation of definitions has somehow obscured the ambiguity in the notion of the phenomenon or concept. This section provides a detailed discussion of the elements of social capital in an effort to evaluate how these elements can contribute to urban solid waste management projects in urban Nigeria.

4.5 Social Networks as a Source of Social Capital

Many scholars have come to recognize the significance of social networks in community environmental management as a result of the social capital they help create and their capacity to propel community action (Daniere et al. 2002; 2005; Pargal et al. 1999). Importantly, social capital is made up of those components of social structure that spur or stimulate collaborative actions and help promote economic performance (Daniere et al. 2002). Social networks can be categorized into two strands: the 'vertical and the horizontal'. It is important to draw attention to the distinction between these two categories of social networks. Horizontal social networks refers to the notion of bringing actors of equal positions together and has much to do with equity and power relations. On the other hand, a vertical social network is the idea of linking unequal actors in "asymmetric relations of hierarchy and dependence" (Putnam, 1993, P.173).

With regard to vertical social networks, there seem to be great differences between Putnam's assertion and what other theorists propounded about social networks. For Putnam, "patron-client relations involve exchange and reciprocal obligations but in this vertical exchange the obligations are asymmetrical" (Middleton et al. 2005, p. 1716). It is a one-sided relationship that ultimately downplays horizontal bloc organization and harmony. In reality, it is the experience of development experts whose know-how has been influential in the adoption of the concept of social capital by the World Bank and its subsequent application to economic and community development in Third world countries (Middleton et al. 2005).

Social capital is regarded as a contextual complement of human capital. It is generally believed   that people who do well in life are better connected to outsiders. Certain individuals or organizations are associated with certain other individuals or organizations, obliged to provide support for them, and/or rely on exchange with certain others. Several other studies describe networks

as a vital asset of social capital; however, their meanings defer considerably (Bhuiyan, 2005; Burt, 2000; Putnam, 2007; Woolcock & Narayan, 2000). In addition, available literature on social networks contains rich theoretical and empirical analysis of the social circumstances that may influence citizens to get more involved in democratic processes (Nays et al. 2007). Social networks, in this context, encompass shared obligations; they are not interested in ordinary or casual contacts. Networks of community engagement promote "sturdy norms of reciprocity: I will do this for you now, in the expectation that you will return the favour" (Putnam, 2000, p. 20). Importantly, social networks, or associated life, relate to groups, and organizations that connect people that belong to different families, kinship groups, community and neighbourhoods having common interests for a variety reasons.

The differences between networks of social capital interaction and social capital is not just academic exercise; it has both theoretical and policy implications. To illustrate, residents in poor neighbourhoods may be enshrined in networks of mutual support, providing voluntary services for each other such as car repairs, babysitting, and hairstyling. However, these networks may not necessarily transform into asset that can in turn be used to further political and economic gain (Hays et al. 2007). Social capital, in the form of social networks and trust, is described as assets produced from social communications. Not only is it considered as the "missing link" in poverty reduction, it is also regarded as the important glue that binds people together. As Wong (2008) points out "dense social networks and high levels of trust among community members are considered to have spill-over effects which facilitate social co-operation" (p. 1413). On the other hand, Putnam (1993) argues that social networks and trust are two key components of social capital. He goes on to emphasize that "social networks allow trust to become transitive and outreaching: I trust you because I trust her and she assures me that she trusts you" (p. 169).

Behind social networks theory is the notion that being connected to others will make it simpler to ask others to participate in some kind of collective activity. Participation in social networks can take different forms, official or unofficial and cooperative or confrontational. It may encompass working with neighbours to co-produce community collective goods such as urban solid waste management. It may also engender collaborating with other community associations or organizations, participating in local political movements, taking part in government-sponsored projects, and participating in city council activities (Hays & Kogl. 2007). Essentially, social interaction promotes

learning and creates collective knowledge in corporate and business environments. Studies have shown that social networks contribute to local capacity building, play an important role in facilitating immigrant employability as they are socially connected to other immigrants that have operated businesses since arriving from their homeland or countries (Lelieveldt, 2004; Portes, 1998). Furthermore, social networks as mentioned before promote local community capacity building. These capacities may include both "the tangible – a region's infrastructure, natural resources, and trade regime and the intangible -local knowledge, skills, social networks, and institutional endowments" (Murphy, 2002, p. 593).

Apart from its positive contributions to economic, social and political endeavours, there is a downside to social networks. According to Putnam (2007), social networks have repercussions for bystanders. For instance, not all networks have the same impacts; our colleagues may improve our health; conversely, civic organizations may enhance political processes in a democratic society. Furthermore, evidence shows that social networks can have anti-social consequences including "sectarianism, ethnocentrism and corruption" (Smith & Kulynych, 2002, p. 173) as was exemplified by the Oklahoma City bombing and the September 11th 2001 World Trade Center pogrom in New York. It has been argued that dense social networks may actually prevent productive investment, exclude others, and consolidate power in a few hands (Anderson & Jack, 2002).

4.6 Civic Engagement as a Source of Social Capital

At present, there is no formal consensus definition of civic engagement offered in the literature. Some authors have referred to it as the involvement and participation in the neighbourhood or community activities (Son & Lin, 2007). Others equate civic engagement with the interest, knowledge and the skills that assist people to participate in political and other civic responsibilities. It has also been considered as a way of developing and building necessary skills and capacity, tolerance among individuals, fostering community, supporting collective activity or common goals (McBride et al. 2006). However, one conservative definition has been proposed:

> [Civic engagement consists of] individual and collective actions designed to identify and address issues of public concern. Civic engagement can take many forms, from individual volunteerism to organizational involvement in electoral participation. It can include efforts to directly address an issue, work with others in a community to solve a problem or interact with the institutions of representative democracy. Civic engagement encompasses a range of activities such as working in a soup kitchen, serving in a neighbourhood association, writing a letter to an elected official or voting (Son & Lin, 2008, p. 331).

The above definition reflects the importance of, as well as the complexity of civic engagement. It is a compilation of empirical phenomena or components, jointly identified as civic engagement. It takes on numerous forms – engagement can mean different things in different social milieus, and has numerous empirical proxies. The varied components in the concept of civic engagement are equally reflected in real measures of strategy in research, which may include membership in voluntary associations, membership of civically-oriented projects in a community, voting, and church involvement (McBride et al. 2006; Son & Lin, 2008).

It is often said that in a democratic society, citizenship comes with obligations, with rights, and responsibilities. It involves the rights to participate in democratic processes and partake in community activities. In addition, to be able to take care of the less privileged in the community, and serve as a member of a jury whenever called upon (Kymlicka &Norman, 1994; McBride et al. 2006). Civic engagement is the hallmark of a democratic political process, the arena of liberation where citizens express their voices and exercise their rights. It has long been seen as an interesting concept for its positive effect in the functioning of society, community, or neighbourhood. For example, Tocqueville considers civic organizations in nineteenth century America as a major element that accounted for the distinctiveness and success of her participatory 'democracy' (Son & Lin, 2008).

Regardless of the type of civic engagement, there are dire implications for individuals, organizations, associations, communities, neighbourhoods, regions, families, and even nations when people are not involved in civic engagement at the community level (Wilson & Musick, 1999). On these bases, it is essential to understand some possible obstacles to civic life in poorer communities and families, and how participation can be fostered. Participation in civic engagement can help shape individual's behaviours and attitudes towards others. As McBride and colleagues have noted, civic engagement has unique nuances that differentiate it from other kinds of public behaviours such as work ethic, leisure and other actions of daily life (2006). A normative conception of civic life interprets civic manner as actions oriented toward collective activities, care, interest, and establishment of others, as well as societal decision-making and asset distribution (McBride et al. 2006; Putnam, 2000).

Civic life may take place within two social milieus of action referred to by Robert Putnam as "demand and supply" sides and others refer to it as social and political milieus. On the demand side according to Putnam (2000), citizens in a civic society expect good governance as a result of their participation in the democratic process and expect their governments to provide them with basic essential amenities such as clean water, garbage collection, good roads, electricity, qualitative education, and health care. On the supply side, social engagement is exemplified by behaviours such as participating in voluntary organization as a volunteer, or donating different kinds of assets to people, groups, organizations, and associations (Christaino, 1996; McBride et al. 2006; Putnam, 2000; Wuthnow, 1991). These objectives are incorporated to reflect official and unofficial contexts of civic activity. Civic engagement may also be referred to as social engagement 'neighbouring' or acts of care for people that do not transpire through an association or as a consequence of friendship or even acquaintance (Bolland & McCallum, 2002; Putnam, 2000; Silverman, 1986).

It is pertinent to stress at this point that citizenship participation in civic engagement may differ from one society to another. It may be easier to participate in a more civilized and democratic society than an authoritarian one that is characteristically suppressive and repressive of its citizens. Therefore, to talk about civic engagement as Putnam emphasized, care must be taken not to over generalize because participation in community activities as a way of civic engagement is context specific. Beall (2001) drives this point home in her assertion that any work "of urban associational life and engagement needs to be contextualized" (p. 1018). Furthermore, organizations have to be understood in relations to their structural peculiarities and the general social relations at hand. Examples are the prevalence of problems of divergence in Santiago, race and ethnicity in South African cities, the caste systems in Indian societies, and the functions of the kings, and other traditional rulers in Nigerian and Ghanaian towns and cities (Beall, 2001).

The ability of citizens to participate in civic activities depends on the power of social trust in fellow citizens and the level of such social networks that are said to be the contributing factors in bringing people together in communities (Bhuiyan, 2005; Wall et al. 1998). As Bhuiyan (2005) notes, in spite of some limitations of civic engagement in Bangladesh, it remains an indispensable instrument in organizing joint action through the acquisition of social capital, which lead to the establishment and sustenance of community-based solid waste management initiatives.

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4.7 Social Trust as a Source of Social Capital

Trust is one of the most often cited elements in the conceptualization of social capital (Fukuyama, 1995; Grootaert, 1998; Hutchinson, 2004; Putnam, 1993). At present there is no consensus among scholars on the conceptual meaning of the notion of social trust; the literature is replete with confusing and disagreeable definitions. Nevertheless, there is a widely held notion among social scientists from different fields that pervasive trust is important in achieving positive collective outcomes (Rahn et al. 2009). Also, there is a general agreement that high levels of social trust are associated with good economic buoyancy and performance (Zak & Knack, 2001). In spite of the contextual problem, Brenkert (1998) points out the significance of trust in business organizations - that trust reduces transaction costs, making it feasible to share crucial information and helping in the expansion of moral relations in business. Other scholars have contextualized trust as a multidimensional and multifaceted social phenomenon, as an attitude, essential lubricant for cooperation, but remains an elusive construct to define and measure (Fores & Solomon, 1998; Fukuyama, 1995; Gambetta, 1988; Ganesan, 1994; McAllister, 1995; Putnam, 1993).

Rothstein and Uslaner (2005) classified Social trust into two broad terms "generalized trust" and "particularized trust." According to these authors (2005), generalized trust has the ability to relate people to others who are different from them. Thus, it reflects a bond that people share across society and cross economic and ethnic groups, religions, and races. Generalized trust hinges on the foundation of economic and social equality and contributes to the development of egalitarian and free society. In contrast, in particularized trust, people only have faith within their in-group and as such it reflects social tension, where each group in a society looks out for its own interests and has little faith in the good intentions of others. Particularized trust may enable individuals participate in civic life as in generalized trust; however, they limit their actions and good deeds to their own sphere of interest or influence (Rothstein & Uslaner, 2005).

Humphrey and Schmitz (1998) provide a useful alternative approach in the classification of social trust at different levels. They classify social trust into three distinctive categories: micro, meso, and macro (Murphy, 2002). Micro-level trust emerges through shared experiences and is motivated by agent's confidence and in the reputation, proficiency, or capacity of the subject being trusted. Meso-level or 'earned' trust on the other hand, is comparatively more intricate and labour intensive to

create but may result in strong ties and bond between people (Murphy, 2002; Humphrey & Schmitz, 1998; Schmitz, 1999). As Murphy, 2002, p. 594) succinctly put it "bonding allows the creation of shared identities, reputation, common purpose, and tacit forms of knowledge that cannot easily be transferred outside the relationship or community."

Meso-level social trust is based on provenances or individual elements such as origin/ethnicity, religion, appearance, speech, or race. Meso-level trust is associated with stereotypes and is used in producing first impressions, and can be regarded as a relatively efficient but not an essential approach for identifying legitimate business partners (Murphy, 2002; Humphrey & Schmitz, 1998). In its negative form, meso-level trust is sometimes indicative of a condition where there are less intercommunity relationships and strong horizontal or intra-community relations predicated on ethnicity, race, religion, class and gender. In a more positive form, meso-level trust can be identified with groups of people believed to possess the skills and integrity relevant to be successful in business (Murphy, 2002).

Conversely, macro-level social trust relates to an actor's providence. It is sometimes referred to as 'goodwill'. Goodwill or macro-level trust is evident when an agent is encouraged to trust because of having fate in the goodness of other people (Murphy, 2002). Macro-level trust is vital for what Gittell and Vidal (1998) regard as 'bridging' or the creation of linkages with individuals outside one's primary community or neighbourhood. In a diverse society such as Nigeria, these bridges are vital for building relationships across social, religious, ethnic, and cultural divide. Consequently, a person's use of macro-level trust relates to his desire to maintain openness to new ideas, and varied types of individuals; this is similar to the notion of generalized morality (Murphy, 2002). It is important to emphasize that as social trust links people to individuals who are different from themselves, it reflects a concern for others, particularly people who are in one way or the other subjected to discrimination or have limited assets at their disposal. For example, in societies with high levels of economic disparity and with little policies in place to improve equality of opportunity, people are less concerned about others ethnic backgrounds. The wealthy and the very poor in a country with a great disparity in the distribution of resources such as Nigeria may actually live next to each other, but their lives do not intermingle. Their children may attend different schools, and use different health care services; in some cases, the poor are unable to afford either of these services. The wealthy have the capacity to hire the services of the police and private security to protect their

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families, while the poor see these groups as their natural adversaries. In such societies or nations, neither the wealthy nor the poor have any sense of a shared fate and value. Generalized trust is low in a situation like that while particularized trust is high. As a result, each group looks out for its own interests and is most likely to see the demands of the other as incompatible with its own well-being (Rothstein & Uslaner (2005).

Purdue (2001) opines that trust comprises an acceptance of risk and vulnerability, which derives from the action of others in the hope that they will not take advantage of this vulnerability. As mentioned before, trust can be categorized into "competence trust" and "goodwill trust." Competence trust refers to trusting that the other person or association has the potential to overcome danger by meeting their commitments. Conversely, goodwill trust is about emotional acceptance of the moral commitment of the other not to take advantage of the vulnerable (Knack & Keefer, 1997; Purdue, 2001). In addition, some scholars have put forward three theoretical explanations of trust: "that trust depends on rational calculation/prediction of benefits accruing to the self and others in collaboration; trust [as it relates to] shared norms; trust [as it pertains to] shared cognitive understanding/discourse" (Purdue, 2001, p. 2214). It is imperative to mention briefly that there are some conceptual problems associated with the discussion, because it is hard to separate the cognitive rules of shared language from the value-laden rules of shared norms. In fact, competence trust depends on the estimate of the competence of the other and it is similar to confidence, which can be developed, from past knowledge and moral character (Purdue, 2001). Although goodwill trust, to some degree, can be developed from past knowledge and moral character, but it takes the expressive type of accepting vulnerability, based on a postulation of shared values and objectives. Goodwill trust entails reciprocity in that it relies on return of benevolence in open-ended commitment and the development of shared objectives (Purdue, 2001).

Trust in others is very different among people, across time, and across space. Social scientists have been particularly intrigued by the difference in social trust that appear worldwide or across varied spectrum (Rahn et al. 2009). As measured by the World Values and other cross-national survey projects, some regions of the world, such as Scandinavia have higher levels of general social trust. In contrast, Latin America exhibit very low levels of general trust (Knack & Keefer, 1997; Paxton, 2007). In the works of Putnam (1993, 2000) for instance, spatial differences became apparent within regions of the same country. Putnam (1993), for example observed enormous differences in

social trust between northern and southern regions in Italy. Regional differences were also evident in the United States; States in the Southern part of the country have lower levels of social trust than either the States in the Upper Midwest or in the Northeast (Putnam, 2000).

Putnam (1993) asserts that every business transaction has within itself a component of trust over a given period of time. Wilson (1997, p. 747) observes, "I will help you with your need now and trust that when I need help my needs will be met." Trust becomes appropriate when there is a tendency for departure, unfaithfulness and defection. We are reminded that trickery, mistreatment, manipulation, pretence and conspiracy thrive when there is absolute trust (Bhuiyan, 2005). The effect of trust on community-oriented types of participation comes from the expectation of reciprocity. Community-oriented types of participation often represent the provision of common goods, since others will always benefit from other peoples' sweat and endeavour in life (Lelieveldt, 2004). In spite of the presence of free riders, trust will certainly help to overcome collective problems because it makes citizens more willing to participate and have a say in the quality of their communities when they are certain that others will be willing to take part in the community action (Ostrom & Ahn, 2001).

Meanwhile, scholars argue that trust is a component of social capital working within families and communities, and adding to the function of economic development of given place (Coleman, 1990; Falk & Kilpatrick, 2000). Costa and Kahn (2002) comment that community participation increases trust. Trust in turn is linked to a wider society with more competent, responsive justice system, less dishonesty, bribery, and higher standards of government bureaucracies (Knack & Keefer, 1997). It is well known that societies characterized by high levels of trust are likely less dependent on formal institutions to impose or enforce agreements; for example, informal credit markets rely on strong interpersonal trust that can promote investment where there is lack of well-advanced formal financial institutions (Knack & Keefer, 1997).

4.8 Norms of Reciprocity as a Source of Social Capital

Norms of reciprocity is one of the dimensions of social capital. Reciprocity is classified into two types: specific and generalized reciprocity (Pretty & Ward, 2001; Putnam, 1993). Behind specific reciprocity is the idea of "I will do this for you if you do that for me." Generalized reciprocity, on the other hand, implies that "I will provide this for you without receiving anything from you in the hope that someone else will help me down the road" (Putnam, 2000, p.150). This type of reciprocity may

add to the development of long-term obligations between residents of neighbourhoods, which can be an essential part of accomplishing positive solid waste management outcomes (Pretty & Ward, 2001). Simply put, reciprocity is the readiness of people to render help to one another in the hope that they in turn will be helped when they are in need. As Wilson (1997) rightly put it, reciprocity is founded on a sense of being part of a larger circle and a virtuous long term-circle, with trust, and equality. Adler and Kwon (2002) were on the same line of thought regarding the benefit of the norm of generalized reciprocity when they noted that the norm of generalized reciprocity resolves problems of collective action and binds communities together. Intuitively, then, networks of civic engagement promote sturdy norms of generalized reciprocity and influence the emergence of social trust. Such networks promote coordination and interactions, strengthen reputations and permits predicament of group action to be resolved.

4.9 Social Integration and Linkage as a Source of Social Capital

Woolcock (1998) puts forward a helpful conceptual framework for studying the linkage between social networks and environmental management in developing countries by characterizing two forms of social networks: social integration and linkage. Social integration is the extent to which community members help each other with services, resources and prospects for individual and collective community development. If a community has a slim or narrow social integration, low levels of trust among its members may engender obstacle in collective action for environmental management. On the other hand, too much social integration may lead to over protection of the members of the community (Daniere et al. 2005). Linkage is the capacity of local people to exercise freedom and to recognize, use and broaden their networks beyond their immediate community enclosure. Linkage to other communities and associations become imperative in those instances where problems of collective action result from a lack of economic or political power. Essentially, a community without linkage will depend solely on its internal resources to the extent that community members may be unaware of how outside organizations can help in their quest for development. There is a flipside to this, however, because a community that has too much linkage may become vulnerable to outside power or influence (Daniere, 2005).

Other scholars in their works have distinguished four types of social capital: bonding, bridging, linking and bracing social capital (Rydin & Holman, 2004). According to Rydin and Holman (2004), the notion of bracing social capital was coined to capture the type of social capital

that is lodged in the linkages that are imbricated in many partnership or governance projects. Such linkages go beyond the bonding of any particular group but are more specific than the concept of bridging. The use of 'bracing' capital promotes common values and norms among those linked together; however, these may be more strategic and less-embracing than proposed in the case of bonding capital (Rydin & Holman, 2004).

Bonding social capital indicates strong ties between close relatives, neighbours and friends. In contrast, bridging social capital seeks to make connections with individual of different social, economic, political status, and cultural backgrounds. On the other hand, linking social capital makes ties with those who have financial and political influence in society, non-governmental organizations, and international institutions (Larsen et al. 2004; Wong, 2008).   In his work on *Bowling Alone*, Putnam (2000) refers to bridging and bonding typology, but not in the same manner as others have conceptualized the terms. He describes "bridging" social capital as open networks that are 'outward looking and encompasses people across diverse social cleavage'. On the other hand "bonding" social capital encompasses 'inward looking [network that] tend to reinforce exclusive identities and homogeneous groups' (Patulny & Svendsen, 2007, p. 33). The latter refers to family and friends networks founded on hostility and exclusion or treacherousness to society in general; that is too much bonding. An example is the Ku Klux Klan (KKK), an ugly example of excessive bonding. The notion of 'openness versus exclusivity' relates to the dissimilarity pointed out by Portes and Landolt between good and bad social capital. But the bridging/bonding dissimilarity is essential and helpful, permitting us to concurrently grab both the vibrancies of openness within civic society, and closure within exclusive groups in a way that may not likely be possible with a single, cumulative social capital (Patulny & Svendsen, 2007; Portes, 1998; Portes & Landolt, 1996).

4.9.1 Some Theoretical Debate Surrounding the Concept of Social Capital

Although social capital concept has received increasing attention among scholars and policy-makers, there is still considerable debate about its types, roles, and significance. The common and narrowest perspective of social capital can be attributed to the political science discipline. The concept of "civil society" is characterized by the notion that culture of trust and tolerance increases when networks of voluntary exchange surface (Rudd, 2000; Putnam, 1993). The proponents of this perspective stress the significance of energetic civic society and external "generalized trust" – trust that goes beyond the boundaries of face-to-face relations. On the other hand, sociologists tend to pay

attention to social capital as social relationships and networks that allow actors to meet their goals of influence and control (Granovetter, 1973; Rudd, 2000). The key difference in this perspective of the 'civic society' is that trust is 'endogenous,' resulting from a particular structure. The proponents of social capital view it as a crucial component that is missing in present society, leading to poor civic engagement and ineffective governance (Putnam, 2000). Woolcock (1998) views social capital as an asset, available to people, that comes from group interaction as a result of trust, reciprocity, and cooperation.

The controversies surrounding the definition of social capital date back to its roots (Middleton, et al. 2005). Parts of the problem of delineating social capital and accepting an analytical concept that can be used across different societies is that these inconsistencies in relation to trust and to reciprocity in Putnam's (1993) work, have persisted and affected the debate of the notion in existing literatures. Different scholars have placed varying emphasis on the components of social capital, and as the analysis of the concept has strengthened in importance, its delineation has become even more ambiguous (Middleton et al., 2005; Portes, 1998). Another issue relating to defining social capital is that of the membership in voluntary associations. As Szreter (1998) writes, membership of voluntary associations is sufficient to create social capital, noting that "it is the quality of the relationships which these associations engender among their members that is critical in determining whether or not they truly promote social capital in the sense…of additional productive benefits to the society as opposed to sectional privileges and advantages for the favoured few who are members" (as cited in Johnston & Percy-Smith, 2003, p.324). Whiteley (2000) criticizes Putnam's definition of social capital. He contends that Putnam's definition confuses three unique notions of social capital such as "citizen's feelings of trust in other members of society, social norms supportive of cooperation, and networks of civic engagement" (p.447). The first two, he contends, are "psychological phenomena" while the third is "a behavioural relationship between individuals."

As Grootaert and van Bastelaer (2001) note, human capital like social capital is not easy to measure. They argue that years of schooling and years of employment have traditionally been used to measure human capital and have demonstrated their importance in empirical research. The authors further assert that at present "no such acquired consensus… exists for the study of social capital and the search for the best proxy indicator continues" (p.9). In addition, measuring social capital is problematic due to the lack of clarity surrounding the notion together with its inherent abstractness

(Johnston & Percy-Smith, 2003; Sabetti, 1996; Tarrow, 1996). In most cases, measurements of social capital are done in an ad hoc, 'pragmatic and unsystematic' fashion (van Schaik, 2002, p.8). Specifically, social capital has been measured using proxies – indirect measures of the 'phenomenon' instead of the 'phenomenon' itself (Johnston & Percy-Smith, 2003, p.327). This practice has resulted in a degree of circularity, with social capital being described in terms of features which are then measured and taken as a proof that social capital does in fact exist. Another methodological problem of measuring social capital relates to the interpretation of the data sets collected. It is proposed that social science scholars doing social capital research should acquire the necessary skills, knowledge and understandings of the communities and groups to be studied in order to prevent inconclusive results from the studies (Grootaert, & van Bastelaer, 2001; Grootaert, et al. 2004).

Another controversy surrounding social capital debate is the issue of unit of measurement and analysis. How should social capital be measured or analyzed? What are the elements to be measured and what approach should be taken in data collection? As Grootaert et al. (2004) point out "though social capital has been conceptualized at the micro, meso, and macro levels, the tools needed to measure social capital at the level of households or individual are very different from those needed to measure its presence at the country level" (p.5). Despite the array of social sciences that are engaged in social capital study, there remains a problem among researchers or scholars regarding how to reach a consensus on which unit of aggregation are most acceptable to define and measure social capital. Consequently, many scholars have devised ideas on how to combine both qualitative and quantitative methods in investigating and measuring social capital at the level of individual, community, neighbourhood, region, or nation (Krishna & Shrader, 1999; Krishna, 2004; Mitchell & Bossert, 2007). Fukuyama (1997) draws attention to the need for a qualitative way of measuring social capital in order to assess the types of collective activity promoted by a particular organization. Conversely, Rohe (2004) argues that social capital researchers need to adopt a comprehensive approach which combines both qualitative and quantitative methods of measuring social capital as proposed by the World Bank (Blanco & Campbell, 2006; Krishna & Shrader, 1999).

4.9.2 The Challenge of Measurement: Theoretical and Methodological Approaches

Within this theoretical framework, it has been identified that measuring social capital is not an easy chore, resulting from a multiplicity of definitions of what constitutes social capital, and partly because it involves intangibles that can only be measured via proxies (Paraskevopoulos, 2010, p.

479). In the literature, three major theoretical and methodological techniques of measurement have been recognized: they are experimental, anthropological, and one based on mass surveys. Economists, social psychologists, and the anthropologists employ the experimental research approach. While in the political science discipline mass surveys constitute the most common approach for measuring social capital (Paraskevopoulos, 2010).

Measuring social capital is grounded in the definition of the notion by Coleman, which proposes that identifying the phenomenon is a two-fold process: the cultural dimension such as generalized trust through mass surveys, and the structural dimension involving networks of civic engagement also through survey to determine membership of voluntary-community organizations (Narayan & Cassidy, 2001; Paraskevopoulos, 2010).

It is generally accepted in the literature that capturing the structure-culture interplay should lie at the heart of the process of measuring social capital, but other variables/proxies -those that are directly or indirectly associated with social capital (the determinant or outcome measures) could also be included in the measurement. In this regard, Narayan and Cassidy (2001) and other scholars have suggested a broader investigation utilizing three types of measures, which include a diversity of variables (social trust, group membership, generalized norms, and volunteerism). While the determinants of types of social capital measures are directed at socio-psychological and identity variables (life satisfaction, pride, identity, and interaction variables such as television audience, papers readership, and radio audience). In addition, the outcome of social capital measures may sometimes encompass variables such as perception and levels of corruption, confidence in government institutions, political interests, inequality, and heterogeneity. However, current research has changed the debate, directing relevance toward the role of institutions, equality, and homogeneity as critical determinants of what is considered useful with regard to public policy outcomes; the most vital outcome measure of social capital (Paraskevopoulos, 2010).

Although, social capital has been conceptualized at the local, regional, and national levels; however, instruments needed to measure it at the level of households, individuals, and community are very different from those needed to do so at the country level (Grootaert et al., 2004). In order to resolve the problems associated with measurement at the community level, numerous scholars have proposed different measurement instruments such as the Social Capital Assessment Tool (SCAT) by

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Krishna and Shrader (1999) as an initial step toward the development of a consistent measure of various dimensions of social capital. The World Bank and related international organizations have also come up with some instruments of measuring social capital in developing countries such as the Global Social Capital Survey, the Living Standards Measurement Survey, and the Integrated Questionnaire for the Measuring of Social Capital (SC-IQ). In addition, other international surveys used in social capital research include the World and European Value Surveys (WVS, EVS), the European Social Survey (ESS) and, more recently the Eurobaromenter (Paraskevopoulos, 2010). These tools provide a core set of survey questions for those interested in generating quantitative data on different components of social capital as part of a larger household and community surveys (Grootaert et al., 2004).

In the design of the survey questions, this research draws heavily on pre-existing measure instrument developed by the World Bank such as the Social Capital Assessment Tool" (SCAT), the "Global Social Capital Survey," (GSCS) the "Integrated Questionnaire for the Measuring of Social Capital" (SC-IQ), and the "Living Standards Measurement Surveys" (LSMS). As the existing literature suggests, social capital is a complex concept, therefore its investigation requires developing a reliable index, incorporating association membership and associational activism measures, social trust, as well as determinants and outcome measures. In spite of these problems, today some excellent researchers have set out useful indicators for measuring social capital (Woolcock & Narayan, 2000). Once a researcher has settled on a conceptual definition of social capital, the problem of measuring its critical components at the community level can be approached (Rohe, 2004). Any measure of social capital at the community level needs to include assessment of four critical elements such as social trust, norms of reciprocity, civic engagement, and social networks depending on what the researcher wants to achieve in his study of the community. First and foremost, the study must measure the level of community participation. Second, it must measure the features of local social networks. Third, it must measure the level of trust, and finally, it must measure the level of norms of reciprocity among community members (Patulny & Svendsen, 2007; Rohe, 2004).

In assessing the level of civic engagement, it is vital to distinguish between horizontal and vertical participation. Evidence shows that 'effective community development effort required horizontal integration, as evidenced by the involvement of a critical mass of local residents" (Rohe, 2004, p. 160). Without collective participation of community members, it is not possible for them to

get things done and to influence the activities of associations in the community. Nevertheless, horizontal participation alone is not sufficient because members of the community must also engage with people and associations outside their boundaries; this is where vertical connection is paramount (Poortinga, 2006). In fact, there are benefits to be derived from engaging with outside organizations because they have the power to effect change, the flow of information, and other resources that may not be available to the community.

Measuring social networks features among community members is the most difficult thing to achieve, yet the notion of bonding and bridging should be included in the measurement. This constituent of social capital reveals the level or degree of interaction among members of the community. In addition, it shows the extent to which involvement has led to essential interpersonal linkages among residents and between residents and those outside the community (Temkin & Rohe, 1998). Essentially, in addition to measuring the size, diversity, location, and closeness of relationships, it is also paramount in measuring residents' usage of those relationships.

Trust can be categorized into two: generalized and particularized trust. This begs the question 'how can we measure the two types of trust in one single study or, if not how do we isolate one from the other for the purpose of measurement'. In measuring the level of social trust in a community, it should be within and among the different groups taking part in community project, trust in other residents, and trust in leaders, trust in organizations, and more. Lastly, norms of reciprocity are some of the dimensions of social capital; it is classified into two types, specific and generalized reciprocity. In measuring reciprocity at the community level, the sharing of food among residents should be included. Other indicators to be measured include the caring for children (other than their own), the sharing of household utensils, attending doctor's appointments, hospital, and funeral of others in the community. Table 8 provides the categories of social capital and their proxies/indicators.

Table 8. Indicators Used in Social Capital Research

Social Capital Research		
Determinant (Sources/Origins) Measures	**Social Capital Measures**	**Outcome Measures**
"Socio-psychological and identity measures (life-satisfaction, pride and identity")	"Social Networks Membership (Voluntary – Association – NGO memberships, activities, involvement, rates of engagement, work relations…')	"Well-being, happiness"
"Communication variables (television audience, papers readership, ration audience)	Structural dimension – social networks, civic engagement, membership in voluntary – community organizations (NGOs)	"Institutional and policy performance – positive policy outcomes and confidence in public institutions"
"Demographic trains - age, gender, class, race, marital and parental status"	Generalized social trust measures	"Economic growth – development"
"Occupational status – working hours, type of work, employment status"	Cultural aspects	"Political interest and political participation, voting, party memberships, activities, intensity…"

Source: Paraskevopoulos, 2010, p. 480

4.9.3 Critique of Social Capital

Since Putnam (1993) initiated the application of social capital in the studies of Northern and Southern Italy, many scholars, non-governmental organizations, international institutions like the World Banks, Organization for Economic Co-operation and Development (OECD), and Australian Bureau of Statistics have used social capital to investigate social, political, economic, and cultural phenomena. For example, the Government of Denmark provided funding for its Social Capital Initiative (SCI) in 1996 under the auspices of the World Bank to investigate the effects of social capital on the effectiveness of development projects. Through this initiative, twelve projects were carried out by the World Bank. The findings suggest that social capital is a "pervasive ingredient and determinant of progress in many types of development projects, and an important tool for poverty

reduction" (Grootaert & van Bastelaer, 2001, p. xi). The studies also revealed that social capital improves the efficiency of rural development schemes by increasing agricultural productivity, improving the management of common resources, making rural business more profitable, and invigorating farmers associations. The studies also show that social capital improves access of poor householders to water, sanitation, credit, and education in rural and urban settings. They emphasized that social capital is a key element in recovering from ethnic conflict and coping with political transition. It reduces poverty through micro and macro flow of information (Grootaert & van Bastelaer, 2001). In addition, in the United States, Foundations have included Putnam's debates into their work, and both the Local Initiatives Support Corporation (LISC) and the Mott Foundation have made the concept of social capital a core element of their antipoverty and community development agenda (DeFilippis, 2001).

The application of social capital to community development studies has been criticized on several grounds in the literature, among them: its appropriation and translation of social dynamics and values into economic constructs (Chaskin et al, 2006; Cohen & Prusak, 2001). Others have criticized social capital researchers on the basis of their neglect of important issues such as conflict and their attempt to depoliticize the nature of poverty and the appropriate responses to it (Foley & Edwards, 1997). In addition, some scholars contend that there is a tendency to assume that social capital is 'unambiguously good, rather than acknowledging its power to promote inequality or to restrict individuals advancement as a result of their membership obligation within groups or associations (Chaskin, et al, 2006; Portes & Landolt, 1996; Woolcock, 1998).

Some scholars have vigorously criticized the World Bank for its lack of sensitivity to political, social, cultural, and the plights of the poor particularly in the developing world, while promoting social capital as a resource which people can use to enhance their incomes and which can be 'created' to facilitate economic growth and development (Mansuri & Rao, 2004). This sentiment opened the door of opportunity for critics to be more cynical of the World Bank's social capital research initiatives in developing countries. They contend that the World Bank failed to show concern for the problems of class distinction and power–relations (Fine, 2001; Harriss, 2001; Mansuri & Rao, 2004). Importantly, for not paying attention to reverse causality, with the connection going from wealth to more group activity rather the opposite way, and for not acknowledging that it can be negative as well as productive (Portes, 1998).

In summary, some of the fundamental issues neglected by the World Bank include, but not limited to the following: reasonable financial regulation, competition policy, and strategies to promote the transfer of technology, unresolved issues of poverty, gender inequality, and environmental problems (Mayer, 2003). Also, the World Bank has been criticized for failing to address what role the state should play in building or creating social capital given its continuing significance (Fine, 1999). In spite of these criticisms, social capital continues to serve as an important construct, offering a way to conceptualize an important source of capacity in community that is the resource potential of individuals and organizational networks.

4.9.4 Downside of Social Capital

Social capital theory is now applied in development practice by many international development agencies or organizations and national governments. In spite of its positive characteristics and diverse applications, the concept has a positive-sum game in which all can benefit; the notion of social capital continues to attract criticisms. Critics posit that the "bright sides" of social capital have been overstated due to "bias optimism" (Adhikari & Goldey, 2009). There is a general consensus between the proponents and critics of social capital that social capital does have a downside despite its beauty (Baron et al., 2000).

The negative aspect of social capital has been described in perverse terms: anti-social capital, perverse social capital; negative social capital; "downside" social capital; negative implications/effect/aspects of social capital; public bad, "dark side"(Adhikari & Goldey, 2009; Field, 2003; Portes, 1998; Putnam, 2000). As Porte (1998) notes, the same strong ties that brings opportunities to members of organizations, associations, and communities may allow it to exclude others from having access to it. Field (2003) describes the negative implications of social capital in two broad areas: (a) that it may reinforce inequality; and (b) that it may play a role in supporting antisocial behaviour. The first implication is attributed to power asymmetry, while the second relates to "perverse social capital" (that is the intended or unintended negative externalities to the broader community of some social networks) –some kind of "blowback."

Field (2003, p. 75) asserts that "it is possible to see social capital as both an asset in its own right that is unequally distributed and as a mechanism that can promote further inequality." High

level of social capital in a given society may actually strengthen and help sustain inequalities in the society. Portes and Landolt (1996) have presented several examples of power and inequalities of social capital; the same strong ties that help members of organization provide opportunities for the organization or group exclude outsiders. For example, Waldinger (1995) depicts how descendants of Italian, Irish, and Polish exert excess control over certain occupations namely, construction industry, the fire department, and police force due to strong ties among members of those occupations. Other examples include the growing ethnic enclave businesses in New York, Korean immigrants in many East Coast cities, Jewish traders over the New York diamond trade, and the supremacy of Cubans over many businesses in Miami (Field, 2003; Portes, 1998). Within the organization too, when membership in a community or neighbourhood renders help when needed, it also requires conformity and obligation, thus restricting individual freedoms. Downward levelling pressures in strong organizations prevent innovation and the acquisition of human capital as members have to follow the examples of fellow members. High participation among marginalized people helps little to improve their condition as there are a few tangible resources to draw from the network (Adhikari & Goldey, 2009). In some cases, intra-ethnic high social capital may restrict ethnic integration and, thereby, help to foster racial inequalities in society (Field, 2003).

Though social capital provides members of a network or organizations with benefits from "the collectively-owned capital," access to social capital as assets depends more on the power position and location of the members (Adhikari & Goldey, 2009; Bourdieu, 1986). As noted by some scholars namely, Portes and Landolt (1996), and Field (2003), because of power and inequality, social capital can be used to sustain privilege and strengthen disadvantage. In fact, individuals may spend social capital at the expense of others; while those in power can undermine the social capital of less privilege people. As Lin (2001) comments:

> The macro-structure of resources is hierarchical: that is, composed of positions, authority, rules, and agents where access and control of resources are connected to authority, a form of power. In a hierarchy, the occupants of higher positions use the positional chain of command of power and authority to dictate, impose, and interpret rules and procedures and to allocate resources to those in a lower position. In terms of embeddedness of resources, the hierarchical structure in general is assumed to be a pyramidal shape: the higher the level in the chain of command, the fewer the number of positions and occupants, and the higher the level of the positions and occupants, the more command of absolute and relative amount of resources and information and vice versa (as cited in Adhikari & Goldey, 2009, p. 186).

Others have argued that as social capital promotes coordination and cooperation for the mutual gain of the members of the network. However, some social norms and networks while promoting cooperation may have harmful implications for the society at large (Putnam, 1993). It is important to emphasize that some forms of networks of cooperation that create negative consequences are non-intentional, others, for instance, criminal gangs, drug networks, and terrorist networks, intentionally create anti-social outcomes (Adhikari & Goldey, 2009; Field, 2003). The negative effect of social capital embedded in powerful, tightly knit social groups or organizations, not accountable to citizens at large, is confirmation, for instance, in corruption, patronage, and cronyism in political and governmental institutions (Adhikari & Goldey, 2009 & Narayan & Cassidy, 2001).

The same components of social capital that help facilitate community-based solid waste management have been used negatively to block and stop the citing and development of new infrastructure for waste management in North America, Europe, and lately some countries in the developing world. The virtual inability to open new waste management facilities in Canada and the United States stems directly from a form of community opposition so common and vehement that it is often referred to as "Not in My Back Yard" (NIMBY) syndrome in the literature (Hunter & Leyden, 1995; Portney, 1991; Tuan & Maclaren, 2005; 2007). Some scholars have conceptualized and dismissed NIMBY reactions to waste management facilities siting as an ignorant or irrational or narrow-self interest response. On one hand, others described NIMBY as a victory for western democracy. On the other hand, others commented that it is a realistic local response to an immediate issue, or a declaration of the rights of individuals and communities to take charge of problems that confront them (Kuhn & Ballard, 1998; Tuan & Maclaren, 2005). Kuhn and Ballard (1998) contend that NIMBY phenomenon is a 'check and balance' against ineffective decision- making process. In their analysis, Kuhn and Ballard (1998) argue that community opposition stems from well-rooted concerns about the effects of waste facility siting, and the fairness or equity of the siting process. It does not matter whether the proponents of such facilities are government agencies or private waste management companies, communities are usually astonished to learn that they have been chosen to host these facilities and take collective action to frustrate them. Such collective actions have blocked many proposed projects and inspired greater interests in precautionary, waste reduction strategies. They have also been used to frustrate the adoption of new waste management technologies; created serious geographic inequalities in the sharing of waste management responsibility across North American cities (Hunter & Leyden, 1995).

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An essential aspect of the opposition to waste management facility siting arises from community concerns for the physical, economic and social effects of landfills. Physical effects include leachates contamination of ground and surface water supply, landfill gases, dust, noise and odour. However, Wakefield& Elliot (2000) opine that most new waste management facilities are now equipped with some kind of leachates and gas collection technology, but neighbourhood residents have often articulated their mistrust of these newer technologies. It is important to empathize here that dust, noise and odour from the landfill operation may not pose the same danger as leachates and gas; however, they can reduce quality of life in a hosting community (Tuan & Maclaren, 2005; Wakefield & Elliot, 2000).

Local community residents and special interest groups have voiced their concerns about economic impacts of landfill siting, such as the decline in property values, rising costs of infrastructure and slow development of the area. An essential aspect of neighbourhood or community concern is the issue of fairness and equity of the siting process. The unforeseen costs imposed on the host community are mostly created by urban dwellers, while noxious facilities are likely to be located in poor rural communities. With this in mind, these communities would ask the questions: why should waste facilities be sited or located in our neighbourhood, and why should we shoulder the costs (Kunreuther et al. 1996 and Tuan & Maclaren, 2005). Interest groups have also expressed their concerns about the social impacts of landfill siting such as other's perception of the community, stigmatization and the health risks involved; there are relevant case studies to this effect. For example, Tuan and Maclaren (2005), note that the siting of waste management facilities implicitly segregate the host community from the rest of society by waste and pollution. Thus, this represents a significant loss to the community image and social cohesion as well decline in social capital.

Siting waste management facilities has become increasingly problematic across the spectrum of the developing world due to heightened community and special interest group opposition. As has been mentioned succinctly, the opposition is attributable to a host of factors such as a community's concern about environmental and health risks, the lack of public participation in the decision making process, facility control and operation, negative economic impacts, and the decline of public trust in government and landfill operators (Shen & Yu, 1997; Tuan & Maclaren, 2007). In order to address similar waste problems in Taiwan, the Taiwanese government introduced incinerator technology to resolve the problem of waste disposal in the country. The adoption of waste burning technology was

not deliberated upon by the citizens and the process lacked public participation and inclusiveness. Consequently, the introduction of such waste burning equipments was vigorously opposed by community-based protest movement (Hsu, 2006). The policy involved the installation of 21 public municipal waste incinerator projects (SWIPs) and 15 private SWIPs. In spite of the fact that 19 SWIPs were already completed and operating at the capacity of 59 percent of the total volume of garbage generated in Taiwan (Hsu, 2006; Shen & Yu, 1997), fierce opposition from the anti-incinerator movement, forced the government to cancel 9 of 15 private SWIPs by May 2004. Furthermore, in Dar es Salaam, Tanzania, residents of a community successfully organized to protest the opening of two dump sites in their community; the result was that the sites were ultimately closed down because of vigorous opposition from the residents (Yhdego, 1995).

4.9.5 Relationship between Social Capital and USWM Initiatives

Many scholars have written about the inability of local authorities in developing countries to effectively collect and dispose of their garbage. In recognition of the waste crisis confronting them, some neighbourhoods and communities have undertaken the management of urban solid waste (Grootaert and van Bastelaer, 2001; Hasan and Khan, 1999; Moreno et al., 1999). In the face of reduced public expenditure caused by economic crisis in Africa, Asia, and Latin America, increasing numbers of non-governmental organizations and community-based organizations have taken the lead in the provision of urban services. However, very few studies have been done on the relationship between social capital and urban solid waste management (USWM) in both developed and developing world.

The first known work that links the concept of social capital to solid waste management was the work of Beall (1997) in which she studied community-based waste initiatives by non-governmental organizations in Bangalore, India and in Faisalabad, Pakistan. In the Bangalore case, the community-based waste initiative programs were built on horizontal networks and a religion-based non-governmental organization. It was carefully linked to informal waste businesses, Catholic women's organizations and the neighbourhood associations that were able to rally around to bring people together to organize community-based waste management. The results showed that free riding and the caste system destabilized the efforts of horizontal associations of non-governmental organizations to successfully organize community-based waste management. In addition, the result

was not a desirable one as it reinforced marginalization and inequality due to lack of equitable partnerships between poor and middle class residents in the community. In the case of Faisalabad, Beall (1997) observes that communications between state officials and non-governmental organizations on the issues of urban services could be characterized in terms of vertical networks than the horizontal networks as was evident in Bangalore, India. Beall comments that participants in vertical networks do not always trust each other no matter how close and how significant to its participants a project may be; it "cannot sustain social trust and cooperation" (Beall, 1997, p.959). It was in fact the type of vertical network relationship that takes place between the low income informal residents as a "vote bank" and the politicians at different levels. Power relations were very important for the success of solid waste management in Faisalabad because where there were equal power relations, positive results were accomplished in relation to improved local waste management. In Faisalabad, Beall noted the problem of free-riding in urban solid waste management projects. She observed that most residents were prepared to enjoy the service while not willing to participate. As such, the particularity of urban solid waste management is evident; while free-riding can be a common issue, it can be easier to control in other urban services such as the provision of water and electricity.

In a study of the role of social capital in solid waste management in Dhaka, Bangladesh, Pargal et al. (1999) use the measure of trust, reciprocity and sharing of resources to investigate the relevance of social capital in community-based waste management. The results showed that among the different components that are commonly used to measure social capital, trust, reciprocity and sharing were clearly the most vital elements contributing to solid waste management in those neighbourhoods they investigated. However, they concluded that reciprocity among neighbours was far more essential when cooperating for solid waste management than trust. Furthermore, their results showed that elements of social capital have important effect on the likelihood that a community will organize for waste collection and disposal. In addition, Pargal et al. note that cooperation may be hampered or promoted by the level of homogeneity on the basis of ethnic or regional origin of residents.

Likewise, Bhuiyan (2005) worked on "the benefits of social capital in urban waste management in Bangladesh" where he analyzed the formation of social networks. Social networks were seen as important elements for building social capital, which in turn played a crucial role in the organization of community-based solid waste management in some of the communities studied.

According to Bhuiyan (2005), networks were developed along regional, local identity and patrilineal relationships or descent. In some cases, other social networks were constructed along the lines of occupations, or professional relationships.

Initially, these social networks were created to cater to various social needs that later became the building blocks for community-based solid waste management. Bhuiyan observed that the success of organizing community-based SWM projects in some of the communities studied had to do with power politics, good leadership, economic power, interpersonal trust, social networks, and civic engagement. In addition, he reported that sense of community attachment, social cohesion, homogeneity, and educational level of the residents contributed to the success of community-based waste management initiatives. These elements helped shape the establishment of community-based SWM projects. In contrast, in those communities where they failed to form community-based SWM projects, the lack of leadership, trust, and education, sense of attachment, face-to-face communication, and associational life among residents, poverty, heterogeneous social relations, and power conflict were partly to blame. He concluded that communities blessed with high level of social capital are in better shape to organize a community-based SWM project than those that are poorly endowed with or bereft of social capital.

The literature reviewed in this section shows that social capital both in its type and effect is most likely to differ from place to place and from community to community as evidenced in the works of Pargal et al (1999) and Bhuiyan (2005). Although, both authors conducted their research in the same city, they arrived at different outcomes and conclusions. For instance, Pargal et al (1999) results showed that trust was not very important in the community-based urban solid waste management initiatives in the communities studied in Dhaka, Bangladesh. On the contrary, Bhuiyan (2005) results showed that trust was an essential element in community-based urban solid waste management in Dhaka, Bangladesh. Another interesting observation from both studies is the notion of homogeneity in which both authors drew different conclusions. Pargal and his colleagues observed that homogeneity was a hindrance to the success of community-based waste management initiatives. While the results of Bhuiyan show that social cohesion and homogeneity contributed to community-based waste management initiatives. Bhuiyan (2005) also noted that heterogeneous social relations and power-relations actually worked against the establishment of community-based waste management initiatives in the city.

In summary, this chapter has presented a theoretical framework that is pertinent to the understanding of social capital and its implication for community development. At the outset the chapter provided a critical review of the conceptual roots and the slew of definitions presented in the literature. In addition, the chapter discussed some of the essential elements of social capital including social networks, civic engagement, and social trust, norms of reciprocity, social integration and linkage. The chapter also touched on some of the theoretical debates surrounding the concept of social capital and the criticisms levied against it.

Chapter 5

Methodology

5.1 Introduction

This chapter discusses the methodology employed in this research; it is written in two sections. The first half of the chapter presents the methodological theory and design of the research project, and the second half focuses on the details of the research process as it occurred.

5.2 Research Epistemology

This research project integrates a variety of techniques and approaches but the method could best be characterized as a case study. Yin (2003, p. 13) defines the case study research method as an "empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident." In addition, the research takes the form of a post-positivist epistemological approach, which allows a researcher to utilize both quantitative and qualitative techniques to study urban phenomena. This method has an edge over the positivist approach, which utilizes only quantitative technique to study urban phenomena (Cassell & Symon, 1994). There are other integrative approaches similar to positivist approach; the critical realist approach which is based on the assumption of the existence of an independent reality. Critical realism differs from positivist approaches in that it is believed that all observation is imperfect and thus it is essential to be critical of our ability to 'know' reality (Creswell, 2003; Phillips & Burbules, 2000; Miles & Huberman, 1994; Walliman, 2005).

Critical realists believe that observations and interpretations are inherently influenced by our perception, our culture, and our gender (Creswell & Miller, 2000). Unlike relativist though, critical realists do not believe in incommensurability of knowledge between perspectives. Instead, critical realists believe that through triangulating multiple perspectives, a close approximation of reality can be obtained. Trochim (2000), has noted that knowledge in critical realism is built over time through research and ongoing scrutiny of the research. As Yin (2003) suggests, the process of building knowledge via multiple research projects, approaches and perspectives is in fact not new, but has been an integral element of the scientific approach for decades.

It is important to emphasize here to ensure that some readers do not confuse critical realism with the currently famous critical theory. Critical   theory is highly critical of the structure of

knowledge and of society as a whole, and is deeply at odds with a realist epistemology. Critical realism is supportive of the structures of knowledge, but puts forth an argument that suggests that greater humility is needed in our discovery of knowledge (Creswell, 2003 & Fay 1987).

Mixed methods, by definition, is a procedure for collecting, analyzing, and "mixing" or integrating both quantitative and qualitative data at some stage of the research process within a single study for the purpose of gaining a better understanding of the research (Ivankova et al., 2006; Tashakkori & Teddlie, 2003). The rationale for mixing both kinds of data within one study is grounded in the fact that neither quantitative nor qualitative methods are enough by themselves, to capture the trends and details of a situation or phenomenon. The potential of a mixed-method approach in planning research lies in its "triangulation" of multiple data (Lincoln & Guba, 1985). In a typical sense, "triangulation" seeks convergence, validation, and correspondence of results across the different approaches.

Ivankova, et al., (2006) discusses the advantages in using a combination of different methodologies. First, planning research is concerned with theoretical knowledge as well as with the application of findings in practice. Research that combines methodologies increases the potential of investigating both of these ends. For instance, qualitative research is often concerned with process as well as with outcome. Descriptive accounts provide a means of drawing parallels and contrasts between the phenomena being studied and a researcher's own practice.

Qualitative research seeks to measure and evaluate the phenomena and provide a means for generalization and reproduction by other researchers' findings (Fryer, 1991; Morgan, 1980). The use of both research approaches enhances the value of the study as each can extend the usefulness to both practicing planners and investigators (Babbie, 2003). A second advantage is that each approach can build upon the strengths of the other. To illustrate, qualitative research, which emphasizes understanding, contextualizing, introspection, scaling and theory building, can provide a strong base for broader qualitative measures, scaling, and generalization (Palys, 2003; Sudman & Bradburn, 1983). With its emphasis on large samples, this kind of research provides an overview of relationships, pattern, and inconsistencies that can be further studied with qualitative approaches. This design can be helpful when unexpected results arise from a quantitative research (Morse, 1991). However, qualitative and quantitative approaches can provide distinct but complementary information about the phenomena under investigation.

On the other hand, the functional or positive paradigm that guides the quantitative approach is based on the postulation that social reality has an objective ontological structure and that individuals are responding agents to this objective context (Morgan & Smircich, 1980). Quantitative research entails counting and measuring of events and performing the statistical analysis of a body of numerical data (Smith, 1988). The notion behind the positivist paradigm is that there is an objective truth existing in the world that can be measured and explained scientifically. As Cassell and Symon (1994) point out, the major concerns of the quantitative approach are that measurement is reliable, valid, and generalizable in its prediction of cause and effect. Being deductive and particularistic, quantitative study is based upon formulating the research hypotheses and verifying them empirically on a specific set of data. Scientific hypotheses are value-free; the investigator's own values, biases, and subjective preferences have no place in the quantitative method (Babbie, 2003; Frankfort-Nachmias & Nachmias, 1992; Ting-Toomey, 1984). The following table summarizes the strengths and weaknesses of qualitative and quantitative approaches in research.

Table 9. Summary of Qualitative and Quantitative Approaches to Research

	Strengths	Weaknesses
Quantitative	Starting the study problem in a very specific and set terms; clearly and precisely specifying both the independent and the dependent variables under investigation; following firmly the original set of research goals, arriving at more objective conclusions, testing hypothesis, determining the problems causality; and Quantitative research allows the research to achieve high levels of reliability of gathered information due to controlled observations in laboratory experiments, mass surveys, or other types of research manipulations.	Its failure to provide the researcher with data on the context of the problem where the researched phenomenon occurs; the inability of the researcher to control the setting where the subjects provide the answers to the questions in the survey; It has limited outcomes only those outlined in the original research proposal due to close type of questions and the structure formant.
Qualitative	Obtaining a more realistic feel of the world that cannot be experienced in the numerical data and statistical analysis; flexible ways to perform data gathering, subsequent analysis, interpretation of data; it provides a holistic perspective of the phenomena under study; and descriptive capability based on primary and unstructured data.	It has the tendency to depart from the original objectives of the research; inability to investigate causality between different research phenomena; requires a high level of experience from researchers to obtain the targeted data from the subjects; and in some cases, arriving at different conclusions based on the same data depending on the personal attributes of the researcher.

