

**FACTORS THAT GENERATE AND SUSTAIN
HANDCART TRANSPORT ACTIVITIES: A CASE STUDY
OF NAIROBI**

BY

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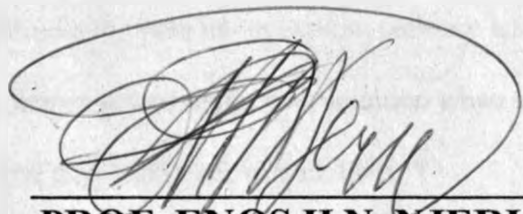
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**THIS THESIS IS MY ORIGINAL WORK. IT HAS NOT
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**THIS THESIS HAS BEEN SUBMITTED FOR A MASTER
OF ARTS (M.A.) DEGREE AWARD WITH MY APPROVAL
AS UNIVERSITY SUPERVISOR**


PROF. ENOS H.N. NJERU

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ABSTRACT

The major objective of the study was to explore factors that generate and sustain handcart transport activities, in the streets of Nairobi. This entailed a thorough exploration of handcartpullers pertaining to their Socio-economic and demographic backgrounds as well as the economic and operational characteristics of the activity.

Entry into handcart transport activities was the first dependent variable. The socio-economic and demographic factors selected as independent variables included; duration of urban residence , family size, number of dependants , level of education ,landownership before joining this activity, previous activities and previous incomes.

Economic characteristics selected as independent variables included incomes from the activity, capital required to enter the activity, sources of capital and the activity's employment capacity.

Investigation of the operational characteristics of the activity involved an analysis of the activity in terms of organisation, nature of trip patterns, transportation costs, sources of competition, cargo characteristics, quality of transport, nature and availability of infrastructure used by the mode, the location characteristics among others.

The study was based on a sample of 120 respondents randomly selected from each of the 8 locations purposively selected . Data collection techniques were mainly primary with Questionnaires being the main data collection instruments.

Other data collection methods such as direct and participant observation were also used .Secondary data from available records were also used. These were mainly drawn from National Development Plans and the Economic surveys which provided data of a statistical nature.

Data analysis was done through descriptive statistical methods using frequencies and percentages presented in form of tables to show patterns of relationships.

The findings indicate that handcartpullers' poor Socio-economic backgrounds exert great influence towards their entry into handcart transport activities. Most of the pullers have little formal education, lack requisite technical skills and resources such as land which leaves them with no hope of getting absorbed into the competitive formal or informal sectors.

As a result of their poor backgrounds most of the pullers were found to have been previously unemployed or engaged in occupations that were less demanding in terms of education, technical skills and capital.

The study further revealed that the operational characteristics of handcart transport make it enjoy a natural monopoly as a mode of goods carriage within the city. This was found to apply where the distances and nature of goods involved make it uneconomical to use motorized means of transport.

In conclusion, the study recommends several policy intervention measures for improving and developing the sub-sector among them need to stimulate demand for handcart transport services, institution of educational programmes to enlighten and empower handcartpullers and improvement and expansion of infrastructure.

CHAPTER I: INTRODUCTION

1.1 Problem statement

Unemployment is an acute and growing problem in developing countries, and especially acute in major cities of these countries. According to the current Kenya's Development Plan (1997-2001), one of the greatest challenges today is the prospect of generating enough job opportunities for thousands of its people entering the labour market annually. Failure to live up to this challenge has led to a situation where supply of labour by far outstrips growth of employment opportunities. This scenario can be attributed to the following factors:

- i. low economic growth rates experienced in the country over the years;
- ii. introduction of structural adjustment programmes (SAPS) which has become an important part of economic management ever since the publication of sessional paper No. 1 of 1986; and
- iii. modern technology aided and abetted by an economic system which favours capital-intensive methods of production. This has led to a growth path which associates rapid increases in total output with much smaller increases in employment.

The above factors have gradually led to a significant alteration in the country's labour market characterised by a

decline in the growth rate of the modern sector employment, on one hand, and a steady expansion in informal sector on the other. According to the Economic survey (1998), while growth rate in modern sector employment fell from 4% in 1996 to 1.8% in 1997, informal sector employment rose rapidly from 53.4% in 1994 to 63.6% in 1997.

The survey further indicates that most informal sector jobs were created in urban areas which absorbed 64.9% of total informal sector jobs generated in 1997. During this period, Nairobi City accounted for 24% of the total informal sector employment. This points to the fact that the sector's growth holds the key to spurning economic growth in Kenya and more specifically in the urban areas like Nairobi which are grappling with the spectre of over-urbanisation and its attendant ills-unemployment, inadequate social and physical infrastructures, poverty, congestion, improper solid waste disposal, noise and air pollution, scarcity of housing etc.

The impressive record of the sector's growth is a consequence of the keen interest shown by the Kenya government and other stakeholders since 1972, in line with the recommendations of the ILO. The ILO mission recommended that the sector be accorded government and other support such as easy access to capital and relaxation of laws and regulations that hinder its growth.

Despite the increased attention that has been accorded

the informal sector in general and which has resulted in the impressive growth record over the years, a lot remains to be done before the country can reap maximum benefits from it. Although the government has over the years initiated a number of policy measures geared towards supporting the sector, such efforts have fallen short of meeting the diverse needs of different sub-sectors that make up the sector. It is a fact that 27 years since the ILO mission, many informal sector activities are still craving for recognition and support. These include hawking, urban agriculture and handcart transport activities among others. These activities have remained largely ignored, unrecognised and at times actively discouraged, in spite of their persistence as ubiquitous economic activities in many major urban centres of Kenya. This lack of recognition and support is evident from constant harassment meted to operators of these sub-sectors by either Nairobi City Council or regular policemen, lack or total neglect of requisite infrastructure relevant to these sub-sectors and a glaring lack of policies to adequately address their special needs.

The attention given to the informal sector is characterised by open bias towards some sub-sectors, especially in the manufactures and a total neglect or open discouragement for others and can be attributed to two

reasons:

- i. failure by policy makers to take into consideration the heterogeneity of the informal sector. That the sector is broad and representing a large pool of innovative activities has been acknowledged by many scholars. As Ndege (1990:5) succinctly observes,

"...It is evident that the sector is structured. There are producers of hardware ,food kiosks operators, hawkers and vendors. So long as informal sector researchers handle it from a combined perspective [ie combining the service sector and the productive one] the relative importance and roles of each aspect are not adequately covered"

Such realisation should form the basis upon which any assistance programs should be introduced .