Source: The author, 2010

5.3 Research Design

This research project incorporates a variety of techniques and approaches; however, it is best characterized as a case study. Seven communities in Ibadan located in south-western Nigeria, were selected as the case study locations. As Yin (2003) noted, when studying contemporary events where the relevant behaviours cannot be manipulated (controlled for the sake of research), the case study is the preferable research methodological approach. This research utilizes an embedded case study

approach; in other words there are multiple levels of cases that are being investigated. The primary unit of analysis is the community, and seven communities were selected for the purpose as mentioned above. The decision to make this choice was informed by the prevailing waste management problems and community-based organizations participation in urban solid waste management in Ibadan city on the one hand, the goals and objectives, and the research questions to be investigated on the other. The embedded cases are the community-based organizations, the household and the community-based waste management initiatives.

The research can also be classified as being a *multiple case study* (Yin, 2003), also known as a collective case study (Stake, 1995). This means that more than one primary case is involved in the research. Yin (2003) and Stake (1995) both note that multiple case study method is necessary to replicate the research process in more than one case. This allows for greater generalization of results and improves the understanding of causal relationships.

The theory related to social capital suggests that a community obtains and utilizes social capital through the aggregation of the experiences, actions, and relationships between individuals, families, friends, and groups. As described in chapter 4, social capital has two essential dimensions "structural" and "cognitive" forms. They promote social capital as a resource for individuals, communities, neighbourhoods, organizations, and associations. Structural social capital is a more objective and externally observable construct, since it is effective through 'established' roles, social networks, and other social structures supplemented by rules, procedures, and precedents. On the other hand, cognitive social capital refers to shared norms, values, trust, attitudes and beliefs and it is a more subjective and intangible notion

There are inherent limitations in the use of case study in research; particularly in relation to its ability to generalize; the benefits of detailed analysis from diversity of point of views and with diverse methodological instruments legitimize the choice. However, case study should not be confused as the method. As Jaques (2001, pp. 75-76) points out, "case study is not a methodological choice, but a choice of object to be studied." In this process of trying to comprehend social capital in Ibadan, the author have utilized several participatory information gathering approaches, a household survey, focus groups, and semi-structured interview.

For operational purposes, the research utilizes four proxies of social capital such as social trust, social networks, civic engagement, and norms of reciprocity. In order to avoid inconsistency in the measurement of these critical components of social capital at the community level, the author adopted the Integrated Questionnaire for the Measuring of Social Capital (SC-IQ), and the Social Capital Assessment Tool (SCAT) as suggested by Grootaert et al., (2004) for this research. Importantly, Rohe (2004) provided a useful guideline on how to measure civic engagement, social trust, social networks, and norms of reciprocity at the community level. However, the analysis as part of the broader case studies of urban solid waste management Ibadan is primarily a descriptive one.

In order to comprehend the level of social capital among individuals involved in urban solid waste management in the city of Ibadan the household survey is included and it provides a large amount of useful data. The survey itself is, however, large and complex, putting together a wide array of factors that are consistent with the conventional wisdom and theoretical speculations regarding the nature and level of social capital. For instance, these instruments were divided into sections, which consist of different variables, or questionnaire items, corresponding to the civic participation of residents in various associations, their behaviours and opinions related to trust, social networks, and norms of reciprocity. These components are highly inter-related and are overlapping; a single survey item potentially has meanings relating to two or more of the sub-elements of social capital and vice versa.

It is essential then to bring some comprehension to the concept of social capital, at least what it is like in Ibadan, to undertake a more complex analysis of the data. To assist in this a number of useful indicators were created. It was determined that there are four essential concepts that could be most useful in revealing the nature of social capital in Ibadan among individuals involved in USWM. These are based on the fact that the related qualitative research and casual observations about the communities suggest that at the community levels social capital can be higher than one might expect in communities in that part of the world.

5.4 Data Collection Methods

Creswell (1998) writes that out of the major traditions of qualitative studies, case study research involves the widest array of data collection approaches. This is done so that a greater understanding is obtained. It also ensures that different 'voices' or sources of data are given equal

opportunity to be included in the analysis. In every research, this can become essential when there are some areas of the research that are subject to personal or group bias. A good example of this bias in urban research in Nigeria is the blaming of the informal sector for the deterioration of urban environments as illustrated by Omuta (1986) in his work; "the urban informal sector and environmental sanitation in Nigeria: the needless conflict."

In this research, both quantitative and qualitative techniques of investigation were employed. In some cases, in qualitative research, data collection methods are not firmly established at the beginning of the research (Yin, 2003; Maxwell, 1998).   Instead, data collection approaches remain open so that the researchers can adjust data collection to suit research needs. However, primary data were collected from 50 in-depth interviews conducted for this research. The key informants chosen for this research belong to the following groups: officials of the Oyo State Urban and Regional Planning Board, and staff from the ministry of Environment. Others include, Oyo State Solid Waste Management Authority Staff, staff from Nigerian Institute of Social and Economic Research, members of Private Refuse Contractors, leaders of community based associations, and managers of community-based waste management initiatives. Beside primary data collection, secondary data such as government reports, policy documents on waste management in Ibadan and Nigeria in general and unpublished reports were used to examine specific areas of interest. Direct field observation was another method used to collect primary data for this research. Visits were made to all the four legal and numerous illegal dumpsites in Ibadan to gain full understanding of the urban environmental management problem in the city. Figure 1 below depicts the links between the research questions and research methods that are pertinent to the field research in the form of matrix. Mixed method research designs are shown in four cells.

Figure 2 Mixed Method Research Design Matrix

Concurrent		Sequential

	Quantitative + Qualitative	Quantitative ⟶ Qualitative
Equal Status	How do heterogeneity and the conditions of social capital that stem from this promote or inhibit the operational success of community-based urban solid waste management initiatives?	
	Quantitative + Qualitative	Quantitative ⟶ Qualitative
Paradigm Emphasis Decision	What is the extent to which social capital does or does not condition the success of community-based urban solid waste management initiatives?	
	Quantitative + Qualitative	Quantitative ⟶ Qualitative
	What is the level of social capital among Individuals involved in USWM in the city of Ibadan?	
Dominant Status	Qualitative + Quantitative	Qualitative ⟶ Quantitative
	What is the relationship between social capital and the formation of community-based USWM initiatives?	
	Qualitative	Qualitative
	How best can planning theory be integrated into social capital research?	literature review

Source: The author, 2010

Neuman (1991) notes that in qualitative research, "measures are created in an ad-hoc manner and are specific to the setting of the researcher." In this research procedure, the specifics of data gathering (for example, specific questions on interview guides, 'who was to be interviewed next' etcetera) were designed to be altered throughout. The following is a listing of the various approaches of data gathering employed in the research:

- Semi Structured Interviews (group and individual) mostly qualitative;
- Group dialogue;
- Researcher Field Observation;
- Quantitative Survey.

Each of these data gathering measures is discussed in detail in the Research Process section.

5.5 Analytical Approach

Generally, in quantitative research design, it is a common practice for analysis to be done after data gathering is completed. On the other hand, in many qualitative approaches (including case study) analysis often take place throughout data collection and in most cases, it can help to shape the ongoing data gathering process (Yin, 2003; Maxwell, 1996). For this study, a formalized version of this process of iterating between data gathering and analysis known as Explanation Building was implemented.

5.6 Explanation Building

Explanation building, also referred to as successive approximation is an iterative process of building understanding of causal links (Creswell, 1998; Neuman, 2000; Yin, 2003). Explanation building encompasses an iterative process of investigation and revision. Researchers start the study process with a loosely defined theoretical framework and then alter and modify the theory as data are gathered and analyzed. During the time of data analysis, researchers look for causal links and/or explore probable or rival explanations. The researcher may return to data gathering to further investigate the situation. The process is repeated until a satisfactory theory is developed. The following figure characterizes a generic model of the explanation building process.

Figure 1 Explanation Building Process

Source: The Author

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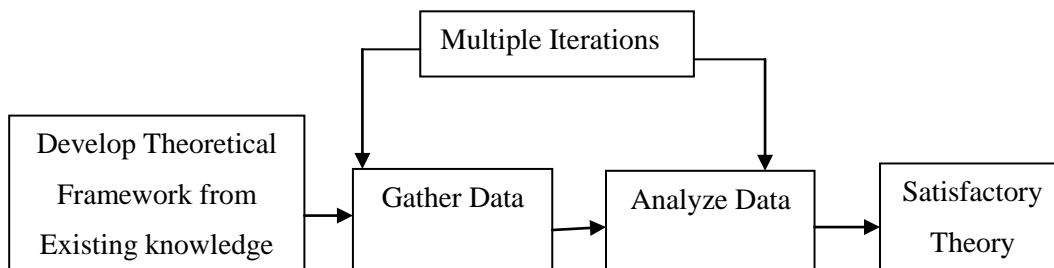
The rationale for using an explanation building technique in the research is twofold: Foremost, the researcher is investigating relatively infamous phenomena and as such must first identify and describe the urban solid waste management at different levels in Ibadan city before attempting to build an explanation for it. Without iteration technique, the researcher would have been constrained with the depth of information that was gathered. Secondly, the phenomena under investigation are complex and embedded within political, economic, social and cultural systems. There is the probability of encountering incorrect information, of misinterpretation of data, and/or neglecting required information. The iterative nature of explanation building contains a tool to identify and deal with such problems during the data gathering process. In fact, all qualitative techniques employ some components of explanation building, but do so in a less formal and orderly manner (Miles & Huberman, 1994). In adopting the very formal technique of explanation building, this research project allows for the use of the approaches that guarantee clarity, reliability, and validity of the data gathered or analyzed. These approaches are presented in the following sections.

When explanation building is used in a multiple case study like this, it is employed at two stages. The first is within cases as presented above while the second is when cross-case analysis is carried out. At this junction, the explanation building process permits the researcher to return to gather further data following the comparison of findings between cases (Yin, 2003).

5.7 Guiding Questions

Maxwell (1996), Miles and Huberman (1994), recommend that it is important to know how structured the research would be before embarking on fieldwork and some level of anticipation. Both authors suggested that researchers with limited time on the field and limited qualitative research experience should generally adopt a more pre-structured technique than those with longer research timelines and more experience. A limited timeline for data collection and a researcher with limited qualitative experience are both common in this research and as such a pre-structured technique was desirable. As discussed in the section on analysis, however, the research team required enough flexibility to redesign data collection tools and techniques while on the field. This means that data collection instruments was not completely designed or planned before entering the communities.

It was generally believed that the research objectives discussed in chapter one were somehow too broad to guide the specifics of the research on the field. Authors such as (Cassell & Symon, 1994) suggest that a common failure of qualitative researchers is departing from the original objectives of

the research. This often happens in reaction to the changing nature of the environment while on the field and failing to collect pertinent and sufficient data. In order to ensure the researcher has a clear direction when collecting data the researcher developed a series of guiding questions for the research. The guiding questions are specific and were developed from reviewing the objectives and research questions. For each objective several questions were developed. These questions were further used to guide the development of definite data gathering tools (semi-structured interview guides, and observations). These guiding questions act as a bridge between data gathering approaches and the objectives of the research. This 'bridging' would permit the researcher to make adjustments of data gathering tools and approaches while on the field.

5.8 Data and Research Validity

In qualitative and quantitative research, it is generally understood that validity differs in both research approaches. However, validity is fundamental to the "goodness" of collected data, because no matter how well designed a researcher's own model building is, results lack trustworthiness, utility, and or validity, if the work makes no sense to those whose culture is being studied. (LeCompte, 2000), Neuman (2000) and Yin (2003) affirm that the validity of qualitative research is based upon how well it stands up to scrutiny. On the other hand, Lincoln and Guba (1985) propose that the terms 'trustworthiness' and 'authenticity' are perceptions that describe good qualitative research.

Numerous authors have discussed the importance of triangulation in qualitative research in which researchers look for convergence of data obtained through different lines of inquiry or perceptions -utilizing triangulation in case study research (Creswell & Miller, 2000; Denzin, 1978; Jick, 1979). Yin (2003) and Denzin (1978) both note that triangulation can be carried out through three or four approaches. The first is the triangulation across data sources. This suggests that many sources can be used to gather data about any particular area of the case. They also suggest that having multiple researchers, particularly those with diverse backgrounds is another form of triangulation. Lastly, the authors note that triangulation also occurs through the process of utilizing diverse approaches of data gathering (i.e. observation, surveys, interviews, focus group, etc). The rationale for triangulation is that if one approach, individual, or data source has a weakness or bias, it may be challenged through another approach, individual, or data source that does not share that weakness or bias.

Different authors suggest a number of other 'procedural' measures. Yin (2003) in particular notes the significance of good record keeping throughout the life span of the research process. A well organized database and a sequence of evidence can show how research progressed. Both Yin (2003) and Trochim (2000) emphasize the importance of detailing and following a clear and repeatable research methodology so that it is clear how the findings came out of the research. Creswell (1998) and Lincoln and Guba (1985) equally discuss the use of peer reviews and external audits as a technique to ensure that the research process is of a pleasing quality. Lincoln and Guba (1985) recommend that the function of a peer reviewer is to act as "devil's activist," a researcher who enthusiastically queries the research process and procedure. As obvious throughout the discussion so far, the process and procedure below, the foregoing caveat were carefully considered and adhered to in this research.

5.8.1 Research Process

The foregoing section has thoroughly dealt with the theory and design of this research. This section presents the process undergone as the research progressed through to completion. Figure 3 demonstrates the processes that the researcher and the research team undertook for the study of urban solid waste management in Ibadan, Nigeria. Importantly, it is hereby emphasized that the process differed slightly in each of the cases; the diagram depicting the research elements presented below is a useful guide for readers to refer to for proper understanding. It should be noted that the box below is a pictorialized iterative process of data gathering and analysis. In addition, each of the elements of the research process is depicted in some significant detail.

Figure 2 Field Research in Ibadan
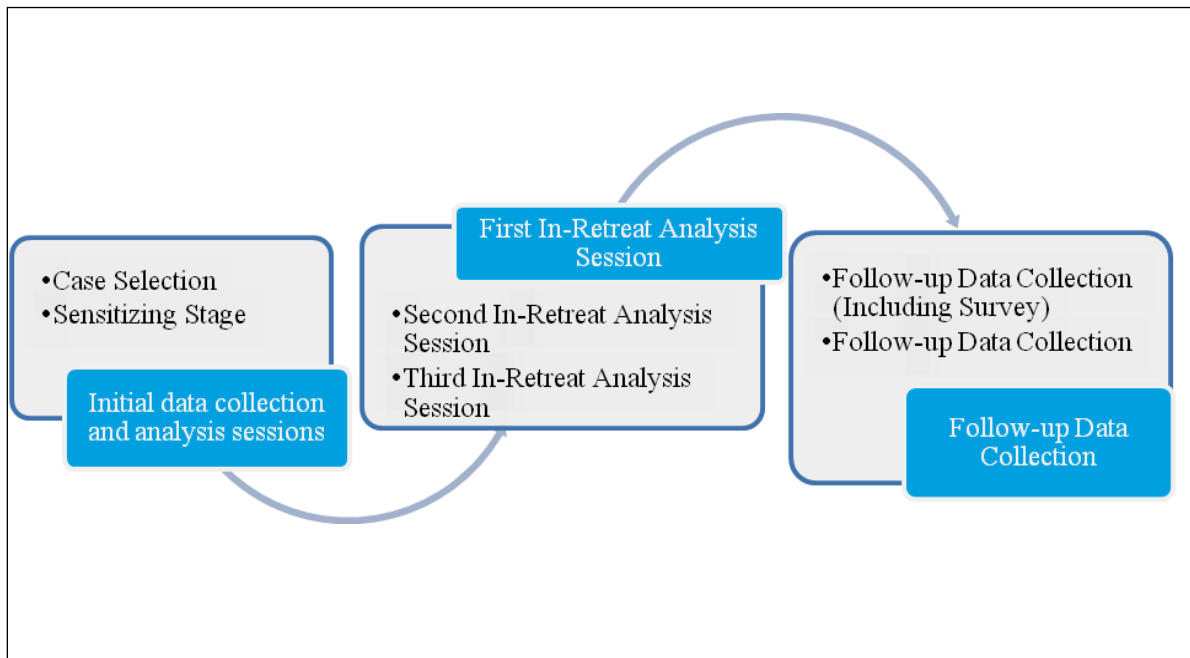
Source: The Author 2010

5.8.2 Case Study Selection

The case studies selection was based on the following criteria:
- The communities selected were all to be located within Ibadan metropolis;
- They should all experience waste management problems;
- Some of the communities should have community-based organizations;
- The community leaders must be willing to allow the research to take place within the community;
- The communities should differ from one another in either the type of resources used or in the management techniques used in USWM;
- The communities should differ in terms of socio-economic status;
- The communities should also differ in terms of ethnic make-up.

In order to select each of the cases, a meeting was held in the author's hotel room with a working group that the author's contact person at the University of Ibadan put together shortly before the commencement of the research process. In attendance were two research assistants hired by the researcher to assist in making necessary arrangement with potential subjects. The meeting began at 5pm Nigerian time and the modality for the selection of communities and data collection approaches were addressed at that meeting. Data were expected to be collected from focus groups, face-to-face

individual interview with community leaders, organization leaders, and the administering of questionnaires to households. Other stakeholders identified for one-one-interview include, the officials Environmental Sanitation and Sewage in the Ministry of Environment and Water Resources, members of the Oyo State Private Refuse Contractors Association, and the officials of the Oyo State Solid Waste Management Authority. At the meeting, the following communities were quickly identified by the working group: Bodija Community, Ayeye Community, Agbowo Community, Foko Community, NTC Community, Sasa Community and Alalubosa Government Reservation Area (GRA). Alalubosa GRA was later dropped from the list of selected communities due to lack of interest on the part of community leaders, and immediately replaced with Alesinloye community. Thereafter, the author's contact person made telephone calls to various agencies and individuals identified in the chosen communities and agencies or offices, and arranged formal meetings with them.

5.8.3 Entry into the Community and Sensitizing Phase

In the current post-modern environment, and globalization, researchers face constant challenges on how to conduct and disseminate research information in an ethical manner. Cross-cultural environments and multidisciplinary research terms present particular challenges (Marshall and Batten, 2003). In cross-cultural research, there are many problems that need to be addressed: values, worldview, definitions, research design, informal consent, entry into a field or community, confidentiality, approaches to data collection, participant roles, ownership of data, writing, representation, dissemination of results, and cultural sensitivity. According to Herring (1999), cross–cultural research requires interactions between investigators and subjects in which there is a search for and acquisition of knowledge. From one case to community-size research initiatives, culturally responsive researchers need to be able to meet the needs of culturally diverse populations in the research relationships.   Nevertheless, there is a realization that current research approaches and practices are not meeting the challenges of a wide range of cultural identities represented in today's world (Marshall & Batten, 2003).

Cultural sensitivity in cross-cultural research refers to "research done with a raised consciousness concerning the impact of a culture on: 1) the persons and /or phenomena being studied, 2) the research process itself and 3) perhaps most importantly, the researcher" (Kowalsky et al., 1996, p. 269). In much of the published work, cultural sensitivity implies that a 'dominant' culture has an

important educational or health care scheme that can be applied to another culture in a 'culturally sensitive way'. This view of cultural sensitivity is supported by the work of Parfitt (1994) who found that western nurses working in developing countries regard themselves as knowing what was right for others and were advocates wanting to do many things. The danger in this method is that health care professionals may see their strategies for achieving healthcare as better or more effective than the alternative ways of the culture they were suppose to help (Kowalsky et al., 1996). The same could be said about urban solid waste management in developing countries where officials attempt to replicate what they saw working in industrialized region of the world by inviting experts to tackle waste problem in their countries. Put in another way, a researcher from a western country tried to replicate urban solid waste management practices from the west in a Third World city, because they worked in the former.

Another interesting point to note is that investigators need to understand cultural sensitivity when conducting research in a new terrain. Therefore, entry into a community will result in an effective and good working relationship with community members (Grichting, 1989). Johnson (1984) and Hutchinson (1985) have both discussed different stages of entering any community for the purpose of conducting cross – cultural research as stopping, waiting, transition, and entry. Stopping happens when a researcher is obstructed from entering a community or neighbourhood through formal or informal means. This stage is critical in moving into subsequent stages as movement is predicated on how the actions and intentions of the researcher are viewed by the community. If there is no moving forward into subsequent stages, the project will be stopped or, if is pursued, the results will be flawed as community members may not want to share their true reflections. The second stage, waiting, is closely related to the stopping phase as community members evaluate the researcher to determine whether or not he or she is trustworthy or worthy of the investment of their time and energy. It is not until the transition phase that the researcher becomes truly engaged in some community activities. The entry stage follows when trust has been created and feelings and reflections are shared openly with the researcher (Kowalsky, et al., 1996). In Alalubosa Government Reservation Area (GRA), the researcher could not advance beyond the stopping stage as he was denied access into the community to conduct his research in the community.

In order to avoid the issue of cultural sensitivity in this research project a plan was put in place by the researcher before leaving for Nigeria. The author was able to enlist the help of well-

known and well-connected individuals from the Department of Urban and Regional Planning of the University of Ibadan. Also enlisted was the Project Manager for Sustainable Ibadan Project, with a decade of experience working with the selected communities. Immediately after the working group's first meeting, a Senior lecturer from the University of Ibadan and the Project Manager for Sustainable Ibadan Project contacted community leaders to explain to them the purpose of the research and what were required of them. Dates were then fixed for our initial visit to the communities to meet with the leaders. Subsequently, the issue of cultural sensitivity was dealt with in a responsive manner because of the involvement of these two individuals who had in the past worked with the community leaders conducting research works in urban solid waste management at the community level.

When the research team began visiting our selected communities, the research team started with Bodija and met with the leaders of the Development Association. The working group then introduced the researcher to the Secretary of the Association, thus beginning a working relationship. The Secretary of the Association later took us to the Association's head office where the research team met with some other leaders. The author spoke to the few members of the association present about his research topic and how he intended to go about data collection and how many people would be needed for the individual face-to-face interview, group dialogue and the administering of the questionnaire to between 40 to 50 persons in the community. At the first meeting, a follow-up date was set for the author to meet with the entire members of the executive in order to fix a date and time for the author to come for group interview, individual interview and to administer the questionnaire in the community. The secretary of the association highlighted how the Sustainable Ibadan Project (SIP) came about, other projects they had implemented in the community such as community bore-hole and community public toilet. The secretary also spoke about the organic fertilizer plant established by the community, which was later taken over by the state government for political reasons. The two research assistants took minutes of the meeting and recorded our conversations with the association members for the researcher's record, as part of the field note.

From Bodija community, the research team proceeded to the NTC Road Community and met with executive members of the Road Development Association. The Manager of the Sustainable Ibadan Project introduced the researcher to the chairman and the secretary of the association. The research project was exhaustively explained to the members present at the meeting; there was a discussion and an agreement was reached on when to conduct the face-to-face interview with key informants, focus group and the starting date for administering questionnaires in the community.

Thereafter, the secretary of the association promised to inform the other members of the executive about the researcher's visit. The chairman and the secretary assured the researcher of the cooperation of the people, dates were fixed for the researcher to come back to start his research project in the community. The research team visited all but two of the communities the same day. All meetings started with prayers, followed by the introduction of the researcher. The author then introduced his research to the organization members and discussed the general process and procedures of data collection in the community. The team visited the other two communities at a later date as fixed by the working group.

5.8.4 Initial Data Collection

In each community the initial data collection was by far the longest (relative to the follow up sessions). The researcher would leave his hotel room at the University of Ibadan early in the morning with two research assistants only to come back very late in the evenings. The initial data collection process in all the communities lasted about 30 days. Data were gathered on all problem areas of the research (e.g. water, electricity, education, health care, employment, sanitation). Initial data collection instruments included interview questions, and questionnaires were designed prior to entering the community, but some of the interview questions were adjusted accordingly to meet the objectives and answers to the research questions. The following sections discuss the details of data gathering and the techniques employed in their collection.

5.8.5 Community Leader Interviews

Depending upon their design and implementation, interviews can provide an array of very direct, quantifiable descriptive data, or very in-depth qualitative interpretations of the situations (Berg, 1989). Yin (2003) recommends that in case study research interviews must have important open-ended components. In this research project, different types of interviews were used to collect data. Interviews were undertaken with small groups, community leaders, key informants, and government officials. All interviews were either semi-structured or unstructured.

The author conducted semi-structured interviews with numerous community leaders in each of the communities. The researcher designed the interviews and approved by the Office of Research Ethics at the University of Waterloo prior to his departure to Nigeria from Canada. In the case of the iterative explanation building technique, the interviews were constantly reworked to reflect the in-field analysis. Minute changes were made prior to the first retreat, and significant changes were made

during the first retreat. The interviews were broadly focused, addressing problems of urban solid waste management at the community level. It also addressed the general view of the residents regarding urban solid waste management and the main challenges of organizing community-based urban solid waste management initiatives. The author asked respondents to discuss their own practices as well as their general observation of urban solid waste management in Ibadan metropolis. The members of each association executives helped select other leaders that would be interviewed in each of the communities. The author conducted the interviews while the research assistants recorded the conversations. Occasionally, some of the respondents did not have a clear understanding of what was going on because of language barrier. Whenever such a situation was encountered, one of the research assistants would rephrase the question in the respondent's language (Yoruba), while the other assistant would take notes during the interview. Overall, 38 leaders were interviewed for this research from each chosen communities.

5.8.6 Interview with Key Informants

Some authors including Durkin et al (2010), Patto (1980), and Young and Young (1961) have discussed the benefits of key informants in research work. According to these authors, key informants proffer a great deal of help in the research as they can either provide access to other members in the community, or they can provide a wealth of information about a topic or group being studied. The author interviewed a number of key informants for this project. Key informants were chosen in order to provide specific insights into areas of expertise or provide answers to specific questions. Interviews with key informants were geared toward specific topic areas in the research. The interviews were unstructured in nature and may be described as topic based dialogues. Key informants included city planners, community members, president of associations, managers, and students interested in urban solid waste management. These interviews varied in length ranging from a few questions, to extended dialogues. The author conducted the interviews at the offices, business shops, and other chosen places convenient to the key informants. Key informant interviews were very important in providing direct information about the problems that the author was seeking clarification on. In most cases, the key informants addressed the questions relating to specific issues from different perspectives. Throughout the period of interviews with key informants, there were always two research assistants to take notes and record any observation while the interview was going on. In all, the researcher was able to interview 22 key informants throughout the duration of this project.

5.8.7 Small Group Interviews

Researchers such as Krueger (1988) and Morgan (1993) have observed that a great deal of pertinent information is normally collected during focus group discussions. Both authors note that the social dynamic and interaction of small groups allowed for a great deal of more interpretation than direct interviews do. The author conducted five group interviews for this research. Group interview varied from the small focus groups of 4 to 6 persons to large groups 8 to 12 persons. These interviews were in the structured, semi-structured or unstructured formats. The same techniques were utilized in the focus group interviews including key informants. The idea of the latter was to extract valuable information on specific issues from participants who had specific insight to the problem. Focus group interviews provided a different dynamic and perspectives than one-on-one interviews as participants often discussed and argued issues amongst themselves during the process. During these interviews, the author always acted as a facilitator of the discussion and remained neutral without supporting or rejecting participant's opinions on issues.

The practice can often lead into area of significance that the author had never before identified. The author in most cases became a participant observer of the group discussion rather than 'driver' of the interview. This approach tended to create an easy flow of discussion among participants. An additional advantage is that participants felt less threatened or intimidated in group environments than in individual interviews. In the group interview there was the likelihood of "brainstorming" before the actual interview because the outcome was a balanced description of actual occurrences. This was specifically beneficial in the sessions on the identification of the environmental problems affecting the communities. The group members quickly discussed some of the environmental problems and some diseases associated with unhealthy environment.

During our small group discussions, we covered a variety of topics such as the problem of urban solid waste in the community and the role of private refuse contractors in the city. We also discussed some of the main challenges facing the communities in organizing community-based waste management initiatives and the issue of trust in government, politicians, the judiciary, the police force, trust within the family, and among residents of the communities. The selection of individuals for group interviews was either based on their understanding of waste management problems or due to their membership in the Community Development Associations. In order to allow everyone a voice in the group discussion process, groups were selected in an effort to limit power and gender differences within the groups. Group interviews were often held informally (with the exception of

meeting with the executive members of associations and community leaders, which required preparation). This informality avoided the need to arrange meetings through the community head which would likely have resulted in each group being selected by the community leaders. Perhaps it would also have resulted in the community leader's closest friends and family being selected; while those not in his good books would likely have been excluded.

During the group discussions, the research assistants took detailed notes of the discussions, as well as the setting and process of the discussion. In some cases, as mentioned earlier, one of the research assistants had to interpret in the local language for those who did not understand or speak the English language. The research assistants would also, where necessary, note conflicts and points of interests in the dialogue. Following the group discussions all members of the research team involved often took some time to record their own reflections on the session upon our return to the office or the researcher's hotel room.

5.8.8 Direct Observation in Field Research

Direct observation in field research involves an intensive and systematic recording of observable urban phenomena and processes within the natural and the built environments. Several authors, including Meredith (1998), Pettigrew (1990), and Sampson and Raudenbush (1999) have all elucidated the importance of direct observation on the field. In order for a field researcher to be successful in direct observation, he/she must have the necessary skill in the field for any work based on case study technique. Yin (1994) and numerous other authors have commented on some of the types of skills required of good field researchers. These include, but not limited to the followings: asking and interpreting opposite questions, ability to listen, being adaptive and flexible, being knowingly unbiased, and having firm understanding of the problem being studied. The author would add that apart from the above requirements the field researcher needs the social, cultural and political skills to develop and maintain credibility with a broader range of respondents from different echelon and functions within and outside the community-based organization.

Authors such as Abbott (1997) and Reiss (1971) proposed general social observation as a key measurement technique for natural social phenomena. The rationale behind a systematic observation and recording is that they are done according to unambiguous rules that permit duplication. Whether the observation is carried out in person or with state of the art technology, must be self-sufficient in that which is observed. Importantly, direct field observation provides access to group processes and

can actually confront the researcher with inconsistencies between what respondents have said in interview and informal dialogues, and what they really do. The essence of data collection through direct observation is to ensure accurate observation and verification of information gathered.

Throughout this research process, the research team kept a daily observation logbook in which direct observations were recorded. Informal dialogues of interests, personal experiences of interest, and personal reflections on their day. Some days we made multiple entries into these logs; this was in line with practices suggested by Sampson and Raudenbush (1999) and Zelinsky (2001) that the researcher and the research assistants should document observations soon after making them to ensure accuracy. Through careful planning, the researcher and the research assistants were able to plan site visitations in the studied areas, including open dumpsites in Ibadan metropolitan area. Planned sites and facilities were also visited to meet with the staff in order to have informal dialogue with them. Some of the places visited include illegal dumpsite in Bodija, organic fertilizer plants in Bodija, Ayeye, and Alesinloye communities. A detailed discussion of the visits to the aforementioned sites and our experiences is provided in chapter 6.

Our observations in Ibadan had more to do with observing waste collection, transportation and disposal activities than anything else. The researcher also had numerous informal dialogues with people and documented them; of particular interest, here were the political dimensions of their conversations. Often time, direct observation was carried out in unplanned manner with the research team recording events as they happened right there and then. In Alesinloye community the author and two assistants actively spent long periods of time at the organic fertilizer plant observing and conversing with the women sorting and separating waste materials for recycling. In addition, in Ayeye community, the research team observed and conversed with the community leaders who showed the research team around the community to identify some of the illegal dumpsites in the community. These observations provided a very detailed knowledge/record of the activities at the organic fertilizer plants. The author used the direct field observation to confirm or challenge information collected through other techniques.

Throughout the research life span in Ibadan, the research team were impelled to carry out numerous data authentication and analysis. This is in agreement with the explanation building approach presented earlier in this chapter. Because of the field environments and the need for consistent and regular analysis session, the research team carried out three levels of analysis in the

research process. The processes or procedure are referred to as on-field analysis, in-retreat analysis, and final analysis.

5.8.9 Qualitative Analysis

On-field data analysis took place every day and sometimes every third day in the chosen communities. These sessions involved the researcher and the research assistants, and often took place in the researcher's office in the faculty of social sciences at the University of Ibadan. The sessions involved less formality than the in-retreat and final analysis sessions do. The bulk of the data analysis focused on building accurate descriptions of the information gathered on the field. Although the on-field sessions differed from one-another, they often comprised the same basic steps as indicated below.

- Basic review of information gathered, that is, reading of interview notes, daily log and other observations;
- Analytical dialogue of areas of interest or concerns raised in previous sessions and how current data gathered have supported those concerns/problems;
- Rough coding is done by going through notes and selecting important portions of data gathered
- Research team considers if new data supports or refutes any existing speculative descriptions/explanations and other plausible descriptions/explanations;
- The research team brainstorms and deliberates new plausible descriptions/explanations
- Review of guiding questions for the research;
- Analytical discussion of how current data gathered contributes to addressing the research questions;
- Discussion of where the present understanding of urban solid waste management practices in Ibadan now stand;
- Discussion of problems regarding data gathering in each community;
- Development of plan for continued data gathering.

Through these sessions, many discussions took place between the researcher and the research assistants. We used rough notes and carried out preliminary rough open coding using pens, sticky notes, and sorting periods ahead of deliberation of each problem. In most cases, the sessions lasted from 45 minutes to three hours. At the end of each session the research team had the data gathered plan for the next day or two. Although the on-field data analysis was easy in practice (i.e. short in duration and limited technology involved), the research team used the methods discussed previously to maintain high quality and standard of analysis in order to ensure validity. The techniques included:

- Triangulation through using multiple data sources;
- Triangulation through using multiple researchers in data gathering and analysis;

- Triangulation through using multiple techniques of data gathering;
- Precise and detailed documentation of the analysis

5.8.10 First Retreat Session

The initial data collection period in the Bodija, Sasa, Alesinloye, Foko, NTC Road, Ayeye, and Agbowo communities lasted up to two and half months. About mid way through this process in each community the primary researcher settled down in his office in the Faculty of Social Sciences at the University of Ibadan for a week to carry out the first "in-'retreat" analysis session. During this time, the research assistants would arrange appointments with key informants for possible interview. The session entailed an analysis of all qualitative data gathered to that moment. The rationale for this analysis was principally to ensure that the research team was sufficiently tackling the objectives and questions set out in the research proposal. Using the research objectives and the research questions presented in chapter 1 as a guide the author undertook open coding using "sticky notes," highlighting, and filing, looking at patterns, themes, differences and similarities in the qualitative data. The author found the coding to be less laborious than anticipated. The coding may be needed for conclusive findings; however, it was enough to exhibit the appropriateness of the data gathering thus far in addressing the research objectives and questions.

At the end the first retreat analysis, after consultation with the research assistants, the guiding questions for the research and the plan of the data gathering were adjusted. The author added new questions to the semi-structured interview guide for the key informant and focus group interviews. Then a research plan for the following days ahead was put in place. In turn, the author discussed all changes made in semi-structured interview for the key informants and the focus group interview guide developed with the research assistants. Thereafter, the research team commenced data gathering in the communities.

5.8.11 Second Retreat Session

Following the initial data gathering in each community a more rigorous analysis of the data gathered took place. This analysis took between 14 and 21 days. During this period, the research assistants digitally entered all of their notes (interview notes from group discussions, informant interviews, daily logs and direct field observation notes). Although author did not utilized any qualitative analysis program yet the coding was carefully done looking at patterns, related themes and associations within data collected from the field. The qualitative analysis helped to capture and

understand the perspectives and respondents awareness of the implication of poor urban solid waste management in their communities and the urban environment across various locations in Ibadan. The technique and procedures of qualitative data analysis followed that of Miles and Huberman (1994), Dawson et al (1993), and Bodgan (1984). It also follows the work of Denzin and Lincoln (1994) edited handbook on qualitative research which synthesizes the existing literature and technique of gathering and analyzing qualitative data, and the art of interpretation, evaluation and presentation of qualitative data. All these literature did not only provide useful insight into data analysis but also data gathering procedures.

5.8.12 Follow-Up Sessions of Data Collection and In-Retreat Analysis

Following the second in-retreat analysis session on each community, the research team would return for a one to two days session of further data gathering. The data gathering took the form of a combination of further key informant interviews, group discussions, and direct observation. Following these sessions, the team undertook further in-retreat analysis of the data. These follow-up in-retreat sessions of analysis built upon the previous analysis (i.e. the entire analysis was not completely re-done). Throughout the data analysis, care was taken to ensure that the analysis captured the research objectives and questions.

5.8.13 Quantitative Data Collection

The data set covers 7 communities and 385 households. The basic unit of analysis is the neighbourhood. The questionnaire provides several measures of social capital allowing the author to test the applicability of the theories of Coleman (1990) and Putnam (1993) to the provision of common goods and to identify the differential effects of various forms of social capital on cooperation.

The quantitative section of the research adopted the 66 core questions of the Social Capital Integrated Questionnaire (Grootaert, Jones, & Woolcock, 2003). This structured questionnaire attempts to measure various elements of social capital using four proxies: (a) social networks, (b) civic engagement, (c) trust, and; (d) reciprocity. The researcher cannot confidently say that the manner in which households were chosen at random was without bias as community leaders participated in the selection process. The questionnaire covered various aspects of the socio-economic, cultural and religious characteristics of participating individuals. They also covered the

characteristics of individual participation in community-based associations and their involvement in community-based urban solid waste management initiatives.

The questionnaire set was divided into six sections. The first part dealt with the general information regarding the researcher's name, respondent's name, city name, municipality name just to mention a few. Section two deals with information on household members while section three elicited information on the idea about community and environment. The fourth section of the questionnaire focused on the association and networks that individuals belonged to in their communities or neighbourhoods. The fifth section focused on the sociability and everyday social interactions of respondents. The last section dealt with various questions ranging from voluntarism in the community to impact of community development association in the community. The author utilized two different sets of questionnaires in this research (as shown in appendix A and B). One set of the questionnaires was employed for gathering important information from the household survey. The other set was employed for gathering information from both community leaders who organized urban solid waste management initiative and those who did not organize. The measures of trust, civic engagement, social network, and reciprocity are based on the average of households' scores on the questions below.

Furthermore, both sets of questionnaire and interview guide designed for data gathering from residents and community leaders contain a section on "Idea about community and environment" to map their understanding and awareness related to community and environment. The questionnaire findings are presented in chapter 7.

Questions patterning to trust in the survey questions include:

1. Would you hire someone based on your neighbours' recommendations?
2. In an emergency, would you leave your children with your neighbours?
3. Generally speaking, would you say that most people can be trusted or that you cannot be too careful in dealing with people?

The answers to these questions were also recorded as: yes/sometime and no. These questions are believed to have captured the tendency to trust or not to trust the people whom one does not actually know personally: Therefore, it is a measure of generalized or "the trust" someone that is not known to you or group-specific thin trust. In addition, a variable signifying the level of vertical trust (that is) trust in institution was included. This was measured by posing question whether or not they

trust the community organizers for their USWM initiatives. The answers were designed as: 5-point scale (1) Do not know, (2) to some extent, (3) average, (4) I trust, and (5) to a great extent.

Questions patterning to reciprocity in the survey questions include:

1. Do you or your neighbour help arrange funerals for someone who dies in the neighbourhoods?
2. Do you or your neighbour send food to the family when there is a death in your neighbours' family?
3. Do you or your neighbours help each other in taking sick neighbours to doctors or hospital?
4. Do you or your neighbours send each other cooked food or drink during religious and social festival or on any happy occasion?

Questions patterning to social networks in the survey questions include:

1. Do you spend time with people outside your household in other ways, such as doing shopping, talking, drinking or just spending time together?
2. I would like to ask you the groups or organization, networks association, both formal and informal that you belong to?
3. How many people from the household are members of this association?

Sample questions patterning to civic engagement in the survey questions include:

1. Have you ever participated voluntarily in community development activities (like cleaning of garbage)?
2. On average, how often did you volunteer in community activities during the last month?
3. Are there any community activities in which you are not allowed to participate?

As mentioned earlier, the primary researcher developed the questionnaires and received full ethics clearance from the Office of Research Ethics at the University of Waterloo prior to the researcher's departure for data collection in Ibadan, Nigeria. The author designed the questionnaires in order to address the primary research questions and research objectives. The author also designed the questionnaires to be administered person to person by the research assistants. In addition, the author designed them so that they can be easily filled out by the respondents and to collect very detailed information with ease. The questionnaires were administered on a household basis in the study locations and the households interviewed are those resident in the chosen communities. The following table gives a brief summary of the components of the survey:

Table 10 Components of Research Survey

Community Name	Male	Female	Single	Married	Divorce	Total HHs
Bodija Community	44	22	28	38	-	66
Ayeye Community	24	15	2	31	5	39
Agbowo Community	30	30	38	15	7	60
Oke Foko Community	41	17	10	46	1	58
Alesinloye Community	20	33	12	41	-	53
NTC Road Community	25	28	13	37	3	53
Sasa Community	23	33	23	33	-	56
Total	207	178	126	241	16	385

Source: Field Survey, 2010

*Note: HHs denotes household surveyed in each community studied in Ibadan, Nigeria.

5.8.14 Measuring Level of Social Capital among Individuals involved in USWM Initiatives in the City of Ibadan

In order to understand the level of social capital among individuals involved in urban solid waste management in the city of Ibadan, the household survey is included and it provides a large amount of useful data. The survey itself is, however, large and complex, putting together a wide array of factors that are consistent with the conventional wisdom and theoretical speculations regarding the nature and level of social capital. For instance, these instruments were divided into sections, which consist of different variables, or questionnaire items, which corresponded to the civic participation of residents in various associations, their behaviours and opinions related to trust, social networks, and norms of reciprocity. These components are highly inter-related and are overlapping; a single survey item potentially has meanings relating to two or more of the sub-elements of social capital and vice versa.

5.8.15 Final Data Analysis and Systems

For the purpose of analysis, and in order to get meaningful results from the data collected, the seven communities studied for the research were grouped into three economic levels -low, medium, and high-income areas. For example, Sasa, Foko, and Ayeye communities were categorized as low-income communities NTC Road and Alesinloye were grouped as medium-income communities while Bodija and Agbowo communities were grouped as high-income communities. With the help of the

research assistants, all the quantitative surveys were entered into the computer and analyzed using SPSS statistical analysis program. The data analysis involved the use of appropriate quantitative inferential statistical techniques and descriptive statistical approach. The purpose of using descriptive statistical approach is to enable the author present information derived from survey data in a convenient usable and understandable in tabular, graphical, or numerical format. The purpose of a tabular and graphical summaries is to make the survey results easier to interpret. On the other hand, inferential statistical analysis enabled researchers   to draw generalization of information derived in the descriptive analytical process. Baylis et al (1998) defined inferential statistics "as the process of analyzing and interpreting data to make statements about the unknown from the known" (p. 10). The analysis however relied more on the use of frequency counts, simple percentages and cross tabulations to explain most of the problems involved in the analysis.

5.8.16 Difficulties and Obstacles of Contact on the Field

The first major problem that was encountered at the initial stage of the fieldwork was how to secure a reliable vehicle throughout the life span of the fieldwork in a city where public transportation system is in decadent paralysis.   Ibadan was a relatively new place to me and the people the researcher was dealing with were unknown to him, therefore the author had to be mindful or wary in his dealings with them. At the same time, author also had to trust them to a certain extent since their cooperation and allegiance were needed throughout the life span of the fieldwork. It must be emphasized here that Dr. Wahab of the department of Urban and Regional Planning at the University of Ibadan bridged and cemented the trust between me and people the researcher had to work with. He was instrumental to an invaluable degree in fostering and cementing our mutual relationship for the benefit of the fieldwork. A senior lecturer from the University Of Ibadan and a staff of Sustainable Ibadan Project took it upon themselves to drive the research team around for the most part of the fieldwork. Occasionally it was unavoidable to use the cab driver that one of the research assistants introduced to me for moderate charges. That taxi driver turned out to be a very trustworthy and reliable person that one could call upon at anytime for a paid ride.

The second major problem that confronted the author was how to make the concept of social capital understandable and operational to the research assistants and subsequently the respondents in a plain language. The concept of social capital is a relatively new one not often used in community development research in Africa. Only a few works have so far been done in Nigeria using the concept

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of social capital as a theory and analytical tool. To overcome this obstacle, the author presented his research proposal and the draft theoretical chapters to the research team to deliberate upon the analytical areas.   A day was set aside for the exercise and providing answers to any aspect that was not clear and needed further clarifications to the research team. At the end of the debriefing, a consensus was reached, meaning that the term social capital was understood by the research assistants and they were ready to try it on the field.

The most frustrating aspect of the fieldwork was the inability to interview one of the senior staff of Environmental Sanitation and Sewage in the Ministry of Environment and Water Resources. He kept us waiting for four hours, despite having made an appointment, and in the end did not grant us an interview. The second disappointing aspect was the lack of cooperation from the residents of the Alalubosa Government Reservation Area (GRA) to use the community as a case study. The working group committee initially recommended this community as a suitable location for my case study. In spite of the personal effort made by one of the residents to organize the residents for group discussion and household survey, the community bluntly refused to participate in the study. The working group committee had to come up with an alternative community to study for this research. In spite of the obstacles encountered during the fieldwork, Ibadan turned out to be a loving city full of life and pristine glory. The people were very amiable and easy going. Ibadan is a city that welcomes everyone – a melting pot in its own right.

Chapter 6

Overview of Current State of Urban Solid Waste Management in Ibadan

6.1 Introduction to the Chapter

The purpose of this chapter is to explicate and document the features of the current urban solid waste management system in the city of Ibadan. To this effect, organizational and operational aspects of Ibadan Solid Waste Management Authority now known as the Oyo State Solid Waste Management Authority are briefly analyzed and discussed. After the introductory section, the accompanying sections examine the current institutional arrangement of solid waste collection and disposal practices in the city. Section three examines community-based urban solid waste management initiatives. Finally, the fourth section deals with the nature and causes of waste management problems in Ibadan city.

6.2 Current Institutional Arrangement for USWM in Ibadan

The failure of the Ibadan Solid Waste Management Authority (ISWMA), in the management of solid waste in the city with the unpleasant urban decadent situation that arose from it, prompted the Oyo State Government to establish the current Oyo State Solid Waste Management Authority (OSSWMA) under the law No. 1 of 28th January, 2008. This legislation is contained in the Oyo State Gazette No. 9, volume 33, of June 5th, 2008 (Oyo State Government Gazette, 2008). The difference between the Ibadan Solid Waste Management Authority and the Oyo State Solid Waste Management Authority is that the operational functions of (ISWMA) is confined to eleven municipalities within Ibadan metropolis, while the operational functions of (OSSWMA) covers the entire Oyo State. To effectively carry out its legal and statutory duties, the OSSWMA is zoned into 7 regions as shown in Table 10. It is important to emphasize that at the time of this research only the one in Ibadan II was operational, the rest were yet to take effect. Given the present financial, human, and technical resources constraints that beset the Oyo State solid waste management, the authority is not certain if the rest of the zonal offices will ever become functional without the state government providing financial, human, and material resources to support it. The regional authorities and the licensed agents have found it difficult to effectively and efficiently collect and dispose-off wastes from their sources

of production. Consequently, indiscriminate dumping in open space, along the roads and riverbanks are still evident in the metropolitan area.

Table 11. District Head Office of OSSWMA

Zone	Head Office	Area of Jurisdiction
Oyo	Oyo West	Oyo West, Oyo East, Atiba and Afijio Local Governments
Ogbomoso	Ogbomoso South	Ogbomoso South, Ogbomoso North, Oriire, Surulere and Ogo-Oluwa Local Governments
Oke Ogun 1	Iseyin	Iseyin, Itesiwaju, Iwajowa and Kajola Local Governments
Oke Ogun 11	Saki West	Saki West, Saki East, Atisbo, Olorunsogo, Irepo and Oorelope Local Governments
Ibarapa	Ibarapa North	Ibarapa North, Ibarapa Central and Ibarapa East Local Governments
Ibadan 1	Ibadan North East	Ibadan North-East, Ibadan South, Akinyele, Lagelu, Egbeda, One-Ara Local Governments
Ibadan 11	Ibadan South West	Ibadan South-West, Ibadan North West, Ibadan South-East, Oluyole and Ido Local Governments

Source: Field Work, 2010

Like its forerunner, the Oyo State Solid Waste Management Authority has a committee headed by a chairperson who presides over a board whose members are selected from all the municipalities in the state. Appointment to the board, is politically influenced, and it takes place whenever a new government is elected in the state; such board members are answerable to the state government. The board represents the 11 local governments in Ibadan metropolis. Six directors and managers are included in the staff list -Enforcement Manager, Enlightenment Manager, Operations Manager, Maintenance Manager, Director of Planning Research and Statistics, Administration and Finance, and General Manager.

Apart from the organizational structure of the Authority, table 11 summarizes the responsibilities of each department in Oyo State Solid Waste Management Authority organization structure. For example, the department of Planning Research and Statistics is responsible for the collection and compilation of data, analysis, inputing of data into computer and production of reports. The department of finance and administration is responsible for the management and auditing while enforcement department is responsible for enforcing Sanitation Laws in the State. On

the other hand, the enlightenment department is responsible for the creation of educational materials and awareness campaign regarding the needs for appropriate waste management practices in the State. Finally, the operation and maintenance departments are responsible for the smooth running and operation of daily collection and disposal of waste in the city as well as the maintenance of the Authority's vehicles and facilities.

Table 12. Responsibilities of Each Department with OSSWMA

Department	Duties
Planning Research and Statistics	• Collection and compilation of data • Analysis, inputting of data into computer • Production of analyzed data and dissemination of data
Finance and Administration	• Personal management and auditing
Enforcement	• Enforcement of Sanitation law
Enlightenment	• Creation of awareness about waste management • Registration of Private Refuse Contractors
Operation	• Daily collection and disposal of waste in the city • Maintenance of dump sites
Maintenance	• Repair of vehicles • Maintenance of Authority's facilities

Source: Field Work 2010

6.3 Financial Allocation of OSSWMA

Financial record of the OSSWMA made available to the researcher shows that the finances, materials, and human resources devoted to urban solid waste management in the municipalities across the State have not been enough to carry out their responsibilities. Currently, the Oyo State Solid Waste Management Authority (OSSWMA) gets allocation for its annual budget from the state government in addition to the token monthly contribution from the 11 municipalities in Ibadan metropolis. Table 13 below shows the 2008 and 2009 allocation of funds from the state government.

Table 13. 2008 and 2009 Budget Allocation

2008 Estimate	CAD	2009 Estimate	CAD
Capital Requested	$2,353,519.99	Capital Requested	$2,216,348.51
Actual Received	$316,887.10	Actual Expenditure	$148,364.36
Recurrent Expenditure	$696,796.36	Approved Estimates	$1,133,507.64
Actual Expenditure	$244,044.39		

Sources: Adopted from the Budgets of OSSWMA

One can infer from above table that the Oyo state government's budget allocation to the State's Solid Waste Management Authority is not sufficient to allow the Authority to provide sustained solid waste management services for the entire city. Understandably, the Authority lacks the capacity to generate revenue on its own apart from the monthly contributions of the 11 municipalities to its coffers. As table 12 shows, in 2008 (the year that the agency was established), it requested $2,353,519.99 but received only $316,887.10 from the government. However, the agency was able to spend $244,044.39 from the given amount in the same fiscal year. Likewise, in the year 2009 the official budget allocated to the agency was $1,133,507.64 out of $2,216,348.51 requested, but only $148,364.36 was dispensed in that fiscal year. According to one government official in the department of finance and administration in the Oyo State Solid Waste Management Authority, the annual budget dispensed by the state government to the Authority is only enough for a minute fraction of its responsibilities. Quite often, the funds allocated to the Authority are only partly disbursed, and this creates a shortfall of funds to the Authority. Generally, inadequate or improper funding is one of the forces working against every successive urban solid waste management agency in Nigerian cities. Unlike cities in developed countries, which receive sufficient budget allocation from the states or provinces, most state agencies in Nigeria operate with minimum subsidy from the state governments (Agunwamba, 1998). Thus, the issue of poor funding is not confined to the Oyo State Solid Waste Management Authority as one might imagine. Local authorities across Nigeria lack the capacity to handle the burgeoning solid waste generated in their cities mainly because of limited budgets and the lack of political will on the part of politicians (Ogwueleka, 2009).

6.4 Human Resources Engaged in OSSWMA

Across Nigeria, one of the main issues confronting the administration of urban solid waste management in the cities is the problem of under staffing, including the lack of trained professionals. As such, the Oyo State Solid Waste Management Authority (OSSWMA), the agency responsible for waste management across Oyo state is not immune to the problem of understaffing as revealed in the information gathered from the agency. At the time of our visit, the Oyo State Solid Waste Management Authority employed 194 paid staff and 12 volunteers from non-governmental organizations. There are two employment categories in the agency, the pensionable and non-pensionable staff. The pensionable employees are entitled to retirement benefits, while those in the non-pensionable category are not entitle to receive pension benefits at retirement. The 13 volunteer staff provide security services to the agency keeping away people who do not have business transactions in the facility as well as preventing visitors from taking pictures of disabled vehicles without authorization from the General Manager of the Authority.

Table 14. Human Resources Engaged in OSSWMA

Category	Pensionable	Non Pensionable	Total
Administrative Staff	9	-	9
Environmental Health Officers	32	3	35
Technicians/Mechanics	8	5	13
Drivers	28	1	29
Welder	3	2	5
Vulcanizes	4	7	11
Cleaners	-	4	4
Gatemen	-	2	2
Typist	-	10	10
Clerical GD Account	-	5	5
Dump Site Attendant	-	1	1
Computer Operator	-	1	1
Camera Man	-	1	1
Workshop Attendants	-	1	1
Security	-	38	38
Motor Boys	-	29	29
Voluntary From NGOs	-	12	12

Source: Author's field note, 2010

Historically, understaffing has been an issue with every successive agency responsible for solid waste management in Ibadan city. In an interview with senior official of Oyo State Solid Waste

Management Authority, it was affirmed that the agency was chronically understaffed. In the interviewee evocation,

> We are agitating for more experienced staff which we believe the government will look into in due time. In the area of enlightenment, there should be more staff especially professionals. We ask the government to employ younger ones because most senior staff/professionals have gone to the peak of their profession. The institution needs specialists in solid waste management; all environmental officers are specialists, but we do not have specialists in waste management. No graduates in environmental study have been employed in the institution since its inception (Personal Communication, 2010).

The interviewee further stated that in order to ensure effective and efficient provision of urban solid waste management services, the agency needs qualified personnel with appropriate training or educational qualification and technical know-how.

6.5 Technical Equipment and Trucks

The ability of an urban solid waste management system to consistently and reliably attain its goal hinges on the operational capacity and maintenance of the systems. No matter how effective a solid waste system is, no matter how theoretically sound its bases are, it will fail to achieve its objective if there is no efficient operational and maintenance procedure in place. Different types of vehicles are used for solid waste collection and transportation to final dumpsites in Ibadan. The compactor trucks, side loaders, rear loaders, mini trucks, tippers, skip trucks and open back trucks are the most often used collection vehicles. The following table shows the overall position of material resources of the Oyo State Solid Waste Management Authority. The table 15 shows the different types of material resources available to the Ibadan Zone II head office.

Table 15. List of Material Resources as of May 11, 2010

Functional Vehicles	Total	Unserviceable Vehicles	Total
Mitsubishi canter truck	20	Ro-Ro truck	Not specified
Bedford tipper	2	Skip Eaters	2
Toyota tipper	2	Toyota tipper	Not specified
Skip eater Leyland	6	Pay loader 950	Not specified
Leyland Ro-Ro truck	2	Cat 920 pay loader	Not specified

Sources: Author's Field Note, 2010

It is evident from the table, that there are not enough material resources to provide the needed services to a city with a population of over 3 million. In this respect, some key interviewees informed the researcher to the effect that shortages of material resources are the main obstacles to effective management of solid waste in the city. A quick tour of the facility of the district head office of the Oyo State Solid Waste Management Authority in Ibadan South West revealed the very terrible state of affairs in the authority. Trucks, cars and other related equipment in the yard are in a horrible state of disrepair; this gives it a very untidy appearance and severely hampers the effective management of facility (see Figure 5) The manager reliably informed the research team during this tour that the incumbent governor of the state had recently procured 20 smaller trucks, 15 of which were to be assigned to service major roads in the city. However, an attempt to investigate further during the direct field observation to ascertain the number of disabled vehicles, was bluntly turned down for unexplained reasons, best known to the OSSWMA.

6.6 The Current Waste Management Practices in the City of Ibadan

For proper operation and functioning of efficient urban solid waste management in urban Ibadan, the city is divided into three zones. The planned area often referred to as "Government Reservation Area" (GRA), is more or less exclusively reserved for the elites. The unplanned areas are mostly referred to as the "traditional core areas and special areas (the local market areas), are peopled by low income citizens. As discussed in chapter one, Ibadan is a traditional city characterized by pre-industrial urban development in the core areas of the city, and modern urban land use development at the fringes of the city. The core areas have a high number of houses per land with higher population densities. These characteristics are consequences of rural-urban migration, and natural increases among the native population and the subsequent need for new housing development that encouraged density intensification. This process is referred to by a prominent Nigerian urban historian and planner Mabogunje (1968) as "growth by fission."

For uncomplicated large volume storage and easy collection, the OSSWMA provides metal skips in some special areas and at various market places. Currently, there are over 100 such skips in Ibadan South and less than 50 of them are in Ibadan North. The collection of waste is the sole responsibility of OSSWMA with the help of private registered refuse contractors. The private contractors use either open-top tippers covered with tarpaulins or skip-eaters loaned from OSSWMA. They use these vehicles to collect waste from house-to-house in planned and special areas of the city

once or twice a month for a specified amount. Thus, the waste management problems are analyzed under the three categories described above taking into consideration the existing metropolitan structures, geomorphology and topology of the landscape.

At present, in the core areas, there is little community-oriented urban and environmental planning process. This engenders a situation where core areas of the city are characterized by inadequacy of urban environmental infrastructural facilities such as roads, waste disposal services, drains, sewers, public toilets and potable water supply. Even in this era of post-modern planning endeavours in the city of Ibadan, it is difficult to distinguish between the planned and unplanned areas as both areas lack accessible roads, friendly sidewalks, proper drainage, open space for recreational activities and heritage preservation throughout the city. In addition, the planned and unplanned areas also lack neighbourhood or community parks for the elderly people, toddlers and their parents. Neither do they have regional or public parks for community feasts as all available lots are built up for residential or commercial uses.

6.7 Unplanned Area (Core Areas)

Currently, waste management in the unplanned areas is the responsibility of the Oyo State Solid Waste Management since the residents are unable to pay for the services of private contractors who would otherwise have been providing the services in those neighbourhoods. The agency responsible for waste management in the city assigned vehicles to core areas to collect and transport waste directly to designated dumpsites in the city. These vehicles go from neighbourhood to neighbourhood collecting refuse once in a month; however, during rainy season some places cannot be reached due to bad roads (see Figure 6). In the core areas waste generated contain both organic and inorganic materials. In addition, human and animal waste including excreta, food items, plastic/polythene sheets and other materials like metal, glass, and textiles dominate the waste composition.

The core areas are for the most part unplanned and inaccessible to vehicles. Different types of bins are used to store refuse, ranging from old metal drums, raffia baskets, sacks, nylon, old baskets, paper boxes, old plastic bags in low income areas. Some residents, especially those who live in the core areas close to the streams, do not have storage bins due to lack of space to place the waste bins. In an interview with the Executive Secretary of the Oyo State Urban and Regional Planning, The

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researcher was informed that during rainy season residents living in unplanned areas of the city would normally dump their waste inside the river. However, the OSSWMA has been able to devise a means to improve the situation through the process known as "bring and drop strategy." Through this approach, residents are encouraged to bring their waste to collection points where vehicles are stationed to receive the waste from residents for onward disposal. In an interview with the OSSWMA's director of Planning Research and Statistics, it was revealed that the residents pay token fees for the services with strong involvement of the community leaders who monitor the process (Personal Communication, 2010).

In Ayeye, Foko, NTC Road, and Sasa communities, the most common methods of waste disposal by residents include illegal dumping on open spaces, drainage, roads, streams, and burning. In all the communities visited during this study, it was not uncommon to witness indiscriminate burning of wastes in the communities, illegal dumping of waste on uncompleted buildings, roads, open spaces by young children and women. During such visits to Sasa, Ayeye, Foko, and NTC Road communities, young children were witnessed hauling waste from homes and shops and dropping them off on open spaces in the neighbourhoods where the wastes were burnt. This observed method of waste was the same in all the communities studied for this research as the table below illustrates.

Table 16. Methods of Waste Disposal in Core Areas

Waste Disposal Method	Ayeye	Foko	Sasa	NTC Road
Burn it	19(48.7%)	22(37.9%)	29(51.8%)	16(30.2%)
Throw it on own lot	2(5.1%)	1(1.7%)	1(1.8%)	3(5.7%)
Throw it on other lots	2(5.1%)	3(5.2%)	11(19.6%)	10(18.9%)
Throw into rivers/sea	7(17.9%)	22(37.9%)	10(17.9%)	4(7.5%)
Bury it	1(2.6%)	2(3.4%)	-	3(5.7%)
Pay to haul away	8(20.5%)	8(13.8%)	4(7.1%)	15(28.3%)
Others	-		1(1.8%)	2(3.8%)

Source: Author's field note, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

6.8 Special Market in Ibadan

Ibadan is the political headquarters of Oyo State and by its status as the largest commercial city in tropical Africa. The city's population is estimated to be over 3 million, predominately Yoruba. Trading is one of the major commercial activities in the city. The oddness of trading in this area is that new markets unexpectedly spring up in a makeshift fashion and also from one location to another due to the activities of informal commercial actors in the city. These activities have led to the invasion of all available space in all land-use types. Petty traders block access roads, colonize open spaces meant for the storage and transfer of waste and disobey planning and environmental regulations. These factors not only contribute to increases in solid waste generation, but equally obscure the collection mechanisms available. There are about 62 organized markets to cater for the increasing and swelling city population. Visits to Bodija, Sasa, Alesinloye and Agbowo Markets indicate that food-related organic waste constitute the highest proportion of market waste, followed by paper products, metallic and wood wastes, abattoir-related wastes, and textiles. At the Bodija market in particular one could notice mountainous heaps of wastes within abattoir and sheep and goats sections of the market as illustrated: (see Figure 7). In many cases, there is concentration of dumped solid wastes and other waste types at corners and open drains around the markets. In some of the markets observed for this research, there is no organized system in place for the collection, transportation and effective disposal of the waste continually produced by traders.

For the proper operation and functioning of urban solid waste management, the city was divided into three zones, as already mentioned. However, majority of market places in Ibadan are located in core areas of the city hence it is very difficult to distinguish the traditional market areas from the special market areas. Thus, market area is synonymous with unplanned or core areas in terms of geographical location, physical planning and the provision of basic needs and services. In the market area, drums and sacks are the most commonly used waste storage materials along with other disused packaging materials cardboard boxes. The occurrence of collection varies from market to market. In most cases, waste collection and transportation to dump sites is between 2 to 3 times in a month depending on the size of the market. Presently, the Oyo State Solid Waste Management Authority has sole responsibility for waste collection in all markets in the metropolis, excepting a few market areas which have been contracted out to private waste contractors for the evacuation of wastes. A combination of stationary communal storage bins and block collection system, "bring and drop" system, are practiced in some areas of the metropolis.

Transportation of solid waste in all the markets in Ibadan include the head porter-age, using wheelbarrow (up to the communal collection points, transfer point or mobile collection point), and skip-eater trucks to the final disposal site. The OSSWMA staff, private head porters and wheel barrow/truck pushers are involved in the waste moving operations. In some markets, particularly those that are in unplanned areas, the use of young children and Alabaru (a local name for private waste collectors who are paid between 10 and 20 cents) for waste collection and transportation for illegal dumping are common. During observation for the purpose of data collection in Ayeye community, it was evident that as many as 50 homeless or abandoned children are involved in the collection of waste from stall-to-stall in the market for a little stipend. The collected wastes are then burnt at illegal dump sites within the community by the children. Some of the children observed were under the age of 12 and the money so earned is used for feeding, accommodation and to smoke 'weeds'. A further investigation revealed that these children were not from the immediate communities but from as far as neighbouring states; Ondo, Ogun, Lagos, and Osun. In order to keep the children from trouble, the leaders of the community employed an adult male to monitor and supervise their daily activities.

In all the markets visited for field observations, it was observed that open dumping and/or burning are prevalent around the markets. However, in some of the illegal dumpsites within the market areas, scavengers were seen sorting through heaps of wastes to salvage any recyclable materials before the left-over was set on fire or transferred to the final disposal sites. Illegal dumpsites are a common phenomenon in most of the markets in Ibadan. For example, uncoordinated waste collection and disposal are major problems in Bodija market. This has resulted in indiscriminate waste dumping because there is no coordination or central collection point. During a walking tour of Bodija market by the research team, 346 illegal waste dump sites were observed under the supervision of the tour guard.

In one direct field observation at the Bodija market, interactions with some of the leaders of "Bodija Area Development Association" led to an understanding of the current state of affairs regarding waste management in the market. The leader of the association presented to the researcher a recent letter and a picture depicting heaps of waste in the market. The association had written a letter to the State governor requesting the governor to take action to evacuate illegal dumping and

waste burning around abattoir section of the market. Below is a copy of the letter to the governor of Oyo state reproduced from a personal file.

Your Excellency Sir,   March 30, 2010

Best regards to your Excellency and your able and dynamic executive members, we commend you on your enormous task on development projects in and around Oyo State in general. Almighty God will strengthen your efforts in life (Amen).
The area covering 30mx 20m formally being used as abattoir have been turned to illegal dumping site of refuse and toxin material which constitute danger to human and animal health. The indiscriminate burning of refuse on daily basis at the site could be a source of fire outbreak and hazard to life and neighbouring properties while the waste product and toxin dumped at the site pose a threat and is injurious to healthful condition of the marketers. The refuse from the market and waste from slaughtered cows and goats are dumped daily without any hope of evacuating.
Your immediate intervention to prevent the impeding danger from the aforesaid activities will be highly appreciated.
Thank you in advance for your prompt action.

Yours faithfully,

The above formal letter is a testament to the deteriorating environmental condition of markets -a miniature show of overall environmental decadence in and around the city of Ibadan. When pressed further to find out if the government had responded to their request, members of the association replied that, as at the time of the interview with them the government had not responded to their request.   Members of the association were however very pessimistic about the government's readiness to respond to their letter. To say the least, as implied, to hope that the government would ever take any decisive action to ameliorate the environmental conditions in Ibadan is a daydream.

6.9 Waste Management in Planned Areas

Planned areas in the city include Alalubosa GRA, Agbowo, Alesinloye, New Bodija Estate, Agodi GRA, the Government Secretariat, Links, and Jericko, are by general definition classified as high-income areas. Urban solid waste management in these areas is the responsibility of government-registered Private Refuse Contractors (PRCs) who work under the supervision of Oyo State Solid Waste Management Authority (OSSWMA). By design, planned areas are well organized in terms of Nigerian urban planning standards; waste is easy to manage because of easy access roads in the area, better than those in unplanned areas. Some of the residents contract out their waste disposal to private contractors who are responsible for their collection and transportation to final disposal sites. As in the

core areas, the PRCs are zoned into various Planned Areas to serve the individual households by collecting, transporting and disposing of their wastes. In an interview with the president of the Private Refuse Contractors, the president estimated that only about 25% of households in planned areas are currently participating in the exercise, the rest resort to alternative options of waste disposal available to them which may include illegal dumping, burning and bury approaches. This was confirmed in a direct field observation during the course of this study.

The planned areas such as housing estates, institutional areas, and Government Reservations bear the same resemblance when it comes to the provision of water, electricity, sanitation, and urban solid waste management services to the resident population. In Ibadan, it does not matter whether you live in the Unplanned, Planned or special areas in the city, the mode of waste disposal among residents are characteristically the same. In a visit to Agbowo, Alesinloye, and Bodija communities for the purpose of direct field observations, the researcher noticed indiscriminate disposal of wastes along the roads, illegal burning of wastes in open spaces, waste blocking gutters, and illegal open dump sites everywhere in the communities. The current waste management practices in these communities are summarized in table 17 below.

Table 17 Waste Disposal Methods in Planned Communities

Waste Disposal Method	Alesinloye	Agbowo	Bodija
Burnt it	28(52.8%)	22(36.7%)	32(48.5%)
Throw on own lot	3(5.7%)	1(1.7%)	9(13.6%)
Throw on other lots	9(17.0%)	10(16.7)	6(9.1%)
Throw into river/sea	-	13(21.7%)	5(7.6%)
Bury it	-	1(1.7%)	1(1.5%)
Pay to haul away	4(7.5%)	4(6.7%)	11(16.7%)
Others	1(1.9%)	3(5.0%)	2(3.0%)

Source: Author's field note, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

As the table indicates, when respondents were asked to identify the current method of waste disposal in their communities, 28(52.8%) households in Alesinloye, 22(36.7%) in Agbowo, and

32(48.5%) in Bodija responded that they burnt their wastes. In addition, 9(17%) of the respondents in Alesinloye, 10(16.7%) in Agbowo, and 6(9.1%) in Bodija communities said that they throw their wastes on other people's properties. Also, 3(5.7%) of the respondents in Alesinloye, 1(1.7) in Agbowo, and 9(13.6%) in Bodija communities said that they thrashed their waste in their own properties, while 13(21.7%) households in Agbowo and 5(7.6%) acknowledged throwing their waste into rivers/streams However, 4(7.5) households in Alesinloye, 4(6.7%) in Agbowo, and 11(16.7) in Bodija communities were able to hire Private Refuse Contractors to pick up their waste for disposal.

6.9.1 Open Dump Sites

The current focus of the Oyo State Solid Waste Management Authority and all the Private Refuse Contractors in regard to waste management is to collect, transport, and dispose. As one key informant said, "the focus now is collection, how to be able to move waste that we collect to its final destination…so the wastes are collected, transported to the dump site, that is the improvement, 'out of sight out of mind' mindset." Currently there is no single transfer station in the city of Ibadan as solid wastes are collected and taken directly to the disposal sites.

Presently, there are 4 open dump sites serving the Ibadan metropolitan area. Ajakanga open dumpsite located along old Ijebu road in Oluyole local government area established in 1999. During a visit to the site there were about 40 scavengers on duty, 15 males and 25 females. In the course of the interactions with some of them, it was revealed that they work about 14 hours every day separating valuable materials from the wastes before the remnants are burnt. The next dumpsite visited was Aba-Eku landfill situated along Olunloyo, Akanran Road in Ona Ara local government area, east of Ibadan metropolis. The World Bank helped to design the sanitary landfill site in 1996; it was never maintained by the state government, but was later turned into an open dumpsite. Like Ajakanga open dumpsite, there are about 70 scavengers working on the site, separating valuable materials for sale. The scavengers comprised 40 women and 30 men and the researcher had the opportunity to interact with them and to take some personal and group pictures. The Scavengers revealed that they work between 7 and 8 hours daily going through refuse. Our next visit was to Lapite open dump site situated along Moniya, Oyo Road, in Akinyele local government area. Established in 2000, most of the waste dumped here come from Bodija market, mainly waste coming from abattoir -cow and other market waste. The last open dump site visited was the Awotan, located along Apete Akufo Road in Ido local government area in Ibadan metropolitan area. The Oyo State

Government established the dumpsite in 2000 and at the time of visit about 80 scavengers, which comprised 30 men and 50 women, manned it. According to some of these scavengers, they had been working in this sector for more than twenty years beginning immediately after their elementary education. One of them intimated that he started his 'career' at the Ring Road open dumpsite at the age of 9 years before coming to Awotan dumpsite.

The direct field observations during the four visits to open dumpsites in the course of this study revealed that all the sites are located on even surfaces rather than in depressions or excavated pits, a situation, which makes them, tower above the surrounding landscape. The landfills are not in conformity with the rules guiding landfill operation around the world since the management capacity to monitor and control them is weak and or nonexistent. For example, it was observed that the wastes empty-off was not covered by soil. The use of liners or soil layer to cover deposited waste is to reduce odorous emissions from the previously deposited waste. All the dumpsites visited emitted smoke/fumes into the air due to never-ending indiscriminate burning of wastes. In addition, odour is another major problem with all the sites visited. This is because the wastes deposited are not covered by earth or other material according to international standards. It was also observed that the city of Ibadan does not prohibit residential developments within its dump sites as there is no General Sanitation Regulation setting the setback limits from existing or former waste disposal sites contrary to what is practice in cities in developed world. In Nigerian cities, due to political corruption and nepotism those who are supposedly in charge of enforcing the regulations, where they exist, allow developments within the restricted zones. It becomes apparent why all the sites visited are experiencing urban encroachment and dotted with residential developments (See Figure 8).

6.9.2 Resources Recovery and Recycling

Presently, recovery/recycling operations are carried out mostly by the informal sector either at the illegal dumps in the communities or in government controlled open dumpsites across Ibadan. In a visit to Bodija, Ayeye, Sasa, Agbowo, Ayeye, NTC Road, Alesinloye communities respectively, the researcher found various components of wastes in open dumps. Some of the components dominating the waste stream include Leaves, plastics, nylon, rubbers, shoes, textiles, cans, and glass. At the community level, plastic found in the communities is mostly thin plastic originating from the packaged water sachets. In most market places and neighbourhoods, informal sectors collect waste for a fee and salvage any recyclable materials prior to the disposal of the waste in open dumpsites. At

the community level, the informal sector uses pushcarts and wheel barrows for the collections of wastes in the areas where OSSWMA and the Private Refuse Contractors cannot deliver waste management services to the public. In some public places and markets, people pay informal sector to clean the front of their stores and business premises on regular basis for a fee.

At the 4 open dumpsites visited to collect data for this research, the average age of the scavengers found on sites are between 17 and 30 years. They operate without proper protective wares as evidence in most of the open dumpsites visited. As dump trucks arrive at the dumpsites, scavengers would surround the truck in order to get their hands on recyclable materials quickly before others. At the dumpsites the scavengers sort through the wastes brought by the OSSWMA or Private Refuse Contractors trucks and recover recyclable ones (e.g. water bottles, pop cans, beer bottles, pop bottles, plastic containers of all colours and sizes, plastic chairs, motor batteries). All the recyclables collected are quickly taken to areas they have appropriated for themselves at the edge of the open dumpsites; here the scavengers would further go through the collected recyclables once again to further salvage the repairable ones and rentable materials for sales (Figure 9 *).*

6.9.3 The Involvement of Private Refuse Contractors

The General Manager of the Oyo State Solid Waste Management Authority is responsible for the registration and licensing of the Private Refuse Contractors in the state. At the time of registration each Private Refuse Contractor is required to pay a registration fee to the agency and thereafter the Registered Contractor is given a zone to manage. Apart from the registration fees, the Contractors pay monthly fees to the government for using open dumpsites as final disposal site for the waste dumping. Presently there are about 115 Private Refuse Contractors operating in high and middle-income areas across the city, collecting and transporting wastes to dump sites. Some Private Refuse Contractors also provide waste management services to their clients in special market areas while Oyo State Solid Waste Management Authority services the low-income areas. In an interview with the president of the Private Refuse Contractors in Ibadan, the researcher was told that some of the households they served pay as high as $9.51 in high income areas, $5.07 in middle-income areas and $1.27 in low-income areas. However, in another interview with the chairman of Ayeye Community Development Association, the researcher was informed that in their community the Oyo State Solid Waste Management Authority charges $63.39 per trip to transport waste to dump sites from their community. In his words, "the government makes things harder for us, there is no readiness on their

part to help; this forces the community to employ homeless children in collecting the refuse as well as burning them –all in an attempt to save cost" (Personal Communication, 2010). Since a majority of the residents in Ayeye community and the local traders are unable to pay the $63.39 fees, they have resorted to using children to haul their waste to illegal dumpsites in the community for burning. (See Figure 10) for some of the illegal dumpsites in the city of Ibadan.

6.9.4 Community-based USWM Initiatives in Ibadan

This section is dedicated to explicating the characteristics of community-based organizations engaged in urban solid waste management within Ibadan metropolitan area. It was observed that in the city of Ibadan there has always been a gap or time lag between the accumulation and collection of wastes in the city. Nearly half of the accumulated waste per day remained uncollected on the streets, giving the city a filthy look. Against this background, since the past decade or more, some community-based organizations have emerged to organize initiatives around the city to ameliorate the USWM problem. Notable among them are: Bodija Area Development Association (Organic Fertilizer Plant), Ayeye Area Development Association (Ayeye Waste Sorting Centre Project (Organic Fertilizer Plant), and Alesinloye Traders Association (Alesinloye Recycling Plant). To these self help initiatives/projects, most residents in these communities responded positively. By so doing, they rallied around their leaders giving them the needed moral support and volunteered their times in working with the organization whenever called upon to assist. Community-based associations and residents provided the needed financial support in order to help in improving the quality of the environment and keep their communities and the urban landscape from being continually disfigured, especially the market areas.

The community-based USWM initiatives (three of them) investigated for purpose of this research have different arrangements for waste collection and transportation to the recycling plants. In Ayeye recycling plant for instance, young children and women are mostly used in the collection of waste from stall-to-stall in the market places and from house-to-house in the neighbourhoods. Sometimes, traders themselves would bring the waste generated to the recycling plant for recycling and composting. After the sorting of the waste into different categories such as cans, bottles, news papers, plastics bags, vegetables and household wastes only the vegetable waste and house wastes are utilized for composing. The sorted cans and bottles are sold to scavengers while plastic bags of all types and papers are indiscriminately burnt on the site. As indicated, the composting is made of

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organic materials, mostly vegetable wastes from the markets and households in the community. Evidently, at the time of this research, the composting plant had stopped working due to power outage for almost six months prior to the commencement of the research.

The recycling plant in Alesinloye is an integrated solid waste management facility that handles recycling, the production of organic fertilizers, and plastic wastes into pellets. Metal drums are placed in strategic places within the market as collection points. These metal drums are marked with two colours, blue and yellow. The yellow one is used for sorting organic materials and the blue one for non-organic materials. Another aspect of the project is the source separation method at collection points, a concept introduced by NINAAFEH. By this method containers are provided to stall/store owners with instructions on how to segregate wastes into different categories. The wastes so separated by the store owners are dropped inside the metal drums in the morning and collected in the evening by cart pushers to the recycling plant. In Alesinloye recycling plant private contractors are involved in the collection of wastes, mostly vegetables, from other markets to the plant. The sorting of the waste is done by women at the recycling plant, while men do the collecting and hauling of the waste from the markets and communities to the processing plant (Figure 11). After sorting, the unwanted wastes are indiscriminately dumped and burnt in the premises of the plant by female staff are.

Like the Ayeye composting plant, Alesinloye composting section is made of organic materials mostly organic wastes from Alesinloye and other neighbouring markets. The process of composting involves semi-mechanical windrow locally design by two professors from the University of Ibadan and Federal University of Agriculture Abeokuta, Ogu State. At the Alesinloye integrated waste management facility, NINAAFEH also built windrows where plastic wastes are being turned into plastic chips and nylon pellets. The machineries were also designed and fabricated locally and can process low density or high density plastic bags of all types into plastic chips and nylon pellets.

After the sorting of the waste into different categories, plastic bags undergo different processing stages. The incoming plastic bags are sorted and transferred to the washing bay for manual cleaning which are done in the plant. After washing, the plastic bags are transferred to the wash and tear machine for rinsing, and then transferred to the dryer and extrusion machine. Finally, the wash and tear plastic bags are poured into a dry grinder for final processing and packaging.

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The collection of waste in Bodija is contracted out to Private Refuse Contractors; these contractors are for collecting wastes from the market and its environs and hauling them to the recycling plant. Traders who did not subscribe to private contractors normally drop off their wastes on a daily basis, mostly in late afternoons or before the close of daily business. Bodija composting plant is restricted for the production of organic fertilizers only and was the first of its type in Nigeria. The initial funds for Bodija and Ayeye recycling plants came from various sources including, the World Bank via the State Project Coordinator, Ibadan Solid Waste Management Authority. While the local government in charge of the area, Ibadan North Local Government Council donated land, Professors from the University of Ibadan provided technical and training services for the local communities that were involved in the projects. The university officials also helped in the fabrication of all the conversion plant equipment for the projects. In addition, the United Nations International Children's Educational Funds (UNICEF) contributed materials and infrastructure (i.e. borehole, spades, shovels, wheelbarrows, forks and others) for maintenance of high standards of sanitation. However, the funding for the execution of the Alesinloye Recycling Plant came from two local non-governmental organizations in the city. The mobilization of resources by various stakeholders is depicted in table 18 below.

Table 18 Stakeholders Mobilization of Resources

Project	Stakeholders	Resources committed
Development of Organic Waste Conversion (Compost) Plants	State Project Coordination (World Bank-assisted Project)	N5.5 million (US$ 68,750)
	Ibadan Solid Waste Management Authority	N1.0 million (US$ 12,500)
	Ibadan North Local Council	Land and N275,000 (US$3,000)
	UNICEF	Materials (200 bags of cement); 20 wheel barrows; 20 spades; 20 shovels; 1 borehole for water (N300,000 or US$ 3,750) and training of community members
	University of Ibadan, University of Abeokuta, and Ibadan Polyphonic	Equipment fabrication, training and technical support
	Ministry of Agriculture and Natural Resources	Political support and necessary product marketing
	Community members	Labour, political and moral support
	Market association	Initiate, attend various meetings, held key positions, and support the project

Direct field observation in this study supports the stated rationale for the establishment of community-based USWM projects in some of the studied communities. The operation of community-based initiatives created new economic opportunities for some area residents, particularly among the low-income groups. These endeavours did not only provide employment opportunities (such as managers, supervisors, casher, waste sorters) for some people but also created an avenue for transforming waste to wealth through converting waste into organic-mineral fertilizers. In the case of Alesinloye recycling plant, recycling is converting waste plastic bags into pellets, and scrap metals into ingots and finished products. Composting is the preferred approach to solid waste recycling in Ibadan among community-based organizations or associations. Turning solid waste into organic-mineral fertilizers for agricultural purposes is considered to have a positive externality for both urban and rural farmers across Nigeria –the products of the composting plants are sold to urban and rural farmers at affordable prices.

It is imperative to emphasize that community-based solid waste management initiatives in Ibadan have socio-economic, political and environmental advantages. The participating market areas and the neighbouring communities have become aesthetically pleasing and more and more income comes into the kitty of the organizations and local governments. While the business of Private Refuse Contractor is booming, it has had spillover effects in the agricultural sector. It has brought some degree of relief to farmers through the availability and accessibility of organic fertilizers.

Currently, there are no community-based urban solid waste management initiatives in Foko, Sasa, Agbowo, and NTC Road communities. These communities resorted to different practices to dispose off the wastes produced in their homes. Although these communities have various neighbourhood-based associations but were unable and /or unwilling to organize community-based urban solid waste management in their communities.

6.9.5 The Nature of Urban Solid Waste Problem in Ibadan

Field observations, information or data obtained in this research through interviews with government officials, key informants, urban planners, researchers, members of associations and community leaders and in studied locations regarding the nature of the problems associated with poor urban solid waste management in the city of Ibadan are summarize in this section.

The issues confronting the administration of USWM in the city of Ibadan are many-sided ranging from poor funding, understaffing, lack of material resources and inappropriate technology. In addition, some of the factors that confront urban sold waste management in Ibadan are often offshoots of their culture, attitude of the public, and attitude of waste workers. The people's beliefs, social norms and morals all affect the way they treat waste. In Bodija, Ayeye, Alesinloye, Sasa, Foko, Agbowo, and NTC Road communities, it is not uncommon to see residents indiscriminately dumping their waste along the roads, abandoned or uncompleted buildings, open spaces and drainage in their communities. Even where metal skips were provided at strategic locations, people would not take their time to drop off their wastes inside these containers, instead they would drop them indiscriminately mindless of their impact on the environment. It was also not uncommon to see remnants of food wrapped in leaves along the roads and drainages on the streets of Ibadan. The attitude was the same in all the communities studied.

Direct field observations in Bodija, Alesinloye, Agbowo, and NTC Road communities in this research shows that wealth is associated with copious spending which results in excess generation of wastes as an end products. This was evident in Bodija, Alesinloye, Agbowo and NTC Road communities –the high and middle-income communities according to the classification in the previous section. In these communities water bottles, cans, beer bottles, plastic bags constitute the largest portion of the waste stream. On the other hand, in Sasa, Ayeye and Foko communities, leaves and other organic materials constitute the largest part of the waste stream.

Part of the belief system is that those responsible for waste management are associated with dirt and poverty. Scavengers confirmed this line of thought during the direct field observations in all four operating open dumpsites in metropolitan Ibadan. The offshoot of this is that the public often fails to appreciate the work of scavengers as agents of urban solid waste management. They are looked down upon as people engaged in jobs without prospects. In the city of Ibadan like other cities in Nigeria, the indiscriminate dumping of waste on the ground everywhere further complicates the work of waste workers who have to spend extra time and effort in waste collection around metal skips.

In an interview with one of the officials of Oyo State Solid Waste Management Authority, when asked to comment on the problems of inappropriate land use planning as a hindrance to

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effective urban solid waste management practice in the city of Ibadan, she asserted that "in Ibadan city there is the lack of appropriate land use planning and this has been a barrier to getting into some areas to collect solid waste. During rainy seasons some places cannot be reached because of bad roads" (Personal Communication, 2010). During interactions with community leaders and other key informants, it was made clear that lack of space is one of the biggest problems facing the city in providing effective urban solid waste management. For example, in the unplanned areas, residents have no space to store their waste before they are collected by the waste agencies or private contractors; and as such they resort to illegal burning and indiscriminate dumping of wastes in ravines, drainage, rivers and on the roads at night. In some cases, wastes are deposited on the major roads during raining days in the hope that floods resulting from torrential rain would wash them away to nearby rivers or streams (Figure 12).

Lack of good and accessible roads within the core and planned areas of the city make many neighbourhoods inaccessible by compactor trucks. This is another bane of solid waste management in the studied locations. As a result, there are many core and planned areas that are not serviced either by the Private Refuse Contractor or by the OSSWMA own vehicles. This has engendered the bad habit of carting their refuse to the public drainage which occasionally leads to flooding in the city due to clogged drains. For example, in Ayeye, Foko and Sasa communities, due to bad roads, compactor trucks are unable to collect waste from street to street. Metal skips are, therefore, located in strategic locations in the communities for residents to drop off their waste. Sometimes, where the metal skips are located too far away from some residents, the consequence is indiscriminate dumping of their waste on available spaces and abandoned buildings.

Figure 5 Vehicles in State of Disrepair at OSSWMA Site

Figure 6 A Typical Road in the City of Ibadan

Figure 7 One of the Illegal Dumpsites in Bodija Community

Figure 3 Government Control Open Dumpsite in Ibadan Encroaching Residential Development

Figure 9 Scavengers at Work in One of the Legal Dumpsites in Ibadan

Figure 4 You Children Hauling Waste to Illegal Dumpsite in Ayeye Community

Figure 5 Female Workers at Alesinloye Recycling Plant
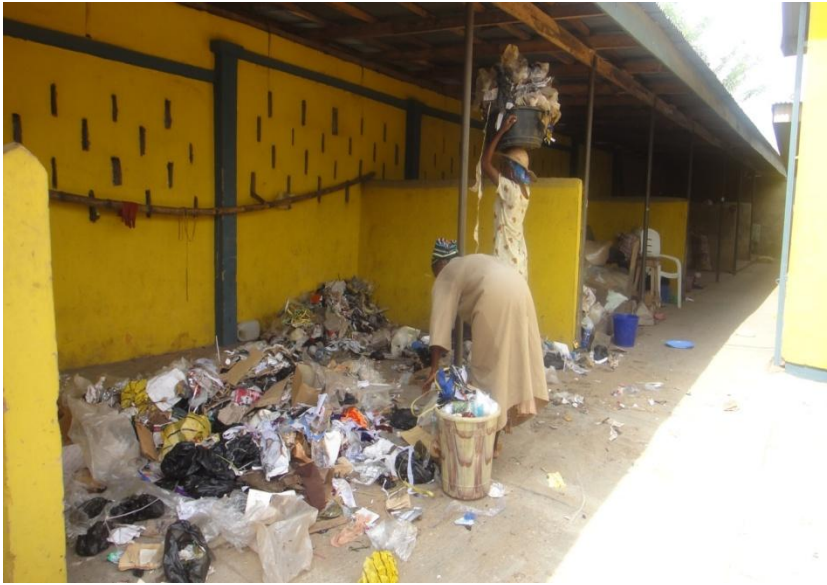
Figure 6 Erosion Sweeping Away Garbage Dumped on the Road

Chapter 7

The Establishment of Community-Based SWM in Ibadan, Nigeria: What Constitutes Success and Failure? Some Empirical Evidence

7.1 Introduction to the Chapter

Evidence of success abounds in Latin America, Asia and some countries in Africa that have acknowledged the importance of community-based organizations (CBOs) with respect to waste management. In many instances, (CBOs) in these countries are generally observable in the poorer neighbourhoods of the cities and their goal is to tackle solid waste management problems. These neighbourhoods receive marginal or no basic urban services in terms of public transport and roads, sanitation, electricity, pipe borne water, drainage and waste collection from municipal or state authorities. These communities organized themselves for self-help with a view to improving their livelihoods and attaining a cleaner environment (Asomani-Boateng, 2007; Hasan & Khan, 1999; Kironde & Yhdego, 1997; MongkoInchaiarunya, 2005; Pasang, et al., 2007; Yousuf & Ali, 2007).

In Nigerian cities, a few organizations or individuals have shown interest in initiating solid waste management services in their own communities or neighbourhoods. The Federal Ministry of Environment in partnership with Nyanya municipal officials on June 14, 2001, launched a community-based urban solid waste initiative in Nyanya -a squalid community on the periphery of Abuja city (Adama, 2007). Likewise, quite recently, a number of community-based initiatives have emerged in some areas of the City of Ibadan through partnerships with local community-organizations, the state government, municipal government, international and local non-governmental organizations to address the issue of solid waste collection and disposal.

The objective of this chapter is to provide answers to the research questions in order to facilitate the understanding of the elements that make some community-based urban solid waste management initiatives successful, where others failed in their bid to take care of solid waste problem in Ibadan. The chapter is structured into three sections in addition to this prologue. The first section deals with some of the constraints in organizing community-based initiatives at the neighbourhood level, especially the task of building motivation for USWM. The section also seeks to find out the organizers of solid waste management initiatives in Ibadan. It also deals with the question of whether

or not participants willingly agreed to organize USWM initiatives in their communities or were coerced/induced to do so. Section two examines the reasons some communities have failed to organize solid waste management initiatives while section three is dedicated to providing answers to the research questions indicated in chapter one. Tables 19 and 20 show communities with or without community-based solid waste management initiatives in metropolitan Ibadan, Nigeria.

Table 19 List of Locations with Community-Based USWM Initiatives

Study Location	Municipality	Associations
Bodija (Community 1)	Ibadan North	Bodija Area Development Association
Ayeye (Community 2)	Ibadan North West	Ayeye Area Development Association
Alesinloye (Community 3)	South West	Alesinloye Traders Association

Source: Author's field notes, 2010

Table 20 List of Location without Community-Based USWM Initiatives

Study Location	Municipality	Association
NTC Road (Community 4)	Ibadan South West	NTC Road Area Development Association
Foko (Community 5)	Ibadan South West	Foko Area Development Association
Agbowo (Community 6)	Ibadan North	Agbowo Landlord Association
Sasa (Community 7)	Akinyele	Sasa Landlord Association

Source: Author's field notes, 2010

7.2 Why are some Places Organizing Community-Based USWM Projects?

In order to comprehend the dynamics and interplay of the forces involved in organizing USWM projects in Ibadan, residents were surveyed about the rationale behind initiating community-based urban solid waste management ventures in Bodija, Ayeye, and Alesinloye. These three communities already had solid waste management projects operating in their neighbourhoods. About 45 of the respondents (leaders) affirmed that they had started organizing USWM initiatives due to their shared environmental concerns. As one respondent put it, "the community-based waste project was established by the community to reduce heaps of waste in the market area and adjoining neighbourhoods, to create employment for people in the area and to make available organic fertilizer to urban farmers" (Interviewee # 3).

Some interviewed community leaders responded differently. One of the community leaders asserted that his participation in the formation of the Association for USWM was necessitated by his

long held belief that the organization of community-based urban solid waste management initiatives will give "us the opportunity to maintain control of the community and then position us as the centre of attraction in this metropolis. It would also afford us the opportunity to provide water and sanitation services to the community at large and to improve the quality of life of our people" (Focus group, 2010). The same respondents declared that in cooperation with other Associations within the community, they were able to push the issue of organizing local associations under the aegis of Community Development Association. He went on to say that, one of the important ways to organize the community was identify the real issues confronting the residents. "We followed that idea; and thereafter approached the residents and traders in the area with the message that USWM, water, and sanitation situation in the community could be improved only by working collectively together as one organization" (focus group, 2010). Their seriousness and intention to provide public goods for the community, as he iterated, made them trustworthy in the eyes of other residents. Essentially, active or passive support of the community members to form the initiative as well as their motivation to pay the monthly service charged promoted the emergence of their associations.

In Bodija community, USWM initiative became a reality because of the willingness and commitment of individuals in the community who made personal sacrifices to promoting the idea and sell it to the government. In an interview with one of the members of the working group committee in Bodija community-based USWM, praise was lavished on one official of Bodija Area Development Association for his dedication to Bodija project. He was instrumental in promoting the organization's broad interests in the provision of environmental services in the community" (Interviewee #16). Another interviewee also noted that the official was instrumental in propelling the commissioning of the organization that ultimately led to the formation of community-based USWM project in Bodija market (Interviewee #5).

In a series of discussions with Leaders in Bodija, Foko, Ayeye, Sasa, Alesinloye, Agbowo, and NTC Road communities the leaders bared the motives behind the formation of community-based initiatives, stating that it arose from their determination to put a stop to the deteriorating quality of their environment, and the failure or inability of the municipal or state government to collect and dispose of their wastes at reasonable intervals. Some community leaders viewed solid waste as a threat to their communities due to bad odours and diseases that could be transmitted from decaying refuse to residents by flies. Hence the urgent need to find a solution to the enduring problem. To

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facilitate the understanding of the antecedents of community based solid waste management initiatives group discussions were held with leaders from Ayeye, Bodija, Foko, Alesinloye, Sasa, Agbowo and NTC Road as well as one-on-one interviews with selected community representatives. The same question was asked in all the communities namely: "why did you organize community-based urban solid waste management initiatives in your communities." The responses were similar in content with very minimum variation. In summary, the notion that solid waste is a threat to the community, if not evacuated regularly it could affect the health of the residents particularly those of the children reverberated in the responses of the communities.

In a focus group discussion, community participants acknowledged that beyond the problem of waste in their communities, the paucity of water supply and proper sanitary systems were additional motivational factors in organizing residents for waste management initiatives. These factors provided the needed impetus to form community associations to address the lack of essential services in their communities. In Ayeye community for example, the leaders in collaboration with Sustainable Ibadan Project, the municipal and state governments in alliance with the United Nations International Children's Educational Fund, were able to construct community toilets for men and women, pipe-borne wells for water supply, and urinals for community use. In another group discussion, participants emphasized that they were prompted to organize community-based projects to demonstrate to the government that they were capable of taking care of the wastes and making the environment cleaner and healthier. Yet other respondents stated that it was a voluntary acceptance of community responsibility, to organize community-based USWM in order to promote sanitation and cleanness in the communities, the market vicinity especially, through participation in associational activities.

The leaders were motivated to organize community-based SWM initiatives in Bodija, Ayeye, and Alesinloye communities for a plethora of reasons. Firstly, the intention was to provide public goods in the areas of waste management, sanitation and water provision. Secondly, they organized to fill in the gap where Oyo State Solid Waste Management Authority and municipal governments had failed, and thirdly, to fulfill personal interests and reap economic benefit for the communities at large. In order to have a handle on the community members' opinions regarding the activities of group/association in their communities, participating residents in Bodija, Ayeye, and Alesinloye were asked the question: "what do you think are the reasons people are being active in your community?"

In Bodija (14%) of the respondents pointed to the commitment of their leaders. In Ayeye (36%) of the respondents noted, the commitment of their leaders while in Alesinloye (28%) attributed their participation in associations in their communities to the commitment of their leaders. In addition, half of the respondents from Bodija, (50%), Ayeye (45%), and Alesinloye (11%) attributed their involvement in associations within their communities to demonstrate their sense of community.

7.3 Who are the Community-Based USWM Organizers?

Interviews with community leaders in conjunction with direct field observations facilitated the understanding of the socio-economic status, level of education, professional background and political orientation of the residents. Among the leaders involved in USWM initiatives in Bodija and Ayeye communities, 7(11%) and 14(36%) have an average of primary school education respectively. By contrast, in Alesinloye community, 28(53%) of the leaders have secondary diplomas while 9(17%) of them have higher education diplomas. In all the communities, the organizers of community-based solid waste management initiatives are homeowners who have lived in the communities for considerably long periods and are highly respected by their peers in the communities. In respect of their professional and political affiliations, the survey results indicated that 29(55%) of the leaders in Alesinloye, 47(71%) in Bodija, 19(32%) in Agbowo, 20(36%) in Sasa, 22(56%) in Ayeye, 27(51%) in NTC Road, and 25(43%) in Foko were self-employed. These community members were operating small-scale enterprises: building contractors, bricklayers, carpenters and auto mechanics within and outside their communities. Politically, the leaders are engaged in political activities and are members of major political parties in the city, with the exception of a few of them. Because of their participation in political activities, these individuals are well connected to politicians in their locale hence majority of them have access to political corridors at the local and state levels.

It is important to emphasize that these organizers are not necessarily the elites in their communities. However, they are the ones closest to the residents and were interested in the improvement of their local environments particularly in the areas of waste management and sanitation. In the interviews with some members of community-based associations in the study locations, it is plausible that all members of the associations elected their leaders in one way or the other; an observation that was confirmed by the survey results conducted in all the communities. For example, when respondents were asked if all leaders of the associations were democratically elected,

more than half of the respondents 251(65%) answered in the affirmative, while only 41(11%) responded with a nay -not all members of the association were elected. It was however, affirmed that the leaders elected for key positions in the organizations have long histories of residency, are homeowners, and well respected individuals in their respective communities. In Bodija for example, the president of the Community Development Association is also the chairperson of the motor park in Bodija market.

7.4 Are the Community-Based Associations Voluntarily Organizing or Compelled to Organize?

It was apparent from personal interviews and direct field observations that neither the members nor leaders of the community-based associations were compelled to organize urban solid waste management initiatives at the community level. The Bodija project was demand-driven by the community, in order to eliminate heaps of wastes dotting their neighbourhood as well as to create employment for people in the community. According to one of the interviewees in Bodija Community, the Bodija community initiated the community-based USWM, but sought the Oyo State Government's financial assistance for the takeoff and running of the project.

The Bodija project is, however, a unique case because it differs from the other projects studied for this research, as there were many competing stakeholders desiring ownership of the project at one point or the other. In the crisis that emerged, the Oyo State Government saw political advantage to be had and sought participation in the management of the waste management initiative in Bodija. The government did gain control and eventually took over the project from the community. Before long, the project as a whole began to flounder and finally collapsed even as two successive governments tried to revive it. As one of the respondents in Bodija Community related, "the reason for the collapse was not farfetched; the state government did not carry the other stakeholders in the community, and aside from that, bureaucratic corruption and ineptitude killed the project within a short period of time" (Interviewee #14). As one key informant put it,

> "the state government took over the plant for political reason after it was established. The power and authority to manage the plant was forthwith wrested from the community and henceforth managed by government officials who threw the policy of inclusiveness to the winds. Moreover, there emerged an institutional problem as different agencies scrambled for control and ownership of the project. The aftermath was that control of the community-based waste management project swung from one stake holder to another; first to the ministry of agriculture, then to the ministry of Environment and finally to the ministry of Finance. The

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ministry of finance argued that since it was the funding institution of the project, it should be the one running it. Before long, swift decline set in; the eventual collapse of the project was a colossal loss to Bodija community" (Interviewee #18).

The establishment of a community-based solid waste management project in Ayeye and Alesinloye both historically unplanned/planned and highly populated areas of Ibadan, was accelerated by two factors: environmental deterioration of the area as well as its economic viability. The ideas, therefore, were to give a face-lift to the communities' environment as well as inject some vibrancy to their economic life. The initial success story of Bodija community-based waste management initiative also inspired the Oyo State Government, in collaboration with Ayeye community, the Sustainable Ibadan Project, and UNICEF, to establish a waste management project in the latter. With financial and administrative support from the aforementioned governmental and non-governmental institutions, Ayeye community was able to establish a five-ton capacity of organic-mineral fertilizer plant in the community. This community-based initiative was a replica of the Bodija project, except that the Ayeye community managed its project without interference from the local and state governments in the day-to-day affairs of the project. On the other hand, the organization and establishment of the Alesinloye market waste recycling plant was made possible with the donations from two local non-governmental organizations in the city, namely the Nigeria Network for Awareness and Action for Environmental Health (NINAAFEH) and the Mobile Telecommunication Nigeria Foundation (MTNF). The Alesinloye Traders Association manages the project. Again, the driving forces behind the establishment of the recycling plant are: the desire to promote hygiene in the community particularly around the market area, and the economic benefits to the community via employment opportunities.

In reviewing the survey and interview results as well as the direct field observations, what immediately emerges is the fact that the idea of organizing community-based solid waste management projects mainly arises from the collective desire of individuals and communities to provide "public goods for themselves and others." Thus, USWM initiatives established in the studied locations were chiefly voluntary, enhanced by other factors like environmental congeniality of the host communities in association with the economic benefits to such communities. It should be mentioned however that although the Bodija project eventually collapsed due to the overarching role of the Oyo State Government, its derailment was a consequence of the interplay of 'local' politics and conflicting interests of the government officials involved.

7.5 Why are some Communities nor Organizing Community-Based USWM Projects?

In Foko, Sasa, Agbowo, and NTC communities, residents did not organize community-based solid waste management initiatives to deal with the waste issues in their communities. In order to understand the reasons these communities failed to organize, some of the residents and leaders were asked why there were no such initiatives. A respondent in Sasa community responded thus:

"In my community, we have the Landlord Association; however, the Association is strictly restricted to homeowners in the community, so there is no way I could be a member of such association. One of the reasons, in my opinion, the leaders are not able to organize community-based solid waste management initiatives is the lack of funding. Even if the leaders of the Association had the strongest of will to organize a community-based waste management project, they surely would have run short of support. The simple reason is that residents believe it is the responsibility of the government to take care of waste in the community. No matter how influential a leader of any association may be, once there is money to be contributed by the community members they would not participate. The overriding factor is that a lot of us live below the minimum subsistence level of existence. Therefore, it is all about money –the lack of it" (Interviewee #22).

In Agbowo community, the foregoing question was asked of a resident, the response was almost evocative of disdain:

"The Landlord Association has very little interest in addressing the problem of solid waste in the community because their focus is in the area of security. You are probably aware that there is the problem of security in Ibadan and every community has to hire its private security company to provide protection for the community. I also believe that the last thing in the minds of the residents is to establish a community-based solid waste management since they do not see the immediate benefit of such a project to the community. In addition, the Landlord Association is not aggressive or persuasive enough to encourage or mobilize people for community-based waste management" (Interviewee #23).

In a series of focus groups discussions with some leaders of associations and selected residents from NTC Road, Foko, Sasa, and Agbowo communities, to fish out the factors militating against organizing of community-based solid waste management initiatives in their own communities, the responses were many and varied. Upper most is the lack of serious associations within the communities willing to organize community-based USWM initiatives, followed by the nonchalant attitude of the residents and their unwillingness to participate in USWM initiatives. It was also stated that residents in these communities hardly pay attention to the problem of wastes and the havoc it creates in the communities. In addition, some of the leaders and residents added that government policy discourages community-based waste management initiatives at the community-level. This statement was confirmed by one of Interviewees in Oyo State Solid Waste Management Authority in

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a separate interview. A "Community cannot privately manage their refuse because the law does not allow them to do so"(Interviewee #1).

The issue here, as was palpably demonstrated, is the lack of good or charismatic leadership; leaders that people can trust to work with and not take advantage of them for their own material or immaterial gains. Over and beyond this problem is that membership in the Landlord Association is not open to everybody in the community. As such, the interest of the Association is to protect lives and properties of certain individuals in the community and not the generality of the people vis-à-vis the environment.

With reference to the USWM initiatives in Bodija, Ayeye, and Alesinloye communities, in an interview with a group of youth in Agbowo community, the reasons developments in the aforementioned communities were emulated in the latter can be gleaned from the following:

> One of the youth explained that the leaders in their community are not interested in addressing the problem of waste in their community, and secondly, they are not knowledgeable about the implications of waste on the environment and health of residents. The youth also talked about the attitudes of the residents in general, adding that a majority of them did not care much about the problem of waste in their community. Notably, they emphasized that there are no capable leaders to lead and organize the community around the issue of waste management initiatives, hence they have no community-based solid waste management in their neighbourhoods. One vocal youth member queried: how can a community that does not work together be able to organize community-based initiatives? When pressed further to explain, the youth asserted that in their community the leaders are only looking out for themselves and not the generality of the people or community. He went further to say that, the Landlords Association is only interested in helping its members in the community and not those they consider as outsiders. Therefore, they have a narrow view of what is going on in the community. "It is unfortunate that the problem of waste is not one of their focuses" (Focus group interview, 2010).

Culture and attitudes of the residents are some of the biggest obstacles confronting communities in establishing community-based waste management projects, as revealed in an interview with a group of youth in Agbowo community. A majority of residents in the community care very little about waste problems or the after effects. Also, interactions between residents are very poor according to one of the interviewees in Agbowo community. A direct field observation also supports this youth's evocation in particular. Some of the interviewees reported that mutual contact among households in the neighbourhoods were a rarity. It was clearly stated by an interviewee that the lack of non-governmental organizations in their community can be attributed to lack of community-based waste management initiatives in their community and vice versa (Interviewee #25).

It appears from the above narrative that the residents of Agbowo, NTC, Foko, and Sasa communities failed to establish community-based SWM initiatives for a range of reasons. Some of the reasons include the paucity of face-to-face interactions among households; resident's cultural and behavioural attitudes, lack of charismatic leadership, lack of cooperation among community members, inability and unwillingness on the part of community leaders to mobilize residents for the provision of public goods. The situation is exacerbated by government policy or the lack there of on encouraging the formation of community-based solid waste management initiatives.

7.5.1 Civic Engagement among Community-Based USWM Organizers

In this dissertation, civic engagement is considered as an important element for promoting social capital, which in turn facilitates the organization of community-based USWM initiatives in some of the communities studied. Civic engagement helps to understand the reason some communities succeeded in organizing community-based USWM initiatives in some of the studied locations, and others did not. Therefore, the main aim of this section is to analyze the questionnaire and field observations with a view to explaining the effects of civic engagement on the formation and operation of community-based USWM initiatives in some studied communities in Ibadan metropolis.

Putnam's seminal work (1993, 2000) emphasize that participation in multiple associations creates a rich network of ties that foster information flows, mutual linking and respect. It also facilitates monitoring, and makes it less stressful to sanction "free-riders" and reward those who have provided common goods. In order to measure civic participation among individuals involved in USWM in Ibadan, two variables were used to measure civic engagement. The first variable is the proportion of respondents who reported that they had participated in community development activities in their communities. The second variable pertains to how many local organizations the interview respondents belonged to.

Table 21 Volunteer in Community Activities

	Low-income	Medium-income	High- income	Total
Yes	121 (32.3%)	72(19.1%)	91(24.2%)	284(75.5%)
Proportion of "Yeses" in income group	[80.0%]	[66.7%]	[77.7]%	
No	30(8.0%)	36(9.6%)	26(6.9%)	92(24.5%)
Proportion of "Nos" in income group	[19.8%]	[33.3%]	[22.2%]	
Total	151(40.2%)	108(28.7%)	117(31.1%)	376(100.0%)

$$X^2 = 6.641, df = 2, Sig. = 0.036$$

Note: Communities in the low-income group include (Sasa, Foko, Ayeye), Medium-income communities include (NTC Road and Alesinloye), and High-income communities (Bodija and Agbowo)[1]

The table 21 above shows the relationship between voluntary participation in community development activities and class-income groups of respondents. The table also reveals that in the low-income group, (80.0%) of respondents participated voluntarily in development activities while (19.8%) did not participate voluntarily in such activities. A close examination of the table also shows that in the middle-income group, 66.7% of the respondents participated voluntarily in community development activities, while (33.3%) did not. In the high-income group, (77.7%) of the respondents said that they participated voluntarily in community development activities while (22.2%) of the same income group did not participate in community development activities. Statistically, chi-square analysis shows that there is a significant relationship between voluntarily participating in community development activities and the level of income of respondents in the studied areas, which has a (chi-square = 6.641, $P = 0.036$.df=2).

One fact that emerged is that (80.0%) of respondents from low-income group voluntarily participated in community development activities in their neighbourhoods, more than any other groups in the study. These activities include participation in the environmental sanitation duties introduced by the federal government in 1985, requesting every Nigerian resident to participate in the

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[1] Table 21 presents the percentage that each cell 'subgroup' makes up of the whole (e.g. the "yes"/low-income groups is 32.3% , 19.1% of medium-income group, and 24.2% of high-income group of the total group) The

cleaning of their environments on every last Saturday of each month. Many authors, among them Omuta (1988), Ogbonna et al (2002), have criticized the effectiveness of the "Sanitation Day." According to these authors, 'sanitation day' could be counterproductive, considering the total number of person-hours lost in such endeavours, particularly since all other daily activities are halted during the sanitation hours. It is very difficult to know whether 50 million Nigerians are actually participating in the sanitation activities. Another interesting thing to note from the argument in the literature is that it is doubtful if the waste generated in 1 month can be cleared in the 3 hours between 7 a.m. to 10 a.m. of every last Saturday of the month, which has been sanctioned as 'environmental sanitation day' in Nigeria.