This would ensure that future intervention measures meet the diverse needs of different sub-sectors.

- ii. negative attitude towards low-productivity occupations especially in the services. The prevailing attitude in most developing countries is that these activities are undesirable from the standpoint of some developmental ideal. For example, handcart transport activities are regarded as both a primitive mode of goods carriage and an undignified way of earning a living. Looking at the way non-motorised modes of transport are regarded in the developing countries, SSATP Report no.12 (1994:18) observed that;

"Motor transport is taken as a symbol for

prosperity while walking and cycling is seen as an element of poverty and retrogression".

As a result of the prevailing attitudes, transport policies in most developing countries have been criticised for being unresponsive to the prevailing local needs (Kaira 1983).

As an occupation, handcart transport is regarded as undignified and unproductive, an attitude that partly stems from the education systems of most developing countries in which children are socialised to aspire for white-collar jobs, and to shun blue-collar jobs. Consequently many jobless people involve themselves in an endless search for non-existent white-collar jobs In spite of alternatives in the informal sector.

This study agrees with Galenson (1971) on the dangers inherent in embracing modernisation for reasons of prestige or in blind imitation of the developed countries without adequate consideration of the implications for employment and development. He called for the rationalisation of low-productivity service occupations so that those who practice them can maintain a minimum standard of living. Similarly McGee et al (1977:5) argued that:

"Casual labour and petty trading are highly important not only as sources of employment but also for economic functioning of the cities... far superior to unemployment and in all probability exceeds productivity in marginal employment in agriculture"

The above observations are an acknowledgement that even low productivity occupations in Third World countries do contribute to the process of economic growth. They are a significant policy judgement about activities of low occupational groups within the cities of the developing countries.

This study subscribes to the view that this new thinking contributes to shaping policies of developing countries regarding unemployment problems. It is therefore imperative that for the informal sector to continue playing a significant role towards the efficient functioning of Kenya's major urban centres, more job creating opportunities should be devised and promoted and the already existing activities be accorded the necessary assistance so that they can thrive. Handcart transport is such one activity that has been in existence for a long time. As an economic activity playing a dual role (transport and employment) it contributes to the economies and efficient functioning of major Kenya towns like Nairobi. At the prevailing levels of urban unemployment in Kenya estimated at over 20% (World Bank 1993a), It is expected that more people will be joining activities hitherto considered to be low-status jobs, such as handcart transport. As a non-motorised mode of transport, demand for its services will continue to rise in proportion to the rate of urban expansion. Such growth possibility has

been alluded to in Dimitriou (1992:139) who observed that;

"Low urban communities throughout the Third World rely most heavily on the cheapest form of transport, namely, non-motorised movement and that since such communities are expected to grow so non-motorised transport..."

This study therefore sought to investigate the factors that generate and sustain handcart transport activities in the streets of Nairobi in an environment that is openly intolerant of it and in the midst of great strides in technology within the transport sector the latter being presumed to be an informal cheap response to widespread user demand and able to persist due to great demand for its services. Some of the questions that the study sought to answer were:

- 1) what factors promote and sustain handcart transport activities in the streets of Nairobi?
- 2) from its persistence, is it a viable option for employment and transport?
- 3) what are the socio-economic and demographic backgrounds of handcartpullers?
- 4) what are the economic and operational characteristics of handcart transport activity in relation to its business environment?
- 5) what are the perceptions, attitudes, experiences and future aspirations of handcartpullers?

1.2 Justification of the study

This study is justified as follows:

- a) handcart transport is one among many economic activities undertaken in major urban centres of Kenya and more so in Nairobi playing a dual role in the efficient functioning of the city.
 - i. as a source of employment for its operators and indirectly providing livelihood to dependent on it and;
 - ii. linking the numerous and diverse activities that dot Nairobi's business environment, hence supplementing the role of other transport modes, notably, motorised transport; and
- b) in spite of its significant role and persistence as an ubiquitous economic activity in many urban centres of Kenya, no study has been carried out on factors behind its emergence and persistence in our urban settings. There is therefore:
 - i. need for a comprehensive and systematic study of factors that generate and sustain handcart transport activity in Nairobi:
 - ii. need to understand its economic potential and social development through the revenues and services rendered; and
 - iii. need to seek ways of improving the sector to realize its full potential.

The study will therefore contribute to policy and program geared towards improving handcartpulling as a significant step towards poverty alleviation, in line with the government's current development goals (National Development Plan 1997-2001)

1.3 Broad objective

This study sought to explore factors that promote and sustain handcart transport as an economic activity in the streets of Nairobi.

1.4 Specific objectives

Specifically, the study sought to:

- i. explore socio-economic and demographic backgrounds of handcartpullers
- ii. investigate the economic characteristics of handcart transport
- iii. investigate the operational characteristics of the handcart transport in relation to its business environment and
- iv. explore handcartpullers' perceptions, attitudes experiences and future aspirations

1.5 Scope of the study

This research centred on handcartpulling activities in Nairobi's Central business district [CBD] and its environs. The study focused on handcartpullers' socio-economic and

demographic characteristics as well as the Economic and operational aspects of the activity. The respondents included all those activity involved in the pushing/pulling of handcarts as a way of earning a living. The study discriminated against the inclusion of owners who were not handcartpullers. However, the definition of the term handcartpuller incorporated owner-cum-pullers.

Though based in the central section of Nairobi, the study makes no pretence that this is the only place where handcart transport activities are found. The choice of the study area was dictated by limitations of time and funds. However, due to the strategic importance of the study area, it was expected to bring out important aspects of handcart transport activity.

CHAPTER 2: LITERATURE REVIEW

2.1 Origin of urban informal sector

Origin of the urban informal sector is generally attributed to the rural-urban migration which created an unprecedented increase in the urban labour force which the modern sector was incapable of absorbing, upon which the surplus labour force joined informal sector activities as alternative option for employment.

Obilo (1989) traced the informal sector's origins to the early 1950's. According to him, male labourers who had lost out in the land scramble found an outlet in urban centres where they sought wage/formal employment. Due to inadequate jobs to absorb most of the migrants, self-employment activities were initiated and thus informal sector emerged.

Todaro (1968) similarly attributed the emergence of the informal sector in urban centres to rural-urban migration arguing that this influx of migrants was responding to expected rural-urban earning differentials. Todaro concluded that people will continue to migrate to urban areas as long as their expected urban wages (as opposed to actual) exceed their current rural wages. This 'perceived' improvement in earnings make the migrants to take temporary jobs in the informal sector while waiting for higher paying employment in the formal sector.

Mabogunje (1980) argued that the emergence of the informal sector in urban centres is a response to the current strategy of industrialisation in developing countries which has had a two-fold effect of attracting to the urban centres a significant proportion of the economically active population while being able to employ only a fraction of them. The surplus labour resort to informal sector activities as a means of subsistence.

House (1978) described informal sector participants as composed largely of migrants and people of low educational attainments who had been pushed out of the rural economy by their general state of landlessness, so that they flock into towns and subsist in informal sector jobs.

Informal sector activities are thus seen as a response to the unemployment situation prevalent in major urban centres of developing countries, brought about by the large influx of urban-bound migrants.

2.2 Definition

The term Informal sector has been difficult and elusive to define. As a result, researchers and other practitioners from the 1970's to the present have been pre-occupied with efforts aimed at coming up with an appropriate and all-embracing definition of the concept.

This desperation is well captured by the words of the Director General of ILO in his Report to the International

labour conference, 78th session (ILO 1991:1):

"It is significant that, even after two decades of investigation by scholars and international civil servants, there is no generally accepted definition of the term 'Informal Sector'. All we know for certain is that it exists".

The first appearance of the term 'Informal Sector' in an official document was in the report of ILO'S comprehensive employment mission to Kenya in 1972. According to this Report, informal sector activities represent a way of doing things characterised by:

- (a) ease of entry
- (b) reliance on indigenous resources
- (c) family ownership of enterprises
- (d) small-scale operation
- (e) labour-intensive and adapted technology
- (f) skills acquired outside the formal school system; and
- (g) unregulated and competitive markets.

The mission further observed that the informal sector activities are largely ignored, rarely supported, often regulated and sometimes actively discouraged by the government.

According to the report, the characteristics of formal sector activities are the obverse of the informal sector, namely:

- (a) difficult entry
- (b) frequent reliance on overseas resources

- (c) corporate ownership
- (d) large-scale operation
- (e) capital-intensive and often imported technology
- (f) formally acquired skills, often expatriate and
- (g) protected markets (through tariffs, quotas and trade licences)

It is clear that instead of giving an all-embracing definition of informal sector, the ILO mission report concentrated on highlighting its characteristics.

It raises the question as to whether an activity qualifies to be in the informal sector by virtue of having any, some or all of the above characteristics. If each of the characteristics can be used to define a universe, it would result in ambiguity. It is also clear that some of the characteristics no longer apply to some activities due to changes that have gradually been introduced in the informal sector.

Another weakness in ILO's classificatory scheme of informal/formal is that it is inflexible and narrow in application. It attempts to divide all economic activities into two broad categories without providing adequate criteria on how to classify those activities which embrace characteristics of both sectors. Bromley (1978) saw the need to classify enterprises on a continuum between two extreme and opposite poles so as to emphasise intermediate

categories and the processes of transition along the overall continuum. This would aid in delineating where the informal sector ends and formal sector begins.

Subsequent definitions of the informal sector have, however, only been variants of the ILO'S Kenya report list. Sethuraman (1981b:21) proposed a general definition of informal sector as

"Small scale units engaged in the production and distribution of goods and services whose primary objective is to generate employment for the participants rather than to maximise profits"

Sethuraman seems to advocate for the motive criterion to be used as a basis for distinguishing between informal and formal. However, the motive criterion is not an objective basis since it is hard to tell who is driven by what motive. It cannot be ruled out that many informal sector activities have profit maximisation as a priority yet they are not formal.

Dimitriou (1992) also applied the dual economy model to categorise the economies of the Third World countries. According to him, these economies are characterised by a co-existence of a 'superior' (advantaged) and inferior (disadvantaged) economic system. This is manifested through a co-existence of modern and traditional methods of production, 'formal' (registered and taxable) and 'informal' (unregistered and illegal). Dimitriou's definition is also wanting. First, his classification, just like of ILO

Mission report, depicts the sectors as distinct entities that do not interact. This view has been falsified by many other findings among them one by Bromley (1978:1034) who described the two sectors as being in:

"a continuously fluctuating state of interaction and that parts of one sector may be dominated by, even created by parts of the other sector"

Another weakness is Dimitriou's description of informal activities as those that are unregistered, untaxed and illegal. This description tends to depict informal sector activities as illegal and having no future. It implies that upon registration and taxation, these activities, will cease to be informal. It is evident that many activities though unregistered aren't illegal. In some countries these procedures (registration and taxation) have been waived as a way of boosting the sector's growth. It can be argued further that mere exercise of registration and taxation doesn't make an activity formal. Many informal sector activities in Kenya have been registered and made subject to tax regulations yet they have remained informal.

Rempel (1974) improved on ILO's definition by introducing an intermediate sector. He hypothesised that the informal sector consists of two different groups of people both in terms of attitude and motivation. He distinguished the two as "the community of the poor" and the "intermediate sector". According to Rempel, the "community

f the poor" comprises the people currently engaged in formal sector job search and who view their current situation as temporary. The "intermediate sector" is composed of people who have failed to secure formal sector jobs. As a result they have made a conscious decision to invest in this business. It is this group, according to Rempel that has the greatest potential for development.

Noor Mohammend (1974:120) went a step further to list down activities that should be included in the informal sector. These activities include those of:

"Streetsellers, Shoeshiners, Open-air furniture makers, auto-repairers, Maize roasters, Cartpullers, newspaper vendors, Kiosk owners, Street barbers, tailors, Shoe repairers, and Parking boys"

However, while he managed to produce a lengthy list of activities that fall under the informal sector category, the list is far from exhaustive, have left out many activities that qualify for inclusion. Many more activities also keep coming up, depending on time and place. This view is supported by Mabogunje (1980) who observed that in developing countries, the larger the city the greater the proportion of the urban poor and the greater the need to elaborate and refine the retail outlet of goods and services to cater for the needs of the poor. This implies that new informal sector activities evolve with time and in direct proportion to the growth in size of the poor populations.