The foregoing expressed fear was confirmed during the a fieldwork in which, the Researcher witnessed how the 'environmental sanitation day' works in Ibadan. Although there was a high tendency to participate in the monthly exercise, the problem, however, was that the wastes collected during the exercise are mindlessly dumped along roads and streets in the metropolis for days. There were no palpable proper arrangement by the relevant Authority for waste collection and disposal and no garbage collection bins were made available to keep the wastes out of sight before they are evacuated. This observed weakness in the 'Sanitation Day' arrangement was confirmed during a face-to-face interview with key informants and during group discussions with community residents. It was indicated that, all things being equal, the residents might have volunteered for other collective activities like the neighbourhood security watch and other development initiatives within their communities.

The second variable pertains to how many local organizations the interview respondents belonged to; they were asked to indicate or specify the types of local organizations (i.e. ethnic based groups, community organizations, and neighbourhood associations, credit saving groups, professional association and the like). For the purpose of analysis, and in order to get meaningful results from the data collected, the seven communities were also grouped into three economic levels: low, medium, and high. The combined results from the seven communities are presented below.

Table 22 Different Associations Households Belongs to

Group	Low-income	Medium-income	High-income	Total
Social groups and proportion in income group	31(9.0%) [21.6%]	38(11.0%) [41.6%]	33(9.5%) [29.5%]	102(29.5%) [92.7%]
Religious associations and proportion in income group	54(15.6%) [37.7%]	20(11.0%) [21.9%]	38(11.0%) [33.9%]	112(32.4%) [93.6%]
Professional associations and proportion in income group	12(3.5%) [8.4%]	2(.6%) [2.2%]	8(2.3%) [7.1%]	22(6.4%) [17.7%]
Basic service groups and proportion in income group	7(2.0%) [4.9%]	9(2.6%) [9.8%]	6(1.7%) [5.3%]	22(6.4%) [20.1%]
Neighbourhood community development and proportion in income group	30(8.7%) [21.0%]	12(3.5%) [13.2%]	10(2.9%) [8.9%]	52(15.0%) [43.1%]
Others and Proportion in income groups	9(2.6%) [6.3%]	10(2.9%) [10.9%]	17(4.9% [15.2%]	36(10.4%) [32.5%]
Total	143(41.3%)	91(26.3%)	112(32.4%	346(100,0%)

Source: Author's analysis, 2010

*Other groups (political party, landlords association, hometown association, market women association, and other trade unions).

Note: low-income communities are (Sasa, Foko, Ayeye), Medium-income communities are (NTC Road, Alesinloye), and High-income communities are (Bodija, Agbowo)[2].

The above table indicates that the life of the average Nigerian revolves around institutions that foster dense social interaction, which in turn leads to the creation of social capital in each community (Barman et al. 1991; Francis et al. 1996). As can be gleaned from the table, the relative proportion of respondents that belongs to various social groups in the studied locations for instance (21.6%) for low-income group, (41.6%) for medium-income group and (29.5%) for high-income group. Likewise, the relative proportion of respondents that belongs to religious associations are as follow (37.7%) for low-income, (21.9%) for medium income and (33.9%) for high-income communities. Also, the relative proportion of respondents that belongs to professional associations are as follow (8.45) for low-income, (2.2%) for medium-income, and (7.1%) for high-income group. As for the basic service groups, (4.9%) for low-income, (9.8%) for medium-income, and (5.3%) for high-income. For neighbourhood community development, (21%) for low-income, (13.2%) for

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[2] The square bracket under each percentage represents the relative proportion of residents who said they belong to different associations or social groups in each economic class.

medium-income, and (8%) for high-income. These associations have come into being especially for the past 30 years as a response to the needs of their traditional communities. These needs arose out of the failure or inability of governments, particularly municipal and state governments, to satisfy the yearnings and aspirations of the people (Barkan et al., 1991; Francis et al., 1996; Ogbuozobe, 2000).

Field evidence indicates that the residents of the seven communities namely Bodija, Ayeye, Alesinloye, Agbowo, Foko, NTC Road, and Sasa often get together for numerous social and religious events. However, it is somewhat difficult to draw the boundary between what is social and religious events as these are deeply entrenched in almost the same type of social norms and tradition. In the sphere of such social environments, the residents of these communities commemorate many social and religious activities in their everyday life such as naming, wedding, birthday parties, religious ceremonies, and traditional festivals. Participation in numerous social and religious events is not necessary a prerequisite for the formation of community-based urban solid waste management initiatives. Agbowo, Foko, Sasa and NTC Road communities were unable to established such a projects in their communities, while Alesinloye, Ayeye, and Bodija were able to accomplish same in their sphere of influence.

7.5.2 Social Networks among Community-Based USWM Organizers in Ibadan

In this research, social networks are regarded as an important element for promoting social capital, which in turn facilitates the organization of community-based USWM initiatives in some of the communities studied. Therefore, the objective of this section is to analyze the field information in order to understand the extent to which social capital affects community-based USWM success in Ibadan. The section starts with a presentation of the field information as to how or under what circumstances social networks contribute to the creation of community-based USWM initiative. In addition, it assesses the strength of ties of social networks with regard to the success of community collective action.

Participation and membership in social associations are consistently acknowledged in planning literature and related research works as an essential element of social capital (Lin et al, 2006; Lowndes, 2004; Putnam, 1993; Titeca & Vervisch, 2007). It is a common understanding that any society, whether modern or traditional, networks of interpersonal interaction and exchange both informal and formal characterize societies. In most cases, a majority of these networks are primarily

"horizontal," bridging together players of same status and power. These types of networks were found in Sasa, Bodija, Ayeye, NTC Road, Agbowo, Foko and Alesinloye communities to a certain degree. On the other hand, others are mainly "vertical," linking unequal players in asymmetric relations of hierarchy and dependence. Through direct field observation and interviews with community leaders, it was gathered that vertical networks were some of the component of social capital found among residents of Bodija, Ayeye, and Alesinloye that allowed these communities to establish community-based urban solid waste management initiatives. Both vertical and horizontal networks play important roles in helping to coordinate collective actions, but it involves different dynamics. One of the issues of vertical social networks, according to Putnam (1993, p. 174), is that "no matter how dense and no matter how important to its participants, cannot sustain social trust and cooperation." This line of thought was evident in all the communities studied for this research as most respondents did not trust the government, the police force, or the judiciary and were mindful of one another. In other words, vertical networks are more helpful in resolving collective problems than horizontal networks.

Horizontal networks, on the other hand, reinforce norms of reciprocity and enhance collective action, producing at the same time a social environment, which facilitates responsive government. Although in Ibadan horizontal networks were evident in all the communities investigated, it was only in Bodija and Ayeye communities that the Oyo state government participated in community-based solid waste management initiatives.

In order to measure social networks among individuals involved in USWM in the city of Ibadan, several questions in the survey were designed to measure or assess the degree of social integration and linkage within the communities or neighbourhoods. The social integration survey questions were used to estimate the level of intra-community embedded support systems, such as social ties, and indicators of general trusts. For instance, respondents were asked about the willingness of their community members to raise and donate significant resources for environmental improvement such as solid waste management project. Likewise, questions indicating whether or not neighbourhood residents were willing to participate in associations to improve their quality of life; the idea being to provide an indication of social integration in the community. When residents were asked if they were willing to participate through their neighbourhood association in partnership for the improvement of the community (specifically garbage collection and disposal) 52(78.8%) in Bodija,

36(92.3%) in Ayeye, 39(65%) in Agbowo, 4374.1%) in Foko, 25(47.2%) in Alesinloye, 36(67.9%) in NTC Road, and 42(57%) in Sasa, of the respondents said "yes" they were willing to participate in urban solid waste collection and disposal in their communities.

Linkage questions in the survey helped provide information regarding community social networks, which measures the extent and commitment by various communities to reach out beyond their local social networks. Questions in this section included what attempts local community members had made to contact or obtain help from outside organizations as well as how much willingness are there among residents to call and obtain additional support from the government or nongovernmental organization. The social integration questions in the survey were designed to elicit the degree of civil-society commitment demonstrated by the community or to determine their willingness to actively participate in groups or organizations to improve their quality of life. Toward this end, respondents were asked whether or not any member of their households participated in any community group or association activity[3].

Table 23 Number of Associations Respondents Belong to

Number of Associations	Agbowo	Ayeye	Alesinloye	Bodija	Foko	NTC Road	Sasa
1-2	36(60%)	15(38.5%)	34(64.2%)	44(66.7%)	36(62.1%)	35(60%)	41(73.2%)
3-4	12(20%)	20(51.3%)	4(7.5%)	8(12.1%)	13(22.4%)	10(18.9%)	5(8.9%)
5-7	-	-	-	1(1.5%)	1(1.7%)	-	2(3.6%)
7 and above	-	1(2.6%)	-		1(1.7%)	-	

   Source: Author's analysis, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

Table 23 above reveals that majority of respondents from all the communities belong to one or more community organizations while one respondent each from Bodija and Foko said that they belonged to 5 or more associations. On the other hand, 2 respondents from Sasa community said that

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[3] Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

they belonged to 5 or more associations. In Bodija and Alesinloye communities, the presence of social networks was observed during a fieldwork compared to other communities in Ibadan metropolis. Network building turned out to be one of the most surprising and potentially revealing of the characteristics of those communities studied in Ibadan. Social networks, as represented by participation and or membership in any community association are positively associated with the presence of social capital among individuals involved in urban solid waste management activities. Empirical results and direct field observations suggested that there is high-level of social capital among individuals involved in urban solid waste management at the community level in the city of Ibadan.

It is important to emphasize that empirical data demonstrate that majority of the respondents from Agbowo, Bodija, Alesinloye, Foko, NTC Road, and Sasa were members of different groups/associations as demonstrated in the above table. These groups or associations were established to look after the professional interest of their members or the needs of their dependants. For example, religious-based groups tend to take care of matters patterning to religious issues such as Christian and Muslim religious pre-school in their communities. In this regard, members would normally help to organize Muslim or Christian religious celebrations, including funerals, in their communities. Some scholars have argued that social networks theories opine that social capital is greater when people are embedded within a dense network of social ties so that cooperation can be enforced and rewarded by others, when there is friendliness among people that facilitate altruism and expectations of future reciprocity (Gertler et la., 2006).

7.5.3 Social Networks in the Seven Communities Studied

The surveyed results show that Foko, Ayeye, NTC Road, Bodija, Sasa and Alesinloye communities are mainly Yoruba traders who migrated to Ibadan in the early twentieth century from the neighbouring Yoruba communities, notably the Ijebu, Egba, and Ijesha. These newly arrived migrants settled on the western margin of the then built-up area in the city.

The field information/observations from Ayeye, Bodija, and Alesinloye communities reveal that social networks and interpersonal relationships were constructed along the line of local identity among the residents. For instance, the data survey for Bodija community shows that 53(80.3%) of the respondents were of Yoruba origin while only 11(17%) reported to be of Ibo origin and 2(3%) of the respondents reported to be of Hausa origin. In addition, the survey results for Alesinloye community

reveal that a large number of respondents 49(92.5%) were Yoruba while only 2(3.8%) reported that they were of Ibo origin. In contrast to Bodija and Alesinloye, nearly all respondents in Ayeye 36(92.3%) and Foko 57(98%) reported to be of Yoruba origin and the two communities barely have other ethnic group. Also, the survey results for Agbowo community reveal that a large number of respondents 38(66%) were of Ibo origin while only 17(29%) reported that they were of Yoruba origin. The survey results for NTC Road community reveal that a large number of the respondents 46(87%) were of Yoruba origin while only 7(13%) of the respondents reported that they were of Ibo origin. Likewise, the survey results for Sasa community indicate that a large number of the respondents 33(59%) were of Yoruba origin, 14(25%) of the respondents reported to be of Hausa origin while only 8(14%) of the respondents were of Ibo origin.

Table 24 Ethnic Composition in all Study locations[4]

Ethnic Group	NTC Road	Agbowo	Foko	Sasa	Ayeye	Bodija	Alesinloye
Yoruba	46 (87%)	17(29%)	57 (98%)	33(59%)	36(92.3%)	53(80.3%)	49(92.5%)
Ibo	7 (13%)	38(66%)	-	8(14%)	-	11(16.7)	2(3.8%)
Hausa	-	3(5%)	-	14(25%)	-	2(3.0%	

Source: Author's analysis, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

Field investigation indicates that the residents of Sasa , Bodija, Agbowo, and Alesinloye are divided along the line of three major ethnic groups namely the Yorubas, who claim to be the "natives," the Ibos, and the Hausas as non-natives. Cultural pluralism in Nigeria and the lack of important national distinctiveness informs the institutionalization of numerous citizenship characterizations. To some degree, the statement that Nigeria is a collection of citizenships is another way of noting that the post-colonial nationalist scheme has been a fabulous failure (Kraxberger, 2005; Otite, 2000). Core to the philosophy and practice of citizenship in Nigeria are the connection of "indigenes," "strangers," and "homeland." One's status as an "indigene is based on biological and

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[4] *Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) household, Foko (58) households and Sasa (56) household. Bodija (66) households, Ayeye (39) household, and Alesinloye (53) households.

ascriptive characteristics, and a person can only be an indigene of one area" (Kraxberger, 2005, p. 18). This means whenever a person lives outside his or her local area of patrilocal ancestry, that individual is viewed as a "non-native," even if the individual was born in that community or has lived there for considerable number of years.

The arrival of non-Yoruba migrants without traditional ties, created problems regarding the rights to land and housing for the natives of Ibadan. The designations of native and non-native are paramount since they are closely linked to citizenship practices and rights. In fact, the intentional favouring of natives over non-natives is so pervasive that Nigerians often refer to these practices as "statism" (Kraxberger, 2005). A person's best chances are in his state of origin or his state of patrilocal ancestry. However, economic advancement is unequal. Cities like Ibadan and Lagos and others in the southern part of the country are generally in advantaged positions. As a result, the majority of Nigerians who settled in these cities are in disadvantaged positions if their employment is other than have regions. The practice of indigenization within the Nigerian societies has led to rivalries, ethnic tensions, and lack of cooperation for local development activities in the country decades after political independence (Anugwom, 2000; Igwara, 2001; Okolie, 2003).

As one respondents in Agbowo community told the author,

> "It is very difficult to organize anything in this community, as the Yorubas would not cooperate with the Ibos to get anything done. Another problem we are having in this community, as you know we have highly educated people living here, the lecturers and students from the University of Ibadan hardly participate in any community project. They see themselves as not part of the community and they live in a different world from other community residents. Here, we do not have any community-based organization apart from the Landlord association and ethnic-based associations, which are not very inclusive. For anyone to be a member of the landlord association, such one has to be a homeowner. For me this is a big problem because not many of us are homeowners in the community. Although we have the Market Women Association and my wife is a member of that association, but their focus is how to help themselves and not the community at large" (Interviewee #26).

Another respondent in Sasa community echoed the sentiment expressed in the above narrative. According to the latter,

> "In this community, we have people of different ethnic backgrounds from different parts of the country; we also have some foreigners living in this community. How could we work together when we do not like each other? I was born in this community, my parents were born here too and I have lived here for the past thirty years in this same house, but I have not stepped my foot in the opposite house because Hausa people live there. They are uneducated and do not speak the English language; they are very poor. My father is a professor at the

University of Ibadan and my mother is a medical doctor so we are not in the same social class with the Hausas or the Ibos who are ordinary traders. Another thing I did not mention to you is that my father is the president of the Landlord association in this community and the association's interest lies in the security of the community no more and no less" (Interviewee #27).

On the whole, it is important to note that there are special challenges confronting ethnically diverse communities in building social capital. As Arneil (2006, p. 177) reminds us "the more diverse a community is the less likely the residents are to trust other people to connect with them and to participate in community affairs or politics." Worse still, the situation of different ethnic groups is to some extent very complex in Nigeria. For example, within the Hausa, or Ibo populations there are class differentiations that prevent them from working together in the same community. It is deducible from the empirical observations that the aforementioned societal and cultural characteristics and ethnic compositions of all the communities investigated contributed to the lack of community-based USWM initiatives.

However, to broaden their horizon, their power base and extend the limit of their networks, inter-group communications functioned very well. Essentially, these characteristics diminished the risk of conflict generating among contesting groups in quest of power. In Bodija, Ayeye, and Alesinloye communities, the social relationships among the members of each group were refined and reformed through mutual communications and attention to overcome their collective concerns for survival. Such dynamic networks building characterized Bodija Area Development Association, Ayeye Area Development Association, and the Alesinloye Market Traders Association.

This type of network capacity produces social capital that also serves as a powerful instrument to achieve common objectives for the communities. Accordingly, through the collective efforts, Bodija and Ayeye communities were able to approach the Oyo state government for funding to start community-based USWM management initiatives. Importantly, through their collective efforts, they were able to influence the municipal governments in their respective jurisdictions to donate other resources like piece of lands for the establishment of composting plants in their communities. These efforts were examples of how community capacity could be transformed into collective action. To make meaningful use of the land donated by the municipal governments and the initial investment of the State government, the associations in these communities took the initiative to establish community-based USWM. They also took the initiative to begin collecting and disposing of

waste in their neighbourhoods including the market places to keep the areas odour free and environmentally healthy.

Overall, the cases depicted above demonstrate that social networks are an important factor in advancing social capital, which in turn facilitates the attainment of collective action. In all the cases, the methods of collection and disposal of refuse were developed as a part of small community programs drawn up for the improvement of quality of life, improvement in the quality of the environment by freeing it from filth.

7.5.4 Occupational Activities of Respondents in Studied Communities

From the empirical results and field observations, it is clear that most surveyed residents of Bodija, Ayeye, Alesinloye, Sasa, Agbowo, NTC Road, and Foko communities are market traders and professionals in various fields and self-employed. Thus, their social networks primarily developed according to their business and professional relationships. For instance, the data on Bodija community shows that a large portion of the respondents 47(71.2%) were self-employed as depicted in table 24 below while only 1(1.5%) was reported to be a civil servant. In addition, the survey data for Alesinloye community reveals that more than half of the residents 29(54.7%) reported to be self-employed while only 4(7.5%) reported that they were civil servants working in various government ministries. Likewise, the survey data for Ayeye reveals that 22(56.4%) of the residents reported to be self-employed. In contrast to Bodija and Alesinloye, all respondents in Ayeye community reported not be working for the government while 9(23.1%) were employed in private companies. Only 5(9.4%) of the respondents from Alesinloye community were employed by Non-government organizations while none was reported in Ayeye and Bodija communities. The survey data for Foko and Sasa and NTC Road Communities reveal that 25(43.1%) for Foko, 20(35.7%) for Sasa, and 27(50.9%) for NTC Road of the respondents were self-employed while 13(22.4%) for Foko, 8(14.3%) of Sasa, and 12(22.6%) of the respondents were employed by private companies.

Table 25 Occupational Activities of Respondents

Occupation	Ayeye	Bodija	Alesinloye	Foko	Sasa	Agbowo	NTC Road
Private company	9(23.1%)	9(13.6)	9(17.0%)	13(22.4%)	8(14.3%)	1(1.7%)	12(22.6%)
Self-employed	22(56.4%)	47(71.2%)	29(54.7)	25(43.1%)	20(35.7%)	19(31.7%)	27(50.9%)
Civil servant	-	1(1.5%)	4(7.5%)	10(17.2%)	7(12.5%)	1(1.7%)	8(15.1%)
NGO	-	-	5(9.4%)	1(1.7%)	6(10.7%)	-	2(3.8)
Others	4(10.3%)	6(9.1%)	3(5.7%)	7(12.1%)	11(19.6%)	19(31.7%)	-

Source: Author's analysis, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

7.5.5 Non-Establishment of Community-Based USWM Initiatives: The Role of Social Networks?

In a series of focus group discussions with residents of Foko, Sasa, Agbowo, and NTC Road communities participants revealed that they were unable to organize community-based urban solid waste management initiatives due to host of reasons. The factors responsible for their inability to organize community-base USWM initiatives in their communities include: lack of leadership, lack of integration in the area, lack of trust among the residents, the difficulty in bringing people together, and lack of coordination among the residents, and lack of face-to-face interactions among community residents –all revolving around the lack of charismatic leadership.

Both symmetrical and asymmetrical relationships were observed among the residents of Foko, NTC Road, Agbowo, and Sasa communities. Foremost, residents came from a number of different parts of Nigeria, which blends the whole ascendancy of any particular settlement area. As a result, the divergent culture with their linguistic differences denied them the opportunities to maintain close contacts with one another. There are substantial evidence in the literature that increases in the levels of cooperation are achieved when individuals are permitted to interact face-to-face with others unencumbered by culture and language diversities (Ostrom, 1998). In Foko and NTC Road communities, which are predominately homogeneous communities, mainly made up of the Yorubas, there are high levels of social capital, but the communities lack the vertical linkage to go beyond their communities. As Hero (2007, p. 45) observes, "within extremely homogeneous states, where social

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capital is found to be highest, bridging activities will be limited to those of similar racial background. Likewise, the bonding that occurs is going to be racially inclusive."

The analysis of the data revealed that majority of the respondents in the study locations reported belonging to different religious or spiritual groups. In Agbowo community the data revealed that 34(57%) of the respondents reported belonging to religious spiritual groups while in Sasa community 38(68%) of the respondents reported belonging to religious or spiritual groups. Likewise, in NTC Road community 34(64%) of the respondents reported that they belonged to religious or spiritual groups while in Foko community 22(40%) of the respondents reported belonging to religious or spiritual groups. In addition, the field research reveals that some of the women in the communities were married which gave them the chance to maintain close contact or exchange greetings among themselves. These often happened on their way to the market, when they drop off or pick up their children from school and when they are going to the Church service. This type of social interaction paves the way for the starting point of cooperative actions. The following remark of one respondent in Agbowo is indicative of this:

> "I moved with my wife from Imo state to this community about six years ago as a businessperson. I was not well familiar with other residents because I was always busy in the market selling things. However, my wife quickly found her niche within the community and made many friends. As you know, my wife is a strong Christian, but I decline any invitation to go to church on Sundays. On many occasions, my wife has invited her friends in the neighbourhood and her church friends to fellowship in our house. Elementary school is far away from here and we do not have a car to drop off and pick the children from the school, they have no choice but to take Okada (a local name given to motorcycle) to school every day. One very faithful morning, as the two children were riding Okada to school, they were involved in an accident and one of my children sustained a serious injury. This accident occurred in the front of one of my wife friends' house; the woman and her husband took the children to the hospital while they sent one of their children to come and inform us about the accident that very morning"(Interviewee #28).

One can draw conclusion from the above comment that people are willing and ready to provide assistant to those in needs at the right time in Agbowo community in spite of their cultural and linguistic backgrounds. However, the assistant rendered by the couple to save the children did not translate into further action to activate sufficient networking among the residents to advance collective efforts to solve common problems of the community. As one of the respondents commented,

"In Nigeria, we always have the problem of electricity and for six months, we did not have electricity in this community because the transformer was damaged. I went to the district office of the National Electricity Power Authority (NEPA) to complain about the problem on numerous occasions. They told me that if we want electricity in the community we should purchase a new transformer. Thereafter, I went to the Landlord Association to tell them about my finding from the NEPA and we all agreed that we would have to raise the money in order to purchase the transformer. The Landlord association nominated me to collect the money from every household in the community. For about one month, I was able to collect the money and we contacted the NEPA office for purchase of the new transformer and the possibility of installation. For the NEPA staff to do the installation, we were required to pay them additional money, which we did not have at that time. However, the president of the Landlord association volunteered to loan us the money to pay the NEPA staff. For years, the residents just refused to repay the loan back and this led to the break-up of the association" (Interviewee #29).

In order to comprehend the dynamics and interplay of non-sharing of cost, the author asked some individuals in the community the rationale behind their actions. Many of the answers were recorded, which reflect the dissatisfaction of many tenants about the quality of service receive from their Landlords. A carpenter justified his action by saying that "I am an ordinary carpenter I hardly make enough money to feed my children, yet they wanted me to pay for the installation of the transformer and I did not want to pay because that is the responsibility of the Landlords not the tenants" (Interviewee #30).

In Foko and NTC Road communities the social relations among the residents were built along the lines of ethno-identity as observed in the fieldwork. Their initial social networks were developed along the lines of their ancestral roots -that is people from IIesha, Iwo, Iree, IIorin, and Ogbomosho would belong to their hometown associations or community development associations, but sometimes intersected between other groups through marriage, friendships and in most cases through religious fellowships. The only noticeable social organization in both communities that is somewhat inclusive of the residents is the *Area Development Associations*. These associations attempt to integrate or incorporate other members from the rest of the ethnic groups into the organizations. In spite of the prevalence of these social networks, ethno-identity within the communities is so pervasive that other social bonds are weakened. Based on personal experience, one of the respondents describes Foko community like this:

"The problem we are having in this community is a long-standing one -the problem of division among us. We the younger ones are looking for the best way we can come together as a community instead of fighting ourselves for government resources. Let me tell you something about the history of our community. I believe last week you were here to conduct

interview with some people in a group if my recollection is correct. Let me tell you that most of the people that came for the interview were the *Omo Onile* (indigenes). I believed only one or two persons were of Egba and Ijesha origins in the group. Although they were born here because their fathers came here long time ago during the period of European trade in Ibadan, yet they are not considered as *Omo Onile* (indigenes). In short, they belong to their own tribal social groups and do their own things. It is very difficult to work together in the community particularly among the elders who see things in different ways. However, we the younger ones are willing to integrate other groups into a larger social group so that we can effect changes in our community and the lives of our people. We have this association the *Area Development Association,* but some people refused to join because they felt that the association is dominated by the *Omo Onile* (indigenes) and is controlled by them" (Interviewee #31).

In spite of the prevalence of social networks among the residents, the vices and caprices of power and the politics and practices of indigenization within the community have led to the distortion of inter and intra group connections. This reduces the opportunity for social bonding and frequent face-to-face interactions within the community. It will be fair to say that politics and practices of indigenization and the lack of acceptance and inclusion of non-natives in the community affairs are directly responsible for foiling the opportunities for building and strengthening networks among people within the community. Many scholars including Granovetter (1973), Woolcock (1998), and Kilpatrick and Falk (1999) have suggested that communities that have networks inclusive of friends, and other intimates have a greater ability to thrive and change things around through collective actions. Other scholars have commented that dense bonding ties, or horizontal linkages, and internal networks not accompanied by bridging ties (external links) tend to have negative consequences on social capacity of the community (Knack & Keefer, 1997).

Field information presented earlier highlighted the presence of a network of ties based on acquaintances, business partnership, religious groups, and people from the same region, living in the same community, serve as a foundation for building social relations. Nonetheless, the existing social networks in the community did not produce sufficient amount of social capital to shepherd the establishment of community-based USWM initiative in the Foko, NTC Road, Agbowo and Sasa communities. The afore-mentioned cases provide enough evidence that numerous factors such as: politics and practices of indigenization, lack of trust, and the lack of charismatic leadership limited the opportunities for creating social networks among residents. Due to the lack of frequent face-to-face interactions and fellow feelings, thoughts, or attitudes of others severely limit the amount of

social capital needed to operate collective action, and community driven USWM initiatives could not be generated. Consequently, Foko, NTC Road, Agbowo and Sasa communities were unable to establish a community-based initiative to collect and dispose of their daily-produced refuse.

7.5.6 The Presence of Social Networks and its Impact on Community Action

This section summarizes the relationship between the presence of social networks and its implications for community action. Numerous writers have discussed the importance of the capacity of individuals to come together and pool their diverse talents, skills and other useful resources to solve local problems (Kilpatrick & Falk, 1999). Others have asserted that communities with reasonable levels of social networks are more likely to have successful locally initiated development projects than those without social networks. Social networks (infrastructure) that are inclusive of individuals from diverse ethnic groups and backgrounds within the community often enhance the capacity of a community by increasing the scope of knowledge, skills, and expertise available to it (Flora, 1998; Kilpatrick & Falk, 1999).

In all the seven communities studied for this research, there is evidence of social ties based on kinship, acquaintances, partnerships, religion or spirituality, individuals from same region/district (Diaspora) and living in the same community outside their places of origin, serve as a foundation for creating social relations. Family, and kinships exhibit the features of a close network, but the ties in those relations are too powerful to bridge to the wider community. Consequently, the norm of reciprocity developed within family and relatives generally fails to broaden to the society as a whole. In analyzing the general picture of observations and summarizing the survey data, it is clear that community-based USWM initiatives materialized in Bodija, Alesinloye, and Ayeye communities where social networks among the residents were found to be active. On the contrary, the lack of such networks among residents were noticed in Foko, Agbowo, Sasa, and NTC Road communities where there were no community activities. Consequently, results derived from the data collected from Bodija, Ayeye, and Alesinloye communities indicate that the presence of social networks among residents resulted in community activities and brought about the growth of community-based USWM initiatives in these communities. On the other hand, either the lack of social networks generated a low community action or no action at all in Agbowo, Sasa, NTC Road, and Foko communities. However, it is important to mention that Agbowo, Sasa, NTC Road, and Foko communities investigated for this research were rich in social networks, the difference was how these networks

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were put to use or linked to other networks that determined if they were able to organize for USWM purposes or not.

In all the seven communities studied for this research, social networks were constructed along the line of group identity, ethnicity, kinship, and religion. These elements of social characteristic features strengthened social relations among the individuals concerned, which eventually contributed to the creation of social capital to promote collective actions in Ayeye, Alesinloye and Bodija communities. On the contrary, the residents of Foko, NTC Road, Sasa, and Agbowo communities failed to establish community-based SWM initiatives either because social capital was ceded or distorted, lacked social networks to certain degree or did not possess the linkage capacity that would help actuate community initiatives.

7.5.7 Social Trust among Community-Based USWM Organizers in Ibadan

In contemporary literature, the notion of social trust is understood as the presence of a situation in which a player chooses to believe in the good will of another person without having accurate knowledge or understanding that he will act in the way that is expected of him. This means that the individual exposes himself to the risk of opportunistic behaviour on the part of the other (Bhuiyan, 2005; Falk & Guenther, 1999). In spite of being aware of the great risks entailed, the general human nature is to reserve trust in others and this condition often builds a cordial or cooperative relationship among the actors.

In order to understand the level of social capital among people who are engaged in urban solid waste management at the community level in Ibadan, social trust was measured among those involved and those that are not involved in community-based urban solid waste management initiatives in Bodija, Ayeye, Sasa, NTC Road, Agbowo, Foko, and Alesinloye communities. Residents were surveyed in order to understand the notion of trust in other people, the government, nongovernmental organizations, friends, family members, the police and the judicial system. Table 3.6 presents the results of data analysis comparing all the communities.

Table 26 Trust People in Your Neighbourhood

Community	Do not Know	To Some Extent	Average	I Trust	To a Great Extent
Bodija	9(13.6%)	24(36.4%)	14(21.2%)	6(9.1%)	5(7.6%)
Ayeye	7(17.9%)	5(12.8%)	5(12.8%)	7(17.9%)	14(35.9%)
Agbowo	12(20%)	19(31.7%)	18(30%)	8(13.3%)	2(3.3%)
Foko	9(15.5%)	14(24.1%)	18(31%)	16(27.6%)	-
Alesinloye	13(24.5%)	13(24.5%)	3(5.7%)	15(28.3%)	4(7.5%)
NTC Road	12(22.6%)	20(37.7%)	5(9.4%)	12(22.6%)	3(5.7%)
Sasa	9(16.1%)	14(25%)	11(19.6%)	15(26.8%)	7(12.5%)

Source: Author's analysis, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

Table 26 reveals many interesting results regarding how respondents trust people in their neighbourhoods. In Bodija community, 6(9.1%) of the respondents said that they could trust people in their neighbourhood while 7(17.9%) of the respondents in Ayeye community responded that they could trust people in their neighbourhood. In Agbowo community, 8(13.3%) of the respondents said that they trust people in their community while 16(27.6%) of the respondents in Foko said that they could trust people in the neighbourhood. In addition, 15(28.3%) of the respondents from Alesinloye and 15(26.8%) of the respondents from Sasa also said that they could trust people in their communities. While only 12(22.6%) of the respondents from NTC Road community said that they could trust residents in their neighbourhoods. Another interesting observation from the results is that Foko and Sasa communities have high level of trust among respondents, yet these communities were unable to organize community-based urban solid waste management initiatives. Whereas, communities such as Bodija and Ayeye with low level of trust among the residents were able to organize community-based urban solid waste management initiatives in their communities. Another fact that emerged from the results is that Alesinloye community has a high level of trust among its residents and was able to organize community-based urban solid waste management initiative.

When respondents say that others can be trusted, this can be viewed as their evaluation of the moral norms of their community. As Rothstein & Uslaner (2005, p. 42) put it, this "implies that trust reflects a sense of social solidarity, that they have a shared fate, and that there is a responsibility to provide possibilities for those with fewer resources." Essentially, at the individual level, people that think that other individuals in their communities can be trusted are more willing to have a positive opinion of their political situations, to get involved in the political process, and be more engaged in voluntary associations. They also contribute more to charitable organizations, are likely to be more accommodating toward other ethnic groups, people with different economic, social, political, and cultural backgrounds.

Similarly, residents from the seven communities were also asked if they have trust in governments/authorities in their localities; this was an attempt to understand their feelings towards government delivery of urban services in their respective jurisdictions. The results and analysis are presented in table 27 below.

Table 27 Trust in Government Services

Community	Do not Know	To Some Extent	Average	I Trust	To a Great Extent
Bodija	21(31.8%)	11(16.7%)	5(7.6%)	6(9.1%)	3(4.5%)
Ayeye	13(33.3%)	10(25.6%)	5(12.8%)	6(15.4%)	3(7.7%)
Agbowo	30(50%)	17(28.3%)	7(11.7%)	5(8.3%)	-
Foko	24(41.4%)	18(31%)	10(17.2%)	4(6.9%)	1(1.7%)
Alesinloye	23(43.4%)	23(44.4%)	2(3.8%)	1(1.9%)	-
NTC Road	21(39.6%)	20(37.7%)	4(7.5%)	5(9.4%)	1(1.9%)
Sasa	21(37.5%)	23(41.1%)	9(16.1%)	3(5.4%)	-

Source: Author's analysis, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

One fact that emerged from table 26 is that a high number respondents from the seven communities were not sure if they could trust their local governments for the provision of services. For example, in NTC Road 21(39.6%) of the respondents and in Sasa 21(37.5%) of the respondents do not know

if they could trust the local government in Ibadan. At the same time, 24(41.4%) of the respondents in Foko and 23(43.4) of the respondents in Alesinloye do not know if they could trust the local governments in Ibadan. In Bodija community, 21(31.8%) of the respondents, in Ayeye 13(33.3%) of the respondents, and in Agbowo 30(50%) of the respondents do not know if they could trust local governments in Ibadan for the provision of urban services.

In order to understand the relationship and determine the level of trust among individual residents in the communities studied, participating residents were asked the following two questions: (1) in an emergency, would you leave your young children with your neighbours? A response to the questions with 'yes' and 'sometimes' was interpreted as an indication of high level of trust among the respondents while the answers 'no' and 'others' indicates a low level of trust among the residents. A sizeable proportion of respondents 39(59.1%) in Bodija, 29(74.4%) in Ayeye, 30(50%) in Agbowo, 37(63.8%) in Foko, 26(49.1%) in Alesinloye, 37(63.8%) in NTC Road, and 30(53.8%) in Sasa communities answered in the affirmative. That is, in an emergency they would leave their children with their neighbours, indicating that they trust their neighbours. On the other hand, 18(27.3%) of residents in Bodija, 8(20.5%) in Ayeye, 16(26.7%) in Agbowo, 14(24.1%) in Foko, 23(43.4%) in Alesinloye, 11(20.8%) in NTC Road, and 14(25%) in Sasa communities, stated that they would not leave their children with their neighbours in an emergency, indicating that they did not trust their neighbours.

Table 28 Leaving Children with Neighbours

Community	Yes	No
Bodija	39(59.1%)	18(27.3%)
Ayeye	29(74.4%)	8(20.5%)
Agbowo	30(50%)	16(26.7%)
Foko	37(63.8%)	14(24.1%)
Alesinloye	26(49.1%)	23(43.4%)
NTC Road	37(69.8%)	11(20.8%)
Sasa	30(53.6%)	14(25%)

   Source: Author's analysis, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

The second question also asked respondents if they would hire someone based on their neighbours' recommendation. The table below presents the result. A response to the questions with

'yes' and 'sometimes' was interpreted as an indication of high level of trust among the respondents while the answers 'no' and 'others' indicates a low level of trust among the residents. A sizeable proportion of respondents 42(63.6%) in Bodija, 35(89.7%) in Ayeye, 38(63.3%) in Agbowo, 40(69%) in Foko, 34(64.2%) in Alesinloye, 42(79.2%) in NTC Road, and 45(80.4%) in Sasa communities answered in the affirmative; that they would hire someone based on their neighbours' recommendation, indicating that they trust their neighbours. On the other hand, 22(33.3%) in Bodija, 3(7.7%) in Ayeye, 18(307%) in Agbowo, 17(29.3%) in Foko, 15(28.3%) in Alesinloye, 8(15.1%) in NTC Road, and 11(19.6%) in Sasa communities of the respondents stated that they would not hire someone based on their neighbours' recommendation, indicating that they did not trust their neighbours.

Table 29 Hire Someone Based on Neighbour's Recommendation

Community	Yes	No
Bodija	42(63.6%)	22(33.3%)
Ayeye	35(89.7%)	3(7.7%)
Agbowo	38(63.3%)	18(30%)
Foko	40(69%)	17(29.3%)
Alesinloye	34(64.2%)	15(28.3%)
NTC Road	42(79.2%)	8(15.1%)
Sasa	45(80.4%)	11(19.6%)

Source: Author's analysis, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) households.

Analysis of table 28   and table 29 indicates that most of the respondents who chose 'yes' and/or 'sometimes' as a response to the above two questions were residing in those communities which has succeeded/or not succeeded in organizing community-based urban solid waste management initiatives. For example, most of the respondents from Agbowo, Sasa, NTC Road, and Foko communities where there was no community-based urban solid waste management initiative said they would leave their young children with their neighbours in the case of an emergency. In addition, respondents from Agbowo, Sasa, NTC Road, and Foko communities also said that they would hire someone based on their neighbours' recommendation. Likewise, respondents from Bodija, Ayeye, and Alesinloye also said that they would hire someone based on their neighbours' recommendation and that they would leave their children with their neighbours in an emergency situation. Thus, the data analysis suggests that there is no relationship between a high level of trust

among individuals and a high degree of community action, it is not clear whether a lack of it hardly generated any community action in the communities. It is important to emphasize that this research did not explore the direction of this relationship (that is which of the relationship comes first…could it be that community action produces high levels of trust). In spite of their different responses to the questions, one can infer that social capital did exist among individuals that are involved in urban solid waste management at the community level in the metropolis and to a certain extent among those individuals who did not organize community-based urban solid waste management initiatives.

7.5.8 Norms of Reciprocity among Community-Based USWM Organizers In Ibadan

Ostrom (1998, p. 12) reminds her readers, "when many individuals use reciprocity, there is an incentive to acquire a reputation for keeping promises and performing actions with short-term cost but long-term benefits." Norms of reciprocity is one of the dimensions of social capital (Pretty & Ward, 2001; Putnam, 1993). While information on community group captures formal associations that may foster social capital, informal ties (for instance, ties of affection and reciprocity that are due to family, friends or informal associations) can be essential in people's lives even when formal groups are difficult to establish. If such ties are essential, then norms can arise through reciprocity. The author measured or assessed such norms of reciprocity in each of the community in order to understand the level of social capital among individuals involved in urban solid waste management in the city of Ibadan. Table 29 presents the results of seven communities in which three communities Bodija, Alesinloye, and Ayeye are participating in community-based urban solid waste management initiative while the rest communities are not participating.

Table 30 Taking the Sick to Doctor's Office

Community	Yes	No
Bodija	47(71.2%)	16(24.2%)
Ayeye	34(87.2%)	3(7.7%)
Agbowo	48(80%)	9(15%)
Foko	44(75.9%)	10(17.2%)
Alesinloye	38(71.7%)	13(24.5%)
NTC Road	43(81.1%)	10(18.91%)
Sasa	45(80.4%)	10(17.9%)

Source: Author's analysis, 2010

Note: Unless otherwise specified, the sample sizes are NTC Road (53) households, Agbowo (60) households, Foko (58) households, Sasa (56) households, Alesinloye (53) households, Bodija (66) households, and Ayeye (39) household

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Analysis of table 30 demonstrates that most of the respondents in the seven communities are willing to take their neighbours to the doctor's office or to the hospital when they are sick. For example, 34(87.2%) in Ayeye, 47(71.2%) in Bodija, and 38(71.7%) in Alesinloye communities said "yes" they were willing to take their neighbours to the doctor's office or to the hospital when they are sick. In these three communities, the residents are participating in urban solid waste management initiative in Ibadan metropolis. On the other hand, the result shows that majority of respondents 44(75.9%) in Foko, 48(80%) in Agbowo, 45(80.4%) in Sasa, and 43(81.1%) in NTC Road communities are also willing to take their neighbours to the doctor's office or to the hospital in the event of sickness. However, these four communities are not currently participating in urban solid waste management initiatives in spite of the fact that they are willing to take their neighbours to the doctor's office should they fall sick. It is safe to infer that norms of reciprocity could add to the development of long-term obligations between neighbourhood residents, but may not necessary translate to the establishment of solid waste management initiative as observed in Agbowo, Foko, Sasa, and NTC communities in Ibadan.

7.5.9 What is the extent to which social Capital Does or Does Not Condition the Success of Community-Based USWM?

Direct field observations and survey results from all the seven communities demonstrate that social capital has the ability to condition the success or failure of community-based urban solid waste management initiatives. In the studied areas, majority of the respondents belong to different social organizations such as social groups, sport groups, trader associations, ethnic group, community organizations (neighbourhood committee), financial and credit saving groups, and professional associations. It is evident from the survey results that some of the respondents 44(66.7%) in Bodija, 34(64.2%) in Alesinloye, 20 (51.3%) in Ayeye, 36(60%) in Agbowo, 36(62.1%) in Foko, 35(60%) in NTC Road, and 41(73.1%) in Sasa belonged to more than one associations in their respective communities, which shows that there is a certain level of social capital in those communities. As Brown and Ashman (1996) comment, the existence of local associations in a community indicates the presence of social capital among local groups that allows action to be taken to protect their interests in project decision making. Importantly, the existence of dense social networks of active local associations is an indication of a high level of social capital. Although it is true that some of the

communities studied have high levels of social capital, nevertheless, some of them lacked bridging and linking types of social capital that would connect them to the outside world.

Communities like Bodija, Ayeye and Alesinloye have successfully employed bonding social capital to ally with individuals in government, non-governmental organizations outside their vicinities and other networks for additional resources. In Bodija community for instance, the establishment of a composting plant in the community was made possible through the use of bridging social capital to link to the government, influential individuals and transnational institutions such as the United Nations International Children's Educational Fund (UNICEF) for assistance. Bandura (1997) writes that individuals are more likely to engage in collective actions if they have strong social ties and higher social status. Apparently, social ties among community residents, also known as 'bonding social capital,' contribute to the likelihood that people will move beyond their individual self-interests towards mutually beneficial endeavours (Larsen, 2004). However, some authors have argued that the key predictor of collective action has historically been linked to socio-economic status as opposed to strong social ties and higher social status (Boardman & Robert, 2000; Mesch & Schwirian, 1996; Sampson, 1991). In addition, Boardman and Robert (2000) found in their work that community with high economic status increased the likelihood of collective action, compared to the impact of individual socio-economic status.

Although some of the communities studied, namely, Agbowo, Foko, NTC, and Sasa, have significantly high levels of bonding social capital, but this type of social capital could not actually translate to collective action, as they were unable to link with other communities outside their geographic or social terrain. As Larsen et al (2004) comment, low and moderate-income communities face greater challenges in converting their bonding social capital into the more political and financial bridging or linking types of social capital. Edin and Lein (1997) in their empirical work found that poor women residing in social housing developments depend on money obtained from a network of family and friends to make ends meet. Meanwhile, the bonding capital permitted these women to survive but their efforts never translated or extended beyond their immediate network possibility curve. They lacked the social capital to liaise with people or organizations outside their sphere of influence, and network that might have fostered social change or point to other forms of assistance.

Field observations and survey results from Bodija, Ayeye, and Alesinloye communities show that social capital had positive influence on the success of community urban solid waste management initiatives. Realizing the significance of waste management at the community level, the Oyo State Government in partnership with the Bodija Market Traders Association, Sustainable Ibadan Project and technocrats drawn from the University of Ibadan established what is considered a Pace Setter Organic Fertilizer plant in 1998 utilizing some of the organic waste generated in Bodija market as inputs. It is on record that at the initial stage of the composting plant, the community members managed it and the daily average production was 80 bags of organic fertilizer per day at a cost of $1.50 per bag. The establishment of the composting project was made possible because of community member's ability to use their bonding, bridging and linking social capital to reach out to individuals outside their community. As one official of the Bodija Area Community Development Association revealed in an interview, 'a powerful community delegation from Bodija community approached the Oyo State Government for financial assistance to jump-start the project, and the government agreed to this'.

Furthermore, the community was also able to push their linkage to the local government authority in charge of the area, and they gained the piece of land on which the composting plant was established. Also, many other stakeholders such as the United Nations International Children's Educational Fund (UNICEF) participated in the project by donating money, materials, and other valuable resources for the establishment and smooth running of the project. When the State Government took over the operation of the composting plant from the community, apparently the forces of collapse began to set in thereafter. As some of the key informants put it, the State Government did not carry along the stakeholders in the community; and beyond that, management ineptitude and bureaucratic corruption eventually brought the project to a standstill.

The State Government intervention to assume control of the running of the organic fertilizer project in Bodija community constrained voluntary cooperation and future community participation in the smooth operation of the composting plant. In this manner, the government purposely destroyed valuable social capital within the private and public sectors in Bodija community. Soon after the government assumed management of the project, community members, trader's associations and other local associations that were involved in the day-to-day running of the waste project withdrew their participation in the venture. The action of the government signaled the end of collective action

on waste management in Bodija community. Putnam (1993) debated that government intervention in centrally planned economies meant that the government made almost all decisions and coerced individuals into doing certain things. In such an environment, there is little room for voluntary association in social groups for collective actions. The eventual collapse of the composting project under the auspices of the government indicates the extent to which social capital does or does not condition the success of community-based urban solid waste management initiatives. What emerges from this is that an unwarranted government action in civil society and the private sector is destructive of social capital, especially in the current global configuration.

The initial success story of Bodija composting plant motivated the Oyo State Government two years later to help fund the composting plant in Ayeye community using the same educational tools to empower and mobilize community residents to engage in the management of the project. In fact, government officials were able to mobilize some of the leaders in Bodija community as advocates to help advance the Ayeye community composting initiative. Quite unlike the Bodija community, the state government entrusted the community-composting project with the community leaders to manage by engaging all stakeholders in the community. In an interview with one of the leaders in the community, it was made clear that the composting plant did not have a rosy foundation. Initially, the plant was only able to produce five bags of organic fertilizer per day through community effort (Interviewee #11). At the time of the interview with the leaders, the plant had stopped producing organic fertilizer owing to lack of market for the finished product. The Ayeye Area Community Development Association, the body responsible for the running the composting plant, had not been able to penetrate or capture the market for their product, quite unlike the Bodija community project, which recorded success from the outset. In a focus group interview with some of the members and leaders of the local association in Ayeye, the Oyo state government was to blame for not doing what was necessary to assist in expanding the market for their finished product, namely organic fertilizer (Focus, 2010)

It is obvious from the foregoing scenario that Ayeye community did not possess external social capital (the linkage) to link the community-based organization to outside constituencies. Kim and Cannella (2008) suggested that external social capital derives from a person's or organization's contacts with external stakeholders such as funding agencies and political elites which enable local organizations to acquire organizational capacity building. Thus, Ayeye community was unable to

build their bonding social capital in conjunction with bridging social capital, hence their failure to penetrate market for their product. To return to the research question, empirical evidence suggests that to a great extent, social capital can influence the success of community urban solid waste management initiatives. However, within communities, social networks, within individual and professional, and the density and diversity of social networks differ within and between communities. As experience indicates, social network is critical in any community's ability to access diverse types of capital especially social capital and financial capital with linkages to others outside their familiar domain (Dale & Newman, 2010).

Numerous empirical works also suggest that bonding social capital provides the foundation for bringing people together for collective action while bridging social capital provides access to information and resources external to the community or neighbourhood. As the author observed, these essential elements were lacking in Ayeye community though they had bonding social capital, yet they could not convert it to bridging social capital in order to gain access to external information that would have enabled them gain access to markets for their organic fertilizer. As Brunie (2009) comments, the combination of bonding and bridging social capital makes possible the attainment of a wider range of positive outcomes due to the external resources community-based organizations are able to tap into.

Dale and Newman (2010) write that as communities develop strategies for sustainable community development such endeavours begin with high hopes, expectations and the function of social capital becomes apparent. Only shortly afterwards the endeavours fall apart in the face of individual long-term anxiety, a lack of access to external resources, and sometimes conflicting government policies and incentives that may actually hamper or destroy existing social capital at the community level. In a focus group discussions with the leaders in Ayeye community, leaders blamed the state government for not helping them with information on how to market the organic fertilizer they produced in a community-managed plant (Focus group 2010). In addition, the majority of Ayeye residents were displeased with the way things were going at the composting plant, which had been shut down (at the time of visit) due to lack of motivation among community leaders and residents on how to move forward. In a direct field observation in Ayeye community, it was observed that the composting plant had not been in operation for more than six months and the organic fertilizers produced were piled up in the plant

Unlike Bodija and Ayeye composting plants, the Alesinloye plant is the only integrated solid waste management composting and recycling plant that is currently in operation. It is an integrated solid waste management facility, encompassing the composting of organic materials into organic fertilizer, recycling of plastic bags into pellets and recycling of metal scrap into ingots. The Alesinloye recycling facility was funded by two local non-governmental organizations for the community. During the author first and subsequent visits to the facility for observation and interview, it was observed that the plant was in operation. There were also indications of buyers for the products, from frequent arrivals and departures of delivery trucks in the shipping area of the facility. What sets Alesinloye recycling plants aside from the other two plants is the ability of Alesinloye Traders Association to combine their bonding and bridging social capital to access information that is external to the Association. As Dale and Newman (2010) comment, the success or failure of social networks over time appears to be contingent upon enabling mechanism or elements often outside the social or geographic reaches of the community. Thus, the criticality of social networks to create bridging and vertical ties is paramount for low-income communities if they are to gain any measure of self-sufficiency and control over their future without government intervention.

In summary, it is important to emphasize that for any community-based urban solid waste management to be successful at the community level, the initiatives have to come from members of communities. The process has to be inclusive of everyone with a stake in the community and the approach has to be driven bottom-up instead of the command-and-control approaches of the government. As evidenced in the Bodija community composting initiative, government intervention literally destroyed the community's social capital when it literally wrested the management of the composting plant from the community managers. Importantly, the analysis of the data collected in this study shows that social capital has strong positive impact on the success of community based solid waste management projects in some of the communities. The results also show that among the characteristics of social capital, bridging social capital was found to exert greater influence on the production and sales of organic fertilizers than bonding.

7.5.10 How Does Heterogeneity, and the Conditions of Social Capital that arise from this, Promote or Inhibit the Operational Success of Community-Based USWM Initiatives?

In order to address the research question, seven communities were chosen for investigation. Four of the seven communities were predominantly Yorubas (with a negligible proportion of other ethnic groups) namely NTC Community, Foko Community, Ayeye Community, and Alesinloye community. For instance, in NTC Road community 46(87%) of the respondents identified themselves as Yorubas while 7(13%) identified themselves as Ibos. Likewise, in Ayeye community 36(92%) of the respondents identified themselves as Yorubas, and in Alesinloye community 49(93%) of the respondents identified themselves as Yorubas, while 2(4%) were of Ibo origin. Among these four communities, only two were able to organize community-based waste management initiatives in partnerships with government and non-governmental organizations. For example, the Ayeye project was based on a partnership venture between the Sustainable Ibadan Project, the State and Local Governments as well as the United Nations International Children's Education Fund (UNICEF). On the other hand, the Network Action for Environmental Health (NINAAFEH) and MTN Foundation non-governmental organizations funded the Alesinloye Integrated waste recycling plant.

Of the seven communities investigated for this research three of them were truly multi-ethnic communities, comprising tribal groups from various parts of Nigeria. These communities are Bodija, Agbowo, and Sasa. Among these three communities, only Bodija community stands out in terms of community engagement for the provision of public goods –with regard to urban solid waste management. Empirical results have shown that heterogeneity within groups, communities or neighbourhoods has been regarded as a key factor in collective action for the provision of public goods (Ballet et al, 2007; Platteau, 1996). This was evident in the case of Bodija community, one of the multi-ethnic communities in Ibadan that was able to organize a community-based waste management initiative. In Bodija community, 53(80%) of the respondents identified themselves as Yorubas; while 11(17%) identified themselves as Ibos and 2(3%) were of Hausa origin[5]. In spite of their ethnic diversity, they were able to come together for collective action by forming community-based association contrary to suggestions in the literature that within the scope of individual and

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[5] Due to religion and cultural practices, it was difficult for the researcher to gain access to the Hausa houses in Bodija, Agbowo, and Sasa communities

community interactions for mutual benefits, heterogeneity can create conflicts of interests that reduce available gains from cooperation (Martin, 1994). What is evident in this research, as exemplified in Bodija community, is that heterogeneity may create opportunities for profit from exchange across issue areas by expanding or broadening the scope and potential for cooperative arrangement.

In Agbowo and Sasa communities, residents were unable to organize community-based waste management initiatives due to their ethnic composition and lack of civic participation. For example, in Sasa community 33(59%) of the respondents identified themselves as Hausas, while 14(25%) of the respondents were of Ibo origin. On the other hand, 17(28%) of the respondents in Agbowo community reported themselves to be of Yoruba origin; 38(63%) reported to be of Ibo origin, while 3(5%) were of Hausa origin. The research results confirm or support what is widely held to be true in the literature on the role of heterogeneity on collective action in multi-ethnic communities. As already mentioned, available studies on heterogeneity and collective activities have dwelled mostly on economic or social aspects of such interactions. What has been observed is a negative association between racial/ethnic heterogeneity and the provision of public good (Leigh, 2006; Mansuri & Rao, 2004) which has already been discussed in this section of the chapter.