There can thus be no fixed and exhaustive list of informal sector activities.

Other scholars not subscribing to the formal/informal dichotomy include, for instance Mingione 1985) who replaced the dichotomy with a "spectrum of human activities contributing to production". He distinguished 7 types of human productive activities: formal, mixed formal/informal, pure informal, illegal activities, work not exchanged for income, extra-ordinary work for self-consumption and 'normal domestic work'. This is an interesting approach or classification that departs from the informal/formal dichotomy and seen to be not only nebulous, but also likely to lead to an overlap of activities.

Due to the difficulties inherent in the search for a definition, this study adopted the Economic survey (Republic of Kenya 1998:65) which defines the informal sector as:

"all semi-organised and unregulated small- scale activities largely undertaken by the self - employed or those who employ a few workers. It excludes all farming and pastoralist activities. The sector uses simple technology and its main legal feature is that the businesses aren't registered with the registrar of companies. Further, operators of the informal sector may or may not have licences from relevant authorities for carrying out their businesses"

This definition fits a sub-sector like handcart transport activity which is semi-organised and unregulated in its mode operation. Its operators are self-employed and possess no licences for their operations.

2.3 Importance

Existence and importance of the informal sector in many developing countries was formally recognised in the early 1970's following observations that massive additions to the urban labour force failed to show up in the unemployment statistics. In recent years, many Third world countries have come to view the informal sector more positively as a provider of employment and incomes.

The ILO Mission to Kenya (1972) was the first to highlight the sector's importance as a major source of employment. The Mission felt that by promoting the sector, Kenya would be able to wriggle out of its unemployment problems and register a rise in the growth rate of its economy. As a way of stimulating the growth of the sector the Mission recommended that the government adopt the following policies: liberalisation of licensing, cessation of harassment by law enforcement, and increased purchasing by the government of products and services from the sector.

Ever since the ILO mission report initiated the debate on the sector's role and contribution to the economic development of Third world countries, many studies have been undertaken either seeking to confirm or discount its importance.

Mukui (1977) observed that the informal sector does indeed provide a whole range of goods and services on which

city life depends, and that the sector is a provider of goods and services to the urban poor at prices they can afford. The latter observation, however, appears to be an understatement of the sector's importance in that the informal sector goods and services benefit not only the urban poor but also the rich. This has occurred due to deliberate efforts that have been made by the government towards creating an enabling environment for the sector to thrive. These efforts have included sub-contracting of some goods and services produced in this sector by government departments and publicity of informal sector goods and services through such fora as national jua kali exhibitions and Nairobi International show. This has facilitated the marketing of the sector's goods and services beyond the needs of the urban poor to those of people of different socio-economic statuses.

Child (1973) saw the informal sector as having a great role to play in contributing to economic development since it is labour intensive, efficient and has high capital-output ratio compared to the formal sector. He recommended that the sector's growth be encouraged.

House (1977) shared Mukui's view. He observed that the informal sector provides for the basic day-to-day demands of a large proportion of low-paid workers of the formal sector. This observation, just like Mukui's, has been

vertaken by events since it is no longer true that goods and services produced in the informal sector are purchased only by the lowly paid workers from the formal sector.

Mabogunje (1980) observed that the 'informal economy' is gradually being appreciated as representing more than just employment for the majority of urban residents in underdeveloped countries. This observation points to the increasing role being played by this sector in the urban economies of developing countries which are plagued by rising levels of unemployment and poverty.

He went further to state that:

"the importance of the informal sector increases directly with the size of cities. Because big cities contain large size of poor populations, subsistence consumption includes large number of goods and services which tend to be expensive when sold in the formal sector". Page 181.

This observation points to the sector's importance now and in the future as a means of subsidising the cost of living.

Juma (1988) observed that informal sector has become a major target for policy statements after the government's realisation that the sector is a major employer and source of economic growth in the country. He attributed this new awareness to the fact that the informal sector, unlike the formal, is more resilient and easily affected by changes in the macro-economic policy.

The Presidential Committee (1983) while acknowledging the existence of the informal sector in Kenya as a *fait*

accompli observed that the sector generates a high rate of return that in some cases surpasses the rate of return in the formal sector. This observation marked a radical departure from the hitherto held notion that informal sector activities are low-productivity ventures compared to formal sector activities.

While the above cited studies point to the importance of the informal sector and consequently on the need for promoting its growth, other studies are vehemently opposed to this view. Among them is Leys (1973) who felt that the informal sector is incapable of expanding in an evolutionary manner i.e. with rising labour productivity and incomes because it is exploited by the formal sector which buys from it at very low prices and sells to it at very high prices. However, Leys doesn't appear to be opposed to the sector's importance per se. He instead was addressing the issue of the sector's ability to grow and expand which to him was limited by the exploitative relationship persisting between the two sectors. He seemed to doubt man's ability to initiate intervention measures aimed at creating a fair balance in the formal/informal sector relationship.

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They summed up their cynicism thus: "we do not believe that development of the informal sector can be the basis for Kenya". The mission seemed to dismiss informal sector activities as insignificant to economies of developing countries. However, this cynicism can be attributed to the general view that was prevalent at the period of the report. This view has since been proved wrong by contemporary studies on informal sector.

House (1977) for example depicted the informal sector as a transition point for those aspiring for white-collar employment. He argued that the informal sector is a haven for migrants who turn to it for subsistence while engaging in the process of job search. However, this observation also appears to have been overtaken by events. With contemporary macro-economic changes occurring in many developing countries, it is expected that more people are increasingly shifting their attention from the elusive formal sector employment to the informal sector. This view is supported by Ndua and Ng'ethe (1984) who in their study of informal sector operators in Nakuru town found that most of the informal sector operators were there to stay.

Earlier arguments like those by Gunder (1967) didn't regard the informal sector as one offering much hope and promise for the developing countries. He argued with reference to Chile that:

"far from being a mark of development... this structure and distribution are a reflection of Chile's structural underdevelopment : 60 % of the employed, not to speak of the unemployed and underemployed work in activities that do not produce goods in a society that obviously, in a high degree lacks goods ".pg.110

Gunder appears to have been sceptical about the productivity of the sector and its potential at producing both goods and services.

The above cited studies that appear to downplay the informal sector's potential only help to capture the thinking prevailing in the 1960's and 1970's before the importance of the sector had come to be fully appreciated. It is this thinking that shaped the traditional policy in most LDC's that condemned the informal sector as a vast sea of backwardness ,poverty, crime and unsanitary conditions. During that period , the informal sector was depicted as characterised by low worker productivity and low income for workers as compared to the formal sector. Its main source of motivation was to obtain sufficient incomes for survival ~~purposes rather than for profit~~. It should be acknowledged that these views do not mirror the current thinking in most LDC's.

Todaro (1985), writing in favour of informal sector highlighted some of its strengths. These are:

- i. ability to generate employment and incomes for the urban labour force

it's low-capital intensity whereby only a fraction of the capital needed in the formal sector is required to employ a worker in the informal sector

its demand for semi-skilled and unskilled labour which is in abundant supply in both absolute and relative terms and which is unlikely to be absorbed by the formal sector

r. its adoption of appropriate technology that makes use of local resources, allowing for a more efficient allocation of resources.

It is evident that most of the studies are generally agreed on the importance of the informal sector. They generally concur that the sector has been a major contributor towards employment creation and raising the standards of living. However, what has not been resolved is whether or not the vitality of the sector applies equally to every other informal sector activity. This calls for sector activity-specific reviews in order to ascertain their actual roles and contributions.

2.4 Economic characteristics of informal sector activities

A look at available literature on informal sector revealed that the sector's activities are generally associated with certain economic characteristics.

Galenson (1971) while looking at the reasons behind the proliferation of informal sector activities in the

developing world attributed the increase to the activities' economic characteristics such as ease of entry and its low capital and skill requirements.

This view was later echoed by the ILO Mission to Kenya (1972). The mission depicted the informal sector chores as easy to enter because unlike formal sector jobs, they are low-capital intensive and make use of informal skills acquired outside the formal school system. The mission further observed that:

"the favourable level of reward in the informal sector as compared to the cash income received by wage labourers on small farms and by farmers tilling very small plots accounts for its attraction for rural-urban immigrants" pg.181.

This implies that informal sector chores though not as productive as formal sector jobs are nevertheless more productive ventures compared to wage labour in rural agriculture. It is this prospect of higher incomes that lures migrants to urban areas and into informal sector activities.

The Presidential Commission (1982/83) did not subscribe to the ILO's view that informal sector activities are subordinate to formal sector jobs in terms of productivity. The commission observed that the informal sector generates a high rate of return that in some cases even surpasses the rate of return in the formal sector.

House (1977) in his exploratory study of informal

sector activities in Nairobi found that initial capital requirements for entering the sector were relatively low with a majority of the operators having invested less than shs.500 in their businesses.

Todaro (1985) on his part argued that the informal sector activities are attractive to many because of its ability to generate employment and income for the labour force, low-capital intensity and ability to generate demand for semi-skilled and unskilled labour.

Mabogunje (1980) depicted informal sector activities as low capitalised activities and attractive havens for the uneducated people whose poor backgrounds dictate that they have no skills or access to credit facilities. This militates against their absorption into the sector.

The general tenor in many development literature is that the informal sector is easy to enter because of its low skills and educational requirements as well as low capital requirements. These factors are generally regarded as the forces behind the attractiveness of the informal sector activities to many unemployed persons. However, it is important to point out that most of these studies suffer from overgeneralisation which stem from a tendency to view the informal sector as one homogeneous entity. That the sector is made up of diverse activities is an acknowledged fact which implies that the characteristics that are

generally attributed to the sector apply differently to various activities that constitute the informal sector. This is attested to in House (1977:54) who observes that:

"... significant differences appear between sub-sector in initial capital requirements. In general, the low income activities such as shoeshining and hair-cutting require little initial capital while in the better paying activities such as restaurants, furniture, and vehicle repairs, starting capital is much above average"

House argued further that,

"though significant capital outlay may not be a deterrent to entering the sector, there are likely other factors such as good location, access to the markets and sources of supplies that are not easily overcome" pg.55.

This observation implies that entry into informal sector activities may be constrained by other factors even where capital demands are low.

2.5 Characteristics of informal sector participants

A look at available literature revealed that informal sector participants are associated with certain socio-economic and demographic characteristics. Web (1975) found that characteristics of the labour force in the informal sector were highly age, sex, and education selective, with a strong representation of the young and old, women and those with incomplete primary education.

Mukui (1977) found that most employees in the informal sector food kiosks in Nairobi were young and recent school leavers who were engaged in job search. However,

proprietors of the food kiosks were found to be urban residents of longstanding.

House (1978) in his study of Nairobi's informal sector found that participants are largely migrants with low educational attainment who had been pushed out of the rural economy by their general state of landlessness. He further observed that most participants were young people in the prime ages of 20 - 40 years.

Mabogunje (1980) correspondingly argued that depending on the particular countries and cities, employment opportunity within this sector seems to be influenced by such factors as sex, age, education, length of urban residence. He further noted that migrants with lower educational qualifications are predisposed to accept more precarious employment while more educated migrants seek more stable and better paid employment in the formal sector.

Todaro (1981:280) while writing on the informal sector observed that:

"The usually self-employed workers in this sector have little formal education, are generally unskilled and lack capital resources".

He further stated that most workers entering this sector are recent migrants from rural areas unable to find employment in the formal sector and whose motivation is usually to obtain sufficient incomes for survival purposes rather than for profit, while relying on their own indigenous resources

to create work.

Merrick (1976) didn't concur with the above mentioned studies whose general tenor is to depict the informal sector as one dominated by migrants . In a study in Belo Horizonte, Brazil, Merrick found that the expected association between migration and the informal sector was rather weak and the proportion of native-born and migrants was more or less the same. However, the study found that in some sub-sectors eg domestic servants, migrants, especially recent arrivals, tended to dominate. There is an overriding tendency to associate the informal sector participants with certain socio-economic and demographic characteristics.