The survey results for Agbowo and Sasa, two ethnic diverse communities in Ibadan metropolis, revealed that there is a high possibility that heterogeneity weakens inter-group relations and makes cooperation among leaders difficult to attain. In Sasa community, residents hardly interact with each other due to their socio-economic divide and the fear of the "other."   When residents in Sasa community were asked if "most people can be trusted," 42(75%) responded that you have to be careful when dealing with other people. Likewise, in Agbowo community when residents were asked the same question, 44(73%) responded that you have to be careful when dealing with others. In the same manner, when residents from Agbowo community were asked the "extent to which people in their community get along these days," 20(33%) responded that they were not getting along very well. The same sentiment prevailed in Sasa community, 17(30%) responded that they were not getting along very well.

From the above analysis, one can infer that in multi-ethnic communities like Agbowo and Sasa, where the level of trust and civic participation is very low, people are not likely to trust each other to organize for the provision of public goods. The data also indicate that people of different ethno-cultural and religious backgrounds may not work together in order to establish community-based urban solid waste management projects. As Costa and Kahn (2003) noted in their work, in any community, heterogeneity negatively influences the creation of social capital. Their observation has been supported by the works of other known researchers, many of them already mentioned; this helps to re-establish the conclusion that civic engagement or participation is lower in ethnically diverse communities. Notably, ethnic diversity, as a collective feature, does not bode well for Agbowo and Sasa communities. It has, as it were, engendered a lower level of civic engagement, which inhibits the organization of community-based solid waste management initiatives in both communities.

If homogeneity is a virtue for the establishment and for the operational success of community-based urban solid waste management initiatives, many of the homogenous communities investigated for this research would each have established one. Unfortunately, Ayeye community was still struggling to operate the composting plant successfully while NTC and Foko communities have not attempted to establish or commence community-based waste management initiatives at all throughout the duration of this research. Costa and Kahn (2003) commented rightly that the consistency of the negative relationship between more heterogeneity and less social capital leads many authors to ask whether homogeneity increases civic engagement. If this is the case, the authors went further to ask, why so many in our societies are agitating for diversity in the workplace and in communities. In this research, there is no evidence suggesting that homogeneity is a virtue for collective action in urban solid waste management at the community level nor is there evidence suggesting that homogeneity increases civic engagement in the communities studied.

7.5.11 What is the Relationship between Social Capital and the Formation of Community-Based USWM Initiatives in Ibadan?

As stated earlier, empirical evidence suggests that the existence of dense social networks of active local association is an indication of high levels of social capital. There is no doubt that all the communities studied for this research have social capital; nevertheless, some of them severely lacked the bridging and linking social capital attributes that would connect them to external agencies or political elites.

The relationship between bonding and bridging social capital suggests the starting of a nested structure of social relations. For instance, the strength of bridging social capital seems to rest on the strength of the bonding social capital being linked with other organizations. In turn, the strength of bonding social capital rests on the quality and frequency of informal social interactions. Importantly, bridging social capital may also be thought of in terms of linking with other forms of capital. In addition to social capital, communities or neighbourhoods are portrayed by their assets: financial capital, physical capital, human capital, and cultural capital; and so social capital serves a catalytic function in mobilizing these other assets toward attaining larger social goals (Wallis, et al, 1998).

As alluded to already, the existence of local associations in a community indicates the presence of social capital among local groups that allows action that protects their interests in project decision making. Essentially, the existence of dense social networks of active local associations is indicative of high levels of social capital (Brown & Ashman, 1996). While it is true that all the communities studied have social capital, nevertheless, some of these communities lacked the bridging and linking social capital that would connect them to the outside world. It is not surprising from the survey results that there are relationships between social capital and the formation of community-based USWM initiatives in Ibadan, Nigeria for various reasons. First and foremost, all the communities studied have numerous local associations -ethnic based associations, social group associations, traders associations, professional associations, and financial savings groups just to name a few. Secondly, numerous scholars have commented that community-based interventions provide chances for important improvement in environmental management throughout the Third World. Thirdly, empirical research has shown that local mobilization is effective not only in asking but also in securing public services such as electricity, safe drinking water, public toilets, and drains. The significance of effectiveness of local residents and community associations in environmental management and improvement in public access to services cannot be overemphasized. This is particularly the case in low-income areas that are disproportionately impacted by the environmental effects of development and growth (Daniere, et al, 2002).

The foundation of community-based development projects is the active engagement of members of a defined community in some aspects of the project design and execution. In all three community-based solid waste management projects in Ibadan, residents and various associations participated in their design and implementation. In cooperation with other associations within their

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communities, they were able to push the problem of organizing local associations under the umbrella of Community Development Associations and Traders Associations in each of the project areas. In addition, the leadership of Bodija Area Development Association approached most of the community residents and market traders about the problem of waste and sanitation situation confronting the community. Likewise, the leaders of Bodija Area Development Association also approached the Oyo State government for financial and technical support for their project. The collaboration between various stakeholders and the two levels of governments has already been discussed in chapter six.

The synergy perspective, supported by Evans (1997) and many other scholars and summed up by Woolcock and Narayan (2000) is that cooperation between state and communities is needed to foster and sustain community projects. Essentially, the collective approach recognizes the role of a larger institutional environment in which groups develop. In the collective approach, social capital is understood to be a bottom-up phenomenon, but in the synergy perspective, cooperation between government and communities is required to promote and sustain projects because neither of these players alone possesses sufficient assets (Brunie, 2009). Significantly, the quality of government institutions can foster the emergence of trust and networks and the mobilization of social capital for development ends. Social capital, in turn, provides resources for public authorities and for the execution of particular projects. In Bodija and Ayeye composting projects, for instance, the State and municipal governments played significant roles in facilitating trust and networks as well as the mobilization of social capital and resources for the implementation of the two projects. Table 17 in chapter six, provides the list of stakeholders involved in the design and implementation of those projects.

In summary, Area Development Association in Bodija and Ayeye initiated the two community-based urban solid waste management initiatives in Ibadan, while the Alesinloye community was established by two local non-governmental organizations in partnership with Alesinloye Traders Association. In Bodija community, the Bodija Area Development Association conceived the idea of organizing a community-based urban solid waste management project and approached the government for financial and technical assistant. Analysis of the data reveal that social networks were important elements in building social capital, which in turn played a crucial role in the organization of community-based solid waste management in Bodija, Ayeye and Alesinloye

communities. Other scholars have commented that the existence of social capital contributes to a project's effectiveness in achieving its specific objectives. Therefore, the creation of social capital is held to be indispensable as an implementation instrument (Rydin & Pennington, 2000). It is important to re-emphasize that there is positive relationship between social capital and the formation of community-based urban solid waste management initiatives in the three communities in Ibadan namely Bodija, Ayeye, and Alesinloye.

7.5.12 Summary of Findings

- In this research, there is no evidence suggesting that homogeneity is a virtue for collective action in urban solid waste management at the community level nor is there evidence suggesting that homogeneity increases civic engagement in the communities studied.

- Empirical evidence suggests that to a great extent, social capital can influence the success of community-based urban solid waste management initiatives. However, within communities, within individuals and professional bodies or associations, the density and diversity of social networks differ between communities.

- The survey and field observation results show that social capital had positive influence on the success of community-based urban solid waste management in Bodija, Ayeye, and Alesinloye communities.

- Survey results indicate the residents of Agbowo, NTC Road, Foko, and Sasa communities failed to establish community-based USWM initiatives for a range of reasons. Some of the reasons include the paucity of face-to-face interactions among households; resident's cultural and behavioural attitudes, lack of charismatic leadership and lack of cooperation among community members.

- Survey results and direct field observations suggested that there is high-level of social capital among individuals involved in urban solid waste management at the community level in the city of Ibadan.

- The field information/observations from Ayeye, Bodija, and Alesinloye communities reveal that social networks and interpersonal relationships were constructed along the line of local identity among the residents.

- Empirical findings suggest that the presence of a network of ties based on acquaintances, business partnership, religious groups, and people from the same region (Diaspora), living in the same community outside their places of origin, serve as a foundation for building social relation.

- Survey and direct field observations also reveal that community-based USWM initiatives materialized in those communities where social networks among the residents were found to be active.

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Chapter 8

Social Capital and the Experience of Community-Based USWM Initiatives in Ibadan

8.1 Introduction

In chapter 4, a theoretical framework structured around four constitutive components of social capital, encompassing civic engagement, social trust, norms of reciprocity and social networks was presented to highlight the extent to which social capital affects community-based urban solid waste management success. In this chapter, the aim is to discuss the research findings on the relationship between the establishment and non-establishment of USWM initiatives on the basis of the framework. The chapter will also discuss the role of gender in urban solid waste management, followed by a discussion of the relevant planning theory as observed in Ibadan. The last section discusses the new paradigm in urban solid waste management which includes community-based organizations in urban solid waste management, Small-Micro Enterprises, Private Sector involvement in USWM and Public-Private-Partnerships in urban solid waste management in some of the communities studied for this research.

8.2 The Operation of the OSSWMA and the Growth of Community-Based USWM Initiatives

The institutional arrangement of urban solid waste management in Ibadan and the establishment of the *Oyo State Solid Waste Management Authority was presented in chapter 6.* However, the focus of the section is to elucidate the operational aspects of the Authority. As previously stated, the rules governing the *Oyo State Solid Waste Management Authority were* established under Law No.1 of 28th January 2008 as contained in the Oyo State Gazette No. /9(33), June 5th, 2008 to regulate waste management in the State. The Authority is formally charged with the responsibility to deliver waste management services to the citizens of Oyo State by means of sweeping roads, streets, lanes, market areas, cleaning drains, and the dumping of collected refuse in authorized disposal facilities. In order to enhance effective and reliable services delivery to the citizens, the operational jurisdiction of *the Solid Waste Management Authority* was zoned into seven regions or districts by the State government. *The State's Solid Waste Management Authority Law, 2004* can be regarded as a fundamental source of formal power for the waste Authority to discharge

its assigned duties. In addition, some other administrative and financial ordinances of the Authority also serve as source of power to facilitate the day-to-day businesses of the Authority.

In Oyo State Waste Management Authority, rules and ordinances originate largely from positional power supported by resource power in such manner that each position has the resources to enforce the power connected with it (Bhuiyan, 2005). In other words, different positions in the organization's echelon determine how the organization is managed. As discussed in chapter 6 the organizational structure of the *Oyo State Solid Waste Management Authority* demonstrates the power relationship between each department in the agency in hierarchical order. At the top of the hierarchy is the Chairman of the board who presides over other members selected from all the municipalities in the state. Subordinate to the Chairman of the board is the General Manager of the Authority followed by the directors of each department.

At the very bottom of the ladder are other members of staff of the Authority (e.g. security officers, drivers, cleaners, welders, and dumpsite attendants) who perform various tasks for the Authority. The position of motor boys, workshop attendants, gatemen, and vulcanizers also fall into this category at the bottom of the hierarchy and they report to the supervisors before and after the completion of their assigned duties. However, these supervisors do not have any formal disciplinary power over their supervised subordinates in the event of negligence or dereliction of their duties. All matters that carry disciplinary action are reported to their superiors who have discretionary power to sanction or not to sanction the junior staff. In most cases, only the General Manager has vested power to issue memos or call for an explanation from the junior staff and other unskilled members of staff for alleged offences without seeking approval from the Chairman of the board. However, matters related to formal dismissal, termination, retrenchment, or retirement rest on the Chairman of the board.

An observable fact in the arrangement is that the local governments in Ibadan do not play important roles in the management of waste in their respective jurisdictions. Functionally, they are not the third tier levels of government they are touted to be. In chapter 6, it was mentioned that prior to 1982, the collection, storage, transportation and disposal of waste was the responsibility of local governments throughout Ibadan. However, the 1979 and 1999 constitutions delegated the

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responsibility of waste management, sanitary inspection reform and night soil disposal services to local councils. It should suffice to mention that in 1989, for various reasons, most local governments could not discharge many of the functions given to them by the constitution. Moreover, solid waste management did not appear among the few functions that these two levels of governments performed. Also, the increase in urban solid waste problems and the inability of the councils to manage waste in their jurisdictions in the past few decades called for the establishment of various agencies across the country by the state governments. Historically, the state governments in Nigeria have had to intervene in urban solid waste management from time to time, but such interventions have been carried out in ad hoc manner, as such the responsibility for refuse management often shifted several times from local governments to the state governments.

Oyo state is one of the many in the country that has made protracted and ascertainable efforts to attain the goal of putting its solid waste where it ought to be. The designated agency for this task is the Oyo State Solid Waste Management Authority. The attainment of the objective of the *Authority* hinges, to a significant degree, on the appropriate distribution of financial, human, and material resources. Data in chapter 6 are indicative of this distribution. Currently, the Authority employs 194 paid staff serving a population of over 3 million people; hence, it has not been able to effectively provide services to all quarters of the city. Lamentably, understaffing has been an issue for many years, not just in this dispensation but also in previous administrations including the defunct military regimes and for every successive agency responsible for waste management in the city of Ibadan. For example, in 1993 the total number of employees available in the waste-management authority was less than what was required to keep the system running. The agency responsible for waste management in the city then had only 200 staff under its control. It was estimated that approximately 400 to 500 employees were needed by the agency for the solid waste management system to be up and running effectively. Seventeen years later, the Authority still has only 194 paid staff in its payroll; a majority of them are senior and administrative staff working in the offices. In reality, looking at the data presented in table 18 only 30 employees are fully engaged in the hauling and disposal of waste throughout the city.

Regarding the material resources, Table 14 provides the current list of equipment at the disposal of *the Oyo State Solid Waste Management Authority*. From the table, one can glean the fact

that there is shortage material resources to provide the needed services to a city with a population of over 3 million. As already mentioned, the mismatch between material resources and the expected level of service is a longstanding issue in the city of Ibadan Vis-a`-Vis other cities in Nigeria.

The *Oyo State Solid Waste Management* equally suffers from many other problems, which hamper its smooth running and efficiency. Some of these problems include, but not limited to the absence of legal and institutional frameworks, weak institutional capacity, lack of enabling facilities, inappropriate land use planning, corruption, and nonchalant attitude of the residents, which impinge upon the ability of the Authority to achieve its intended goals.

In the light of the above narrative, the failure of *the Oyo State Solid Waste Management Authority* to satisfy the end users of its services has unintentionally influenced some communities to set up independent door-to-door refuse collection services, in order to keep their neighbourhoods clean and odour free. It is now not uncommon to see community-based USWM endeavours across the city of Ibadan carrying out their activities with maximum efficiency. In this study, three community-based associations from different communities across Ibadan were studied to understand the dynamics and interplay of the factors involved in making collection activities possible through orchestrated community organizing.

The survey results suggest that the driving forces behind organizing community-based USWM initiatives are multifaceted. The data or information presented in chapter 7 reveals that the main intention of the organizers was to achieve their collective interest. The other rationales that influenced people to organize USWM initiatives include but not restricted to the following: their feelings about community development, lack of any other alternative service provider to the Oyo State Solid Waste Management Authority as well as residents' attachment to their communities. There were also the expressed concerns for environmental health to reduce heaps of waste in their communities; to create employment for residents, exercise psychic power over their community and provide some other essential services.

The nature and patterns of interests mentioned above indicate that most of the leaders of the associations belonged to the elite class who largely control both power and resources of the

communities in question and were also engaged in local party politics. On the other hand, empirical evidence suggests that majority of the leaders were neither elected nor selected in line with any established democratic processes or guidelines. However, at the time of selection of leaders, mostly property owners or local residents, or individuals loyal to them, were considered for important positions. For the most part, preferential treatment often played a part in the selection of committee members. The people who have links to each other through mechanisms such as ties to ancestral home, friends, colleagues or business partners and membership of the same political parties (members of the same social networks) were favoured.

In this research, real attempts were made to seek out the reasons that community-based USWM endeavours were not established in other four communities namely Foko, Sasa, Agbowo, and NTC Road. The information gathered, as discussed in chapter 7, reveals that several factors were responsible for the absence of USWM endeavours in these communities. Some of the reasons are the lack of face-to-face interactions among households, residents' cultural and behavioural orientation, lack of leaderships, and lack of cooperation among community members. Other factors include the lack of willingness on the part of community leaders to mobilize residents for the provision of public goods, and government policy discouraging the formation of community-based urban solid waste management initiatives. Other reasons are the paucity of attention given to waste management, non-availability of financial support, and lack of trust-worthy leaders, lack of coordination among residents, and the difficulty of bringing people together for a common course. The occurrence of varying situations can be said to be "the reflection of the [community's] own distinctive history, the interaction between the people who have been in it, the groups it embodies, and the vested interests that they have created" (Bhuiyan, 2004, p.159). It is fair to note that the overall socio-political, cultural environment of the research locations unwittingly divided the residents into numerous groups based on their political support, ethnicity and socio-economic classes.

In summary, the operational ineffectiveness of the Oyo State Solid Waste Management Authority derives from numerous factors such as material, human, financial resources coupled with the poor coordination of various departmental activities within the Authority and the pervasiveness of corruption. In spite of public investment of resources, the Authority completely failed to achieve its objectives. However, some community-based initiatives succeeded in providing solid waste

management services in their communities while others failed due to government interference in the running of such initiatives. This was evident in the Bodija community-based organic fertilizer plants in which the state government wrested control of the plant from the founding community. The community-based USWM success in other communities are attributable to many motivational factors such as face-to-face interactions, trust in leaderships, collaborative efforts with other interested stakeholders, the creation of public awareness and associational life (i.e. social capital).

8.3 Trust and the Establishment of Community-Based USWM Initiatives

Alesina and La Ferrara (2002) demonstrate that when individuals trust one another, transaction costs in economic endeavours are substantially reduced and big organizations function well. In addition, governments are in better shape, more efficient, and financial development is faster where there is trust; trust almost always spurs economic success. Moreover, Ostrom (1998) alluded to the importance of keeping promises made to others and the performances of actions with short-term costs but with long-term gain. She went further to comment that trustworthy people who trust others with good character or for being trustworthy can engage in mutually productive social exchange, even though they are in dilemmas, as far as they can limit their interactions mainly to those with a reputation for keeping promises. The empirical data gathered from the fieldwork shows that many attributes contributed to the construction of trust –mostly revolving around consanguinity, long or permanent residency, friendships, business partnerships and common ethnic backgrounds.

It is sufficiently discussed in Chapter 7, that trustworthy relationships exist among the organizers of community-based USWM in many of the studied communities in Ibadan. Members of associations developed mutual relationships by virtue of their frequent face-to-face interactions. These interactions eventually led to the growth of community-based initiatives to engage in programs that are of mutual benefit to their members including the management of the solid wastes generated in their communities. Apart from providing urban solid waste management services, community associations also influenced the provision of clean water and public toilets in their communities on a pay per use basis. However, an asymmetrical relationship often exists among the groups of residents, market traders, and the Landlords, because the latter had the tendency to position the former in a lower social stratum. Thus, the difference in status based largely on property (e.g. houses and lands) ownerships, making one group more powerful and relevant than others. This condition is captured by Floyd Hunter's famous work *Community Power Structure:*

Men are ranked and classified by other men, in some degree, by the physical elements around them. An office with soft carpeting, wood-paneled walls, and rich draperies immediately suggests that the man occupying it is more influential than the man who walks on concrete floors and looks at plaster-broad walls each day, and whose only window decoration is a fifty –cent pull-down shade (Hunter 1953, as cited in Bhuiyan, 2004, p. 161).

Although such physical elements or attributes may not give a completely accurate picture of power relations and influence, but they are indicative of power structure, position and social status in Nigerian societies. In addition, they are part of the power relations and structure in any community in the Nigerian environment.

Furthermore, the research results indicate that trust-based relationships exist among the organizers of community-based USWM initiatives in Bodija, Ayeye, and Alesinloye communities. This type of trust could be regarded as 'generalized trust' which has the ability to relate people to others who are different from them. Thus, it reflects a bond that people share across society and across economic, ethnic group, religions, and race. The organizers of community-based initiatives in these areas were selected in accordance with the decisions of the leaders of each of the existing Area Development Associations in the communities. These leaders were able to motivate and encourage other residents to participate in community-based USWM initiatives in their respective communities. Therefore, it is important to emphasize that leaders in each of the communities played important roles in organizing social events from historical experience. In addition, the functions performed by community leaders to improve social relations among community residents could be better understood through the following narrative, "…enchained its members in such a close bondage that each shared in the other's sorrows and joys, knew each other intimately in an unparalleled solidarity" (Azam & Hollander, 1990, p. 22).

Analyzing residents' responses to the surrogate questions to measure levels of horizontal trust among individual in the community reveals that a relatively high degree of trust reigns among some respondents of the communities, which succeeded in establishing USWM initiatives as discussed in chapter 7. It follows that the creation of social capital did permit the residents of these communities to leave their young children to their neighbours in an emergency and to employ a person based on the recommendation of neighbours in their community. A similar picture was observed in the communities where community-based initiatives did not exist. A high degree of trust was observed

among residents; they were also willing to keep their young children with their neighbours in an emergency.

Some of the respondents from Agbowo, Sasa, NTC Road, and Foko communities where there was no community-based urban solid waste management initiative also exhibited the same degree of trust in their neighbours -they would leave their young children in the care of their neighbours and they would hire someone based on their neighbours' recommendation. Likewise, respondents from Bodija, Ayeye, and Alesinloye responded similarly; they would hire someone based on their neighbours' recommendation and would leave their children with their neighbours in an emergency situation. Thus, the data analysis suggests that there is no relationship between a high level of trust among individuals and a high degree of community action, it is not clear whether a lack of it hardly generated any community action in the communities. It is, however, important to emphasize that this research did not explore the direction of this relationship (that is which of the relationship comes first…could it be that community action produces high levels of trust). In spite of their different responses to the questions, one can infer that social capital did exist among individuals that are involved in urban solid waste management at the community level in the metropolis and to a certain extent among those individuals who did not organize community-based urban solid waste management initiatives.

Importantly, the research results presented in chapter 7 demonstrate the relationships between trust and community action in Bodija, Ayeye and Alesinloye Communities. They show that a high level of trust among the residents produces high community activities, which ultimately foster the growth of community-based USWM initiatives. Pargal et al., (1999) also reached a similar conclusion from their study of the role of social capital in solid waste management in Dhaka, Bangladesh that trust was clearly the most vital element that contributed to the success of solid waste management in those neighbourhoods they investigated. Likewise, Bhuiyan (2005) in his work on "the benefits of social capital in urban solid waste in Bangladesh" concluded that the success of organizing community-based urban solid waste projects had to do with interpersonal trust in urban Bangladesh. Likewise, Ha et al., (2004) study of the contribution of social capital to household welfare in a paper-recycling craft village in Vietnam concluded that among the four characteristics of social capital measured in their study trust was found to exert greater influence on production efficiency of paper recycling mills than the other two elements included in the study. In addition, Ha

et al., (2006, p. 531) on a parallel on relative shadow prices of social capital for household-level paper recycling units in Vietnam reached the same conclusions that among the four elements of social capital, "the strongest effects on production efficiency of paper recycling mills were found to come from trust."

Empirical evidence shows that trust in others is very different among people, across time, and across space. Social scientists have been particularly intrigued by the difference in social trust that appear worldwide or across varied spectrum. As measured by the World Value projects, some regions of the world, such as Scandinavia have high levels of trust. In contrast, Latin America and Nigeria exhibit very low levels of trust. Putnam (1993, 2000) for example noted enormous differences in social trust between northern and southern region in Italy. Regional differences were also evidence in the United States; States in the southern part of the country have lower levels of social trust than either the States in the Upper Midwest or in the Northeast. This was evidence in some of the communities studied for this research in the city of Ibadan, Nigeria. Nigeria is not a trusting society because of its ethnic diversity; people from different ethnic groups are often disinclined to work with each other. For example, the Hausa man will not trust a Yoruba man and will not likely work with him to effect any change. This is also true of an Ibo man who will not trust an Edo man.

8.4 Social Networks and the Growth of Community-Based USWM Initiatives

Social networks may act as a catalyst for social capital to flourish, through participation in networks and by providing information about the trustworthiness of other people (Bhuiyan, 2005; Putnam, 1993). Putnam (1993) and Middleton et al. (2005) regard social network as paramount in relation to other forms of social capital. Network acts as a vehicle through which trust and other experiences in face-to-face contact with other individuals are communicated. The body of empirical data available in this research study are indicative of this. Of course there are many contributing factors in the construction of social networks, including the vicarious experiencing of the feelings, thoughts and attitudes of others (fellow feelings), support in time of distress or crisis, shared neighbourhoods, sharing of information, and social/moral commitment (Nays et al., 2007).

Survey results show that respondents in Bodija, Ayeye, and Alesinloye communities are mostly market traders, professionals, and self-employed individuals. Their social networks primarily

developed according to their professional relationships, ethnic origins, and along gender lines. Field observations showed that there are major differences between the proportion of female and male representatives in local associations, which are marked for 'higher' and more formal institutions of governance. Bodija Area Development Association is made of 44(66.7%) male and 22(33.3%) female, while Ayeye Area Development Association is made of 24(61.5%) male and 15(38.5%) female members. In addition, in Agbowo community the Landlord Association is made of 30(50%) male and 30(50%) female members. In the case of Foko Area Development Association, 41(70.7%) are male while 17(29.3%) are female. The NTC Road Area Development Association is made of 25(47.2%) male and 28(52.8%) female. Likewise, in Sasa the Landlord Association is made of 23(41.1%) male and 33(58.9%) female. In any case, women representatives tended to have less authority than their male counterparts. For example key positions such as the chairmanship, vice chairman, General Secretary and the position of Financial Secretary in all the associations were held by male. This is a miniature reflection of the variance in gender roles in the Nigerian society.

Data collected in Bodija, Ayeye, and Alesinloye communities show that the formation of social networks are based, among others on two distinctive elements. The first of these is mutual dependence of the residents and community organizers for support and services, and second is the strength and ability of the leadership to foster confidence and bring the community to the point of enhancing the establishment of urban solid waste management projects. Concerning interdependence, Lowndes (2004) points out that in terms of social support women are more likely than men to seek help from other people or close relatives with respect to seeking loans. Also, in the event of sickness, women are more likely than men to turn to friends, while men are more likely than women to turn to their spouse. In Yoruba culture, the basic strength of informal power is the bonding quality of personal, reciprocal social relationships between individuals. The potential strength of those social relationships can be viewed not only in the passionate feelings that they induce but also in their propensity to tolerate even when they are provoked or disturbed.

The creation of social networks in Bodija demonstrated the presence of three dominant groups namely the Yorubas, Ibos, and the Hausas operating in the community. Based on their ethnic origin, these groups were classified into two factions; "natives and non-natives" despite being citizens of the same country. Survey results showed that residents in the community preferred to build their

social networks according to their ethnic identity. Nevertheless, inter-group contacts and functions flourished relatively well as they met with one another at various social gathering for merriments and past time. These social interactions, apparently, helped to reduce conflict among the three contesting tribes who, on their own, would have loved to keep defined areas under their ethnic control. There is no doubt that these relationships helped build social capital in the community over the medium and long runs, which ultimately led to the formation of community-based USWM initiatives. However, many elements strengthen individual or groups ties within the communities.

Drawing on her study of community-based waste management initiatives by non-governmental organizations in Bangalore, India and in Faisalabad, Pakistan Beall (1997) concluded that Bangalore community-based waste initiatives were built on horizontal networks and religious non-governmental organization. She concluded that such initiatives, informal waste businesses, were linked to Catholic women's organizations and the neighbourhood associations that were able to rally around to bring people together to organize community-based waste management projects. In the case of Faisalabad, Beall (1997) observes that communications between the state officials and non-governmental organizations on the issue of urban services could be characterized in terms of vertical networks than the horizontal networks in Bangalore, India. However, as stated earlier, many factors or elements strengthen individual or groups ties within neighbourhoods and communities.

Bhuiyan (2004) worked on "the benefits of social capital in urban waste management in Bangladesh" and the results show that social networks were important elements in building social capital which in turn played crucial roles in the organization of community-based solid waste management in some of the communities studied. He also concluded that networks were developed along regional, local and patrilineal identities. Initially, these social networks were created to cater to various social needs that later became the building blocks of community-based solid waste management projects.

One of the problems with vertical networks is that participants do not trust each other no matter how close and how significant to its participants, vertical networks "cannot sustain social trust and cooperation" (Beall, 1997, p. 959). It was in fact the type of relationships that existed between Ayeye and to a lesser extent Bodija community where residents served as a "vote bank" for

politicians at the corridors of power –each group operating from different levels of the social strata. Power relations were very important for the success of solid waste management in Faisalabad; there were equal power relations, and so positive results were accomplished in relation to improved local waste management projects. In spite of the fact that it was vertical association rather than horizontal networks between community leaders and politicians that led to the success of waste collection services in Pakistan, it is important to emphasize that both cannot work in isolation because they can reinforce and complement each other in order to get things done.

As Heap (1997, pp.330-331) points out, kinship and ethnicity played an important role in the choice of location for the new migrants to Ibadan in the colonization era. He went further to assert that,

> the arrival of these non-Yoruba elements, without traditional ties, created problems regarding rights to land and housing for the natives of Ibadan. A policy of segregation based on ethnic and racial considerations delimited the areas occupied by the indigenous Ibadan from those for non-indigenous people. North of Ekotedo and east of the racecourse … the Hausas were assigned the outer suburb of Sabo, mirroring the strangers' quarters of Southerners in northern cities of Nigeria, while the Nupe were settled north of Ekotedo around the western side of Mokola Hill.

The organization of important ceremonial or religious events and related social activities in the communities helped to foster social solidarity and strengthen social relations among residents. Field observations and survey results confirmed that such social events increased the opportunities of face-to-face interactions between residents regularly. For example, at the time of the field study for this research, four wedding ceremonies were witnessed in the studied area; one in Bodija, one in Ayeye, one in Sasa and another in Foko. Three naming ceremonies were also witnessed in two of the study locations, one in Alesinloye and the other two in NTC Road. It was observed that Neighbours usually contribute their resources towards wedding ceremonies in their communities. As one of the interviewees told the author, "not only do we help to arrange the wedding parties, we also donate gifts to the brides and bridegrooms as a sign of our goodwill toward them. Also the women in the communities equally take part in helping the bride's mothers with food preparation for the weddings" (Interviewee #12). Such interactions did not only help decrease transaction costs but also enhanced social relations among the residents, making collective activities possible over time. In fact, social networks construction in Bodija, Ayeye, and Alesinloye communities materialized mainly based on one's 'group' and ethnic identity. Inter-group interaction emerged out of the subordination of inactivity in social relations and the broadening of the horizon of their social networks. Such pattern

of social interaction enhances the quality of social relationships that contribute to create social capital and therefore promote the growth and establishment of urban solid waste management projects.

Frequent communications and sharing of ideas and information among the residents of Bodija, Ayeye, and Alesinloye enabled then to address their common problems. Frequent social interactions also helped refine their social relations as well as strengthen the social fabric of friendship and kinship. To this end, social networks created social capital and sustained the spirit of doing public goods. In this manner, the residents formed different associations such as women's markets associations, community wives' associations, daughters' associations, Esusu groups (rotating credit associations – most trader associations operate such programs), and Area Development Associations to look after the affairs of their communities. These social relations were particularly helpful in the areas of water provision, sanitation and waste management initiatives at the community level. Referring to similar conditions elsewhere, Ogbuozobe (2000) points out that community association exists in almost all communities especially in the Southern States of Nigeria. These associations were usually based on common residence or contiguous neighbourhoods, kinship lineages and have been active in the country's urban and rural areas since time immemorial. It includes traditional and kinship institutions, community associations, women groups, and religious organizations.

Survey results from the study locations show that in order for residents to broaden their horizon and power base as well as push the limits of their networks, residents have to be able to interact with different groups across different sectors within and outside their communities. The data gathered through fieldwork demonstrates that Inter-group interactions helped to diminish the risk of generating conflict among contesting ethnic groups who would have been fighting for the scanty resources and power in their own enclave or domain. In some of the study locations like Bodija, Ayeye, and Alesinloye communities, the social relationships among the members of each group were refined and reformed through mutual communications and paying attention to overcome their collective problems of survival. Such dynamics within relationships empowered the groups to succeed in resolving their collective or individual problems by utilizing their own social network capacity. This is a confirmation of what already exists in the literature that social networks contribute

to local capacity building, which in turn, plays important functions in promoting local community initiatives (Hays & Kogl, 2007).

Survey results also demonstrate that through collective efforts in Bodija and Ayeye communities, residents were able to approach the state government for funding to start community-based USWM initiatives. Essentially, through their collective actions, they were able to influence the municipal governments in their respective jurisdictions to donate the needed pieces of land for the establishment of community-based composting plants in their communities. These actions were examples of transforming community capacity into concrete collective initiatives. Many scholars have come to recognize the significance of social networks in community environmental management because of the social capital they contributed, resulting in direct community actions (Daniere et al., 2002; 2005; Pargal et al., 1999).

In addition to the foregoing, the information provided in chapter 7 demonstrates that community-based urban solid waste management initiatives did not materialize in four research locations, namely: Agbowo, Sasa, NTC Road, and Foko communities. Some extraneous factors were responsible for their failure to initiate and organize community-based USWM projects in their localities; among them are: lack of effective leaderships, failure to integrate and build trust among the residents, the difficulty of breaking the barriers of ethnicity and ethnocentrism, the lack of coordination among leading residents, and the absence of face-to-face interactions among community members. These elements, together, created impediments to the creation of social networks, which in turn impeded the creation of an appropriate amount of social capital. As a consequence, any collective activity to spur the establishment of community-based projects like USWM in the latter communities did not materialize.

To conclude, the function of social network is one of the supportive elements in social capital production that in a way propelled the growth of community-based urban solid waste management initiatives in some of the study locations. Wherever there were no such social networks, there were no community-based USWM initiatives either as demonstrated in chapter 7.

8.5 Civic Engagement and the Growth of Community-Based USWM Initiatives

Citizenship in a local community is often noticeable, primarily from a citizen's active involvement in public matters (Putnam, 1993). According to Michael Walzer and Putnam (1993, p. 87), "interest in public issues and devotion to public course are key signs of civic virtue." One can argue that the quest for the public good at the expense of individual and private ends is the center meaning of civic asset. The survey results suggest that citizenship participation in civic engagement may differ from community to community as evidence in some of the study locations in Ibadan. It may be easier to participate in a more open and democratic society than in an authoritarian or chaotic society with terrific records of suppression and repression of its citizens. Therefore, to talk about civic engagement as Putnam emphasized, care must be taken not to over generalize civic participation in community activities because participation in civic engagement is context specific. It is not surprising when Beall (2001, p. 1018) comments that any work, "of urban associational life and engagement needs to be contextualized." Furthermore, organizations have to be understood in relation to structural problems, and the general social relations at hand, such as the prevalence of problems of divergence in Santiago, race and ethnicity in South Africa cities, the caste systems in Indian cities and the functions of the kings and traditional rulers in Ghanaian towns and cities (Beall, 2001).

The concept of social capital has gained wide acceptability as a productive theoretical perspective for understanding and predicting the norms and social relations lodged in the social structure of societies or communities. However, as hitherto illustrated, civic engagement is seen in the context of the characteristics of Nigeria society. Bearing this theoretical background in mind, the fieldwork explored the local factors responsible for the social construction of civic engagement that propelled the establishment of community-based USWM initiatives. The survey data gathered through fieldwork shows that several factors were responsible for the establishment of civic engagement; these include membership in organizations, participation in social gathering events, participation in civic actions and political events.

The fieldwork reports discussed in chapter 7 revealed that the residents in all communities investigated for this research often met with each other on numerous social and religious events such as naming ceremonies, birthday parties, and wedding parties. According to a respondent in Sasa community, when a propertied resident in this community has something to commemorate, all

members of the Landlord Association would wear the same attire for the occasion. In addition, members would present gifts to the celebrant (such occasion may be funeral, naming ceremony, birthday party, and wedding) as well as donate money to help defray the expenses. Apart from attending social and religious events, it is also evident from the field data that other factors contribute to the establishment of civic engagement in the studied communities. The majority of the respondents related that they readily participate in volunteer works in their community's activities like neighbourhood security watch and other development initiatives as they arise. It was also evident that in all the three communities participation in community-based waste management initiatives in Ibadan have a higher number of volunteer participants in public works than those communities where there were no community-based waste management initiatives. It shows further that communities such as Ayeye and Bodija have higher levels of social capital in comparison to other communities.

It was evident from the field data that numerous voluntary associations have traditionally had a profound impact upon individual and collective action in both rural and urban places in Nigeria. The current interest in those associations is part of a broader search to identify institutions, which would be in better position to link the state and society together to make the state more responsive to the needs of its citizens and therefore foster its legitimacy (Barkan & McNulty, 1991; Omobowale and Olutayo, 2009). Importantly, voluntary associations have begun to attract significant attention in recent time but they vary in functions in terms of what they can offer and memberships depend upon specific contexts. Traditionally, the tendency to form associations has a longstanding history among the Yoruba. To a large degree, it derives from the organization of the people into compounds. These associations were formed for the purpose of promoting and protecting common interests in the area of politics, economics, religion, and community development. However, one common outcome of this tradition of association is that wherever there is an appreciable community of Yoruba, they usually establish an association. This was evident in the data collected in all the studied communities in Ibadan.

Notably, local associations often exist in many, if not all communities or neighbourhoods in western Nigeria. Some of these associations have functioned for more than five decades starting in the colonial epoch and continuing through the vicissitude of five civilian administration and seven military governments (Barkan & McNulty, 1991). The most successful of these organizations have

provided a wide array of basic urban services to residents of their local neighbourhoods. This associational life is evident in all communities studied for this research. Survey results revealed that the majority of respondents belonged to more than one association in their communities as table 22 shows. Some of these associations include social and religious groups, and professional and neighbourhood associations, to name but a few.

Evidently, civic engagement is a useful instrument in mobilizing individuals with a view to organizing them for collective initiatives. It generates social capital, which can materialize into the establishment of a sustainable community-based solid waste management project. This appeared to be the case in almost all of the studied areas. Referring to a similar situation, Bhuiyan, 2004, p. 174) concluded that "despite several weaknesses …civic engagement appears [to be a valuable instrument in organizing] joint action for the creation of social capital, which propelled the formation of and sustained the operation of community-managed solid waste management initiatives in his study locations."

Surprisingly, however, some of the communities studied did not have community-based solid waste management projects. This leaves one to wonder why the force of civic engagement did not succeed in promoting enough social capital for the establishment of such organizations in Agbowo, Sasa, NTC Road, and Foko communities. From the survey results detailed in chapter 7, one can glean an answer to this; civic engagement as an essential element of social capital does have some weaknesses. In the aforementioned communities, civic engagement did not create opportunities for face-to-face interactions and clearly did not make the building of trustworthy relationships feasible in the latter communities. It is arguable, anyhow, that the failure of civic engagement in the latter stead is attributable to a host of other factors quite unrelated to itself. In those communities where it did not attain its desired ends, there were other factors militating against the accumulation of social capital as noted during the course of the study. There were no coordinated efforts on the part of both the residents and their appointed leaders; they had serious financial constraints as well as difficulties bringing the people together for a common course of action.

8.6 Norms of Reciprocity

Most scholars regard norms of reciprocity and trust as related components of social capital. However, reciprocity is a norm that requires a return in kind of a good or service provided for others. Thus, the levels of trust and reciprocity are signs of the confidence with which people feel free to invest in social relations and institutions (Granville & Bienenstock, 2009). The idea behind the notion of norms of reciprocity is that members of a community will give to others in the hope that they will receive something in return from the community (Hutchinson, 2004). The result in table 29 demonstrates the presence of norms of reciprocity among community residents in Ayeye, Alesinloye, and Bodija. These three communities are currently participating in community-based urban solid waste management initiatives. Moreover, the residents are more inclined to render altruistic services to their sick neighbours especially in an emergency; a test of their social trust. Likewise, the result also demonstrates the presence of norms of reciprocity among the residents of Foko, NTC Road, Sasa, and Agbowo communities, but they are not currently participating in community-based urban solid waste management in their communities. Residents in these communities are empathetic enough to help take their sick neighbours to the doctor's office or hospital. As the survey results demonstrate, whether a community is participating in urban solid waste management or not, one homogeneous feature of the residents of the communities studied for this research is a willingness to assist their neighbours in time of needs.

Although, empirical evidence in the literature demonstrates that norms of reciprocity are an essential component of social capital that help in the formation of community-based USWM initiatives. However, it is problematic in this study to claim that norms of reciprocity was responsible for the establishment of community-based urban solid waste management initiatives in Ayeye, Alesinloye, and Bodija communities. This feature of social capital, norms of reciprocity, was also evident in those communities without community-based urban solid waste management initiatives. This result is a departure from the finding by Ha et al (2004; 2006) studies of the contribution of social capital to household welfare in a paper-recycling craft village in Vietnam and relative shadow prices of social capital for household-level paper recycling units in Vietnam. Their results demonstrate that among the four dimensions of social capital measured, the strongest contributors were trust and norms of reciprocity. Likewise, the survey results for this research did not support the findings in Dhaka, Bangladesh in which Pargal et al (1999) studied the role of social capital in solid

waste management. Their results show that among the different components they used as a measure of social capital, norms of reciprocity was clearly one of the most vital element contributing to the formation of solid waste management projects in the neighbourhoods they investigated. In fact, they concluded that reciprocity among neighbours was far more essential in cooperating for solid waste management than other elements of social capital. Furthermore, their results show that norms of reciprocity as element of social capital have important effect on the likelihood that a community will organize for waste collection and disposal.

It is safe to infer that norms of reciprocity could add to the development of long-term obligations between residents of neighbourhoods, but may not necessary translate into the establishment of solid waste management initiative as observed in Agbowo, Foko, Sasa, and NTC communities in Ibadan. These four communities failed to established community-based urban solid waste management initiatives in spite of their willingness to provide selfless assistance to their sick neighbours when there is opportunity to do so anytime.

8.6.1 Social Integration and Linkage as a Source of Social Capital

Social integration is the extent to which community members help each other with services, resources and prospects for individual and collective community development. For example, if a community has a slim or narrow social integration, low levels of trust among its members may engender obstacle in collective action for environmental stewardship. On the contrary, too much social integration may lead to over protection of the members of the community such as the case of Sasa and Agbowo Landlord Associations in which memberships were restricted to property owners.

Linkage is the capacity of local people to exercise freedom and recognize, use and broaden their networks beyond their immediate community enclosure. Linkage to other communities and associations become important in those instances where problems of collective action result from lack of economic or political power. Evidence from the literature shows that a community without linkage will depend solely on its internal resources to the extent that community members may be unaware of how outside organization can help in their quest for development. Direct field observations and survey results from the seven communities demonstrate the existence of dense social networks of active local associations. Although it is true that some of the communities studied have high levels of

social capital, nevertheless, some of them lacked bridging and linking types of social capital that would connect them to the outside world.

Bonding social capital indicates ties between close relatives, neighbours, and friends. In contrast, bridging social capital seeks to make connections with individuals of different social, economic, political status, and cultural background. On the other hand, linking social capital makes ties with those who have financial and political influence in society, non-governmental organizations, and international institutions. Communities like Bodija, Ayeye and Alesinloye have successfully employed bonding social capital to ally with individuals in government, non-governmental organizations outside their vicinities and other networks for additional resources for the establishment of community-based urban solid waste management initiatives in their communities. Although some of the communities studies, namely Agbowo, Foko, NTC Road, and Sasa have significantly high levels of bonding social capital, but this type of social capital could not actually translate to collective action, as they were unable to link with other communities outside their geographic or social environment.

8.6.2 The Challenge of Measurement: Theoretical and Methodological Approaches

Evidence from the literature and the research findings show that within this theoretical framework, social capital is very difficult to measure, resulting from multiplicity definitions of what constitutes social capital, and partly because it involves intangibles that can only be measures via proxies. Although, social capital has been conceptualized at the local, regional, and national levels; however, instruments needed to measure it at the level of households, individuals, and community are very different from those needed to do so at national level. In order to resolve the problems associated with measurement at the community levels, some scholars have proposed different measurement instruments such as the "Social Capital Assessment Tool" (SCAT), the "Global Social Capital Survey," (GSCS) the "Integrated Questionnaire for the Measuring of Social Capital" (SC-IQ), and the "Living Standards Measurement Surveys" (LSMS).

For operational purposes, the research utilizes four proxies of social capital such as social trust, social networks, civic engagement, and norms of reciprocity. In order to avoid inconsistency in the measurement of these critical components of social capital at the community level, the author

adopted the Integrated Questionnaire for the Measuring of Social Capital (SC-IQ), and the Social Capital Assessment Tool (SCAT) as suggested by Grootaert et al., (2004) for this research.

In the design of the survey questions, this research draws heavily on pre-existing measure instrument developed by the World Bank such as the Social Capital Assessment Tool" (SCAT), the "Global Social Capital Survey," (GSCS) the "Integrated Questionnaire for the Measuring of Social Capital" (SC-IQ), and the "Living Standards Measurement Surveys" (LSMS). As the existing literature suggests, social capital is a complex concept, therefore its investigation requires developing a reliable index, incorporating association membership and associational activism measures, social trust, as well as determinants and outcome measures. In spite of these problems, today some excellent researchers have set out useful indicators for measuring social capital (Woolcock & Narayan, 2000). Once a researcher has settled on a conceptual definition of social capital, the problem of measuring its critical components at the community level can be approached (Rohe, 2004). As the literature suggested, any measure of social capital at the community level needs to include assessment of four critical elements such as social trust, norms of reciprocity, civic engagement, and social networks depending on what the researcher wants to achieve in his study of the community. First and foremost, the study must measure the level of community participation. Second, it must measure the features of local social networks. Third, it must measure the level of trust, and finally, it must measure the level of norms of reciprocity among community members.

8.6.3 Gender Dimension in USWM in Ibadan

Survey results and field observations have indicated that there is a gender dimension in urban solid waste management in some of the study locations in Ibadan. Although there is a preponderance of female positions in the staff of Oyo State Solid Waste Management Authority, but their duties are in the area of street sweeping and the collection of waste from the market places. They can also be seen in public parks and in the property of Oyo State Solid Waste Management Authority doing janitorial jobs, easily identified in their yellow uniforms. In Ayeye organic fertilizer plant, women are responsible for the collection of wastes from house-to-house and from the local market to the plant. Women are also responsible for the sorting, treatment, and processing of wastes while the men are mostly doing administrative work and the operation of machines that process waste materials into organic fertilizer. Here, women are responsible for 'the all too important' janitorial duties -washing of the washrooms and the cleaning of the offices in the plant.

At the Alesinloye integrated waste management composting plant, there is a clear distinction of division of labour between men and women. There are 22 members of staff working in this facility and there is perfect proportionality, eleven (11) women and eleven (11) men. The men are responsible for the collection and transportation of wastes from the community to the plant while the women are responsible for the sorting of wastes brought to the plant for recycling and composting. Women are also responsible for the sorting of organic and non-organic materials into different components and the transfer of sorted materials to different locations within the facility. The incoming plastic bags are sorted and transferred into the washing bay for manual cleaning by the women. After washing, the plastic bags are transferred into another wash and tear machine for rinsing before they are transferred into a dryer and extrusion machine. Finally the wash and tear plastic bags are poured into a dry grinder for the final processing and packaging which are done by the men.

As one official in Alesinloye integrated waste management composting plants revealed forthrightly in an interview that the task of waste sorting, treatment and processing were allocated to women because they are considered more careful than men when handling waste materials. While this may be the case at this plant, the conditions under which the women carried out their assigned duties did not reflect their usefulness. In a quick tour of facility under the supervision of the manager of the facility, it was easy to see women sorting waste into different categories without wearing protective wares such as safety shoes, safety glasses or hand gloves. It was a denigrating sight to say the least.

A visit to four of the government controlled legal open dumpsites shows that in Ajakanga open dumpsite out of the 40 scavengers on the site, 25 were female engaged in the sorting of wastes materials. At the Aba-Eku dumpsite located along Olunloyo road, out of the 70 scavengers working on the site, 40 were women. In addition, at the Awotan dumpsite out of the 80 scavengers working on the site, 50 were women. The information provided thus far reveal that there is gender dimension/issues in urban solid waste management in Ibadan city; this is a confirmation of what is replete in the literature with regard to the role of women in waste management at the community level. Field observations revealed that the majority of the waste pickers in any dump site in Ibadan are adult women and children. One of the processes at work is that of the ferocious circle of poverty in every poor households. It is a common knowledge and understanding that in Ibadan at least 30% of all the households are headed by women who are the bread winners of their families.

Direct field observation results show that there are gender-related rights in the recycling sector. Women tend not to be permitted access to higher-value materials like metals or paper, but focus their attention on plastics and the like. On the other hand, men tend to focus their attention on materials relating to vehicles, automobiles, motorcycles, bicycles, appear to be more likely to be appropriated by men at any given dumpsite in Ibadan.

Field observations and research results show that social networks are essential social tools in public and economic life, as well as in waste sector. This was evidence in all communities studies in Ibadan, these networks are controlled by men, it is difficult for women to obtain positions of influence and decision in any of the Community Development Associations in Ibadan and the operation of community-based urban solid waste management projects. However, women use their own social networks of family members and friends to try to influence practices and obtain access to resources like contracts and loans (this is often know as bonding social capital). One fact that stood out in this research is that both men and women waste workers and scavengers need more access to basic skills, training, and access to information on how to handle hazardous waste materials at the dumpsites and community-based waste management facilities.

8.6.4 The Role of Planning Theory in Community-Based USWM

The relevance of Planning theory in resolving urban environmental issues in both developed and developing countries is not new as the existing literature abounds with the application of various planning theories in solving various planning problems. A visit to Aba-Eku landfill site in Ibadan revealed that the sanitary landfill was designed by the World Bank in 1996 to help reduce waste problems in metropolitan Ibadan. However, the facility was never maintained by the state government and was later turned into an open dumpsite. The defunct sanitary landfill marked the first time in the history of Ibadan that foreign technical experts from the Word Bank were hired as consultants to lead the design of the sanitary landfill facility in the hope of tackling the waste problems in the city.

The approach encourages professional planners and administrations to search for quantitative explanations to problems and to rely on technical standards in resolving the issues. The Rational Comprehensive Planning Model influenced the design and siting of that facility. The model has been used by planners and engineers in waste management planning because it is the predominant model in

land use planning. The focus of Rational Comprehensive Planning Model in waste planning is to optimize facility siting and approaches to treatment.

However, planners from the department of urban and regional planning at the University of Ibadan and planners from the Oyo state regional planning office in Ibadan were drawn together to lead the planning process. These local planners and the academic staff from the University put together series of workshops, open house and seminars for the area residents to introduced them to the project. Citizens, residents and community leaders were encouraged to participate in those seminars workshops to discourse how the project might affect them. The new political leaders were eager to foster practical ways through which community leaders, residents and citizens could see that their voice had a real impact on what was happening in their community.

Throughout the span of this research, three important planning theories pertinent to waste management at the community level, came to the fore. The first of such theory is incremental planning model. This model is characterized political maneuvers and dwells on crisis management and responses to fragmented environmental regulations. The essential elements of the incremental planning theory are decentralized negotiation process for policy decision, an ongoing sequence of incremental decisions or incremental and marginal changes in policy. For more than three decades, the city of Ibadan had been struggling with how to resolve the issue of solid waste management throughout the metropolis without success. In recent time, some community-based organizations have taken it upon themselves to organize community-based solid waste management initiatives in their areas of influence; since the Oyo State Solid Waste Management Authority, the agency officially responsible for the management of solid waste in the city of Ibadan, beset by seemingly insurmountable obstacles, was not forthcoming with solutions.

In Ayeye, Bodija and Alesinloye communities a new strategy for waste management at the community level was observed. At the very beginning, planners from the department of urban and regional planning at the University of Ibadan and Oyo state regional planning office in Ibadan decided that community-based urban solid waste management initiatives at the community level be started in a small scale that would be manageable. The planners decided that a new approach should be taken in community-based urban solid waste management in Ibadan through trial and error. The strategic approach, a non-conventional technique, is done in sequence and in the form of incremental

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planning processes: elaboration, trial, evaluation and extension to other neighbourhoods or communities. The underlying principle behind the incremental planning model in waste management is the notion of decentralization of waste management into a smaller units such as community or neighbourhood unit for effective and efficient delivery of services. It is a departure from the government centralized top-down approach to waste management. The approach could be likened to a trial and error approach to waste management. In this approach community residents often begin their projects on very small-scales, then extend the initiatives to other areas or neighbourhoods.

The initial success story of Bodija organic fertilizer plant prompted the Oyo state government to assist the Ayeye community in the establishment of the organic fertilizer plant. In turn, Alesinloye community with the help of two local non-governmental organizations was able to established similar plants in their respective communities. It is important to note that planning theory offers a means by which the combination of new ideas can be understood in practice. As one can see, theory can prepare planners for new power or influences that could help them to consider how these new influences can be immersed into current practice. Through practice, knowledge gained by planners in Bodija community-based-based urban solid waste management project was exported to Ayeye and Alesinloye compost plants.

Usually, the planning processes and practice like the above mentioned can only be achieved at the community or neighbourhood levels, less likely on a broader scale or regional level through planning practice. This was made possible with the help of planners from the University of Ibadan and Oyo state regional planning office. This is where community participation proves to be very important in the management of urban solid waste in a city struggling to extend services to cover the entire cityscape. Since communities or neighbourhoods are geographically defined areas within urban centres, are viable, recognizable units of identity and action. They are therefore the appropriate center for planning and delivery of community-based urban solid waste management projects.

Another planning theory that was noticeable during the course of this research is collaborative planning process; it was evident in Bodija, Ayeye, and Alesinloye communities. In a recent development, the city of Ibadan, the state government, in collaboration with the Bodija Market Traders Association, Sustainable Ibadan Project and the Bodija Area Development Association, Ayeye Area Development Association and technocrats drawn from the University of Ibadan were

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able to set up a Pace Setter Organic Fertilizer Plants in Bodija and Ayeye communities. The projects grew out of the necessity to get rid of the enormous organic waste produced in the densely populated Bodija and Ayeye markets in the core city of Ibadan.

The initial funds for Bodija and Ayeye recycling plants came from various sources including, the World Bank via the State Project Coordinator and Ibadan Solid Waste Management Authority. While the local governments (Ibadan North and North West Local Government Councils) in charge of the areas donated land, Professors from the University of Ibadan provided technical and training services for the local communities that were involved in the projects. The university officials also helped in the fabrication of all the conversion plant equipment for the projects. In addition, the United Nations International Children's Educational Funds (UNICEF) contributed materials and infrastructure (i.e. boreholes, spades, shovels, wheelbarrows, forks and others) for the maintenance of high standards of sanitation. However, the funding for the execution of the Alesinloye Recycling Plant came from two local non-governmental organizations in the city while the local government (Oluyole Local Government Council) donated land for the project.

Planners from the department of urban and regional planning at the university Ibadan and those from the Oyo state urban and regional planning office in Ibadan played important role in the planning phase and implementation of the projects in Bodija, Ayeye, and Alesinloye communities. The planners quickly set up a working group committee made of different stakeholders drawn from private, public and the third sector(civic society) to discussed how the Bodija project can move forward. Thereafter, they form a special technical working group to mobilize community residents and resources for the project. The special technical working group was also mandated to come up with a working framework for the project and how to engage the trader's associations and residents to participate in the project. The special technical working group includes professors from the University of Ibadan, lecturers from Ibadan Polytechnic and the heads of porters (alabaru) coordinated by the chairman of the trader's association.