2.6 Definition of transport

Owen (1964:1) defined transport simply as

"the way people and goods are moved",

while Meyer and Miller (1984) more elaborately defined urban transportation as the movement of people and goods between places of origin and destination within an urban area. The two further observed that this movement is facilitated by a variety of modes which serve different needs.

Werner (1985) defined transport as the way we move people and freight from place to place, from where they currently are, to where, by somebody's decision they are supposed to be.

From the above definitions transport is depicted as a

conspicuous part of human activities composed of 4 components:

- (i) means/aid of transport
- (ii) objective
- (iii) direction and
- (iv) destination.

These 4 components must be present for any transport activity to be complete.

2.7 Importance of transport

Transport is universally recognised as a critical ingredient that facilitates a myriad of land -use activities and processes. This has been well documented in a lot of development literature.

Owen (1964) saw transport as a necessary ingredient of nearly every aspect of economic and social development. He saw it as crucial to the processes of getting land into production, in marketing agricultural products etc. Owen further argued that transport is not the key to success but of special significance in facilitating other objectives.

This view is shared by Soberman (1966:1) who argued that:

"The role of transportation, however, is a permissive one , the existence of adequate transport capacity being a necessary but not sufficient condition for stimulating economic activity"

Werner(1985:19) acknowledged the significance of transporting the development process of every society by

arguing that:

"a good case can be made, however, that appropriate transport facilities are the key to development. For without transport, supply and demand are restricted by the high cost of moving, and by ignorance of whatever goods can be sold and for how much"

Werner not only acknowledged the importance of transport, but went a step further to emphasise the need for an appropriate means of transport. Implied from his argument is his view of the role of transport as a facilitator of communication between various land-use activities. This latter view is shared by Blunden and Black (1984) who explicitly stated that transport capability or transport supply represents the potential for communication between land-use activities. They went further to state that this transport capability is a multi-modal link because of the inter-dependence amongst the different modes.

It is evident from the above cited works that transport is a critical service function because of its pervasive role in facilitating thousands of events and processes within a given locality.

2.8 Nature of urban transport in the developing world

Given the rapid expansion of major urban centres in most developing countries in terms of land and population size and their centrality in the processes of development in their respective countries, demand and need for provision of

transport is much more acute in the urban than in rural areas.

There is no gain saying that cities of the developing world experience similar transport conditions the only difference being one of magnitude than kind . The World Bank, through a sector policy paper of 1975 aptly captured the urban transport scenario as found in the least developed countries by observing that,

"the current situation of urban transport in developing countries is alarming. Despite still low levels of private automobile ownership, congestion in cities is already severe in degree, in daily duration and in size of the areas affected" pg.7

Despite the long passage of time since the observation was made, cities of the developing countries continue to experience the same problems but on a greater scale and magnitude. More recently, Situma (1987:1) in reference to the transport conditions in LDCs observed that,

"Problems of transport in developing countries are complex in nature and include the lack of vehicle capacities, energy costs, utilisation of infrastructure facilities, location of high density residential areas, lack of maintenance, road safety, manpower training and development, and policy institutional developments"

These observations are a testimony to the complex nature of the transport conditions in the cities of the developing countries.

The current transportation scenario in cities of LDC's is attributed to the rapid process of urban expansion that

conflict with the inadequacy of resources available to meet the costs of the expansion. According to Dimitriou [1992], this rapid urban expansion has contributed to widespread technology dualism especially in the sector of transport. Characteristics of technology dualism are thus particularly spectacular in the transport sector of these cities where both the traditional and modern modes of transport operate side by side, sometimes complementary but in many instances in conflict. This transportation mix in cities of developing countries had earlier been attested to by Breese [1966:38] who in reference to New Delhi, India observed,

"the morphology of the city of Delhi, India, incorporates most of the features of urbanisation in newly developing countries;... one of the most noticeable feature is the 'transportation mix-trucks, camelcarts, bicycles, donkeys, rickshaws, pedestrians, horses etc."

There is consensus among scholars and other stakeholders that the phenomenon of 'transportation mix' in the absence of a regulatory framework for their smooth operation is one factor that has aggravated transport conditions in these cities. World Bank [1975:21] argued,

"There is no doubt that, particularly in poorer countries, the wide variety of traffic sharing the limited right-of-way, and ranging at times from camels and bullock carts to the latest models of private cars, is a serious factor in congestion"

This view was later supported by Taylor et al [1982:49] who argued that,

"the presence of both fast vehicles and such slow moving conveyances as bicycles, rickshaws, animal-

drawn carts etc creates considerable congestion particularly in the absence of facilities for segregation of these vehicles"

The transport scenario has not been made better by the fact that most developing countries lack a comprehensive policies on urban transport. More often, official response to urban transport problems are merely stop-gap measures that deal with crises as they occur. Such short-term measures have tended to favour motorised modes of transport while ignoring the needs of non-motorised transport modes. Incidents where modes such as bicycles, rickshaws, animal-drawn carts, etc have been openly discouraged from operating in cities are numerous. The lack of concern for non-motorised transport needs has been attributed to the attitude problem at the decision-making top that regards motor transport as a symbol for prosperity, while walking, cycling, handcartpulling etc, are regarded as elements of poverty and backwardness. According to Dimitriou [1992], many Third World city officials do not consider diversity in transport modes an asset but an obstacle to modernization. He went further to say that many public agencies tend to despise paratransit modes simply because they do not present a good civic image. This attitude problem is, to Dimitriou, a major constraint in solving urban transport problems in the developing countries.

Nairobi being the capital city of Kenya is a good study

of the nature of urban transport conditions as found in the developing world. Its rapid rate of expansion which is estimated at between 5-7% p.a. [Ministry of planning & National Development Report 1990] has brought in its wake a host of problems notably in the transport sector. These problems include traffic congestion, road accidents, pollution, high transport costs, etc. Traffic congestion in Nairobi which is evident from frequent traffic jams during peak times and shortage of amenities such as parking space is partly a consequence of the recent proliferation in the number of both motor vehicles and such non-motorised modes such as bicycles, handcarts, etc. SSATP[1994] estimated motor vehicle fleet in Nairobi at 160,000 and growing at about 3,700 vehicles annually. In spite the lack of reliable estimates on the number of non-motorised transport vehicles in Nairobi today, there is ample evidence in the streets to support the assertion that they too have steadily increased over the years. The most common NMT modes in the streets of Nairobi are bicycles, trolleys, handcarts, and walking. It is this gradual and rapid increase in numbers of vehicle fleets unaccompanied by a corresponding expansion in road capacity that explains the transport nightmare that is Nairobi today.

The transportation conditions in Nairobi have been exacerbated by the reality that like other developing

countries Kenya lacks a comprehensive transport policy.

According to SSATP [1994:18],

"Kenya as a country has not been able to evolve a comprehensive policy on urban transport. It is also clear that responsibilities in the transport sector are scattered in various agencies and institutions, often leading to antagonisms and duplication of effort".

This haphazardness in policy formulation and implementation has contributed to the failure of programmes geared towards improving Nairobi's urban transport system. Most of these programmes have proved to be inappropriate in meeting the diverse needs of different sub-markets that make up the transport market. Lack of appropriate transport policies has plunged Kenya into a predicament where, according to Kaira [1983:30]

"...in many parts of the country, the poor cannot increase their economic activities because of the transport bottleneck"

In order to reverse the unfavourable transport trends in Nairobi, there is need to adopt new approaches to the expansion of the urban population and the resultant increase in transport needs. This view is supported in Kaira [1983] who saw improvement in transport conditions in the country as resting on introduction of diverse intermediate transport technology. These sentiments were later echoed by SSATP [1994] which saw the solution to the urban transport as lying in the introduction of an urban mobility system that recognises the interests of the larger public. Implied

From the above views is the need to integrate both non-motorised transport modes in a manner that would make them more responsive to the diverse urban transport needs. According to Meyer [1984], certain transport modes are better suited to serving specific urban needs and an individual's choice of which transport mode to use is determined by:

- i. the difference in trip time between modes for particular trips
- ii. availability of the mode
- iii. difference in actual cost, perceived costs, comfort or convenience and
- iv. socio-economic characteristics of the users e.g. occupation, income, age, etc.

This implies that prevalence and use of a given mode of transport is a function of its operational characteristics vis-a-vis the socio-economic characteristics of its users.

2.9 Theoretical focus

The study uses both modernisation and human ecological perspective to explain the emergence of informal sector phenomena in the urban centres of Kenya and significantly Nairobi. Modernisation theory is first used to explain the emergence of urban centres as a culmination of a long developmental process that is rooted in colonialism. Later, the human ecological perspective is used to explain the

forces behind the sprouting up of informal sector activities in an urban environment like Nairobi.

In the International Encyclopaedia of social sciences Lerner defines modernisation as "the process of social change whereby less developed societies acquire characteristics common to more developed societies". Modernisation therefore looks at the entire process through which less developed societies finally gets transformed into developed and modern societies. The underlying assumption of this theory is that human civilisations evolve in cumulative and linear pattern leading to the transformation of societies from their primitive and traditional forms into modern and industrialised societies.

The process of transformation is triggered off by an initial phase of contact whereby hitherto primitive and traditional society is exposed to modern ideas. According to Inkeles and Smith as quoted in Bradshaw (1987) these modern ideas are conducive to economic growth. Using a structural-functional approach, modernisation theory explains how technology, education, mass media, urbanisation and industrialisation among other variables facilitate this process of transformation.

In Kenya, the process of modernisation can be traced to the onset of colonialism when the country was first brought into contact with the western world and its unique ways and

values. Gradually, the country became integrated into the world economic and political system. Introduction and assimilation of western values gradually led to the loosening and in some instances, a total breakdown of existing traditional socio-economic and political structures that held these societies together.

A notable introduction of colonialism was the development of modern transport system which was used as an instrument for accelerating the modernisation process. Concomitants of the Socio-economic and political transformation that was brought about by modernisation process were:

- i. Creation of a new economic system which either
- ii. destabilised or revolutionised the previously existing production modes. This mode of production was predicated on the notion that material accumulation was a cherished ideal to be pursued and emphasised individual ownership of resources.
- iii. introduction of new and advanced technology most significantly in the medical field. This had a two-fold effect of lowering mortality rates while raising fertility rates. The consequence of this was population explosion which later led to land scarcity as land became increasingly insufficient to support an ever-growing population.

iv. alteration of value systems, needs and consumption patterns.

v. urbanisation which emerged as a result of investment bias in favour of urban-based industries. There was therefore an inter-sectoral reallocation of resources from subsistence agriculture to the production of non-agricultural goods in the urban areas which led to rural -urban migration.

Nairobi in its modern form is a colonial legacy and therefore a product of the 'modernisation forces'. After independence, the colonial restrictions that had hitherto restricted the migration of Africans into towns were lifted. This relaxation opened the floodgates for urban-bound migrants who had been displaced from their rural settings by the unfolding process of social and economic change. The migrants flocked into major towns in an effort to seize the new opportunities available such as wage or salaried employment. Nairobi received the largest share of the urban-bound migrants due to its strategic importance as the centre for economic and political activities in the country.

Large-scale migrations coupled with other demographic factors like natural population increase and reclassification of hitherto rural areas to urban status played a major role in giving rise to the current spectre of over-urbanisation which has brought in its wake many socio-

conomic and environmental problems. Breese (1969:134)

defined over-urbanisation as a situation in which,

"Large proportions of... (a country's) population live in urban places than their degree of economic development justifies"

It is this scenario of urbanisation outpacing the rate of economic growth that lays the basis on which the emergence and persistence of informal sector activities in Nairobi is to be understood. It is at this stage in the process of change that the operation of the human ecological perspective in ensuring a population's continued survival in an urban environment is to be seen.

'Ecology' as a term was first coined in 1869 by a German biologist, Earnest Haeckel. However, as a social system approach, the term was developed in 1921 by Park and Burgess whose research interest centred around the growth of the city as a natural phenomenon (Park 1952). In their study the two sought to apply systematically the basic theoretical scheme of biological ecology to the study of human communities.

Hawley (1950) defined human ecology as "a study of the morphology of the collective life in both its static and dynamic aspects". According to Hawley, the prime concern of this perspective is the analysis of the way a population organises itself for survival in a particular habitat. Human ecology therefore looks at society as a functional

organisation of a population in the process of achieving and maintaining an adaptation to its environment. Through this perspective, it becomes possible to understand how factors in each given type of situation help in shaping the development of a particular society.