One of the major problems that confronted the planners was how to convince the various Market Associations and other interest groups on the need to get involved in the planning process. The market traders were unwilling and hesitant in attending meetings of the stakeholders from the very beginning and as such, attendance was not encouraging. Consequently, it was quickly dominated

by the bureaucrats from various government departments. In order to resolve the problem of poor attendance by the Market Associations and other interest groups, planners advised the state government that the venue of meetings needs to be relocated from the government secretariat to the market place. The propinquity of the meeting venue became the determinant factor for the Market Associations and other stakeholders to attend meetings thereby their attendance was improved. In practice, the planners have interaction or communications with government officials, Market Associations, stakeholders of communities as knowledge mediator, brokers, counselors, consensus builders or friends facilitating dialogical process.

From theory to practice, the planners organized numerous workshops, open house and seminars in order to educate the market traders and other interest groups. These stakeholders were trained in basic waste sorting techniques and how to handle hazardous waste for prepare disposal. Because of the training given to the stakeholders, market traders were able to address the problem by sorting waste at the source before taking then to the compost plants. The planners also educated the market traders on the need to sort non-biodegradable and biodegradable materials at the source (market) before taking them to the compost plants for further processing and treatment. This practice helps reduce the amount of unwanted wastes that go to the compost plants.

In practice, the planners introduced the bottom-up approach to the state government and this was permitted to flourish as demonstrated with the participation of the Market Traders' Associations and other interest groups on the projects. Thereafter all government financed projects that were meant for development initiatives benefited from the bottom-up approach of policy and decision making process in order to make sure the success of the project.

Another planning theory that was noticeable during the course of this research is advocacy planning theory, it was evident in Bodija community. Advocacy planning in practice provides opportunities for residents, citizen groups and organizations to have meaningful input into decision made about their communities during the planning process. The main intent of advocacy planning theory is to defend the interest of the poor in society or community and for planners to act and represent organizations whose interests are threatened. In one of the researcher's direct field observations at the Bodija market and his interactions with some of the leaders of "Bodija Area Development Association" an understanding of the current state of affairs regarding waste

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management in the market was gained. The letter to the leader of the association presented to the researcher a recent letter and a picture depicting heaps of waste in the market. The association had written a letter to the State governor requesting the governor to take action to evacuate illegal dumping and waste burning around abattoir section of the market. The Planners from the University of Ibadan and the Oyo state urban and regional planning office drafted the letter. The planners have to act as campaigner for the weakest and poorest, in order to ensure that their concerns and values are heard by decision-makers.

In Bodija community, USWM initiative became a reality because of the willingness and commitment of individuals in the community who made personal sacrifices to promoting the idea and sell it to the government. In an interview with one of the members of the working group committee in Bodija community-based USWM, praise was lavished on Alhaji Tajudeen Hammed for his dedication to Bodija project. "Alhaji Tajudeen Hammed is the secretary of Bodija Area Development Association, he was instrumental in promoting the organization's broad interests in the provision of environmental services in the community.

Throughout the span of this research, evidence from direct field observations and research findings show that local planners Oyo state urban and regional planning office and interest groups have been working very hard in advocating on behave of communities in Ibadan for the quality of urban environment particularly in the area of urban solid waste management. Some of these advocates include the Project Manager for Sustainable Ibadan Project, some Professors and Senior lecturers from the department of urban and regional planning at the University of Ibadan with decades of experiences working with communities across Ibadan. Over the years, these individuals have been calling on the state government, non-government organizations, and the private sector to assist in the funding of community-based urban solid waste management projects in Ibadan. These individuals were instrumental in setting up the Bodija and Ayeye community-Based urban solid waste management in these two communities by donating their times and efforts working with Bodija and Ayeye communities in providing them with their expertise.

In considering planning theory pertinent to the use of social capital and community-based urban solid waste management and interventions as found in Ayeye, Bodija, and Alesinloye communities, collaborative and incremental planning are probably the most apparent. This is in part

due to their economic, political, social, cultural, and, ethnic dimensions and their relation to community development. In spite of the heavy criticisms levied against collaborative and incremental planning theory and practice, variations of collaborative and incremental planning have generated consensus among diverse players and interest groups at the community level in Ibadan. These processes often involve a group of decision-makers with the assets and power to execute the policies. The implication is that other stakeholders leave the planning and the setting with this nuclei group and the mandate and confidence to carry their common plan or goals forward.

One of the most important aspects of collaborative planning theory that relates to social capital is that it may actually create social capital and social networks as a result of a collective activity. Collaborative planning may bind new groups of players in networks, create trust, understanding, and a shared sense of purpose. Consequently, collaborative planning may thus engender a collective activity that creates social capital within the resulting relational networks. The building of relational networks may equally enhance the creation of social capital at a community level, specifically if collaborative planning creates a shared sense of place.

The benefit of social capital is accessibility to other players and information. A small local government actors participating in a collaborative planning process with many small neighbouring local governments may create social capital that can give it access to strategic information or decrease the risks of opportunistic behaviour in any future collective decisions. Essentially, collaborative planning provides the potential of social capital that may not possibly result from alternative medium like strategic negotiation.

Apart from building social capital, collaborative planning creates networks among various organizations in Bodija, Ayeye, and Alesinloye communities working on community-based urban solid waste management initiatives. Because networks are patterns of social relations among interdependent players that coordinate policy decisions, and which represent shared problem conceptualizations. If networks are described as representing shared problem definition, then it would be affair to say that collaborative planning seeks to produce networks. In fact, all planning institutions build institutional setting for organizing networks. However, collaborative planning may actually create new networks, since its main objective is to achieve a shared problem resolution or goal

actualization. This is not to argue that other types of planning theories cannot create networks, but to highlight the fact that collaborative planning, by its nature or character seeks to create networks.

8.6.5 The New Paradigm in Urban Solid Waste Management

Evidence abounds in the literature that urban solid waste management in developing countries presents a growing urban, environmental and social concern. The research findings result show that in spite of numerous efforts at providing solutions in recent years, there are only a few communities in Ibadan, which have been able to a certain extent adequately and efficiently manage the escalating generation of municipal solid waste in their jurisdictions. Evidence also shows that being frustrated by the inability of the municipal and state governments to provide waste collection and disposal services, Community-Based Associations and private sectors have taken on active roles in municipal solid waste management at the community level.

The author observed that in the city of Ibadan, there has always been a gap or time lag between the accumulation and collection of waste in the city. Nearly half of the accumulated waste per day remained uncollected on the streets of Ibadan, giving the city a filthy look. However, direct field observations and the research findings show that in the city of Ibadan, there are three Community-Based Associations that are operating community-Based urban solid waste management projects in Bodija, Ayeye and Alesinloye communities. It would be off beam to paint a rosy picture of importance of CBOs in the provision of urban solid waste services at the community-level without touching on some of their challenges. A common challenge in community-based waste management (CBWM) is the establishment of sustainable funding structures for its operation. Numerous studies have reported a wide range of financial constraints and successes in these kinds of projects after they have been executed.

A significant hurdle for many community-based waste management (CBWM) initiatives is the relative inability for cost recovery. This arises out of the relative incapacity of beneficiaries, serviced inhabitants, to pay up agreed upon fees as at when due. Therefore without sustainable funding, reliance on non-governmental organization for funding can actually perpetuate external dependency. Another drawback in CBWM is that the pay and status of workers participating in waste collection are often too low compared to other sectors. This brings about a situation of low turnover rate, since there is paucity of motivation either to work effectively or stay on over the long term. In

addition, difficulties in financing CBWM may actually impact the continuity of payments to community-based waste workers and ultimately derail the initiative all together.

One of the most important approaches to urban solid waste management that is less explored in the literature, which is gaining momentum in Latin American cities, is the small-micro enterprises. In cities across Latin America, Asia and Africa, small-micro enterprises have virtually taken over the provision of solid waste management services where the local governments have failed. At present there are no small-micro enterprises operating in the city of Ibadan or in any cities in Nigeria. They employ simple and small local equipment such as tricycle vans in their daily operations to provide house-to-house refuse collection for a small monthly fee charged to each household. Any valuable items are salvaged and sold to small or large recycling companies to maximize gain. The question one needs to ask at this point is whether the above experience can be replicated in the city of Ibadan or in other Nigerian cities where there is no such experience?

In the city of Ibadan, the history of private company participation in urban solid waste management dates back to 1980 when open competition approach to waste management was implemented for half a decade before it was replaced by the contracting out approach in 1985. Municipal authorities in Ibadan awarded franchises to some waste operators in 1985 to provide waste collection and disposal services in the high-income residential neighbourhoods in the city. By mid-1998 the city authorities had switched to the contracting out approach. Through this process, forty-nine companies were contracted to collect and dispose of waste in the city.

Presently there are about 115 Private Refuse Contractors operating in high and middle-income areas across the city collecting and transporting wastes to dump sites. Some Private Refuse Contractors also provide waste management services to their clients in special market areas while Oyo State Solid Waste Management Authority services the low-income areas. In an interview with the president of the Private Refuse Contractors in Ibadan, the researcher was told that some of the households they served pay as high as $9.51 in high income areas, $5.07 in middle-income areas and $1.27 in low-income areas. The private contractors use either open-top tippers covered with tarpaulins or skip-eaters loaned from OSSWMA. They use these vehicles to collect waste from house-to-house in planned and special areas of the city once or twice a month for a specified amount

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8.6.6 Public-Private-Partnerships

In the planning literature, the importance of public-private-partnerships in urban solid waste management in developing countries is well documented. Empirical results and field observations in this study demonstrate that Public-Private-Partnerships have existed in Ibadan historically. For example, the establishment of Bodija and Ayeye organic fertilizer plants and the Alesinloye integrated waste recycling plant were made possible through the joint efforts of Public-Private-Partnerships between different stakeholders (Ogu, 2000). Likewise, there are about 115 Private Refuse Contractors currently operating in high and middle-income areas across the city collecting and transporting wastes to dump sites. Some Private Refuse Contractors also provide waste management services to their clients in special market areas, while the Oyo State Solid Waste Management Authority provides such services in the low-income areas solely. The General Manager of the Oyo State Solid Waste Management Authority is responsible for the registration and licensing of the Private Refuse Contractors in the state. In the city of Ibadan, as observed in the study, partnerships can be especially beneficial when resources, both financial and human, are pooled together to provide increased access to funding opportunities. This is or can be especially helpful in a city that lacks the institutional capacity to deal with the problems of urban solid waste management.

Chapter 9

Implications and Conclusions

9.1 Introduction

For the purpose of this dissertation, social capital has been defined as the attributes of social organization, such as trust, cultural norms, social networks, and civic engagement by which such organizations facilitate action. In this study, four potential elements of social capital were chosen namely, civic engagement, social networks, social trust, and norms of reciprocity to work with. Towards this end, fieldwork information presented in chapters 7 and 8 attempts to ascertain whether social capital and community-based organizations are important in the overall functioning of urban solid waste management in the studied locations. The aim of this chapter therefore is to discuss the research results, policy and academic implications of the study.

The information presented in the aforementioned chapters and the accompanying discussion provides the understanding that civic engagement, social trust, norms of reciprocity, and social networks together with bonds of love, friendship, kinship, loyalty and solidarity are encompassed in the ingredients of social capital in Ibadan, which promotes collective actions or initiatives in Bodija, Ayeye and Alesinloye communities. The organization and growth of community-based solid waste management projects in these communities was catalyzed by the bulk of social capital that the residents of the respective communities had generated. The communities on their own were able to put them into use given the prevalence of suitable conditions and setting. On the other hand, the absence of community-based urban solid waste management initiatives in Agbowo, Sasa, Foko, And NTC Road communities was not necessarily because of the lack of social capital, but also due to other factors such as lack of cooperation among residents. Among them are the difficulty of bringing people together and the lack of effective or charismatic leadership aggravated by their inability to organize community-based USWM initiatives. It is important to emphasize here that the discussions of findings presented earlier highlight major discrepancies among some of the communities in relation to the factors responsible for the formation of community-based USWM initiatives in Ibadan. The potential strength of the theory of social capital may have obscured these discrepancies.

The theory of social capital nurtured and advanced in the west, now part of social discourse in Nigeria, has pointed out numerous elements that promote the accumulation of social capital. Apart from the norms of reciprocity, civic engagement, social trust, and social networks, other factors such

as power and authority relationship in the society, ethnicity, bonds of love, friendship, kinship and social class prevalent in Ibadan; contribute to the nurturing of social capital. Therefore, social capital can be regarded as a potent social resource that can be used to build and maintain sustainable community-based urban solid waste management and other related projects.

Access to social capital differs according to one's social location and is generally restricted by a number of factors. As has been alluded to, gender, geographical location, and social segregation restrict the structural accessibility of social capital. In addition, the lack of economic resources needed, for instance, to acquire technology such as power generator for the operation of community-based solid waste management projects like the composting plant in Ayeye community, can also be a hindrance. On the other hand, people with access to economic power are easily linked and connected to national social organizations because they have the capability to purchase the needed technology that would link them to the outside world as was the case in Ayeye, Alesinloye and Bodija communities. Be that as it may, it is important to stress that social capital is not created the same way in all societies. In some cases, the value of a particular type of social capital for coordinating some social action depends on the social economic position of the social capital itself within the community or neighbourhood. Some social capital is lodged within poorer areas of society that are flourishing and doing well; others are fixed to dilapidated neighbourhoods. Confiscating or destroying the social capital tied to dilapidated communities may prove to be of short-term advantages, but doing so on the long run may thwart the actor's hope of accessing other actors. This scenario was evident in Bodija community when the state government destroyed its social capital through unwarranted interference. The survey results and field observations suggest that when the state government took over the organic fertilizer plant from the local community-based organization, it effectively embarked on destroying the very social capital it had helped build and nurture to maturity.

The notion of social capital is often associated with motivation mechanisms or institutional arrangements to restrain individuals' motivation to free- ride regarding the provision of common goods. It is also acknowledged that the existence of networks among actors and the dense flow of information among them lower the transaction costs of building collective action. However, these arguments have also been criticized due to their incapacity to explain why social capital has inherent ability to restrain such perverse motivations (free ride) and lower transaction costs (Bowles & Gintis, 2002; Ishihara & Pascual, 2009; Ostrom, 1990a). Several scholars have argued that the institutional

perspective cannot clearly explain the reasons some communities succeed in organizing collective action while others fail to do so in spite of the existence of networks and dense flow of information; this forms the subject of discussion in the following section.

9.2 Results of the Study and Conclusion

The objective of the research was to explore the degree to which social capital and community-based organizations are important in the establishment and functioning of urban solid waste management initiatives at the community level in Ibadan, Nigeria. This research reveals that Putnam's generalization and conceptualization of social capital is not completely or equally applicable to different social and political environments. Therefore, it needs to be conceptualized to take into account the specific context or according to existing state of affairs in order to obtain the gain.

Field observations and survey results from all the seven communities studied for this research revealed that they all have high level of social capital, nevertheless, some of them lacked bridging and linking types of social capital that would connect them to the outside world. For example, Agbowo, Foko, NTC, and Sasa have significant high level of bonding social capital, but this type of social capital could not actually translate to collective action, as they were unable to link with other communities outside their geographic or social terrain. On the other hand, communities like Bodija, Ayeye and Alesinloye successfully employed bonding social capital to ally with individuals in government, non-government organizations outside their vicinities and other networks for additional resources. This was evidence in the establishment of community-based urban solid waste management projects in the three communities.

Field observations and survey results from Foko, Sasa, Agbowo, and NTC Road communities revealed, that residents did not organize community-based solid waste management initiatives to deal with the waste issues in their communities. Not because they did not have social capital but due to a host of other reasons among them are the lack of funding, the lack of support from the residents as they believe it is the responsibility of the government to take care of waste in their communities. Apart from the lack of cooperation among residents in these communities, cultural and nonchalant

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attitudes of the residents and their unwillingness to participate in USWM initiatives are some of the biggest obstacles in establishing community-based urban solid waste management projects, as revealed in an interview with a group of youth in Agbowo community.

This research results also affirm that the existence of local associations indicate the presence of social capital among local groups that enable them take collective actions or take part in civic engagements. In addition, the presence of dense networks of active associations indicates high levels of social capital as evidence in all the communities studies for this research. These local associations in each of the seven communities studies have varied community agenda how they can help their communities. For example, the Bodija and Ayeye Area Development Associations focused their efforts on the provision of water, sanitation, and the operation of community-based urban solid waste management projects. On the other hand, the Landlord Associations in Sasa and Agbowo focused on the protection of lives and properties in their communities.

The field observations and survey results demonstrated that in some communities the Landlord Associations have very little interest in addressing the problem of waste in their communities because their focus were in the area of security. Due to the security problem in Ibadan every community has to hire its private security company to provide protection for the community. The last thing in the minds of the residents is to establish a community-based solid waste management since they do not see the immediate benefit of such a project in the community. On the other hand, Foko and NTC Road communities Area Development Associations focused on micro-credit financing for their members while women associations in each of the seven communities are mainly concerned with the welfare of their members and not interested in establishing community-based urban solid waste management initiatives in their communities. In addition, the research results revealed that the inability or failure to organize a community-based urban solid waste management initiative in some of the communities studies is not whether these communities lack sufficient social capital; rather than the leaders of these communities were able to prioritized the needs of their communities and used their social capital to meet their immediate and pressing needs.

This research also reveals that Ibadan is a multi-ethnic city, with differing ethnic groups coming from other parts of Nigeria as discussed in chapter 7. For example, both symmetrical and

asymmetrical relationships were observed among the residents of Foko, NTC Road, Agbowo, and Sasa communities. Foremost, residents came from a number of different parts of the country, which blends the whole ascendancy of any particular settlement area. As a result, the divergent culture with their linguistic differences denied then the opportunities to maintain close contacts.

The results regarding heterogeneity and homogeneity are inconclusive. Out of the seven communities investigated for this study, four were predominately Yorubas. Of these four communities, only two were able to organize community-based urban solid waste initiatives. Therefore, homogeneity is neither a virtue nor is it a panacea for the successful organization of community-based solid waste management initiatives; rather, success hinges upon strong leadership in these communities. It is the author's observation that for a successful community-based solid waste management initiative to take root, an effective pre-existing community or group where a number of local active residents can come together and form such organizations in the face of a potential environmental threat is required. In that case, the community must be able to evoke a strong sense of place into a collective action, be able to form alliances with actors outside the community and influence the decision making process at higher levels.

There were three predominantly heterogeneous communities among the seven investigated in this study. These are Bodija, Agbowo, and Sasa communities. Out of these three, only the Bodija community stands out in terms of community engagement for the provision of public goods, in this case, urban solid waste management. Empirical evidence in the literature has shown that heterogeneity within groups, communities or neighbourhoods is a key factor in collective initiatives in the provision of public goods. As this research indicates, Bodija community is one of the multi-ethnic communities in Ibadan metropolis. In spite of its diversity, the community was able to come together for collective action and form community-based association. This is contrary to some suggestions in the literature that within the scope of community problem, heterogeneity can create conflicts of interests that reduce available gains from cooperation. However, what was observable in Bodija community is that heterogeneity may have created opportunities for gains from exchange across issue-areas for fostering the scope and potential for cooperative arrangement.

This research study reveal that sometimes, local communities in attempting to solve environmental problems can turn to the State for financial and human capital support that would

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enable them address such problems. This was exactly the case in Bodija and Ayeye communities; they turned to the State government for financial and technical supports in the establishment of their community-based solid waste management projects. While the state government was helpful in meeting their needs, it also proceeded to wrest both ownership and management of the project from Bodija community once it was successfully established. This unwarranted intervention brought in its wake immediate collapse of the project. This bizarre twist or reversal of fortunes was occasioned by the withdrawal of voluntary cooperation on the part of the community and its leaders as a protest against government intervention in their community-based waste management project. The organic fertilizer plant, which was the core of the project ceased to function once the participating associations, like the traders association, withdrew their cooperation because of that uncalled for intervention. It is therefore evident that the government, in what appeared to be a comic self-misdirection, destroyed valuable social capital, which both private and public sectors laboured to build.

Empirical evidence shows that trust in others is very different among people, across time, and across space. This was evidence in some of the communities studied for this research in the city of Ibadan, Nigeria. Nigeria is not a trusting society because of its ethnic diversity; people from different ethnic groups are often disinclined to work with each other. For example, the Hausa man/woman will not trust a Yoruba man/woman and will not likely work with him/her to effect any change. This is also true of an Ibo man/woman who will not trust an Edo man/woman.

9.3 Policy and Planning Implications

In Chapter seven, the first research question regarding the role of planning theory in social capital and urban solid waste management research was addressed. It was argued that in order to integrate planning theory into social capital research, it requires recognizing the role that community plays in helping to determine the qualities of social capital. It also requires an acknowledgement of the relevance of planning in creating "communities" for social relationship and enhancing positive social capital by structuring communities to facilitate the bridging of networks and enhancing access to social-economic opportunities. It was also argued that in considering field pertinence to the use of social capital and community-based urban solid waste management and interventions, planning discipline is probably the most applicable. Available literature indicates that there are two elements of social capital that are relevant to planning theory and practice globally, that is, social capital as an

individual good and as a collective good. For professional planners facing multiple planning problems, the concept of social capital is an indispensable tool. Fundamentally, it highlights the value of managing personal and professional networks that span the three sectors (public-private-third sectors), as well as the social border of many forms (gender, class, race/ethnicity). These types of networks can provide planning practitioners with important information, legitimacy, and access to funding, political influence, and other important assets for accomplishing the goals of planning.

The results obtained in this research have important policy and planning implications. First and foremost, the general recognition and understanding of social capital has clear implication for the state government and any municipal authority that wishes to make policies to strengthen urban solid waste management. At the municipal level, policies could be developed that encourage local residents to get together and establish social networks. The establishment of community voluntary organizations, mentoring, volunteering, and others will contribute directly to the creation of local social capital. On the other hand, state government institutions and schemes that foster a sense of community and help communicate shared values can be promoted. Strengthening community ownership of public resources such as (community halls, community centres, and recreational facilities) are all practical means of enhancing growth in local social capital.

From empirical data, the research results show that communities blessed with abundant social capital and effective social networks are able to organize community-based urban solid waste management initiatives that help improve the communities' environmental conditions. In Bodija, Ayeye, and Alesinloye, for example, a number of indicators of strong social interaction were found to be present in these communities. In addition, these communities reported success at gaining some help from the state government and non-governmental organizations in the areas of water, sanitation and waste management problems –that is an indication of vertical linkage of a community's social capital.

Importantly, policies and strategies designed to enhance or build social capital and create social networks need to be carefully set in motion with regard to the existing social relations. There are clearly enabling relationships that exist in even the least socially integrated neighbourhood that could be impacted by social planning projects. This is especially so in the case of communities with low income that is less likely to respond to incentives or instruments designed to support or build

social capital due to their marginality of existence or lack of basic needs. As found in the logic theory, increases in incomes are positively correlated with increases in community engagement. Neighbourhoods with little economic opportunities or assets may be poorly prepared to develop or manage social capital assets thus by simply designing supportive policies with increasing financial assets will do very little to enhance their conditions.

The study results suggest that local public educational or awareness campaign can be embarked upon to provide useful knowledge about local environmental effects of having a degraded community or the reverse. There needs to be an effective means of persuading residents to participate in community-based urban solid waste management initiatives. Likewise, attempts must be made to increase social or political awareness by promoting opportunities to meet and interact, thereby enhancing the desire of people to participate in community initiatives. These two objectives could be tackled forthwith if public workshops or public seminars within particular communities are sponsored with the intent to provide both social communication opportunities and pertinent knowledge. The last point to note is that, even neighbourhoods or communities where high levels of social capital and strong social networks are present, it may sometimes be difficult to measure and evaluate these along with the functions that social relations play in the establishment of community actions.

What are the implications of the research findings for understanding urban solid waste management and governance in the broadest terms? First, there is an ongoing debate in the literature by international donors and scholars about the relevance and potential contribution of community-based organization interventions in waste management at the community level. This research has divulged that there is a range and irregular terrain of social capital availability across communities. There is no doubt that social capital is available, at a significant level, to some of the studied communities, but there may be insufficient amount to constitute an effective tool for local mobilization as was the case in some communities. This important amount may be in the area of material assets availability to communities in the metropolis. In a poor neighbourhood or community, with a lack of access to essential amenities, unstable income earning potential, mobilization, social capital, and community action may be hard if not impossible. What is needed therefore is that government institutions, international and local non-governmental organizations should tackle the basic problems of poverty, and public sanitation, in addition to communal action, to deal with urban solid waste management problems throughout the metropolis and even beyond. Should the state

government, local and international donors fail to focus primarily on addressing the basic needs and problems, communities' ability to participate in USWM or urban environmental management would be unequal and in some cases lead to no action at all due to the inadequate resources at their disposal.

In terms of planning, the public sector may want to create local social capital with new techniques of community planning which brings various stakeholders together for collective action. For example, municipal governments are in good position to prohibit vehicle access to small neighbourhoods and by designing, if possible, 'cull-de sacs' in new subdivisions thereby persuading community residents and their children to interact more frequently on the streets with their neighbours. In addition, the creation of semi-public space if possible where community residents can meet and form relationships with other community residents is another way of creating social capital at the community level. At the national, regional or local levels support to non-governmental organizations and the fostering of public-private-partnership through coalition and forums or public dialogue would perhaps serve also to strengthen social capital.

There is no doubt that non-governmental organizations and private sector are unique entities, fragmented in most cases. What is needed therefore is public enlightenment (awareness) as to what constitutes non-governmental organizations and private sector and on how to amalgamate these three entities in development projects. In order for this to happen, there has to be clarification and consensus on the specifics attached to the sectors. These values can link and thus connect the least community-based micro waste enterprise to the broader umbrella organization that cuts across the community. Importantly, providing the needed support in terms of national, regional, local opportunities for dialogue and networking will eventually enhance social networking. It will as well help create trust among participating organizations, which at present stress their dissimilarities; they can begin to see the common ground on which they stand and begin to work together for the attainment of common or even different but related goals.

Incorporating the concept of social capital and its related components like social networks, civic engagement, social trust, and norms of reciprocity into an understanding of urban solid waste management and governance provides opportunities for communities in participatory decision-making process that affects their environments. The research results represent a first step in understanding the elements, dynamics and interplay of social capital and its creation and destruction

in Ibadan communities specifically in relation to urban solid waste management policy and change. However, the research does not portray social capital as a silver-bullet solution to communities' solid waste problems, but a framework for building shared solutions to collective problems that are vital and inherently social through conciliation.

9.4 Academic and Practical Implications

There are both practical and academic implications for this research. Although the social capital concept has received increasing importance among scholars and policy-makers, yet there are still broad debates about its definition, types, methodology, roles and significance. The incommensurability of social capital theory presents a challenge for those trying to make sense of the concept. In order to make meaningful sense of social capital theory as a whole, there are two options available to researchers. There is a need for celebrating the differences in perspectives as to what constitutes social capital in order to keep the debate completely open. In addition, there is a need for reconciling the differences in order to improve understanding among a multiplicity of disciplines seeking to appropriate the concept (e.g. political science, sociology, economics, anthropology, development studies). Importantly, the idea is to reconcile the differences in perspectives, with a view to appreciating as opposed to eradicating them. Similarly, to reconcile differences is not to search for one answer but to acknowledge the nature of such differences. Therefore, differences should not be a yardstick for dismissal; rather it is or can be a yardstick for discovering and confirming meaning.

One of the practical implications is that, in order to improve community-based urban solid waste management initiatives by means of social capital, the first main concern should be to focus on increasing the level of trust, norms and social networks. This research results indicate that social capital has positive effects on community-based urban solid waste management initiatives. Of utmost significance are the bridging social networks in social organizations, government and government agencies. Among the four components of social capital used in this research, the strongest effects on community-based USWM initiatives were found to come from social networks, social trust, and to a lesser degree reciprocity. For researchers interested in conducting social capital research in similar terrains, the caveat is that social capital is likely to differ from one community to another as the research results revealed. In addition, social capital alone is not enough to form community-based urban solid waste management projects without the combination of other elements such as public-

private partnerships, collaborative planning, (sometimes referred to as communicative planning), and incremental planning.

9.5 Future Research Direction

First, it is paramount to stress that the results reported here might be viewed as an attempt that shallowly digs the surface to unearth under what circumstances joint effort is promoted, specifically the establishment of community-based urban solid waste management projects in some communities in Ibadan, Nigeria through the eyes of social capital. Therefore, further studies are needed to delineate the relationship between social capital and the establishment of community-based urban solid waste management in Ibadan.

Second, one of the most important approaches to urban solid waste management gaining momentum in Latin American cities but is less explore in the literature, is the small-micro enterprises. At present, there are no small-micro enterprises operating in the city of Ibadan or in any cities in Nigeria. They employ simple and small local equipment such as tricycle vans in their daily operations to provide house-to-house refuse collection for a small monthly fee charged to each household. This needs to be further investigated in order to ascertain whether this experience can be replicated in the city of Ibadan or in other Nigerian cities where there is no such experience.

Third, the current study was conducted in seven communities embedded in six municipalities within the core areas of the city. Therefore further studies are needed that would encompasses the rest of the municipalities and Government Reservation Areas (GRAs) in the city.

Fourth, in spite of the compelling similarity, there has been little interest in gender within the social capital discourse, and a simultaneous unwillingness among those interested in gender and the politics to engage in social capital theory and the differences in women's and men's relationships to social capital which deserves further in-depth investigation.

Fifth, there is the need to further investigate the current policy of the Oyo state government on community-based urban solid waste management at the community level. It is not known whether such policy would encourage or discourage the participation of community residents in managing their waste at the community level.

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Finally, it is important to emphasize that this is a small study conducted within 7 communities embedded in six municipalities in Ibadan. The findings cannot therefore be generalized beyond this milieu, and more work is needed in other communities before a wider generalization can be made.

9.6 Final Conclusion

As stated before, the objective of the research was to explore the degree to which social capital and community-based organizations are important in the establishment and functioning of urban solid waste management initiatives at the community level in Ibadan, Nigeria. The second question addressed in this research is the level of social capital among individuals involved in urban solid waste management initiatives in the city of Ibadan. Among the communities studied for the research as presented in chapter 7, social capital both in its types and effects vary from one community to another. The field evidence indicates that the components of social capital such as social trust, norms of reciprocity, social networks, and civic engagement varied among the studied communities. For example, those communities engaged in urban solid waste management such as Bodija, Ayeye, and Alesinloye have very strong social networks compared to Sasa, Agbowo, NTC Road, and Foko communities. For any social capital researcher interested in conducting research at the community level in Ibadan, it is necessary to be aware that social network is one of the driving forces underlying the establishment of community-based USWM initiatives.

The third question addressed in this research relates to the extent to which social capital does or does not condition the success of community-based SWM initiatives. The analysis of the data collected in this research shows that social capital has strong positive impact on the success of community-based USWM in some of the communities studied, specifically Bodija, Alesinloye, and Ayeye. The results also show that among the elements of social capital investigated, vertical social networks were found to exert greater influence on the production efficiency of organic fertilizer plants than horizontal social networks. The fourth questions addressed the issues of heterogeneity and homogeneity as well as the conditions of social capital that stems from them. It also addressed the issue whether they promote or inhibit the operational success of community-based USWM initiatives. The empirical results in Agbowo and Sasa, two multicultural communities in Ibadan metropolis, revealed that there is a high possibility that heterogeneity weakens inter-group relations and makes cooperation among leaders hardly possible. On the other hand, there is no evidence suggesting that

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homogeneity is a virtue for collective action in the establishment of USWM at the community level nor is there evidence suggesting it increases civic engagement in the communities studied.

The last but not the least research question explored the relationships between social capital and the formation of community-based USWM initiatives. The results from this research have indicated that there is a positive relationship between social capital and the formation of community-based USWM initiatives in three of the communities namely Bodija, Ayeye, and Alesinloye in Ibadan metropolis. The results in this research revealed that social capital is not enough to form community-based urban solid waste management projects in Ibadan, Nigeria. It works well with other elements such as collaborative planning, incremental planning, and community capacity building. Social capital also works well with other potent social elements; it adapts favourably with the influence of non-governmental organizations, power and authority relations in Ibadan society.

Bibliography

Abbott, A. (1997). Of time and space: the contemporary relevance of the Chicago School, *Social Forces*, 75, 1149-82.

Abel, A. (2007). An analysis of solid waste generation in a traditional African city: the example of Ogbomoso, Nigeria. *Environmental & Urbanization*, 19(2), 527-537.

Adama, O. (2007). *Governing from above solid waste management in Nigeria's new capital city of Abuja,* PhD dissertation, Department of Human Geography, Stockholm University.

Addo-Yabo, F.N., & Ali, M. (2002). Households: passive users of active manager, *International Development Planning Review*, 25(4), 374-389.

Adedibu, A. (1986). Solid waste management and a new environmental edict: a case study from IIorin, Kwara State, Nigeria. *The Environment*, 6(1), 63-68.

Adger, W. N. (2003). Social capital, collective action, and adaptation to climate change, *Economic Geography*, 79(4), 387-403.

Afon, A. O. (2007). Informal sector initiative in the primary sub-system of urban solid waste management in Lagos, Nigeria, *Habitat International*, 31, 193-204.

Adeyemi, I. G., & Adeyemo, O. K. (2007). Waste management practices at the Bodija abattoir, Nigeria. *International Journal of Environmental Studies*, 64(1), 71-82.

Adeyemi, A. S., Olorunfemi, J. f., & Adewoye, T.O. (2001). Waste scavenging in Third World cities: a case study in IIorin, Nigeria. *The Environmentalist*, 21, 93-96.

Adhikari, K. P., & Goldey, P. (2009). Social capital and its "downside": the impact on sustainability of induced community-based organizations in Nepal. *World Development,* 38(2), 184-194.

Adler, P.S., & Kwon, S.W. (2002). Social capital: prospects for new concept, *Academy for Management Review*, 27(1), 17-40.

Agbola, T., & Jinadu, A.M. (2006). "Community reactions and environmental impacts assessment of a landfill site in an indigenous African city." In Agbola, T. (ed.) *Environmental planning and management: concepts and application to Nigeri*a, pp. 114-145.

Agunwamba, J.C. (1998). Solid waste management in Nigeria: problems and issues, *Environmental Management,* 22(6), 849-856.

Agunwamba, J.C., Ukpai, O.K., & Onyebuenyi, I.C. (1998). Solid waste management in Onitsha, Nigeria, *Waste Management & Research,* 16(1), 23-31.

Agunwamba, J.C. (2003). Environmental assessment analysis of scavengers' activities and recycling in some cities of Nigeria, *Environmental Management,* 32(1), 116-127.

Ahmed, S. A., & Ali, M. (2004). Partnerships for solid waste management in developing countries: lining theories to realities. *Habitat International* 28: 467-479.

Ahmed, S.A., & Ali, S.M. (2006). People as partners: facilitating people's participation in public-private partnerships for solid waste management. *Habitat International*, 30, 781-796.

Alesina, A., & La Ferrara, E. L. (2000). Participation in heterogeneous communities, *Quarterly Journal of Economics*, 115(3), 847-904.

Alesina, A., & La Ferrara, E. L. (2002). Who trusts others? *Journal of Public Economics*, 85(2), 207-34.

Alexander, E.R. (1986*). Approaches to planning: introduction current planning theories, concepts and issues,* New York: Gordon and Breach.

Alesina, A., Baqir, R. & Hoxby, C. (2004). Political jurisdictions in heterogeneous communities, *Journal of Political Economy*, 112, 348-96.

Alexander, E.R. (1992). *Approaches to planning: introducing current planning theory, concepts and issues* (Second Edition). Longhorne: Gordon and Breach Science Publishers.

Ali, M., & Snel, M. (1999). *Lessons from community-based initiatives in solid waste*. Task no. 99. Loughborough, UK: WELL http://www.Iboro.ac.uk

Ali, A. (2010). Wasting time on solid waste in developing countries, *Waste Management*, 30, 1437-1438.

Ambrose, J. (1982). "Recycling in developing countries." In Thome-Kozmiensky, K.J. (ed.), recycling in developing countries. Berlin: E. Freitage Verlag fur Umwelttechnik, 169-176.

Anderson, A.R., & Jack, S. L. (2002). The articulation of social capital in entrepreneurial networks: a glue or a lubricant? *Entrepreneurship & Regional Development*, 14, 1993-210.

Andrew, J. (2001). Making or breaking alternative dispute resolution? factors influencing its success in waste management conflicts, *Environment Impact Assessment Review* 21, 23-57.

Andrews, R. (2009). Civic engagement, ethnic heterogeneity, and social capital in urban areas evidence from England, *Urban Affairs Review*, 44(3), 428-439.

Antolihao, L., & Van Horen, B. (2005). Building institutional capacity for the upgrading of Barangay Commonwealth in metro Manila, *Housing Studies*, 20(6), 873-896.

Anugwom, E. E. (2000). Ethnic conflict and democracy in Nigeria: the marginalization question, *Journal of Social Development in Africa,* 15(1), 61-78.

Argyris, C. (1993). *Knowledge for action: a guide to overcoming barriers to organizational change*. San Francisco, California: Jossey-Bass Publishers.

Arlosoroff, S. (1991). Developing countries struggle with waste management policies. *Waste Management & Research,* 9(6), 491-494.

Arneil, B. (2006). *Diverse communities the problem with social capital*, Cambridge, Cambridge University Press

Asase, M., Yanful, E.K., Mensah, M., Stanford, J., & Amponsah, S. (2009). Comparison of municipal solid waste management systems in Canada and Ghana: a case study of the cities of London, Ontario, and Kumasi, Ghana, *Waste Management,* 29, 2779-2786.

Asomani-Boateng, R. (2007). Closing the loop community-based organic solid waste recycling, urban gardening, and land use planning in Ghana, West Africa. *Journal of Planning Education and Research*, 27, 132-145.

Attahi, K. (1999). "The problem and its theoretical basis," In Onibokun, A.G. (ed.) *Managing the monster: urban waste and governance in Africa*, Ottawa, Canada: IDRC, pp. 11-44.

Awortwi, N. (2006). Technology and institutional arrangements in the delivery of public sanitation an solid waste services in Ghanaian cities. *International Journal of Technology Management and Sustainable Development* 5(3), 221-239.

Ayininuola, G. M. & Muibi, M. A. (2008). An engineering approach to solid waste collection system: Ibadan North as case study, *Waste Management* 28, 1681-1687.

Ayotamuno, J. M., & Gobo, A. K. (2004). Municipal solid waste management in Port Harcourt, Nigeria Obstacles and prospects. Management of Environmental *Quality: An International Journal*, 15(4), 389- 398.

Babbie, E (2004). *The practice of social research* (10th, ed.). Belmont, CA: Wadsworth.

Ballet, J., Sirven, N., & Requiers-Desjardins, M. (2007). Social capital and natural resource management a critical perspective. *The Journal of Environment & Development*, 16(4), 355-374.

Bammeke, A.O., & Sridhar, M.K.C. (1988). Market Wastes in Ibadan, Nigeria, *Waste Management & Research,* 7, 115-120.

Bandiera, O., Barankay, I., & Rasul, I. (2005). Cooperation in collective action, *Economics of Transition*, 13, 473-98.

Bandura, A. (1971). *Social learning theory: motivation trends in society*. Morristown, New York: General Learning Press.

Bandura, A. (1997). *Self-efficacy*, New York: W.H. Freeman and Company.

Bandura, A. (1986). Social foundations of thoughts and action: a social cognitive theory. Englewood

Cliffs, NJ: Prentice Press.

Bandura, A. (1991). "Social cognitive theory of moral thought and action." In Kurtines, W.M., Gewirtz, J. L. Handbook of moral behaviour and development, volume theory. Hillsdale, NJ: Erlbaum Associates Publishers

Banerjee, A., Iyer, L., & Somanathan, R. (2005). History, social divisions, and public goods in rural India, *Journal of the European Economic Association*, 3, 639-47.

Barkan, J. D., McNulty, M.L., & Ayeni, M.A.O. (1991). 'Hometown' voluntary associations, local development, and the emergence of civil society in Western Nigeria, *The Journal of Modern African Studies,* 29(3), 457-480.

Baron, S., Field, J, & Schuller, T. (eds.), (20000. *Social capital: critical perspectives*. Oxford: Oxford University Press.

Barredo, J.I., & Demicheli, L. (2003). Urban sustainability in developing countries' megacities: modeling and predicting future urban growth in Lagos. *Cities,* 20(5), 297-310.

Barrett, M. (1998). "Solid waste management: regulations and related policy issues in Jamaica." In Thomas-Hope, E. (ed*.), Solid waste management critical issues for developing countries*, Barbados, Canoe Press, pp, 123-139.

Bartone, C. R., et al. (1991). Private sector participation in municipal solid waste service: experience in Latin America, *Waste Management & Research*, 9(6), 495-509.

Bartone, C.R. (1990). Economic and policy issues in resources recovery from municipal solid wastes. *Resources, Conservation and Recycling*, 4(1-2), 7-23.

Baylis, B., Pereira, C., & Rose, B. (1998). *Elementary statistics a conceptual approach using a spreadsheet*. Nelsonville: OH, Barge Canal Press.

Beall, J. (1997). Policy arena, social capital in waste-a solid investment*, Journal of International Development,* 9(7), 951-961.

Beall, J. (2001). From social networks to public action in urban governance: where does benefit accrue? *Journal of International Development*, 13, 1015-1021.

Bebbington, A., Guggenheim, S., Olson, E., & Woolcock, M. (2004). Exploring social capital debates at the World Bank, Journal of Development Studies, 40(5), 33-64.

Beierle, T., & Cayford, J. (2002). *Democracy in practice: public participation in environmental decisions*. Washington, D.C. Resources for the future.

Benner, C. (2003). Learning communities in a learning region: the soft infrastructure of cross-firm learning networks in Silicon Valley, *Environment & Planning A,* 35, 1809-1830.

Berg, B.L. (1989). *Qualitative research methods for the social sciences*. Boston: Allyn and Bacon.

Berman, S. (1997). Civic society and the collapse of the Weimar Republic, *World Politics*, 49, 401-429.

Bhuiyan, S.H. (2005). *Benefits of social capital urban solid waste management in Bangladesh*, Zugl: Bonn, Transaction Publishers.

Bhuiyan, S.H. (2004). *Unveiling the face of social capital: evidence from community-based solid waste management initiatives in urban Bangladesh*, PhD. dissertation, Rheinischen Friedrich – Wilhelms- Uuniversitüt, Zu Bonn.

Bigon, L. (2005). Sanitation and street layout in early colonia Lagos: British and indigenous conception, 1851-1900. *Planning Perspective*, 20, 247-269.

Black, L. (2003). Critical review of the capital-building literature and discourse, *Development in Practice,* 13(1), 116-120.

Blanco, H., & Campbell, T. (2006). Social capital of cities: emerging networks of horizontal assistance, *Technology in Society*, 28, 169-181.

Blight, G., & Mbande, C. (1998). "Waste management problems in developing countries," in Thomas Hope, E. (ed.), *solid waste management critical issues for developing countries*, Barbados, Canoe Press, University of the West Indies, pp. 11-26.

Boadi, K. O., & Kuitunen, M. (2003). Municipal solid waste management in the Accra metropolitan area, Ghana, *The Environmentalist*, 23(3), 211-218.

Boardman, J.D., & Robert, S.A.(2000). Neighbourhood socioeconomic status and perceptions of self-efficacy. *Sociological Perspectives* 43(1), 117-36.

Boissevain, J. (1974). Friends of friends: networks, manipulators, and coalitions, N.Y.: St. Martin's Press.

Booher, D.E., and Innes, J. E. (2002). Network power in collaborative planning. *Journal of Planning Education and Research*, 21: 221-236.

Born, S. M., & Genshow, K. D. (2000). The watershed approach: an empirical assessment of innovation in environmental management. Washington, D.C.; National Academy of Public Administration.

Bose, A., and Blore, I. (1993). Public waste and private property – an enquiry into the economics of solid waste in Calcutta, *Public Administration and Development,* 13(1), 1-15.

Bourdieu, P. (1985). "The forms of capital," in Richardson, J. ed. *Handbook of Theory and Research for the Sociology of Education*, pp. 241-258, New York: Greenwood Press.

Bouwen, R., & Taillieu, T. (2004). Multi-party collaboration as social learning for interdependence: developing relational knowing for sustainable natural resource management. Journal of

Community and Applied Social Psychology, 14, 137-153.

Bowles, S., & Gintis, H. (2002). Social capital and community governance. *The Economic Journal*, 112, 419-436.

Brehm, J., & Rahn, W. (1997). Individual-level evidence for the causes and consequences of social capital. *American Journal of Political Science,* 41(3), 999-1023.

Brenkert, G. (1998). Trust, business and business ethics: an introduction, *Business Ethics Quarterly*, 8(2),
195-203.

Breukers, S., & Wolsink, M. (2007). Wind energy policies in the Netherlands: institutional capacity-building for ecological modernization, *Environmental Politics,* 16(1), 92-112.

Briggs, X. de S. (1998). Brown kids in white suburbs: housing mobility and the many faces of social capital, *Housing Policy Debate,* 9(1), 177-221.

Briggs, E. de S. (1997). Social capital; and the cities: advice to change agents, *National Civic Review*, 86(2), 111-117.

Brooks, M.P. (2002). *Planning theory for practitioners,* APA Press, Chicago.

Brunie, A. (2009). Meaningful distinctions within a concept: relational, collective, and generalized social
capital. *Social Science Research*, 38, 251-265.

Brown, L. D., & Ashman, D. (1996). Participation, social capital, and intersectoral problem solving: African and Asian cases. *World Development*, 24(9), 1467-1467.

Buchy, M., & Race, D. (2001). The twists and turns of community participation in natural resource management in Australia: what is missing? *Journal of Environmental Planning and Management*, 44(3), 293-308.

Buckland, J. (1998). Social capital and sustainability of NGO international development projects in Bangladesh, *Community Development Journal*, 33(3), 236-248.

Bugliarello, G. (2006). Urban sustainability: dilemmas, challenges and paradigms, *Technology in Society*, 28, 19-26.

Burkart, R. (1994). Consensus oriented public relations as a solution to the landfill conflict, *Waste Management & Research*, 12, 223-232.

Burt, R.S. (1992). *Structural holes. Cambridge,* MA, Harvard University Press.

Burt, R.S. (2000). The network structure of social capital, *Research in Organizational Behavior*, 22, 345-423.

Burt, R. S. (1997). The contingent value of social capital. Administrative Science Quarterly, 42, 339-236.

Byrne, K. (1997). Environmental science. London (UK): Thomas Nelson & Son Ltd.

Cairncross, S., Hardoy, J. E., & Satterthwaite, D. (eds. (1990). *The poor die young: housing and health in Third World Citied,* London, Earthscan.

Campbell , C. M. (2003). Intractability in environmental disputes: exploring a complex construct, *Journal of Planning Literature,* 17(3), 767-776.

Carpenter, J. P., Daniere, A. G., & Takahashi, L. M. (2004). Social capital and trust in south-east Asian cities, *Urban Studies*, 41(4), 853-874.

Carson, D., Cromie, S., McGowan, P., & Hill, J. (1995). Marketing and entrepreneurship in SMEs – an innovative approaches. Europe: Prentice-Hall.

Cassell, C., & Symon, G. (1994). "Qualitative research in work contexts." In Cassell, C., & Symon, G. (eds.), *Qualitative methods in organizational research* (pp. 1-13). Thousand Oaks, CA: Sage
.
Caton, C.M. (2003). Intractability in environmental disputes: exploring a complex construct. *Journal of Planning Literature*, 17(3), 361-370.

Chaskin, R. J. et al. (2001). *Building community capacity*, New Brunswick, Aldine Transaction Publishers.

Chaskin, R.J. (2001). Building community capacity a definitional framework and case studies from a comprehensive community initiative, *Urban Affairs Review*, 36(3), 291-323.

Chaskin, R. J., Goerge, R. M., Skyles, A., Guiltinan, S. (2006). Measuring social capital: an exploration in community-research partnership. *Journal of Community Psychology*, 34(4), 489-514.

Chaskin, R. J. (1997). Perspective on neighbourhood and community: a review of the literature, *The Social Service Review*, 71(4), 521-547.

Chaskin, R. J. (1998). Neighbourhood as a unit of planning and action: a heuristic approach, *Journal of Planning Literature,* 13(1), 11-30.

Chen, X. (2008). *A systematic comparison of municipal solid waste management systems: case studies of Dalian City, China and the Region of Waterloo, Canada*. A Master's Thesis, University of Waterloo, Waterloo, Ontario, Canada

Chloupkova, J., et al. (2003). Building and destroying social capital: the case of cooperative movements in Denmark and Poland. *Agriculture and Human Values,* 20, 241-152.

Chokor, B. A. (1993). External European influences and indigenous social values in urban

260

development and planning in the Third World: the case of Ibadan, Nigeria, *Planning Perspectives*, 8, 283-306.

Christiano, T. (1996). *The rule of the many: fundamental issues in democratic theory*, Boulder, Co: Westview Press.

Clark, D. 1996). *Urban world global city*. London, Routledge

Coffee, H., Geys, B. (2005). Institutional performance and social capital: an application to the local government level, *Journal of Urban Affairs,* 27(5), 485-501.

Coffé, H. (2009). Social capital and community heterogeneity, *Social Indicators Research*, 91, 155-170.

Cohen, D., & Prusak, L. (2001). *In good company: how social capital makes organizations works*. Boston: Harvard Business School Press.

Cohen, B. (2006). Urbanization in developing countries: current trends, future projections, and key challenges sustainability, *Technology in Society*, 20, 63-80.

Cointreau, S.J. (1982*). Environmental management of urban solid wastes in developing* countries, a project guide. Washington, D.C: The World Bank.

Cointreau, S.J. et al., (1984). *Recycling from Municipal Refuse: A State-of-the-Art Review and Annotated Bibliography*: World Bank Technical Paper Number 30. Washington, D.C.: The World Bank.

Cointreau-Levine, S. (1994). *Private sector participation in municipal solid waste management services in developing countries*. Vol. 1. The formal sector-UNDP/UNCHS/ The World Bank – Urban Management Program, 52 pp.

Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology* 94(S), 95-120.

Coleman, J. S. (1990). *Foundation of social theory*. Cambridge, Mass: Harvard University Press.

Colquhoun, D. (2000)." Action competence, social capital and the health promoting school." In Jense, B. B., Schnack, K., & Simovska, V. (eds.), critical environmental and health education: research issues and challenges, Copehagen, Danish University of Education.

Conlon, J., & Humphreys, J. (2007). University, poverty and technology management: development export markets for West African micro-enterprises, *International Journal of Technology Management and Sustainable Development,* 6(2), 123-133.

Connell, R.W. (2001). The social organization of masculinity. In Whitehead, S.M., & Barret, F. J. (eds.), the masculinities reader. Blackwell, Oxford: Polity Press.

Cormick, G. (1987). "The myth, the reality, and the future of environmental mediation." In Robert, L.

(ed.), *resolving locational conflict*, New Brunswick, N.J.: Center for Urban Policy Research.

Costa, D. L., & Kahn, M.E. (2002). *Understanding the American decline in social capital, 1952-1998.*

Costa D. L., & Kahn, M.E. (2003). Civic engagement and community heterogeneity: an economist's perspective, *Perspective on Politics* 1(1), 103-111.

Creswell, J.W. (1998). *Qualitative inquiry and research design: choosing among five traditions*: Thousand Oaks, CA: Sage.

Creswell, J.W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), 124-130.

Dale, A., & Newman, L. (2010). Social capital: a necessary and sufficient condition for sustainable community development? *Community Development Journal*, 45(1), 5-21.

Daniere, A et al. (2002). Social capital, networks, and community environments in Bangkok, Thailand. *Growth and Change*, 33(4), 453-484.

Daniere, A. (2005). Social capital and urban environments in Southern Asia, lessons from settlements in Bangkok and Ho Chi Minh, *International Development Planning Review* 27(1), 21-58.

Daniels, S. E., & Walker, G. B. (2001). *Working through environmental conflict: the collaborative learning approach.* London: Praeger Publishers.

Davidoff, P. (1965). Advocacy and pluralism in planning, *Journal of the American Institute of Planners,* 31/32, 331-338.

Davies, W. K. D., & Herbert, D.T. (1993). *Communities within cities: an urban social geography*. London: Belhaven Press.

Davoudi, S. (2000). Planning for waste management: changing discourses and international relationships. *Progress in Planning*, 53, 165-216.

Day, J.C., and Gunton, T. I.. (2003) The theory and practice of collaborative planning in resource and environmental management. *Environment,* 31(2), 5-19.

DeFilippis, J. (2001). The myth of social capital in community development, *Housing Policy Debate*, 12: 781-806.

Denzin, N. K. (1978). *Sociological methods: a source book* (2nd ed.). New York: McGraw-Hill.

DeRienzo, H. (2008). "Community organizing for power and democracy lessons learned from a life in the Trenches," in DeFilippis, J., & Saegert, S. (eds.). *The community development reader*, 181-185. New York: Routledge.

De-Shalit, A. (2000). The environment between theory and practice. Oxford: Oxford University Press.

Desai, U., & Snavely, K. (2007). Technical assistance for institutional capacity building: the transferability of administrative structure and practices, *International Review of Administrative Science,* 73(1), 133-146.

Dinda, S. (2007). Social capital in the creation of human capital and economic growth: a productive consumption approach, *The Journal of Socio-Economics*, 685, 1-14.

Dohrman, J., & Aiello, J. (1999). Public-private partnerships for waste management: challenges for policies and procedures, Development Southern Africa, 16(4), 691-705.

Dugan, S. (1993). Reflections on helping I: sustainable development, capacity building and participation, *International Journal of Public Administration*, 16(11), 1705-1713.

Durkin, E., Deutsch, A., & Heinemann, A. (2010). Inpatient rehabilitation facilities: variation in organizational practice in response to prospective payment, *Medical Care Research and Review*, 67(2), 149-172.

Durlauf, S. N., & Fafchamps, M. (2004). *The centre for the study of African economies* working paper series No. 214, http://www.bepress.com/csae/paper214.

Durlauf, S. N. (2002). On the empirics of social capital, *The Economic Journal,* 112, F459-F479.

Durston, J., & Lopez, E. (2006). Social capital and participatory management, *CEPAL Review*, 90, 103-117.

Easterly, W., & Levine, R. (1997). Africa's growth tragedy, politics and ethnic divisions, *Quarterly Journal of Economics,* 112, 1203-50.

Eddy, E. N., & Akpan, E.E. (2008). Nigerian government, the public sector and the fight against corruption: the role of information and communication technology, *International NGO Journal*, 3(10), 162-166.

Edin, K., & Lein, L. (1997). *Making ends meet*. New York: Russell Sage Foundation.

Edoho, F. (1998). "Management of capacity building: a strategic imperative for African development in the twenty-first century." In James, V. U. (ed.), *Capacity building in developing countries, human and environmental dimension,* pp. 228-251. Westport, Praeger Publishers.

Edwards, B., & Foley, M. (1997). Social capital and the political economy of our discontent. American *Behavioral Scientist,* 40(5), 669-678.

Elander, I. (2002). Partnerships and urban governance. UNESCO, Vol.4 No.2, Oxford: Blackwell Publishing.

Etzioni, A. (1973). The third sector and domestic missions, *Public Administration Review*, 33(4), 314-323.

Ezedinma, C., & Chukuezi, C. (1999). A comparative analysis of urban agricultural enterprises in Lagos and Port Harcourt, Nigeria. *Environment & Urbanization,* 11(2), 135-144.

Ezeronye, O.U. (2000). Solid waste management in the tropics – a case study of the Nigerian urban environment. *Intern. J. Environmental Studies*, 57, 437-442.

Faber, N., Jorna, R., & Van Engelen, J. (2005). The sustainability of "sustainability" – a study into the conceptual foundation of the notion of "sustainability." *Journal of Environmental Assessment Policy and Management,* 7(1), 1-33.

Fainstein, S. S., & Fainstein, N. (1996). "City planning and values: an updated view": In: Campbell S., & Fainstein S. *Readings in Planning Theory* (265-287). Malden, Mass.: Blackwell Publishers Inc.

Fainstein, S. S. (2000). New directions in planning theory, *Urban Affairs Review*, 35(4), 451-478.

Fakolade, A. & Coblentz, H.S. (1981). Citizen-participation in urban and regional planning in Nigeria: a preliminary enquiry, *Community Development Journal,* 16(2), 119-129.

Falk, I., & Kilpatrick, S. (2000). What is social capital? A study of interaction in a rural community, *Sociologia Ruralis*, 40(1), 87-110.

Falk, I., (2000). Human capital and social capital: what's the difference? Adult Learning Commentary, 28(8) October.

Falk, I. & Kilpatrick, S. (1999. "What is social capital? a case of interaction in a rural community," *CRLCA Discussion Paper Series* (No. D-5/1999), Launceston, Tasmania: University of Tasmania.

Falk, I., & Harrison, L. (1998). Community learning and social capital: just having a little chat, *Journal of Vocational Education and Training*, 50(4), 609-627,

Faludi, A. (1973). *Planning theory*. New York: Pergamon.

Fantola & Oluwande (1983). Administrative and technical aspects of solid waste management in Ibadan, *AJST*, 2(2), 37-45.

Fawcett, S. S., et al. (1995). Using empowerment theory in collaborative partnerships for community health and development, *American Journal of Community Psychology*, 25(5), 677-69.

Fay, B. (1987). *Critical social science*. Ithaca, NY: Cornell University Press.

Fernandez, A. L. (1993). Public-private partnerships in solid waste management, *Regional Development Dialogue,* 14(3), 3-23.

Field, J. (2003). *Social capital*. London: Routledge.

Fien, J., & Skoien, P. (2002). "I' m learning… how you go about stirring things up – in a consultative manner": social capital and action competence in two community catchment groups. *Local Environment,* 7(3), 262-269.

Filani, M.O., Akintola, F. O., & Ikporukpo, C. O. (1994). *Ibadan region,* 170-178. Ibadan: Department of
Geography, University of Ibadan, Press.

Fine, B. (1999). The developmental state is dead – long live social capital, *Development and Change*, 30. 1-19.

Fine, B. (2001). Social capital versus social theory: political economy and social at the end of the millennium, London, Routledge.

Fitzpatrick, P., & Sinclair, A. J. (2003). Learning through public involvement in environmental assessment hearings, *Journal of Environmental Management*, 67(2), 161-174.

Flintoff, F. (1984). *Management of solid waste in developing countries*. WHO Regional Publications South-East Asia Series No. 1. Second Edition, New Delhi: World Health Organization

Flora, J. (1998). Social capital and communities of place (Speech by Rural Sociological Society President Jan L. Flora), *Rural Sociology*, 63(4), 481-483.

Flyvbjerg, B., & Richardson, T. (2001). "Planning and Foucault: in search of the dark side of planning Theory." In Allmendinger, P., & Tewdwr-Jones, M, (eds.), planning futures: new directions for planning theory, pp. 44-62. Aldershot: Ashgate.

Flyvbjerg, B. (2002). Bringing power to planning research. *Journal of Planning Education and Research*
21, 353-366.

Foley, M., & Edwards, B. (1999). Is time to disinvest in social capital? *Journal of Public Policy*, 19(2),
141-173.

Foley, M., & Edwards, B. (1997). Escape from politics? Social theory and the social capital debate, *American Behavioral Scientist*, 40(5), 550-561.

Forester, J. (1985). *Critical theory and public life*. Cambridge, Mass.: MIT Press.

Forester, J. (1989). *Planning in the face of power*. Berkeley and Los Angeles, The University of California Press.

Forester, J. (1999). Reflections on the future of planning practice. *International Planning Studies*, 4(2), 175-193

Forrest, R., & Kearns, A. (2001). Social cohesion, social capital and the neighbourhood, *Urban*

Studies, 38(12), 2125-2143.

Forsberg, G. (2001). The difference that space makes. a way to describe the construction of local and regional gender contracts. *Norsk geogr. Tidsskr*, 55, 161-165.

Francis, P. et al. (1996). *State, community and local development in Nigeria*, Washington, DC: The World Bank.

Frankfort-Nachmias, C., & Nachmias, D. (1992). *Research methods in the social sciences* (4th ed.). New York: St. Martin's Press.

Frantzis, I. (1993). Methodology for municipal landfill sites selection, *Waste Management& Research*, 11(5), 441-51.

Friedmann, J. (1973). Retracking America: a theory of transactive planning. Garden City, N.Y.: Doubleday-Anchor.

Friedmann, J. (1987). *Planning in the public domain.* New Jersey: Princeton University Press.

Fryer, D. (1991). Qualitative methods in occupational psychology: reflections upon why they are so useful but so little used. *The Occupational Psychologist* 14(Special issue on qualitative methods), 3-6.

Fukuyama, F. (1995). *Trust: the social values and the creation of prosperity*. New York: Free Press. 22(1), 7-20.

Fukuyama, F. (1997). *Social capital, the tanner lecture on human,* 19, 375-484.

Furedy, C. (2004). "Urban organic solid waste: re-use practices and issues for solid waste management in developing in countries." In Isa, B., Post, J., & Furedy, C. (eds.), solid waste management and recycling: actors, partnerships and policies in Hyderabad, India and Nairobi, Kenya. GeoLibraries series, No. 76, Kluwer Academic Publishers, Dordrecht, pp. 197-210

Furedy, C. (1992). Garbage: exploring non-conventional options in Asian cities, *Environment & Urbanization*, 4(2), 42-53.

Gambetta, D. (ed.) (1988). *Trust: making and breaking cooperative relations*, Oxford: Blackwell.

Ganesan, S. (1994). Determinants of long-term orientation in buyer-seller relationships, *Journal of Marketing, 58* (April), 1-19.

Geng, Y., Zhu, Q., & Haight, M. (2007). Planning for integrated solid waste management at the industrial park level: a case of Tianjin, China, *Waste Management*, 27, 141-150.

Glaeser, E. L., Laibson, D.I., Scheinkman, J.A., Soutter C.L. (200). Measuring Trust. *The Quarterly Journal of Economics*, 115(3), 811-846.

Glanville, J. L., & Bienenstock, E. J. (2009). A typology for understanding the connections among different forms of social capital. *American Behavioral Scientist*, 52(1), 1507-1530.

Glazer, N., Moynihan, P. (1975). *Ethnicity: theory and experience*. Cambridge, MA: Harvard University Press.

Goldberg, E. (1996). Thinking about how democracy works, *Politics & Society*, 24(1), 7-18.

Gotoh, S. (1989). Issues and factors to be considered for improvement of solid waste management in Asian metropolises, *Regional Development Dialogue*, 10(3), 1-10.

Government of Alberta .(2002). *Municipal Government Act Subdivision and Development Regulations*.

Government of Nunavut. (1999). *Public Health Act General Sanitation Regulations.*

Gradstein, M., Justman, M. (2000). Human capital, social capital, and public schooling. *European Economic Review,* 44, 879-890.

Granovetter, M.S. (1973). The strength of week ties. *American Journal of Sociology*, 78(6), 1360-1380.

Gray, B. (1985). Conditions facilitating interorganizational collaboration. *Human Relations,* 38: 911-935.

Greeley, A. (1997). Coleman revisited religious structures as a source of social capital, *American Behavioral Scientist,* 40(5), 587-594.

Gregory, R. B., Tim, M., & Daryl, F. (2001). Decision aiding, not dispute resolution: creating insights through structure environmental decisions. *Journal of policy Analysis*, 20(3), 415-432.

Grichting, W. (1989). Educational philosophy in a cross-cultural context, *Urban Education*, 24(2), 177-198.

Griffin, C.B. (1999). Watershed councils: an emerging form of public participation in natural resource management, *Journal of the American Water Resources Association*, 35, 505-18.

Grootaert, C. (1998). *Social capital the missing link*? Social capital initiative Working paper No.3. The World Bank.

Grootaert, C., & van Bastelaer, T. (2001). *Understanding measuring social capital, Social capital initiative* Working Paper No. 24. The World Bank.

Grootaert, C., Narayan, D., Jones, V. N., & Woolcock, M. (2004). *Measuring social capital an integrated questionnaire,* The World Bank.

Gunton, T. L., & Flynn, S. (1992). Resolving environmental conflicts: the role of mediation and negotiation. *Environments*, 21(3), 12-16.

Habermas, J. (1979). *Communication and the evolution of society*. Boston: Beacon Press.

Haight, M. (1994). "Waste management seminar." Handout. May 18, 1994. Waterloo, Ontario, 10 pp.

Hall, P. (1999). Social capital in Britain, *British Journal of Political Science,* 29(3), 417-461.

Hanna, K. S., Dale, A., & Ling, C. (2009). Social capital and quality of place: reflection on growth and change in a small town, *Local Environment,* 14(1), 31-44.

Hanifan, L. (1916). The rural school community center, *Annuals of the American Academy of Political and Social Science, No. 67.*

Hardcastle, D., Wenocur, S., & Powers, P. (1997). Community practice: theories and skills for social workers. New York: Oxford University Press Inc.

Harris, J. (2002b). On trust, and trust in Indian business: ethnographic explorations, Destin Working Paper Series No. 02-35, London: Development Studies Institute, LSE. consideration Calcutta, *Cities*, 16(2), 103-110.

Harris, J. (2001). Depoliticizing development: The World Bank and social capital. New Delhi: Leftwood Books.

Hart, C. (1998). Mixed-capital public-private partnerships: conditions for success. Yale/UNDP public private partnership programme. Yale University, USA.

Hasan, S., & Khan, M.A. (1999). Community-based environmental management in a megacity, *Cities,* 16(2), 103-110.

Hays, R. A., & Kogl, A. M. (2007). Neighbourhood attachment, social capital building, and political participation, a case study of low- and moderate-income residents of Waterloo, Iowa, *Journal of Urban Affairs, 29(2), 181-205.*

Healey, P. (1997). *Collaborative planning: shaping places in fragmented societies*. Vancouver, British Columbia, UBC Press.

Healey, P. (1998). Building institutional capacity through collaborative approaches to urban planning, *Environment and Planning* A, 30: 1531-1546.

Healey, P. (2003). Collaborative planning in perspective, *Planning Theory*, 2(2), 101-123.

Healey, P. (1999). Institutionalist analysis, communicative planning and shaping places, *Journal of Planning Education and Research*, 19, 111-121.

Healey, P. (1996). Communicative micropolitics: a story of claims and discourses, *International*

Planning Studies, 1(2), 165-184.

Healey, P. (2007). "The new institutionalism and the transformative goals of planning," in Verma, N. (ed.), *institutions and planning*, pp. 61-89. Oxford: Elsevier.

Healey, P. (1993). The communicative work of development plans. *Environment and planning B: Planning and Design 20, 83-20.*

Healey, P. (1998). "Institutionalist theory, social exclusion and governance," in Madanipour, A., Cars, G., & Allen, J. (eds.), social exclusion in European cities, pp. 53-74. London: Jessica Kingsley Publishers.

Heap, S. (1997). Jaguda boys': pick pocketing in Ibadan, 1930-60, *Urban History*, 24(3), 325,343.

Henry, R.K., Yongsheng, Z., & Jun, D. (2006). Municipal solid waste management challenges in developing countries – Kenyan case study, *Waste Management,* 26, 92-100.

Hero, R. E. (2007). *Racial diversity and social capital equality and community in America*, Cambridge: Cambridge University Press.

Herring, R. (1999). *Counseling Native American Indians and Alaska Natives*. Thousand Oaks, CA: Saga.

Hill, P. (1966). Notes on traditional market authority periodicity in West Africa, *The Journal of African History*, 7(2), 295-311.

Hillier, J. (2003). Agonizing over consensus: why Habermasian ideals cannot be real. *Planning Theory*, 2(1), 37-59.

Himmelman, A.T. (1996). On the theory and practice of transformational collaboration: social service to social justice. In Huxham, E. (ed.), *Creating collaborative advantage* Oaks, CA: Sage Publication 19- 43.

Hodder, B.W. (1965). Some comments on the origins of traditional markets in Africa South of the Sahara. *Transactions of the Institute of British Geographers*, 36, 97-105.

Holmes, J. R. (1984). "Solid waste management decisions in developing countries." In Holmes, J.R. (ed.)
   Managing solid waste in developing countries. Chichester, Sussex: John Wiley & Son Ltd, 1-27.

Hoornweg, D., Thomas, L., & Otten, L. (1999). Composting and its applicability in developing countries, urban waste management, Working Paper Series 8, World Bank, Washington D.C.

Hostovsky, C. (2000). Integrating planning theory and waste management: an annotated bibliography. *Journal of Planning Literature*, 15(2), 305-32.

Hostovsky, C. (2006). The paradox of rational comprehensive model of planning: Tales from waste management planning in Ontario, Canada. *Journal of Planning Education and Research*, 24(4),

382-95

Hsu, S. H. (2006). NIMBY opposition and solid waste incinerator siting in democratizing Taiwan, The *Social Science Journal*, 43, 453-459.

Hudson, B. M. (with comments by T.D. Galloway & J. L. Kaufman). 1979. Comparison of current planning theories: counterparts and contradictions, *APA Journal*, 45(4), 387-406.

Humphrey, J., & Schmitz, H. (1998). Trust and interfirm relations in developing and transition economies. *The Journal of Development Studies*, 34(4), 32-61.

Hunter, S., & Leyden, K. M. (1995). Beyond NIMBY: explaining opposition to hazardous waste facilities, *Policy Studies Journal*, 23(4), 601-619.

Hughes, W. G., & Whyte-Givans, S. (2008). State institutions and competitiveness: the urgency of institutional capacity-building in Jamaica. *The Round Table*, 97(396), 377-395.

Hutchinson, J. (2004). "Social capital and community building in the inner city. In Hutchinson, J., & Vidal, A. (eds.). Symposium on using social capital to help integrate planning theory, research, and practice *Journal of the American Planning Association,* 70(2), 168-175.

Hutchinson, S. A. (185). Perspectives: field research in neonatal intensive care unit. *Topic in Clinical Nursing* 7(2), 24-28.

Hyden, G. (1997). Civic society, social capital, and development dissection of a complex discourse. Studies in Comparative, *International Development*, 32(1), 3-30.

Hyman, J. B. (2008). "Exploring social capital and civic engagement to create a framework for community building." In DeFilippis, J., & Saegert, S. (eds.) *The community development reader*, New York, Routledge Press, pp. 225-233.

Igwara, O. (2001). Dominance and difference: rival visions of ethnicity in Nigeria, *Ethnic and Racial Studies*, 24(1), 86-103.

Imam, A., Mohammed, B., Wilson, D.C. & Cheeseman, C.R. (2008). Solid waste management in Abuja, Nigeria, *Waste Management*, 28, 468-472.

Indrayana, E., & Silas, J. (1993). Waste management in Surabaya: a partnership approach, *Regional Development Dialogue,* 14(3), 53-66.

Inebode, E. (2003). Resource and community-based approaches to waste management in Nigerian cities. Master's Thesis. Dalhousie University, Halifax, Nova Scotia

Innes, J. E. (2004). Consensus building: clarification for the critics. *Planning Theory*, 3(1), 5-20.

Innes, J. E., & Booher, D. E. (1999). Consensus building and complex adaptive systems: a framework for evaluating collaborative planning: *American Planning Association Journal,* 65(4), 412-423.

Innes, J. E., & Booher, D. E. (2003). "Collaborative policy making: governance through dialogue." In Hajer, M.W. & Wagenaar, H. (eds.), deliberative policy analysis: governance in the network society, Cambridge: Cambridge University Press, pp. 33-59.

Innes, J., Gruber, J., Thompson, R., & Neuman, M. (1994). Coordinating growth and environmental management through consensus-building, report to the California Policy Seminar, University of California at Berkeley.

Ishihara, H. & Pascual, U. (2008). Social capital in community level environmental governance: a critique. *Ecological Economics,* 68, 1549-1562.

Ivankova, N, V., Creswell, J.W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: from theory to practice, *Journal of Field Methods*, 18(1), 3-20.

Ivey, J. L., de Loë, R., Kreutzwiser, R., & Ferreyra, C. (2006). An institutional perspective on local capacity for source water protection, *Geoforum*, 37, 944-957.

Izeogu, C.V. (1989). Urban development and the environment in Port Harcourt. *Environment and Urbanization*, 1(1), 59-68.

Izomoh, S. O. (1994). *Nigerian traditional architecture*. Benin: Aka & Brothers Press, P. 182.

Izugbara, C.O., & Umoh, J.O. (2004). Indigenous waste management practices among the Ngwa of southeastern Nigeria: some lessons and policy implications, *The Environmentalist,* 24, 87-92.

Jacobs, J. (1965). *The death and life of great American Cities*, N.Y.: Random House.

Jackman, R.W., & Miller, R.A. (1998). Social capital and politics, *Annual Review Political Science,* 1, 47-73.

James, V.U. (1998). "Building the capacity of developing nations through empowerment." In James, V.U. (ed.), *Capacity building in developing countries, human and environmental dimension* (1-9), Westport, Praeger Publishers.

Jaques, L.E. (2001). *Social capital and the community: a case study of a small Mexican village*. PhD. Thesis, University of Calgary, Alberta.

Jick, T. D. (1979). Mixing qualitative and quantitative methods: triangulation in action. Administrative Science Quarterly, 24, 602-611
.
Johnston, G., & Percy-Smith, J. (2003). In search of social capital, Policy & Politics, 31(3), 321-334.

Johnson, H., & Wilson, G. (2000). Biting the bullet: civic society, social learning and the transformation of local governance, World Development, 28(11), 1891-1906.

Johnson, N. R. (1984). Sex, colour, and rites of passage in ethnographic research. *Human Organization* 43(2), 108-120.

Jordan, A. (2008). The governance of sustainable development: taking stock and looking forwards. Environment and Planning C: *Government and Policy,* 26(1), 17-33.

Kabeer, N. (2002). Resources, agency, achievements: reflecting on the measurement of women's empowerment. in discussing women's empowerment – theory and practice. Sidastudies No. 3. Göteborg, Sweden: Sida.

Kabeer, N. (1994). *Reversed realities: gender hierarchies in development thought*. London: Verso.

Kassim, S. M., & Ali, M. (2006). Solid waste collection by the private sector: households' perspective –findings from a study in Dar es Salaam city, Tanzania, *Habitat International*, 30, 769-780.

Kaufman, J.L. (1979). Comment. *Journal of the American Planning Association*, 45(4), 403-406.

Kay, J.J., Regier, H., Boyle, M., & Francis, G.R. (1999). An ecosystem approach for sustainability: addressing the challenge of complexity, *Future*, 31(7), 721-742.

Kgathi, D.L. & Bolaane, B. (2001). Instruments for sustainable solid waste management in Botswana, *Waste Management & Research*, 19, 342-353.

Khakee, A. (1998). Evaluation and planning: inseparable concepts. Town Planning Review, 69(4), 359-374.

Kim, Y., & Cannella, A, Jr. (2008). Toward a social capital theory of director selection, *Corporate Governance,* 16(4), 282-293.

Kinako, P. D. S. (1979). City refuse dumps: a multi-dimensional environmental problem of Nigerian urban areas, *Journal of Environmental Management* 9, 205-212.

Khan, N.A. (1999). A far cry? Revisiting the prospects of community co-operation in rural South Asia, *The Indian Journal of Social Work*, 60(2), 233-249.

Khwaja, A. (2002). Can good projects succeed in bad communities? Collective action in public good provision. Mimeo, Harvard University, Cambridge, MA.

Knack, S., & Keefer, P. (1997). Does social capital have an economic payoff? a cross-country investigation, *The Quarterly Journal of Economics*, pp. 1251-1288.

Kofoworola, O.F. (2007). Recovery and recycling practices in municipal solid waste management in Lagos, Nigeria, *Waste Management*, 27, 1139-1143.

Korfmacher, K, S. (1997). Solid waste collection systems in developing urban area of South Africa, an overview and case study. *Journal of Waste Management & Research* 15: 477-494.

Kovacs, W. L. (1993) Solid-waste management – historical and future perspectives, *Resources Conservation & Recycling,* 8(1/2), 113-130.

Kowalsky et al., (1996). Guidelines for entry into an Aboriginal community, *The Canadian Journal of Native Studies*, xvi(2), 267-282.

Kraxberger, B. (2005). Stranger, indigenes and settlement: contested geographies of citizenship in Nigeria, *Space and Polity*, 9(1), 9-27.

Kretzmann, J, P., & McKnight, J.L.(1993). *Building communities from inside out: a path toward finding and mobilizing community assets. Evanston, II.: Center for urban affairs and policy research, neighbourhood innovations network*, Northwestern University.

Krishna, A., & Shrader, E. (1999). *Social capital assessment tool. Prepared for the conference on social capital and poverty reduction*, The World Bank Washington, D.C.

Krishna, A. (2004). *Measuring social capital, an integrated questionnaire, World Bank Working Paper* No, 18. The World Bank Washington, DC.

Krishna, A. (2002). Active social capital: tracing the roots of development and democracy, N.Y.: Columbia University Press.

Krueger, R.A. (1988). *Focus groups*. Newbury Park, CA: Sage.

Kuhn, R. G., & Ballard, K. R. (1998). Canadian innovation in siting hazardous waste management facilities, *Environmental Management*, 22, 533-45.

Kulaba, S. (1989). "Local government and management of urban services in Tanzania," in Stren, R.E. & White, R.R. (eds.), *African cities in crisis: managing rapid urban growth*, Boulder Westview Press, pp. 205-245.

Kumar, K. (1989). *Conducting key informant interviews in developing countries. A.I.D. program design and evaluation methodology report* No. 13. Center for Development Information and Evaluation. Washington, D.C: Agency for Internal Development.

Kunreuther, H., Slovic, P., & Macgregor, D. (1996). Risk perception and trust: challenges for facility siting, Risk: *Health, Safety & Environment*, 7, 109-118.

Lang, R. (1990), Equity in siting solid waste management facilities, *Plan Canada* 30(2), 5-13.

Larkin, G.R. (1994). Public-private partnerships in economic development: a review of theory and practice. *Economic Development Review*, 12, 7-9.

Larsen, L., et al. (2004). Bonding and bridging understanding the relationship between social capital and civic action, *Journal of Planning Education and Research*, 24, 64-77.

Larsson, A. (1995). Theoretical and methodological considerations. in Sithole-Fundire, Z. L., & Schlyter (eds.), gender research on urbanization, planning and everyday life. Harare, Zimbabwe: Zimbabwe's Women's Resource Centre & Network.

Leach, W. D., Pelkey, N., & Sabatier, P. (2002). Stakeholder partnerships as collaborative
    policymaking: evaluation criteria applied to watershed management in California and Washington,
    Journal of Policy Analysis & Management, 21(4), 645-670.

LeCompte, M.D. (2000). Analyzing qualitative data, *Theory into Practice*, 39(3), 146-154.

Lederer, H. H. M. J. (2006). *University, downtown, and the mid-size city: An   examination of the roles of*
    university in downtown revitalization within the context of community-university partnerships. PhD
    Thesis University of Waterloo. Waterloo, Ontario.

Lederer, J. and Seasons, M. (2006). Understanding the community-university alliance: the Waterloo
    experience. *Canadian Journal of urban Research*. 14(2), 237-260.

Lee, K. N. (1993). Compass and gyroscope: integrating science and politics for the environment,
    Washington, DC. Island Press.

Lee, A., Oropesa, R. S., Metch, B. J., & Avery, M.G. (1984). Testing the decline-of-community
    thesis: neighbourhood organizations in Seattle, 1929-1979. *American Journal of Sociology*, 89(5),
    1161-88.

Leigh, A. (2006). Trust, inequality and ethnic heterogeneity, *The Economic Record*, 82(258), 268-
    280.

Lelieveldt, H. (2004). Helping citizens help themselves neighborhood improvement programs and the
    impact of social networks, trust, and norms on neighborhood-oriented forms of participation,
    Urban Affairs Review, 39(5), 531-551.

Lelieveldt, H., Dekker, K., Völker, B., & Torenvlied, R., (2009). Civic organizations as political
    actors mapping and predicting the involvement of civic organizations in neighbourhood problem-
    solving and coproduction, *Urban Affairs Review*, 45(1), 3-24.

Letki, N. (2008). Does diversity erode social cohesion? Social capital and race in British
    Neighbourhoods, *Political Studies*, 56, 99-126.

Lin, N. (2001). *Social capital: A theory of social structure and action*. Cambridge, UK: University
    Press.

Lin, N. (1999). Sunbelt keynote address: building a network theory of social capital. *Connections*, 22,
    28-51.

Lincoln, Y.S., & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Saga.

Lindblom, C. E. (1959). The science of "muddling through," *Public Administration Review*, 19(2),
    79-88.

Little, K. (1965). West African urbanization: a study of voluntary associations in social change, Cambridge.

Lowndes, V. (2004). Getting on or getting by? women, social capital and political participation, *BJPIR,* 6, 45-64

Lynch, K. (1991). *In wasting away.* San Francisco: Sierra Club Books.

Maarleveld, M., & Dangbégnon, C. (1999). Managing natural resources: a social learning perspective. *Agriculture and Human Values*, 16: 267-280.

Mabogunje, A. (1962). The growth of residential districts in Ibadan. *Geographical Review*, 52(1), 56-77.

Mabogunje, A.L. (1968). Urban planning and the post-colonia state in Africa: a research overview. *African Studies Review*, 33(2), 121-203.

Maclaren International Ltd. (1970). *Master plans for waste disposal and drainage, Ibadan, drafts volumes*
 IV and V drainage and solid waste reports prepared for WHO/Federal Republic of Nigeria.

Manga, V. E., Forton, O. T., & Read, A. D. (2008). Waste management in Cameroon: a new policy perspective? *Resources, Conservation & Recycling,* 52, 592-600.

Mansuri, G., & Rao, V. (2004). Community-based and – driven development: a critical review. The World Bank Research Observer, 19(1),1-39.

Margerum, R. (2002). Collaborative planning: Building consensus and building district model for practice. *Journal of Planning Education and Research*, 21: 237-253.
 149-75.

Margerum, T. (1999). Integrated environmental management: the foundations for successful practice. *Environmental Management*, 24(2), 151-166.

Marris, P. (1961). Family and social change in an African city: a study of rehousing in Lagos, London.

Marshall, A., & Batten, S. (2003). "Ethical issues in cross-cultural research," In Roth, W.M. (ed.), *Connections*, pp. 139-151.

Martin, L.L. (1994). Heterogeneity, linkage and commons problems, *Journal of Theoretical Policies,* 6(4), 473-473.

Masocha, M, (2006). Informal waste harvesting in victoria falls town, Zimbabwe: socio-economic benefits, *Habitat International*, 30, 838-848.

Maxwell, J. A. (1996). *Qualitative research design: an interactive approach*. Thousand Oaks, CA: Saga.

275

Mayer, M. (2003), The onward sweep of social capital: causes and consequences for understanding cities, communities and urban movements, *International* Journal of Urban and Regional Research, 27(1), 110-32.

Mbuyi, K. (1989). "Supply." In Stren, R.E. & White, R.R. (eds.), African cities in crisis: Managing rapid urban growth, Boulder, Co, Westview Press, pp, 149-75.

McAllister, D. J. (1995). Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations, *Academy of Management Journal*, 38(1), 24-59.

McBride, A. M., Sherraden, M., & Pritzker, S. (2006). Civic engagement among low-income and low-wealth families: in their words, *Family Relations*, 55, 152-162.

McCormick, D. (1996). "Small enterprise development: a network approach." In McCormick, D., & Pedersen, P.O. (eds.), *Small enterprises: Flexibility and networking in an African context, Nairobi*, Longman Kenya, 301-314.

McCarthy, D. D. P. (2006). *A critical systems approach to socio-ecological systems: implications for social learning and governance*. PhD Thesis University of Waterloo, Ontario.

McCool, S. F., & Guthrie, K. (2001). Mapping the dimensions of successful public participation in messy natural resource management situation, *Society and Natural Resources*, 14, 309-323.

McDonald, G. T. (1996). Planning as sustainable development, *Journal of Planning Education and Research*, 15, 225-236.

Mclean, S. L., Schultz, D. A., & Steger, M. B. (2002). Pp. 1-17. In Mclean, S.L. et al. (eds.), *social capital,* New York: New York University Press.

Meegan, R., & Mitchell, A. (2001). 'It's not community round here, it's neighbourhood': neighbourhood change and cohesion in urban regeneration policies, *Urban Studies*, 38(12), 2167-2194.

Meredith, J. (1998). Building operations management theory through case and field research. *Journal of Operations Management*, 16, 441-454.

Mesch, G.S., & Schwirian, K.P. (1996). The effectiveness of neighbourhood collective action. *Social Problems* 43(3), 467-83.

Middleton, A., Murie, A., & groves, R. (2005). Social capital and Neighbourhood that work, *Urban Studies,* 42(10), 1711-1738.

Miguel, E., & Gugerty, M. (2005). Ethnic diversity, social sanctions, and public goods in Kenya, *Journal of Public Economics,* 89, 2325-68.

276

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: an expanded sourcebook*, (2nd ed.). Newbury Park, CA: Sage.

Milofsky, C. (1988). "Networks, markets, culture, and contracts understanding community Organizations." In Milofsky, C. (ed.), Community organizations studies in resource mobilization and exchange, pp. 3-41. New York. Oxford University Press.

Mitchell, A. D., & Bossert, T. J. (2007). Measuring dimensions of social capital: evidence from surveys in poor communities in Nicaragua, *Social Science & Medicine*, 64, 50-63.

Mitchell, B. (1997). Resource and environmental management. Essex: Addison Wesley Longman Limited

Mitchell, B. (2004). Resource and environmental management in Canada: addressing conflict and uncertainty (3rd edition). Don Mills, Ontario: Oxford University Press.

Mockler, M. (1998). Community-based solid waste management in Indonesia, World Bank background Paper, World Bank, Jakarta.

Mongkolnchaiarunya, J. (2005). Promoting a community-based solid-waste management initiative in local government: Yala municipality, Thailand, *Habitat International* 29: 27-40.

Moore, A., & Brooks, R. (1996). "Community learning organizations." In Wathins, K., & Marsick, V. (eds.), *Creating the learning organization. Virginia: American Society for Training and Development*.

Morell, D., & Magorian, C. (1982). Siting hazardous waste facilities: local opposition and the myth of pre-emption. Cambridge, MA: Bollinger Publishing Company.

Moreno, J.A., Ríos, F.R., & Lardinois, I. (1999). S*olid waste management in Latin America, the role of micro-and small enterprises and cooperatives,* Lima, Peru, Urban Waste Series 5. IPES, ECEPESA, WASTE.

Morgan, D. Le. (1993), (ed.) *Successful focus groups: advancing the State of the Art*. Newbury Park, CA:
  Sage.

Morgan, G., & Smircich, L. (1980). The case for qualitative research, *Academy of Management Review*, 5, 491-500

Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research,* 40(1), 120-123.

Moy, G. G. (2001). Healthy marketplaces: an approach for ensuring food safety and environmental health, *Food Control*, 12, 499-504.

Mumford, L. (1961). The city in history. New York: Harcourt Brace.

Murphy, J.T. (2002). Networks, trust, and innovation on Tanzania's manufacturing sector. *World Development*, 30(4), 591-619.

Murray, D. (2005). A critical analysis of communicative rationality as a theoretical underpinning for collaborative approaches to integrated resources and environmental management, *Environments Journal,* 33(2), 17-34.

Myers, G. (2005). Disposable cities: garbage, governance, and sustainable development in urban Africa. Aldershot, UK: Ashgate Press.

Narayan, D., & Pritchett, L. (1999). Cents and sociability: household income and social capital in rural Tanzania. *Economic Development & Cultural Change,* 47(4). 871-897.

Narayan, D. (1995). *Designing community-based development. Environment Development* Paper No.7 World Bank, Environment Department, Washington, D.C.

Narayan, D., & Cassidy, M. F. (2001). A dimensional approach to measuring social capital: development
and validation of a social capital inventory. *Current Sociology*, 49(2), 59-102.

Neuman, W. L. (2000). *Social research methods: qualitative and quantitative approaches* (4th ed.). Boston: Allyn and Bacon.

Neuman, W. L. (1991). *Social research methods: qualitative and quantitative approaches, Boston:* Allyn and Bacon.

Norris, P. (2002). *Democratic phoenix: reinventing political activism,* Cambridge: Cambridge University Press.

Nwankwo, C. K. (1994). Solid waste management, general reviews and a glance at the Nigeria situation. Journal of Mining Geology. 27, 20-25.

Ogbonna, D. N. (2004). Use of burrow pits: a relatively inexpensive practical mode of waste disposal in Nigeria, *Journal of Nigerian Environmental Society*, 2(2), 2105. 2115.

Ogbonna, D.N., Amangabara, G. T., & Ekere, T.O. (2007). Urban solid waste generation in Port Harcourt metropolis and its implications for waste management, Management of Environmental Quality: *An International Journal*, 18(1), 71-88.

Ogbonna, D. N., Ekweozer, I.K.E., & Igwe, F.U (2002). Waste management: a tool for environmental protection in Nigeria, *Ambi*o, 31(1), 55-57.

Ogbuozobe, J. E. (2000). *Community based organizations (CBOs) in the provision of social services in the Ibadan metropolitan area, Nigerian Institute of Social and Economic Research* (NISER), Ibadan.

Ogu, V. I. (2000). Private sector participation and municipal waste management in Benin City, Nigeria. *Environment & Urbanization*, 12(2), 103-117.

Ogwueleka, T.C. h. (2009). Municipal solid waste characteristics and management in Nigeria. *Iran, J. Environ, Health Science Engineer*, 6(3), 173-180.

O'Hare, M., Bacow, L., & Sanderson, D. (1983). *Facility siting and public opposition*, New York: Van Nostrand Reinhold Company.

Okolie, A.C. (2003). The appropriation of difference: state and the construction of ethnic identities in Nigeria. Identity: *An International Journal of Theory and Research*, 3(1), 67-92.

Oladimeji, A. A., et al. (2002). "Energy –from-waste: a perspective from developing countries." In Velma, I.G, Vaneeta, K. G, & William. H. (eds.), Recovery energy from waste: various aspects. Enfield, NH, USA: Science Publisher.

Olanrewaju, O.O., & IIemobade, A. A. (2009). Waste to wealth: a case study of the Ondo State integrated wastes recycling and treat project, Nigeria, *European Journal of Social Science,* 8(1), 715.

Olaseha, I. O., Sridhar, M. K. C. & Oyewo, O. A. (2005). Developing sustainable market waste management through the joint efforts of technocrats and traders: a case study from Ibadan, Nigeria, International *Journal of Health Promotion & Education*, 43(2), 36-44.

Olokesusi, F., Adesanya, S., Ogbuozobe, J., Adeagbo, D., & Olorunfemi, F. (2005). "Public-private partnership for national development: the case of water supply and solid waste governance in Nigeria." In Oni, B., & Akinbinu, B. (eds.), *Public-private partnership in Nigerian development a multi disciplinary approach,* Nigerian Institute of Social and Economic Research (NISER), pp.147-184

Olorunfemi, J.F. & Odita, C.O. (1998). Land use and solid waste generation in IIorin, Kwara State, Nigeria, *The Environmentalist*, 18, 67-75.

Olsson, A.R. (2009). Relational Rewards and communication communicative planning: understanding actor motivation. *Planning Theory*, 8(3), 263-281.

Olson, M. (1965). *The logic of collective action public goods and the theory of groups*, Cambridge, Harvard University Press.

Omobowale, A. O., & Olutayo, A. O. (2009). Social capital and human development in Nigeria: the case of Lalupon community, Ibadan, Oyo State. *African Identities*, 7(1), 77-88.

Omoleke, I. I. (2004). Management of environmental pollution in Ibadan, an African city: the challenges of health hazard facing government and the people, *Journal of Human Ecology*, 15(4), 265-275.

Omuta, G. E. D. (1987). Urban solid waste generation and management in Nigeria, *Habitat International*, 11(2), 77-87.

Ongile, G., & McCormick, D. (1996). "Barriers to small firm growth: evidence from Nairobi's garment industry." In McCormick, D., & Pedersen, P.O. (eds.), *Small enterprises: Flexibility and networking in an African context, Nairobi*, Longman Kenya, 40-62.

Onibokun, A.G., & Kumuyi, A.J. (1999). "Ibadan, Nigeria." In Onibokun, A.G. (ed.) *Managing the monster: urban waste and governance in Africa*, Ottawa, Canada: IDRC, pp. 49-100.

Onibokun, A.G., Adedipe, N.O. & Sridhar, M.K.C. (2000). Affordable technology and strategies for waste management in Africa: lessons from experience. CASSAD monograph series no. 13. Ibadan, Nigeria.

Osaghae, E.E. (1995). Structural adjustment and ethnicity in Nigeria, Uppsala: Nordic Africa Institute.

Ostrom, E., & Ahn, T.K. (2001). *A social science perspective on social capital: social capital and collective action, paper presented at the ESF-Conference, social capital interdisciplinary perspectives,* Exeter, UK, September.

Ostrom, E. (1999). "Social capital: a fad or a fundamental concept?" in Dasgupta, P., & Serageldin, I. (eds.), social capital: a multifaceted perspective. Pp. 172-214. Washington, DC: World Bank.

Ostrom, E. (1998). A behavioral approach to the rational choice theory of collective action presidential address, American political science association, 1997. *The American Political Science Review* 92(1), 1-22

Otite, O. (2000). *Ethnic pluralism ethnicity and ethnic conflicts in Nigeria*. Ibadan: Shaneson C.I. Limited.

Ouano, E. A. R. & Ogawa, H. (1993). Partnership towards responsive solid waste management, Regional Development Dialogue, 14(3), v-iv.

Oyo State Nigeria. (2008). *Gazette,* No. 9, Vol.33.

Oyo State (2008). *A law to make provision for the establishment, functions and powers of the Oyo state solid waste management authority and other things connected therewith.*

Page, B. (2002). Urban agriculture in Cameroom: an anti-politics machine in the making? Geoforum, 33, 41-54.

Pahl, R. E. (1991). The search for social cohesion: from Durheim to the European Commission, European Journal of Sociology, 32, 345-360.

Pahl-Wostl, C. (2006). The importance of social learning in restoring the multifunctionality of rivers and floodplains, *Ecology & Society*, 11(1), 10.

Pahl-Wostl, C., & Hare, M. (2004). Processes of social learning in integrated resources management, Journal of Community & Applied Social Psychology, 14: 193-206.

Painter, A. (1988). The future of environmental dispute resolution. Natural Resources Journal, 28(1), 145-70.

Pal, L. (1997). *Beyond policy analysis, Scarborough,* International Thomson Publishing House.

Paldam, M. & Svendsen, G.T. (1999). *Is social capital an effective smoke condenser*? Reykjavik: University of Iceland.

Paldam, M., & Svendsen, G. T. (2000). An essay on social capital: looking for the fire behind the smoke. *European Journal of Political Economy*, 16, 339-366.

Palsy, T. (2003). *Research decisions: quantitative and qualitative perspective* (3rd ed.) Scarborough: Thomson Nelson.

Paraskevopoulos, C. J. (2010). Summing up the debate on a conceptual tool of comparative politics and public policy. *Journal of Comparative Politics*, 42: 475-494.

Parfitt, B. (1994). Value orientations of expatriate nurses in developing countries, *International Journal of Nursing Studie*s, 31(3), 279-288.

Pargal, S.; Hug, M.; & Gilligan, D. (1999). *Social Capital in Solid Waste Management: Evidence From Dhaka, Bangladesh.* Working Paper No. 6, The Work Bank.

Parizeau, K., Maclaren, V., & Chanthy, L. (2008). Budget sheets and buy-in: financing community-based waste management in Siem Reap, Cambodia. *Environment & Urbanization*, 20(2), 445-463.

Parrot, L., Sotamenou, J., & Dia, B. K. (2008). Municipal solid waste management in Africa: strategies and livelihoods in Yaoundé, Cameroon, forthcoming *Waste Management.*

Patto, M.Q. (1980). *Qualitative evaluation*. Beverly Hills, CA: Saga.

Patulny, R., & Svendsen, G. L. H. (2007). Exploring the social capital grid: bonding, bridging, qualitative, quantitative, *International Journal of Sociology and Social Policy*, 27(1/2), 32-50.

Paxton, P. M. (1999). Is social capital declining in the United States? a multiple indicator assessment. *American Journal of Sociology*, 105, 88-127.

Paxton, P. (2007). Not all association memberships increase trust: a model of generalized trust in 31 countries. *Social Forces*, 86, 47-76.

Pedersen, P.O. (1996). "Introduction: flexibility and networking: European and African context." In McCormick, D., & Pedersen, P.O. (eds.), *Small enterprises: Flexibility and networking in an* African *context, Nairobi*, Longman Kenya, 3-17.

Peterman, W. (2004). Advocacy Vs. collaboration: comparing inclusionary community planning models, *Community Development Journal*, 39(3), 266-276.

Pettigrew, A. M.(1990). Longitudinal field research on change: theory and practice. *Organization Science*, 1(3), 267-292.

Petts, J. (2007). Learning about learning: lesson from public engagement and deliberation on urban restoration. *The Geographical Journal*, 174(4), 300-311.

Pfammatter, R., & Schertenleib, R. (1996). *Reaching the unreached: challenges for the 21st century, non-governmental refuse collection systems,* 22nd WEDC Conference. New Delhi: India.

Phillips, D. C., & Burbules, N. C. (2000). *Postpositivism and educational research*. Lanham, MD: Rowman & Littlefield.

Poortinga, W. (206). Social relations or social capital? Individual and community health effects of bonding social capital, *Social Science & Medicine*, 63, 255-270.

Portes, A. (1998). Social capital: its origins and application in modern sociology, *Annual Review of Sociology*, 24, 1-24.

Portes, A., & Landolt, P. (1996). The downside of social capital, *American Prospect*, 26: 18-22.

Portney, K. E., & Berry, J.M. (1997). Mobilizing minority communities, American Behavioral Scientists, 40(5), 632-644.

Post, J., & Obirih-Opareh, N. (2003). Partnerships and the public interest: assessing the performance of public-private collaboration in solid waste collection in Accra, Space & Policy, 7(1), 45-63.

Powell, J. C. (1996). The evaluation of waste management options. Waste Management & Research, 14(6), 515-26.

Pretty, J., & Ward, H. (2001). Social capital and the environments, *World Development,* 29(2), 209-227.

Purdue, D. (2001). Neighbourhood governance: leadership, trust and social capital, Urban Studies, 38(12), 2224-2001.

Putnam, R.D. (1996). The strange disappearance of civic America, *The American Prospect* (Winter), 35-49.

Putnam, R. D. (1993). Making democracy work: civic traditions in modern Italy, Princeton: Princeton University Press.

Putnam, R.D. (2000. *Bowling alone: the collapse and revival of American* community. New York: Simon & Schuster Paperbacks.

Putnam, R.D. (1993). The prosperous community social capital and public life. *The American Prospect* 4(13), 1-11.

Putnam, R. D. (2007). Diversity and community in the twenty-first century the 2006 John Skytte

Price Lecture, *Scandinavian Political Studies*, 30(2), 137-243.

Putnam, R. D. (1995). Bowling Alone: America's declining social capital, *Journal of Democracy*, 6(1), 65-78.

Rabe, B. (1994). *Beyond NIMBY: hazardous waste siting in Canada and the United States.* The Brookings Institution, Washington, DC.

Rabe, B. (1988). The politics of environmental dispute resolution. *Policy Studies Journal*, 16(3), 585-601.

Rahn, W. M., et al. (2009). Geographies of trust, *American Behavioral Scientist*, 52(12), 1646-1663.

Rao, V., & Mansuri, G. (2004). Community-based and – driven development: a critical review, *The World Bank Observer*, 19(1), 1-39.

Rathi, S. (2006). Alternative approaches for better municipal solid waste management in Mumbai, India, *Waste Management*, 26: 1192-1200.

Reiss, Albert, J. Jr. (1971). "Systematic observations of natural social phenomena." In Herbert, C. (ed.). *Sociological methodology*, vol.3, pp. 3-33
.

Ring, P. S., & Van de Ven, A.H. (1994). Development process of cooperative organizational relationships. *Academy of Management Review*, 19(1), 90-118.

Roberts, P. (2004). Wealth from waste: local and regional economic development and the environment, *Geographical Journal*, 170(2), 126-134.

Rohe, W. M. (2004). "Building social capital through community development." In Hutchinson, J, & Vidal, A. (eds.), J*ournal of the American Planning Association,* 70(2), 158-164*.*

Rouse, J.R. (2006). Seeking common ground for people: livelihoods, governance and waste, *Habitat International,* 30, 741-753.

Rothstein, B., & Uslaner, M. (2005). All for all equality, corruption, and social trust, *World Politics*, 58, 41-72.

Rudd, M. (2000). Live long and proper: collective action, social capital and social vision, *Ecological Economics*, 34, 131-144.

Rupasingha, A., Goetz, S. J., Freshwater, D. (2006). The production of social capital in U.S. countries. *The Journal of Socio-Economics* 35, 83-101.

Rydin, Y., & Holman, N. (2004). Re-evaluating the contribution of social capital in achieving sustainable development. *Local Environment*, 9(2), 117-133.

Rydin, Y., & Pennington, M. (2000). Public participation and local environmental planning: the collective action problem and the potential of social capital. *Local Environment,* 5(2), 153-167.

Sabetti, F. (1996). Path dependency and civic culture: some lessons from Italy about interpreting social experiments, *Politics & Society*, 24(1), 19-44.

Sager, T. (1994). *Communicative planning theory*. Avebury, Aldershot.

Sakai, S., et al. (1996). World trends in municipal solid waste management. *Waste Management*, 16(5/6).

Sampson, R. J., & Raudenbush, S.W. (1990). Systematic social observation of public spaces: a new look at disorder in urban neighbourhoods. *AJS* 105(3), 601-651.

Sampson, R.J. (1991). Linking the micro and macro level dimensions of community social organization. *Social Forces* 70: 43-64.

Sassen, S. (1994). *Cities in a world economy.* Thousand Oaks, Pine Forge Press.

Scheinberg, A., Muller, M. & Tasheva, E. L. (1999). Gender and waste integrating gender into community waste management project management insights and tips from an E-mal conference, 9-13
    May 1998. UWEP Working document 12.

Schertenleib, R., & Meyer, W. (1992). *Municipal solid waste management in developing countries: problems and issues; need for future research, International Reference Centre for Waste Disposal* WHO Collaborating Centre.

Schmitz, H. (1999). From ascribed to earned trust in exporting clusters. *Journal of International Economics,* 48, 139-150.

Schübeler, P. (1996). *Conceptual framework for municipal solid waste management in low-income countries. UNDP/UNCHS (Habitat) World Bank/SDC collaborative program on municipal solid waste management in low-income countries*. Working Paper No. 9.

Selman, P. (2001). Social capital, sustainability and environmental planning, *Planning Theory & Practice,* 2(1), 13-30.

Serageldin, I. & Grootarert, C. (2000). "Defining social capital: an integrated view." In Dasgupta, P, & Serageldin, I. (eds.), *Social capital: a multifaceted perspective,* Washington, D.C.: The Work Bank, 40-58.

Serageldin, I. (1996). Sustainability as opportunity and the problem of social capital, *Brown Journal of World Affairs,* 3(2),

Sharp, I., & Luckin, D. (2006). The community waste sector and waste services in the U k: current state and future prospects. *Resources, Conservation & Recycling* 47, 277-294.

She, H. W., & Yu, Y. H. (1997). Social and economic factors in the spread of NIMBY syndrome against waste disposal sites in Taiwan, *Journal of Environmental Planning & Management*, 40(2),

273-282.

Shortfall, S., & Shucksmith, M. (1997). Rural development practice: issues arising in Scotland and Northern Ireland, *Proceedings of the Agricultural Economics Society's Annual Conference*, Edinburgh.

Siebenhüner, B. (2004). Social learning and sustainability science: which role can stakeholder participation play? *International Journal of Sustainable Development*, 7(2), 146-163.

Silas, J. (1992). Government-community partnerships in Kampung improvement programs in Surabaya, *Environment & Urbanization*, 4(2), 33-41.

Sims, H. P., & Lorenzi, P. (1992). *The new leadership paradigm, social learning and cognition in organization*s, Sage, Newbury Park, CA.

Simon, S. (2004). Systemic evaluation methodology: the emergence of social learning from environmental ICT prototypes, *Systemic Practice & Action Research,* 17(5), 471-494.

Sinclair, A. J., & Didduck, P. A. (2001). Public involvement in EA in Canada: a transformative learning perspective, *Environmental Impact Assessment Review*, 21, 113-136.

Smith, S.S., & Kulynych, J. (2002). It may be social, but why is it capital? The construction of social capital and the politics of language, *Politics & Society*, 30(1), 149-186.

Smith, M.J. (1988). *Contemporary communication research methods*. Belmont, CA: Wadsworth, Inc.

Soerjani, M. (1984). Present waste management in cities in Indonesia. *Conservation and Recycling*, 7(2-4), 289-303.

Solomon, U.U. (2009). The state of solid waste management in Nigeria, *Waste Management,* 29, 2797-2790.

Sønderskov, K. M. (2008). Environmental group membership, collective action and generalized trust. *Environmental Politics*, 17(1), 78-94.

Son, J., & Lin, N. (2008). Social capital and civic action: a network-based approach, *Social Science Research,* 37, 330-349.

Songsore, J. (1992). *Review of household environmental problems in Accra metropolitan area*, Stockholm Environmental Institute, Stockholm.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Stock, R. (1988). Environmental sanitation in Nigeria colonial and contemporary. *Review of African Political Economy,* 42, 19-31.

Stoker, G. (1998). Governance as theory: five propositions, *International Social Sciences Journal,* 50(155), 17-28.

Sule, R. A. O. (1981). Environmental pollution in an urban centre waste disposal in Calabar, *Third World Planning Review*, 3(4), 419-431.

Sudman, S., & Bradburn, N.M. (1983). *Asking questions: a practical guide to questionnaire design*. San Francisco: Jossey-Bass.

Takahashi, L.M., & Smutny, G. (2001). Collaboration among small, community-based organizations strategies and challenges in turbulent environments.

Tarr, J. A. (1985). Historical perspective on hazardous waste in the United States. *Waste Management & Research,* 3(2), 95-102.

Tarrow, S. (1996). Making social science work across space and time: a critical reflection on Robert Putnam's making democracy work, *American Political Science Review,* 90(2), 389-397.

Tashakkori, A., & Teddlie, C. (2003). (eds.). *Handbook on mixed methods in the behavioral and social sciences*. Thousand Oaks, CA: Saga.

Taylor, V. (2000). Marketization of governance: critical feminist perspectives from the South: DAWN.

Temkin, K.; and Rohe, W. (1998). Social capital and neighbourhood stability: An empirical investigation. *Housing Policy Debate* 9(1), 61-88.

Tewdwr-Jones, M., & Allmendinger, P. (1998). Deconstructing communicative rationality: a critique of Habermasian collaborative planning. *Environment and Planning A*. 30(11), 1975-1989.

Thomas-Hope, E. (1998) (ed.), *Solid waste management critical issues for developing countries,* Barbados, Canoe Press University of the West Indies.

Thomson, A. M., and Perry, J. L. (2006). Collaboration process: Inside the black box. *Public administration review*, December: 20-32.

Thompson, M. (1979). Rubbish theory: the creation and destruction of value. Oxford: Oxford University Press.

Tin-Toomey, S. (1984). "Qualitative research: an overview." In Gudykunst, W.B.; & Kim, Y.Y. (eds.), *Methods of intercultural communication research*, pp. 169-184, Beverly Hills, CA: Saga Publications.

Tippett, J., Searle, B., Pahl-Wostl, C., & Rees, Y. (2005). Social learning in public participation in river basin management – early findings from HarmoniCOP European case studies. Environmental Science and Policy, 8, 287-299.

Topolsky, J. (1997). On target, on task, on reflection: the culture of learning communities, Plenary of the International Conference Community Development Society, 28 July, Athens, Georgia, USA.

Trochim, W. (2000). *Research methods knowledge base*, (2nd .ed.) Atomic Dog Publishing, Cincinnati, OH.

Troja, M. (2000). Capacity building in environmental policy through mediation-experiences from the mediation project waste management programme of Berlin, *Eur. Env.* 10, 265-276.

Tsai, T.H. (2008). The impact of social capital on regional waste recycling, *Sust. Dev*. 16, 44-55.

Tuan, N. G., & Maclaren, V.W. (2005). Community concerns about landfills: a case study of Hanoi, Vietnam, Journal of Environmental Planning and Management, 48(6), 809-832.

Tuan, N.G., & Maclaren, V. W. (2007). The evolution of community concern about landfills in Vietnam, Int. Development Planning Review, 29(4), 413-432.

Ukiwo, U. (2005). The study of ethnicity in Nigeria, Oxford Development Studies, 33(1), 7-23.

UNEP. (1996). *International source book on environmentally sound technologies for municipal solid waste management*. UNEP International Development Technology Centre and Harvard Institute for International Development (HIID), Osaka, Japan.

United Nations Centre for Human Settlement. (1989). *Solid waste management in low-income housing projects: the scope for community participation, Nairobi.*

United Nations Human Settlements Program (UN-HABITAT). (2003). *The challenge of slum: global report on human settlements*. London: Earthscan.

United States Agency for International Development (USAID). (1990). Urbanization and the environment in developing countries. Washington, DC: Office of Housing and Urban Program.

Vagale, L.R. (1972). *Anatomy of traditional markets in Nigeria: focus on Ibadan city*. The Polytechnic Ibadan Town Planning Department, Ibadan.

Van Beukering, P. (1994). An economic analysis of different types of formal and informal entrepreneurs, recovering urban solid waste in Bangalore (India), *Resources, Conservation and Recycling*, 12(3-4), 229-252.

van de Klundert, A., & Lardinois, I. (1995). *Community and private (formal and informal) sector involvement in municipal solid waste management in developing countries*. Background paper for the UMP workshop in Ittingen 10-12- April. WASTE, the Netherlands.

Van der Linden, J.J. (1997). On popular participation in a culture of patronage: patrons and grassroots organizations in a site and services project in Hyderabad, Pakistan, *Environment & Urbanization* 9: 81-90.

Van de Klundert, A., & Muller, M. (1998). Community based waste collection and small scale enterprise development in waste recycling in Dar es Salaam, WASTE, The Netherlands.

Verma, N. (2007). "Institutions and planning: an analogical inquiry," in Verma, N. (ed.), *Institutions*

and planning, pp. 1-16. Oxford: Elsevier.

Versnel, H. (1986). "Scavenging in Indonesian cities." In Nas, P.J.M. (ed.). the Indonesian city: studies in urban development and planning. Dordrecht, Holland: Foris Publication, 206-219.

Vigdor, J.L. (2004). Community composition and collective action: analyzing initial mail response to the 2000 census, *Review of Economics and Statistics*, 86, 303-12.

Wakefield, S., & Elliot, S. J. (2000). Environmental risk perception and well-being: effects of the landfill siting process in two southern Ontario communities, *Social Science & Medicine*, 50, 1139-1154.

Waldinger, R. (1995). The other side of Embeddedness: a case study of the interplay between economy and ethnicity, *Ethn. Racial Study*, 18: 555-80.

Walliman, N. (2005). (2nd ed.). *Your research project, a step-by-step guide for the first-time researcher*. London: Saga Publications.

Wallis, A., Crocker, J. P., & Schechter, B. (1998). Social capital and community building: part one. *National Civic Review*, 87(3), 253-271.

Watson, V. (2002). Do we learn from planning practice? The contribution of the practice movement to planning theory, *Journal of Planning Education and Research,* 22, 178-187.

Webler, T., Kastenholz, H., & Renn, O. (1995). Public participation in impact assessment: a social learning perspective, *Environmental Impact Assessment Review*, 15, 443-463.

Werlin, H. H. (1995). Comparative solid waste management, *Journal of Asian and African Studies*, 30, 121-144.

Werlin, H.H. (2005). Corruption in a Third World Country: why Nigerians cannot handle garbage, *World Affairs*, 168(2), 79-85.

Wheeler, S., & Beatley, T. (2004). (eds.), *The sustainable urban development reader*: New York: Routledge.

Whiteley, P. F. (2000). Economic growth and social capital, *Political Studies*, 48, 443-466.

Widianto, B. (1992). *Solid waste management in Jakarta: problems and alternatives at the community* level. Master's Thesis. Faculty of Environmental Studies. York University, Toronto, Ontario.

Wilson, J., & Musick, M. (1999). The effects of volunteering in the volunteer, *Law & Contemporary Problems,* 62(4), 141-168.

Wilson, P. A. (1997). Building social capital: a learning agenda for the twenty-first century, *Urban Studies,* 34(5-6), 745-760.

Wilson, D. C., Costas, V. & Chris, C. (2006). Role of informal sector recycling in waste management in developing countries, *Habitat International,* 30, 797-808.

Wirth, L. (1938). Urbanism as a way of life. *American Journal of Sociology*, 44, 3-24.

Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society* 27(2), 151-208.

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes, Canadian Journal of *Policy Research*, 21(1), 11-17.

Wong, S. (2008). Building social capital in Hong Kong by institutionalizing participation: potential and limitation, *Urban Studies*, 45(7), 1413-1437.

Woolcock, M., & Narayan, D. (2000). Social capital: implications for development theory, research and policy. *The World Bank Research Observer*, 15(2), 225-49.

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes, *Canadian Journal of Policy Research*, 2(1), 11-17.

World Bank. (1994). World Development report: infrastructure for developing, Oxford University Press.

Wuthnow, R. (1991). *Acts of compassion: caring for others and helping ourselves*, Princeton, NJ: Princeton University Press.

Yankson, P.W.K. (1996). "Small scale aluminum industry in Ghana." In McCormick, D., & Pedersen, P.O. (eds.), *Small enterprises: Flexibility and networking in an African context, Nairobi*, Longman Kenya, 63-78.

Yhdego, M. (1991). Scavenging solid waste in Dar es Salaam, Tanzania, *Waste Management & Recycle* 9: 259-265.

Yhdego, M. (1995). Urban solid waste management in Tanzania issues, concepts and challenges, *Resources, Conservation and Recycling*, 14, 1-10.

Yin, R. K. (2003). *Case study research design and method (3rd ed.). Applied social research methods series volume 5*, Thousand Oaks, Sage Publication.

Yin, R. K. (1994). *Case study research design and method.. Applied social research methods series volume 5*, Thousand Oaks, Sage Publication.

Young, F.W., & Young, R.C. (1961). Key informant reliability in rural Mexican village. *Human Organization*, 20, 141-148.

Yousuf, T.B., & Ali, S.M. (2007). Sustainability and replication potential of community-based composting: a case study of Bangladesh. Int. J. Environmental Technology and Management,

7(3/4), 421-445.

Yudoko, G. (2000). *Exploring the potential of integrated municipal solid waste planning and management   in developing countries: a case study in the municipality of Bandung, Indonesia with a focus on household*s. Phd Thesis University of Waterloo, Waterloo, Ontario.

Zak, P. J., & Knack, S. (2001). Trust and growth, The Economic Journal, 111, 295-321.

Zeemering, E.S. (2009). What does sustainability mean to city officials? *Urban Affairs Review*, 45(2), 247-273.

Zelinsky, W. (2001). The geographer as voyeur, *The Geographical Review*, 91(1-2), 1.8.

Zurbrügg, et al. (2005). Decentralized composting in Bangladesh, a win-win situation for all stakeholders, *Resources, Conservation & Recycling*, 43: 281-292.

Appendix A

Personal Communication

A01   Resident of NTC Road Community, May, 2010

A02   Staff of Nigerian Institute of Social and Economic Research Ibadan, Nigeria, May, 2010.

A03   Resident of Sasa Community June, 2010

A04   Resident of Agbowo community June, 2010

A05   Interview with Private Refuse Contractor Association Oyo State June, 2010

A06   Member of Ayeye Area Community Development Association April 2010

A07   Member of Ayeye Area Community Development Association May, 2010

A08   Member of Foko Community Development Association June, 2010

A09   Member of Bodija Area Community Development Association, April, 2010

A010   Member of Bodija Area Community Development Association, April, 2010

 A011   Member of Bodija Area Community Development Association, April, 2010

A012   Lecturer Department of Water Resources Management University of Agriculture Abeokuta, Nigeria April 2010

A013   Member of Ayeye Area Community Development Association May, 2010

A014   Staff of Sustainable Ibadan Project, May, 2010

 A015   Staff of Oyo State Solid Waste Management Authority, May 2010

 A016   Member of Foko Area Community Development Association, June, 2010

 A017   Member of Bodija Area Community Development Association April, 2010

 A018   Member of Foko Area Community Development Association, June, 2010

 A019   Resident of Agbowo Community June, 2010

Focus group with NTC Road Area Community Development Association April, 2010

Focus group with Bodija Area Community Development Association April, 2010

Focus group with Foko Area Community Development April, 2010

Focus group with Ayeye Area Community Development April, 2010

Focus group with Alesinloye Area Community Development May, 2010

A020 Staff of Alesinloye Market Waste Recycling Project, May, 2010

A021 Official of Oyo State Private Refuse contractor May, 2010

A021 Resident of Sasa, June, 2010

A022 Staff of the Oyo State Urban and Regional Planning Ibadan June, 2010

A023 Resident of Agbowo Community June 2010

A024 Resident of NTC Road Community, June, 2010

Appendix B

Interview Guide for Household Survey April – July, 2010

_____

Note: This questionnaire is only intended for academic purpose. The response you give will be protected and be kept confidential at the end of the research the questionnaire will be destroyed.

Section 1: General Information

1.1. Enumerator's Name _____

1.2. Respondent's Name _____

1.3. City Name _____

1.4. Municipality Name _____

1.5. Today's Date _____

1.6. Starting Time Now _____

Section 2: Information on household members

2.1. Sex: M/F

2.2. Age: Ranges from 18-30   31-43   44-56   57-above

2.3. Educational Level   Illiterate   Primary   Secondary   Undergraduate and above please circle one.

2.4. Occupation: Service (Govt./private/NGO)   Self employed   others

2.5. Marital Status: Single/married/divorced/widow

2.6. Number of children _____

2.7. Ethnic group _____

Section 3: Idea about community and environment

3.1.   Name three most important problems of your community

        1. _____

2. _____

3. _____

3.2. Do you think management of urban solid waste is an issue in your community? Yes/no (give

reasons for your answer). _____

3.3. What fraction of the community is served by a garbage collection services?

The entire community___
Most of the community ___
About half of the community ___
Less than half/very ___
No one in the community ___

3.4. In the last three years, the quality of the garbage disposal in this community has:

Improved ___
Worsened ___
Remained the same ___

3.5. In the homes that do not receive garbage collection service, what is the main solid waste disposal method?

Burn it ___
Throw on own lot ___
Throw on others' lots __
Throw into river/sea__
Bury it __
Pay to haul away __
Other (specify) _____

3.6. Do you regard solid waste a threat to the healthy environment and human health? Yes/no (if yes, clearly state how this can be brought under control. If not, why?) _____

3.7. Overall, the current environmental condition of the community is:

1. Very good
2. Good
3. Average
4. Poor
5. Very poor

3.8. What is your general observation about solid waste management in your city?

Section 4: Association and networks

In this section, I would like to start by asking you the groups or organizations, networks association, both formal and informal that you belong to. These could be groups such as religious groups, market associations, or just groups of people who get together regularly to do an activity or talk. As I read the following list of groups please tell me if you belong to this kind of group – and how many groups do you belong to?

4.1. Religious or spiritual group such as a church, mosque, informal religious group, social support groups (e.g. various clubs); ethnic based groups (tribe); community organizations, neighbourhood associations (community-based SWM initiatives for instance), Finance, credit saving groups, professional associations (teachers, doctors, engineers, and lawyers associations) political parties, sports group or any other groups. Yes/no.

4.2. If yes, how many? _____

4.3. How many people from the household are members of this association? _____

4.4. If no, would you please give some reasons for why they are not involved with these organizations? _____

4.5. Of these groups that you belong to, please prioritized them as the first, second, and third most important in your day-to-day life? [Assign the number 1, 2, and 3 beside the group as and where applicable]
  Religious or spiritual group
  Social group
  Sport group
  Trader association
  Basic service group
  Ethnic base group
  Community organization, neighbourhood committee
  Finance, credit, savings group
  Political parties
  Professional associations
  Other groups, please specify _____
  Not applicable

4.6. How and to what degree do these groups contribute to your life? Please elaborate as possible

4.7. On average how much money (if any) do you contribute to these groups in a month? _____

Please state separately if you are involved in more than one group.
_____
4.8. To what degree do you participate in these groups decision-making process? _____

4.9. How were you recruited into these groups?

- Through friends
- Relatives
- Schoolmates
- Colleagues
- Other members of the family
- Community leader
- People living in the same neighbourhood
- Others, specify _____

4.10. Who are the members of the associations you are currently associated with?

- Businessmen
- Service holders
- Market traders
- Retired people including senior citizens
- Self-employed people
- Daily labourer
- Unemployed people
- Students
- Others. please specify _____

4.11. How are these organizations/groups funded?

- By the government
- NGOs
- International donors
- Political parties
- Contribution from members
- Do not know
- Others, specify _____

4.12. How do you evaluate the roles of these groups/associations in your community?

- Active
- Not active
- Do not know

4.13. What do you think are the reasons for being active in your community?

- Commitment of leaders
- A strong sense for community
- Facilitators/community organizers/NGOs/government support/connections
- Lack of government services
- Economic gains
- Exercise of power
- Others, specify _____

Section 5: Sociability and everyday social interactions

In addition to participating in group activities or associations, people also engage in many activities informally with others. How often do you do the following?

Questions	Frequency
5.0. Eating meals with people outside the home?	Yes No, why?
5.1. If yes, how often in a month?	
5.2. Who are these people?	Family members or relatives Friends Family and Friends
5.3. Do people visit you at your home	Yes No, why?
5.4. If yes, how often during the last month?	
5.5. Who are these people	Family members or relatives? Friends Friends and families
5.6. Do you spend time with people outside your household in other ways, such as doing shopping, talking, drinking or just spending time together5?	Yes No, give reasons if possible
5.7. If yes, how often during the last month	
5.8. Who are these peoples?	Family members or relatives Friends Friends and families
5.9. In an emergency would you leave your children with your neighbours?	Yes/sometime No
5.10. How likely is it would you ask your neighbours for help if you were sick	1. Very unlikely 2. Unlikely 3. Neither unlikely nor likely 4. Likely

5.11. Would you hire someone based on your neighbours' recommendation?	Yes No
5.12. Did you help to arrange funerals for someone who dies in the neighbourhood?	1. Frequently 2. Occasionally 3. Never
5.13. Did you send food to the neighbours' family after a death there?	1. Frequently 2. Occasionally 3. Never
5. 14. Do you or your neighbour help each other in taking sick neighbours to doctors or hospitals?	Yes/sometime No
5.15. Do you or your neighbours send each other Cooked food or drink during religious and social festival or on any happy occasion?	1. Frequently 2. Occasionally 3. Never
5.16. Do you and your neighbours share household utensils?	Yes/sometime No

5.17.   Some people live hand to mouth and others have extra resources to protect them. If there is a crisis,   such as: loss of job, or ill health, some people quickly become destitute while others remain secure. How   would you rate your household's ability to survive such crisis, on the following scale?

1. Very insecure
2. Somewhat insecure
3. Secure

5.18. How much do you support parents, children or other relatives who do not live with you?

Section 6: community activities

6. 0. How would you see the behaviour of the residents of the community in helping others?
1. Try to be helpful
2. Just looking out for themselves
3. Do not know

6.1. Generally speaking, would you say that most people can be trusted or that you cannot be too careful in dealing with people?

1. Most people can be trusted
2. You have to be too careful in every deal
3. Do not know

6.2. Do you think most people would try to take advantage of you if they got the chance, would they try to be fair?

1. Would take advantage of you
2. Would try to be fair
3. Do not know

6.3. Overall, how much impact do you think people like you can have in making your neighbourhood/community a better place to live?

1. No impact at all
2. A minor impact
3. Moderate impact
4. A big impact

6.4. How well do people in your community get along these days?

1. Not getting along at all
2. Not getting along very well
3. Do not know
4. Getting along quite well
5. Getting along very well

6.5. Are there any NGOs focusing on environment and sanitation – presently working in your community?

1. Yes
2. No
3. Do not know

6.6. How would you rate these NGOs impact on your neighbourhood development?

1. Negative
2. Positive
3. Do not know

6.7. Have you ever participated voluntarily in community development activities (cleaning of garbage)?
1. Yes
2. No

6.8. On average, how often did you volunteer in community activities during the last month?

6.9. If there is a community development program, are you willing to participate in the program?

1. Willing to participate
2. Not willing to participate
3. Do not know

At this point, I will read some statements to you, tell me how much you agree or disagree with each one of them.

6.10. In your community/neighbourhood, it is generally expected that people will volunteer in community activities?

1. Agree
2. Disagree
3. Do not know

6.11. People who do not participate in community activities will most likely to be criticized or should have social sanctions placed on them?

1. Agree
2. Disagree
3. Do not know

6.12. Are there any community levels activities in which you are not allowed to participate?

1. Yes
2. No

6.13. Why are you not allowed to participate?

1. Poverty
2. Gender
3. Ethnic minority
4. Religion
5. Education
6. Age
7. Others (specify) _____

Now I want to ask you how much you trust different groups of people. Check a box. How much do you feel you can trust the people in those groups?

	1 Do not know	2 To some extent	3 Average	4 I trust	5 To a great extent
6.14. People in your family					
6.15. People in your neighbourhood					
6.16. People from other religion group					
6.17. Local government					
6.18. the Judiciary system and policed force					
6.19. Government services (education, health, electricity, water, sanitation etc.)					
6.20. NGOs/community-based organization					

6.21. To which association, do you think, the majority of the residents of this community belong to?
1. Social group
2. Religious associations
3. Professional associations
4. Basic service group
5. Neighbourhood development committee (particularly for SWM)
6. Others (specify) _____

6.22. If partnerships with NGOs and Government organizations are to be established for the

development of your neighbourhood, which association will you recommend?

1. Social group
2. Religious associations

3. Neighbourhood development committee
4. Others (specify) _____

I am going to ask you the following questions about the association you just recommended:

interviewers please refer to the answer for question 6.21.

6.23. Who are the members of this […] association?

Close relatives

1. People from the same community
2. Friends/schoolmates
3. Anyone in the community but known
4. Do not know

6.24. Please state the economic level of the members of [….] association looks like?

6.25. Are the leaders of the association elected by all members?

1. Yes
2. No
3. Do not know

6.26. What happen if a member does not pay the fee?

1. Asked to leave the association
2. Delay in payment accepted
3. Nothing happens
4. No fee

6.27. Are you willing to participate through your neighbourhood association in partnership for the improvement of the community (specifically garbage collection and disposal)?

1. Yes
2. No
3. I am not sure

6.28. In what terms do you like to participate?

1. In terms of contributing money
2. In terms of labour
3. In terms of money and labour
4. Through advise

Appendix C

Interview Guide for Community Leaders Who Have Organized/not Organized USWM Initiatives 2010

Date _____

Community _____

Location _____

1. Personal Information

Name of the interviewee _____

Address _____

Age _____

Sex _____

2.0. Idea on community and the Environment

2.1. Please list the three most important problems of your community

    1. _____

    2. _____

    3. _____

2.2. Do you believe urban solid waste creates problem in your community? Yes/no (give reasons for your answer).

2.3. Do you regard urban solid waste to be a potential threat to healthy environment and human health? Yes/no (if yes clearly explain how this could be control. If not, why?)

2.4. Can you name if possible the three most common diseases associated with solid waste

    1. _____
    2.
    3. _____

2.5. What are some of the general view of the residents of your community about USWM?

3.0. Organization of community initiative for USWM (pertinent for those people who organize urban solid waste management initiatives)

3.1. How long have you been living in this community? _____

3.2. Are you a permanent resident of this community? _____

3.3. Are you a home owner or you are renting from others? _____

3.4. When did you get involve or interested in organizing an USWM initiative in your community?_____

3.5. Why did you get involve in organizing an USWM initiative in your community?

1. Attachment to the community;
2. Economic gains;
3. To exercise control over others
4. For environmental reasons
5. To gain social/political status
6. Others

3.6. How did you get people to support your initiative to start urban solid waste project in your community?
1. Through individual interaction
2. Groups meeting/discussion
3. Contact through friends and relatives
4. Others specify _____

3.7. Did you meet the people of your community during the past 3 months? If yes, where?

1. In occasions like wedding, birth day, funeral etc.
2. Local club, or other important places
3. Daily/weekly gathering at the time of offering prayers

3.8. How often do you meet the residents of your neighbourhood? What are some of the subjects of your interaction with them?

3.9. How did the residents respond to your initiative (how do they get engaged?)

1. Participate in the meeting regularly
2. Pay monthly dues regularly
3. Inactive in the whole process not paying monthly contribution
4. Do not participate in the meeting but pays due
5. Neither joins the meeting nr pays the contribution

3.10. According to you, what are the motivating factors to the residents to support your plan?

1. Know each other as both service providers and users live in the same community
2. Trust the organizers as they do common good for the community
3. Economic benefits – getting higher price for renting houses
4. Cleanliness
5. Others

3.11. What are the main challenges to organizing a community-based USWM project?

3.12. What do you do with the collected solid waste?

1. Dumping it in municipality bins

2. Sell it to the garbage collectors for reuse
3. Motivate residents to use as manure through composting
4. Give it to scavengers

3.13. Do you believe community-based SWM projects contribute to poverty alleviation in urban setting?

4.0. Questions for leaders who did not initiate or organize community-based SWM   project

4.1. How long have you been living in this community? Numbers of years _____

4.2. Do you live in this community permanently? Yes/no

4.3. Are you renting from someone or do you own a house?

4.4. Do you regard the management of solid waste as a major issue of your community? If yes, what are the main challenges to organize a community-based SWM project (will be a challenge of effective and good leadership)? Please give reasons. If not, why?

4.5. Did you meet the residents of your community or neighbourhood for the past 3 month?

4.6. Did you talk to the residents in your community about solid waste management issue? What is their general response?

1. Aware but do not want to spare time and money
2. Unaware because of lack of information and education
3. Unwilling to participate in solid waste management projects
4. Content with the local government service
5. Others

4.7. Have you ever tried to bring them together to discuss the impacts of solid waste on human and the environment (and to inform them how solid waste can contribute to their subsistence production)?

4.8. What is your personal view about the residents in your community?

1. Friendly, cooperative, and loyal to local leadership
2. Unfriendly but loyal to local leadership
3. Unfriendly, non-cooperative, and not loyal to local leadership

4.9. Do your people consider you trustworthy?

Appendix D

Organization Gatekeeper Recruitment Process: Recruitment– Survey Letter and Consent

January 11, 2010

The Chairman,

NTC Road Community Development

9 Ado Close, Off NTC Road

Ibadan

Dear Sir,

This letter is an invitation to participate in a study I am conducting as part of my PhD degree in the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight. The title of my research project is "The Role of Social Capital in Urban solid Waste Management in Ibadan, Nigeria." I would like to provide you with more information about this project that explores the potential of applying social capital in a community-based urban solid waste management initiative in the city of Ibadan, Nigeria. In addition, this research looks to place the concept of social capital in the practice of waste management, particularly at the neighbourhood level as well as a broader philosophical and policy level. The objectives of the research are (a) to understand and document the features of the current urban solid waste management system in Ibadan, (b) to explore the potential of applying social capital in community-based urban solid waste management initiative, and (c) to identify other elements that could facilitate successful urban solid waste management at the community and institutional levels.

The purpose of this study is to explore the extent to which social capital affects community-based urban solid waste management success in the city of Ibadan, Nigeria. Knowledge and information generated from this study may help other community-based organizations, policy- makers, community planners, researchers, and community members.

It is my hope to connect with members who are engaged in the program of the NTC Road Community Development Association to invite them to participate in this research project. I believe that the participants and members of your program have unique understandings and stories relating to community-based urban solid waste management initiative experiences. During the course of this

study, I will be conducting a survey with Association members to gather information about urban solid waste management in their community. At the end of this study the publication of this thesis will share the knowledge from this study with other social capital and urban solid waste researchers, policy-makers, community planners, and community members.

To respect the privacy and rights of the NTC Road Community Development Association and its participants, I would not be contacting the members directly. What I intend to do, is provide the NTC Road Community Development Association with an information letter to be distributed by the NTC Road Community Development Association. The consent form would be provided at the time of Contact concerning the survey questionnaire. If members are interested in participating they should contact me in Nigeria, at 8050678959 to discuss their participations in this study in further detail and I would be conducting the survey myself.

Participation of any member would be completely voluntary. Each member would make his/her own independent decision as to whether or not he/she would like to be involved. All participants will be informed and reminded of their rights to participate or withdraw before any survey interview, or at any time in the study. It may take approximately 1hr: 30 minutes to conduct at their home any of the survey questions.

To support the findings of this study, quotations and excerpts from the survey will be used labeled with pseudonyms to protect the identity of the participants. Names of participants will not appear in the thesis or reports resulting from this study. Participants will not be identifiable, and only described by gender. In addition, I will be inviting leaders of organizations to participate in an interview.

If the NTC Road Community Development Association wishes the identity of the organization to remain confidential, a pseudonym will be given to the organization. All paper field notes collected will be retained in a secure space in Canada. All paper notes will be confidentially destroyed after one year. Further, all electronic data will be stored indefinitely on a CD with no personal identifiers. Finally, only myself and my advisor, Dr. Murray Haight in the School of Planning at the University of Waterloo will have access to these materials. There are no known or anticipated risks to participants in this study.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics, University of Waterloo. If you have any comments or concerns resulting from your participation in this study, please feel free to contact Dr. Susan Sykes, Director, Office of Research Ethics at (519)888-4567 ext. 36005 or by email ssykes@uwaterloo.ca

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact me in Nigeria at 8050678959 or by email *sawahab@uwaterloo.ca*.   You may also contact my supervisor, Dr. Murray Haight at 009-1-519-888-4567, ext., 33027 or by email, mehaight@uwaterloo.ca. I will deliver the letter in person to the leader of the association upon my arrival in Nigeria because I have decided to travel to Nigeria earlier than planned once the full ethics review certificate has been issued.

I hope that the results of my study will be beneficial to the NTC Road Community Association, to your members, and to the communities, Neighbourhoods, involved in community-based urban solid waste management across Nigeria, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project.

Yours sincerely,

Samuel Wahab
 PhD Candidate
Schooling of Planning
University of Waterloo

Permission Form

We have read the information presented in the information letter about a study being conducted by Samuel Wahab of the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight at the University of Waterloo. We have had the opportunity to ask any questions related to this study, to receive satisfactory answers to our questions, and any additional details we wanted.

We are also aware that excerpts from the interviews conducted with members may be included in the thesis and/or publications to come from this research, with the understanding that the participants in the study will be identified using pseudonyms only. We are aware that the name of our organization will only be used in the thesis or any publications that comes from the research with our permission. We were informed that participants and this organization may withdraw my consent at any time without penalty by advising the researcher.

We have been informed this project has been reviewed by, and received ethics clearance through, the Office of Research Ethics at the University of Waterloo and that questions we have about the study may be directed to Samuel Wahab in Nigeria at 805 0678959 or by email sawahab@*uwaterloo.ca* and Professor Murray Haight at 009-1-519- 888-4567, ext., 33027 or by email mehaight@uwaterloo.ca .

We were informed that if we have any comments or concerns resulting from my participation in this study, we may also contact the Dr. Susan Sykes, Director, Office of Research Ethics at 009-1-519 888-4567 ext. 36005 or ssykes@uwaterloo.ca.

Samuel Wahab

PhD. Candidate

 School of Planning

University of Waterloo, Canada

We agree to provide the information letter for the study, as supplied by Samuel Wahab, to our members and if needed, the letter will be read to members. □ YES □ NO

We agree to the use of the name of the association in any thesis or publication that comes of this research. □ YES □ NO

If NO, a pseudonym will be used to protect the identity of the organization.

Director Name: _____ (Please print)

Director Signature: _____

Board of Directors Representative Name: _____ (Please print)

Board of Directors Representative Signature: _____

Witness Name: _____ (Please print)

Witness Signature: _____

Date: _____

Please return the competed permission form to the address below:

Samuel Wahab

C/o Dr. Wahab

Department of Urban and Regional Planning

University of Ibadan

Organization Gatekeeper Recruitment Process: Recruitment – Survey Letter and Consent

January 11, 2010

The Chairman,

Bodija Market Area Development Association

Bodija Market, Ibadan

Dear Sir,

This letter is an invitation to participate in a study I am conducting as part of my PhD degree in the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight. The title of my research project is "The Role of Social Capital in Urban solid Waste Management in Ibadan, Nigeria." I would like to provide you with more information about this project that explores the potential of applying social capital in a community-based urban solid waste management initiative in the city of Ibadan, Nigeria. In addition, this research looks to place the concept of social capital in the practice of waste management, particularly at the neighbourhood level as well as a broader philosophical and policy level. The objectives of the research are (a) to understand and document the features of the current urban solid waste management system in Ibadan, (b) to explore the potential of applying social capital in community-based urban solid waste management initiative, and (c) to identify other elements that could facilitate successful urban solid waste management at the community and institutional levels.

The purpose of this study is to explore the extent to which social capital affects community-based urban solid waste management success in the city of Ibadan, Nigeria. Knowledge and information generated from this study may help other community-based organizations, policy- makers, community planners, researchers, and community members.

It is my hope to connect with members who are engaged in the program of the Bodija Market Area Development Association to invite them to participate in this research project. I believe that the participants and members of your program have unique understandings and stories relating to community-based urban solid waste management initiative experiences. During the course of this study, I will be conducting a survey with Association members to gather information about urban solid waste management in their community. At the end of this study the publication of this thesis

will share the knowledge from this study with other social capital and urban solid waste researchers, policy-makers, community planners, and community members.

To respect the privacy and rights of the Bodija Market Area Development Association and its participants, I would not be contacting the members directly. What I intend to do, is provide the Bodija Market Area Development Association with an information letter to be distributed by the Bodija Market Area Development Association. The consent form would be provided at the time of Contact concerning the survey questionnaire. If members are interested in participating they should contact me in Nigeria*, at 8050678959 to discuss their participations in this study in further detail and I would be conducting the survey myself.

Participation of any member would be completely voluntary. Each member would make his/her own independent decision as to whether or not he/she would like to be involved. All participants will be informed and reminded of their rights to participate or withdraw before any survey interview, or at any time in the study. It may take approximately 1hr: 30 minutes to conduct at their home any of the survey questions.

To support the findings of this study, quotations and excerpts from the survey will be used labeled with pseudonyms to protect the identity of the participants. Names of participants will not appear in the thesis or reports resulting from this study. Participants will not be identifiable, and only described by gender. In addition, I will be inviting leaders of organizations to participate in an interview.

If the Bodija Market Area Development Association wishes the identity of the organization to remain confidential, a pseudonym will be given to the organization. All paper field notes collected will be retained in a secure space in Canada. All paper notes will be confidentially destroyed after one year. Further, all electronic data will be stored indefinitely on a CD with no personal identifiers. Finally, only myself and my advisor, Dr. Murray Haight in the School of Planning at the University of Waterloo will have access to these materials. There are no known or anticipated risks to participants in this study.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics, University of Waterloo. If you have any comments or concerns resulting from your participation in this study, please feel free to contact Dr. Susan Sykes, Director, Office of Research Ethics at (519)888-4567 ext. 36005 or by email ssykes@uwaterloo.ca

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact me in Nigeria at 8050678959 or by email *sawahab@uwaterloo.ca*.   You may also contact my supervisor, Dr. Murray Haight at 009-1-519-

888-4567, ext., 33027 or by email, mehaight@uwaterloo.ca. I will deliver the letter in person to the leader of the association upon my arrival in Nigeria because I have decided to travel to Nigeria earlier than planned once the full ethics review certificate has been issued.

I hope that the results of my study will be beneficial to the Bodija Market Area Development Association, to your members, and to the communities, Neighbourhoods, involved in community-based urban solid waste management across Nigeria, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project.

Yours sincerely,

Samuel Wahab
 PhD Candidate
Schooling of Planning
University of Waterloo

Organization Gatekeeper Recruitment Process: Recruitment – Survey Letter and Consent

January 11, 2010
The Chairman,
Ayeye Community, Ayeye Area
Ibadan

Dear Sir,

This letter is an invitation to participate in a study I am conducting as part of my PhD degree in the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight. The title of my research project is "The Role of Social Capital in Urban solid Waste Management in Ibadan, Nigeria." I would like to provide you with more information about this project that explores the potential of applying social capital in a community-based urban solid waste management initiative in the city of Ibadan, Nigeria. In addition, this research looks to place the concept of social capital in the practice of waste management, particularly at the neighbourhood level as well as a broader philosophical and policy level. The objectives of the research are (a) to understand and document the features of the current urban solid waste management system in Ibadan, (b) to explore the potential of applying social capital in community-based urban solid waste management initiative, and (c) to identify other elements that could facilitate successful urban solid waste management at the community and institutional levels.

The purpose of this study is to explore the extent to which social capital affects community-based urban solid waste management success in the city of Ibadan, Nigeria. Knowledge and information generated from this study may help other community-based organizations, policy- makers, community planners, researchers, and community members.

It is my hope to connect with members who are engaged in the program of the Ayeye Community organo-material fertilizer plant to invite them to participate in this research project. I believe that the participants and members of your program have unique understandings and stories relating to community-based urban solid waste management initiative experiences. During the course of this study, I will be conducting a survey with community members to gather information about urban solid waste management in their community. At the end of this study the publication of this thesis will share the knowledge from this study with other social capital and urban solid waste researchers, policy-makers, community planners, and community members.

To respect the privacy and rights of the Ayeye community members and its participants, I would not be contacting the members directly. What I intend to do, is provide the Ayeye community leaders with an information letter to be distributed by the Ayeye Community leaders. The consent form would be provided at the time of Contact concerning the survey questionnaire. If members are interested in participating they should contact me in Nigeria, at 8050678959 to discuss their participations in this study in further detail and I would be conducting the survey myself.

Participation of any member would be completely voluntary. Each member would make his/her own independent decision as to whether or not he/she would like to be involved. All participants will be informed and reminded of their rights to participate or withdraw before any survey interview, or at any time in the study. It may take approximately 1hr: 30 minutes to conduct at their home any of the survey questions.

To support the findings of this study, quotations and excerpts from the survey will be used labeled with pseudonyms to protect the identity of the participants. Names of participants will not appear in the thesis or reports resulting from this study. Participants will not be identifiable, and only described by gender. In addition, I will be inviting leaders of organizations to participate in an interview.

If the Ayeye Community member wishes the identity of the organization to remain confidential, a pseudonym will be given to the organization. All paper field notes collected will be retained in a secure space in Canada. All paper notes will be confidentially destroyed after one year. Further, all electronic data will be stored indefinitely on a CD with no personal identifiers. Finally, only myself and my advisor, Dr. Murray Haight in the School of Planning at the University of Waterloo will have access to these materials. There are no known or anticipated risks to participants in this study.

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If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact me in Nigeria at 8050678959 or by email *sawahab@uwaterloo.ca*.   You may also contact my supervisor, Dr. Murray Haight at 009-1-519-888-4567, ext., 33027 or by email, mehaight@uwaterloo.ca. I will deliver the letter in person to the leader of the association upon my arrival in Nigeria because I have decided to travel to Nigeria earlier than planned once the full ethics review certificate has been issued.

I hope that the results of my study will be beneficial to the Ayeye Community, to your members, and to the communities, Neighbourhoods, involved in community-based urban solid waste management across Nigeria, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project.

Yours sincerely,

Samuel Wahab

PhD Candidate

Schooling of Planning

University of Waterloo

Organization Gatekeeper Recruitment Process: Recruitment – Survey Letter and Consent

January 11, 2010

The Chairman,

Foko Community Development Association

Foko Area, Ibadan

Dear Sir,

This letter is an invitation to participate in a study I am conducting as part of my PhD degree in the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight. The title of my research project is "The Role of Social Capital in Urban solid Waste Management in Ibadan, Nigeria." I would like to provide you with more information about this project that explores the potential of applying social capital in a community-based urban solid waste management initiative in the city of Ibadan, Nigeria. In addition, this research looks to place the concept of social capital in the practice of waste management, particularly at the neighbourhood level as well as a broader philosophical and policy level. The objectives of the research are (a) to understand and document the features of the current urban solid waste management system in Ibadan, (b) to explore the potential of applying social capital in community-based urban solid waste management initiative, and (c) to identify other elements that could facilitate successful urban solid waste management at the community and institutional levels.

The purpose of this study is to explore the extent to which social capital affects community-based urban solid waste management success in the city of Ibadan, Nigeria. Knowledge and information generated from this study may help other community-based organizations, policy- makers, community planners, researchers, and community members.

It is my hope to connect with members who are engaged in the program of the Foko Community Development Association to invite them to participate in this research project. I believe that the participants and members of your program have unique understandings and stories relating to community-based urban solid waste management initiative experiences. During the course of this study, I will be conducting a survey with Association members to gather information about urban solid waste management in their community. At the end of this study the publication of this thesis

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will share the knowledge from this study with other social capital and urban solid waste researchers, policy-makers, community planners, and community members.

To respect the privacy and rights of the Foko Community Development Association and its participants, I would not be contacting the members directly. What I intend to do, is provide the Foko Community Development Association with an information letter to be distributed by the Foko Community Development Association. The consent form would be provided at the time of Contact concerning the survey questionnaire. If members are interested in participating they should contact me in Nigeria*,* at 8050678959 to discuss their participations in this study in further detail and I would be conducting the survey myself.

Participation of any member would be completely voluntary. Each member would make his/her own independent decision as to whether or not he/she would like to be involved. All participants will be informed and reminded of their rights to participate or withdraw before any survey interview, or at any time in the study. It may take approximately 1hr: 30 minutes to conduct at their home any of the survey questions.

To support the findings of this study, quotations and excerpts from the survey will be used labeled with pseudonyms to protect the identity of the participants. Names of participants will not appear in the thesis or reports resulting from this study. Participants will not be identifiable, and only described by gender. In addition, I will be inviting leaders of organizations to participate in an interview.

If the Foko Community Development Association wishes the identity of the organization to remain confidential, a pseudonym will be given to the organization. All paper field notes collected will be retained in a secure space in Canada. All paper notes will be confidentially destroyed after one year. Further, all electronic data will be stored indefinitely on a CD with no personal identifiers. Finally, only myself and my advisor, Dr. Murray Haight in the School of Planning at the University of Waterloo will have access to these materials. There are no known or anticipated risks to participants in this study.

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from your participation in this study, please feel free to contact Dr. Susan Sykes, Director, Office of Research Ethics at (519)888-4567 ext. 36005 or by email ssykes@uwaterloo.ca

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact me in Nigeria at 8050678959 or by email *sawahab@uwaterloo.ca*.   You may also contact my supervisor, Dr. Murray Haight at 009-1-519-888-4567, ext., 33027 or by email, mehaight@uwaterloo.ca. I will deliver the letter in person to the leader of the association upon my arrival in Nigeria because I have decided to travel to Nigeria earlier than planned once the full ethics review certificate has been issued.

I hope that the results of my study will be beneficial to the Foko Community Development Association, to your members, and to the communities, Neighbourhoods, involved in community-based urban solid waste management across Nigeria, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project.

Yours sincerely,

Samuel Wahab
 PhD Candidate
Schooling of Planning
University of Waterloo

Organization Gatekeeper Recruitment Process: Recruitment – Survey Letter and Consent

January 11, 2010

The Chairman,
Alesinloye Traders Association

Dear Sir,

This letter is an invitation to participate in a study I am conducting as part of my PhD degree in the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight*.* The title of my research project is "The Role of Social Capital in Urban solid Waste Management in Ibadan, Nigeria." I would like to provide you with more information about this project that explores the potential of applying social capital in a community-based urban solid waste management initiative in the city of Ibadan, Nigeria. In addition, this research looks to place the concept of social capital in the practice of waste management, particularly at the neighbourhood level as well as a broader philosophical and policy level. The objectives of the research are (a) to understand and document the features of the current urban solid waste management system in Ibadan, (b) to explore the potential of applying social capital in community-based urban solid waste management initiative, and (c) to identify other elements that could facilitate successful urban solid waste management at the community and institutional levels.

The purpose of this study is to explore the extent to which social capital affects community-based urban solid waste management success in the city of Ibadan, Nigeria. Knowledge and information generated from this study may help other community-based organizations, policy- makers, community planners, researchers, and community members.

It is my hope to connect with members who are engaged in the program of the Alesinloye Traders Association to invite them to participate in this research project. I believe that the participants and members of your program have unique understandings and stories relating to community-based urban solid waste management initiative experiences. During the course of this study, I will be conducting a survey with Association members to gather information about urban solid waste management in their

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community. At the end of this study the publication of this thesis will share the knowledge from this study with other social capital and urban solid waste researchers, policy-makers, community planners, and community members.

To respect the privacy and rights of the Alesinloye Traders Association and its participants, I would not be contacting the members directly. What I intend to do, is provide the Alesinloye Traders Association with an information letter to be distributed by the Alesinloye Traders Association. The consent form would be provided at the time of Contact concerning the survey questionnaire. If members are interested in participating they should contact me in Nigeria, at 8050678959 to discuss their participations in this study in further detail and I would be conducting the survey myself.

Participation of any member would be completely voluntary. Each member would make his/her own independent decision as to whether or not he/she would like to be involved. All participants will be informed and reminded of their rights to participate or withdraw before any survey interview, or at any time in the study. It may take approximately 1hr: 30 minutes to conduct at their home any of the survey questions.

To support the findings of this study, quotations and excerpts from the survey will be used labeled with pseudonyms to protect the identity of the participants. Names of participants will not appear in the thesis or reports resulting from this study. Participants will not be identifiable, and only described by gender. In addition, I will be inviting leaders of organizations to participate in an interview.

If the Alalubosa GRA Residents Association wishes the identity of the organization to remain confidential, a pseudonym will be given to the organization. All paper field notes collected will be retained in a secure space in Canada. All paper notes will be confidentially destroyed after one year. Further, all electronic data will be stored indefinitely on a CD with no personal identifiers. Finally, only myself and my advisor, Dr. Murray Haight in the School of Planning at the University of Waterloo will have access to these materials. There are no known or anticipated risks to participants in this study.

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from your participation in this study, please feel free to contact Dr. Susan Sykes, Director, Office of Research Ethics at (519)888-4567 ext. 36005 or by email ssykes@uwaterloo.ca

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact me in Nigeria at 8050678959 or by email *sawahab@uwaterloo.ca*.   You may also contact my supervisor, Dr. Murray Haight at 009-1-519-888-4567, ext., 33027 or by email, mehaight@uwaterloo.ca. I will deliver the letter in person to the leader of the association upon my arrival in Nigeria because I have decided to travel to Nigeria earlier than planned once the full ethics review certificate has been issued.

I hope that the results of my study will be beneficial to the Alesinloye Traders Association, to your members, and to the communities, Neighbourhoods, involved in community-based urban solid waste management across Nigeria, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project.

Yours sincerely
Samuel Wahab
 PhD Candidate
Schooling of Planning
University of Waterloo

Organization Gatekeeper Recruitment Process: Recruitment – Survey Letter and Consent

January 11, 2010

The Chairman,

Sasa Landlord Association

Dear Sir,

This letter is an invitation to participate in a study I am conducting as part of my PhD degree in the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight. The title of my research project is "The Role of Social Capital in Urban solid Waste Management in Ibadan, Nigeria." I would like to provide you with more information about this project that explores the potential of applying social capital in a community-based urban solid waste management initiative in the city of Ibadan, Nigeria. In addition, this research looks to place the concept of social capital in the practice of waste management, particularly at the neighbourhood level as well as a broader philosophical and policy level. The objectives of the research are (a) to understand and document the features of the current urban solid waste management system in Ibadan, (b) to explore the potential of applying social capital in community-based urban solid waste management initiative, and (c) to identify other elements that could facilitate successful urban solid waste management at the community and institutional levels.

The purpose of this study is to explore the extent to which social capital affects community-based urban solid waste management success in the city of Ibadan, Nigeria. Knowledge and information generated from this study may help other community-based organizations, policy- makers, community planners, researchers, and community members.

It is my hope to connect with members who are engaged in the program of the Alesinloye Traders Association to invite them to participate in this research project. I believe that the participants and members of your program have unique understandings and stories relating to community-based urban solid waste management initiative experiences. During the course of this study, I will be conducting a survey with Association members to gather information about urban solid waste management in their community. At the end of this study the publication of this thesis will share the knowledge from this study with other social capital and urban solid waste researchers, policy-makers, community planners, and community members.

To respect the privacy and rights of the Alesinloye Traders Association and its participants, I would not be contacting the members directly. What I intend to do, is provide Sasa Landlord Association with an information letter to be distributed by the Sasa Landlord Association. The consent form

would be provided at the time of Contact concerning the survey questionnaire. If members are interested in participating they should contact me in Nigeria, at 8050678959 to discuss their participations in this study in further detail and I would be conducting the survey myself.

Participation of any member would be completely voluntary. Each member would make his/her own independent decision as to whether or not he/she would like to be involved. All participants will be informed and reminded of their rights to participate or withdraw before any survey interview, or at any time in the study. It may take approximately 1hr: 30 minutes to conduct at their home any of the survey questions.

To support the findings of this study, quotations and excerpts from the survey will be used labeled with pseudonyms to protect the identity of the participants. Names of participants will not appear in the thesis or reports resulting from this study. Participants will not be identifiable, and only described by gender. In addition, I will be inviting leaders of organizations to participate in an interview.

If the Alalubosa GRA Residents Association wishes the identity of the organization to remain confidential, a pseudonym will be given to the organization. All paper field notes collected will be retained in a secure space in Canada. All paper notes will be confidentially destroyed after one year. Further, all electronic data will be stored indefinitely on a CD with no personal identifiers. Finally, only myself and my advisor, Dr. Murray Haight in the School of Planning at the University of Waterloo will have access to these materials. There are no known or anticipated risks to participants in this study.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics, University of Waterloo. If you have any comments or concerns resulting from your participation in this study, please feel free to contact Dr. Susan Sykes, Director, Office of Research Ethics at (519)888-4567 ext. 36005 or by email ssykes@uwaterloo.ca

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact me in Nigeria at 8050678959 or by email *sawahab@uwaterloo.ca*.   You may also contact my supervisor, Dr. Murray Haight at 009-1-519-888-4567, ext., 33027 or by email, mehaight@uwaterloo.ca. I will deliver the letter in person to the leader of the association upon my arrival in Nigeria because I have decided to travel to Nigeria earlier than planned once the full ethics review certificate has been issued.

I hope that the results of my study will be beneficial to the Sasa Landlord   Association, to your members, and to the communities, Neighbourhoods, involved in community-based urban solid waste

management across Nigeria, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project.

Yours sincerely,

Samuel Wahab

 PhD Candidate

Schooling of Planning

University of Waterloo

Organization Gatekeeper Recruitment Process: Recruitment – Survey Letter and Consent

January 11, 2010

The Chairman,

Agbowo Landlord Association

Dear Sir,

This letter is an invitation to participate in a study I am conducting as part of my PhD degree in the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight. The title of my research project is "The Role of Social Capital in Urban solid Waste Management in Ibadan, Nigeria." I would like to provide you with more information about this project that explores the potential of applying social capital in a community-based urban solid waste management initiative in the city of Ibadan, Nigeria. In addition, this research looks to place the concept of social capital in the practice of waste management, particularly at the neighbourhood level as well as a broader philosophical and policy level. The objectives of the research are (a) to understand and document the features of the current urban solid waste management system in Ibadan, (b) to explore the potential of applying social capital in community-based urban solid waste management initiative, and (c) to identify other elements that could facilitate successful urban solid waste management at the community and institutional levels.

The purpose of this study is to explore the extent to which social capital affects community-based urban solid waste management success in the city of Ibadan, Nigeria. Knowledge and information generated from this study may help other community-based organizations, policy- makers, community planners, researchers, and community members.

It is my hope to connect with members who are engaged in the program of the Agbowo Landlord Association to invite them to participate in this research project. I believe that the participants and members of your program have unique understandings and stories relating to community-based urban solid waste management initiative experiences. During the course of this study, I will be conducting a survey with Association members to gather information about urban solid waste management in their community. At the end of this study the publication of this thesis will share the knowledge from this

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study with other social capital and urban solid waste researchers, policy-makers, community planners, and community members.

To respect the privacy and rights of the Alesinloye Traders Association and its participants, I would not be contacting the members directly. What I intend to do, is provide the Agbowo Landlord Association with an information letter to be distributed by the Agbowo Landlord Association. The consent form would be provided at the time of Contact concerning the survey questionnaire. If members are interested in participating they should contact me in Nigeria, at 8050678959 to discuss their participations in this study in further detail and I would be conducting the survey myself.

Participation of any member would be completely voluntary. Each member would make his/her own independent decision as to whether or not he/she would like to be involved. All participants will be informed and reminded of their rights to participate or withdraw before any survey interview, or at any time in the study. It may take approximately 1hr: 30 minutes to conduct at their home any of the survey questions.

To support the findings of this study, quotations and excerpts from the survey will be used labeled with pseudonyms to protect the identity of the participants. Names of participants will not appear in the thesis or reports resulting from this study. Participants will not be identifiable, and only described by gender. In addition, I will be inviting leaders of organizations to participate in an interview.

If the Alalubosa GRA Residents Association wishes the identity of the organization to remain confidential, a pseudonym will be given to the organization. All paper field notes collected will be retained in a secure space in Canada. All paper notes will be confidentially destroyed after one year. Further, all electronic data will be stored indefinitely on a CD with no personal identifiers. Finally, only myself and my advisor, Dr. Murray Haight in the School of Planning at the University of Waterloo will have access to these materials. There are no known or anticipated risks to participants in this study.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics, University of Waterloo. If you have any comments or concerns resulting from your participation in this study, please feel free to contact Dr. Susan Sykes, Director, Office of Research Ethics at (519)888-4567 ext. 36005 or by email ssykes@uwaterloo.ca

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation, please contact me in Nigeria at 8050678959 or by email *sawahab@uwaterloo.ca*.   You may also contact my supervisor, Dr. Murray Haight at 009-1-519-888-4567, ext., 33027 or by email, mehaight@uwaterloo.ca. I will deliver the letter in person to the leader of the association upon my arrival in Nigeria because I have decided to travel to Nigeria earlier than planned once the full ethics review certificate has been issued.

I hope that the results of my study will be beneficial to the Agbowo Landlord   Association, to your members, and to the communities, Neighbourhoods, involved in community-based urban solid waste management across Nigeria, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project.

Yours sincerely,

Samuel Wahab
 PhD Candidate
Schooling of Planning
University of Waterloo

Appendix E

Information Letter-Survey and/or Consent Form for Community Leaders

January 11, 2010

Dear Si/Madam

This letter is an invitation to consider participating in a study I am conducting as part of my PhD degree in the School of Planning at the University of Waterloo, Ontario, Canada under the supervision of Professor Murray Haight. I would like to provide you with more information about this project and what your involvement would entail if you decide to take part.

Changes in urban solid waste management (USWM) sectors are continuing with growing urbanization. Urbanization has been a worldwide trend since the middle of the 20th century. It is especially rapid in the developing world. The urban population of the world is expected to double to more than five billion in the next 35 years, with 90% of this growth happening in the developing world. Nigeria is one of the most rapidly urbanizing countries in the developing world with a population estimated to be 150 million people. Lack of effective control is acute in Nigeria and many other African countries such as Ghana, Kenya and Tanzania. Rapid urbanization and population growth highlight the stress that dense population exert on the built environment which accelerates environmental degradation, rising urban solid waste, traffic congestion, and inadequate sanitation services. In spite of the proclaimed intention of the government and planners, the city of Ibadan is facing a similar situation as other cities in Nigeria and Africa. The purpose of this study, therefore, is to explore the extent to which social capital affects community-based urban solid waste management success in the city of Ibadan, Nigeria.

This study will focus on different ethnic groups in the city of Ibadan to see whether people from different ethnic background can work together in the collection and management of garbage in their communities. Community-based organizations (CBOs) and non-governmental organizations (NGOs) are playing fundamental roles in urban solid waste management (USWM) in various communities in developing countries around the world as a result of dismal failure of the existing system. In most cases, these organizations respond to deplorable environmental conditions in their communities by initiating urban solid waste management projects, mainly primary collection and street cleaning. Women and youth with support from the community in which you are currently involved often operate these organizations. Therefore, I would like to include your organization as one of several organizations to be involved in my study. I believe that because you are actively involved in the management and operation of your organization, you are best suited to speak to the various issues,

such as why people participate in voluntary associations for the provision of common good and how is power negotiated and shared among members in local organizations or associations? What is your personal view on urban solid waste management in the city of Ibadan? If members are interested in participating they should contact me in Nigeria, at 8050678959 to discuss their participations in this study in further detail and I would be conducting the survey myself.

Participation in this study is voluntary. It will involve the completion of a survey questionnaire of approximately 1hr: 30 minutes in length. The survey will be conducted at your home and you may decline to answer any of the survey questions if you so wish. Further, you may decide to withdraw from this study at any time without any negative consequences by advising the researcher. All information you provided is considered completely confidential. Your name will not appear in any thesis or report resulting from this study. Data collected during this study will be retained in a secure space in Canada. All paper notes will be confidentially destroyed after one year. Further, all electronic data will be stored indefinitely on a CD with no personal identifiers. Finally, only myself and my advisor, Dr. Murray Haight in the School of Planning at the University of Waterloo will have access to these materials. There are no known or anticipated risks to you as a participant in this study.

If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please contact me in Nigeria at 8050678959 or by email at *sawahab@uwateloo.ca* . You can also contact my supervisor, Professor Murray Haight at 009-1-519-888-4567 ext. 33027 or email **mehaight@uwaterloo.ca**

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please contact Dr. Susan Sykes of this office at 009-1- 519-888-4567 Ext. 36005 or ssykes@uwaterloo.ca.

I hope that the results of my study will be of benefit to those organizations directly involved in the study, Community-based organizations not directly involved in the study, as well as to the broader research community.

I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Yours Sincerely,

Samuel Wahab
Student Investigator

Appendix F

Interview Questions For Oyo State Solid Waste Management Authority

1. Please can you elaborate on the current institutional arrangement for urban solid waste management in the city of Ibadan in particular and Oyo State in general?
2. Being frustrated with the inability of the state and municipal governments to effectively and efficiently manage urban solid waste, some communities or neighbourhoods have started managing their own waste at the community level. From your experience, are you aware of such initiatives within Ibadan?
3. Generally and historically, in developing countries three disposal methods have been used for urban solid waste management: such as open dumping, landfill, and incineration. What is the current method used in managing waste in Ibadan?
4. The lack of appropriate land use planning across the city of Ibadan hinders effective urban solid waste management practices. What is your observation regarding this statement?
5. The ability of an urban waste management system to consistently and reliably attain its goal hinges on the operation and maintenance of the system. What is the current technical problem facing your institution in terms of urban solid waste management?
6. Evidence shows that the financial, material, and human resources devoted to urban solid waste management by municipalities across Oyo State have not be able to march responsibility. Can you tell me the current financial arrangement for USWM in the State and Ibadan in particular?
7. Are there any personnel problems facing your institution in managing urban solid waste in Ibadan?
8. International organizations have played important role in urban solid waste management in developing countries. How important is the role of international organizations in waste management in Ibadan?

Appendix G

Interview Questions for Oyo State Private Refuse Contractors

1. In recent years, the World Bank has call for the involvement of private sector in the provision of urban basic services to complement the role of government in the provision of such services. Can you briefly elaborate on the role of your organization in the provision of USWM in Ibadan?

2. Generally speaking, four broad types of private sector involvement in USWM have been identified in developing countries. What is the current arrangement between your organization and the government in the bidding process? Was the process fair and just?

3. How many private contractors are currently operating across the city in the collection, transfer and dumpsite operation? Second what types of communities does your organization serve?

4. In terms of waste collection and transport to dumpsite, what is the percentage of the city does your organization cover?

5. What is the relationship between your clients and your organization in terms of the services your organization is providing for them?

6. Are the any problems confronting your organization for the effective performance of its duty to clients?

7. From business perspective, do you think that the currently fee charge by your organization for the collection and transport of refuse in the city is sustainable at the long run?

8. What is your generally assessment of urban solid waste management in the city of Ibadan and how can it be best improve upon?

Appendix H

Focus Group Questions

1) Do you think management of urban solid waste is a problem in your community?
2) Do you regard solid waste a threat to the healthy environment and human health?
3) The interviewer asked the focus group if the pay for evacuation of solid wastes?

4) The interviewer asked the focus group if solid waste is a threat and how solid waste is a threat to the community as a whole
5) What is your general observation about solid waste management in your neighbourhood/city?

6) What are some of the problem confronting this community in managing their own w
7) What are the main challenges facing your organization in managing urban solid waste?
8) How many association(s) do you belong to and what motivates you to join then?
9) How well do people in your community get along these days?
10) Would you say people could be trust in your community?