Duncan (1959) identified four variables that make up the ecological complex. These are:

- (a) population
- (b) organisation
- (c) environment and
- (d) technology.

The four variables are popularly represented with the acronym, POET. According to Duncan, these variables are related in a reciprocal relationship that centres around population composition, growth and distribution, resources in the adaptive capacity of the population to the environment and population differentiation .

Population refers to the aggregate of individuals who establish viable relationships with their environment, not independently, but collectively through a mechanism of a system of relationships.

Organisation refers to the complex of functional interrelationships by which men live. It is the property of the population that evolves and is sustained in the process of adaptation of the population to its environment, and

tends to be investigated as a ramification of sustenance activities.

According to Duncan (1959:117),

"For the ecologist, the significant assumptions about organisation are that it arises from sustenance-producing activities, is a property of the population, is indispensable to the maintenance of collective life, and must be adapted to the conditions confronting a population - including the character of the environment, the size and composition of the population itself, and the repertory of techniques at its command."

Environment in the ecological complex is the natural unit in which the exchange of materials and energy between the living units and the non-living surroundings follows circular paths. Emphasis here is on reciprocal relationship between organisation and the environment.

Technology refers to the complex of art and artefacts whose patterns are invented, diffused and accumulated as well as a set of techniques employed by a population to gain sustenance from its environment and to facilitate the organisation of sustenance-producing activity.

Among the four variables identified by Duncan as constituting the ecological complex, the most significant is organisation. The key aspect in the study of ecological organisation is role differentiation through which a population responds to the various conditions of the environment.

Hawley (1950) identified 2 bases of differentiation as:

- (a) individual differentiation and
- (b) territorial differentiation
- (c) individual differentiation.

This is represented by diversity inherent among associated individuals who share a common environment/habitat. According to Hawley, this differentiation may be brought about by human genetics and heterosexual reproduction and may be on the basis of sex, age, class and occupation. This is signified by the systematic and stable division of activities which must be regularly performed for the society to persist. Through individual differentiation, activities are broken down and assigned to capable individuals trained and motivated to carry them out. According to Aberle in Demerath [1967] individual differentiation arises because an individual can never combine all the roles of his society in himself. Aberle further argues that due to individual differentiation in every society, we must consider a set of goals rather than a common goal in order to provide alternatives for individuals. When these goals become sufficiently articulated, it serves as an assurance for the performance of socially necessary activities. This aids in reducing conflicts in society.

(b) territorial differentiation. This is represented by the uneven distribution of resources and conditions essential to

the maintenance of human life over the surface of the earth. Because human beings occupy a multitude of widely different habitats, this presents special problems and opportunities which favour the

development of certain habits and techniques peculiar to a territory. A major feature of this basis of differentiation is a study in spatial relationship embodying two factors:

1. territoriality. This is a major factor that gives unit character to populations.

2. space. This is a requisite for the activities of any organisational unit and an obstacle which must be overcome in establishing inter-unit relationships.

This spatial distribution of human activities and differentiation in land use generate the need for transport/mobility in order to link up areas of specialised land use. This enables society to undertake a host of different but complementary activities (Werner 1985).

From the foregoing discussion, it is explicit that human ecology is a concept that includes both the natural environment and the populations which exploit it. Production systems and economic strategies arise within a particular context as a compromise between the physical environment, available technology and knowledge and the choices of surrounding peoples. It follows that as human beings carry out sustenance activities they transform the environment and

thus the context in which human economic possibilities are negotiated. This way, sustenance activities and strategies emerge and develop within particular environments.

An urban centre like Nairobi is for purposes of this study looked at as a functional organisation of a population in the process of achieving and maintaining an adaptation to its environment. Presently, Nairobi is bedevilled by a host of problems such as unemployment, congestion, environmental pollution, housing, transport etc. These problems are attributed to the rapid growth in the city's population over the last three decades, which have outpaced the provision of urban requirements such as more job opportunities and infrastructural facilities. This has created a situation of scarcity and deprivation for a majority of its urban residents.

Merton (1968) wrote about various societal adaptations and adjustments to a situation where there is a dysfunction between cultural goals and the institutionalised means for attaining these goals. He highlighted the following:

- i. Conformity: This is the most common and widely diffused mode of adaptation. It means an individual accepts both the cultural goals and the institutionalised means of achieving those goals.
- ii. innovation: This is a type of adaptation where the individual accepts the cultural goals but rejects the

institutionalised means for its attainment.

iii. ritualism: This type of adaptation refers to rejecting of the societal goals without rejecting the norms associated with it.

iv. retreatism: This mode of adaptation occurs when an individual accepts both the cultural goals and the institutionalised means but the available means aren't effective in achieving the goals. People become members of a society but not of it. This group consists of outcasts, drunkards, drug addicts etc

v. Rebellion: This involves rejection of both goals and means and their substitution with new ones (revolution)

Scarcity of needs and opportunities in an urban environment like Nairobi's have led the population to choose the innovative way by joining the informal sector as a means of attaining the societal goals. Joining the informal sector therefore provides an alternative and acceptable avenue for meeting the societal needs no longer forthcoming from the formal sector.

Application of this perspective to the handcart transport phenomena in the city of Nairobi centres around the two distinct functions served by the activity. These are:

- (a) occupational function; and
- (b) transportation function.

As an occupational activity, handcart transport activity represents a population's creative response to an urban environment where the approved or institutionalised means of employment (joining the formal sector) are not adequate. As a transportation mode, handcart transport has emerged out of the failure by the formal (motorised) modes to live up to the transportation challenges that have been posed by the phenomenon of over-urbanisation. Handcarts therefore represent a set of techniques invented and employed by a section of the urban population in order to gain sustenance and to facilitate the organisation of sustenance producing activities. Handcart transport activities complement the services of other transport modes (both formal and informal) in linking up many activities in Nairobi in a complex of functional interrelationships.

CHAPTER 3: SITE SELECTION AND METHODOLOGY

3.0 Introduction

The study was carried out in certain areas of Nairobi's Central Business District and its environs, namely: Wakulima Market, Retail Market, Accra/Dubois Rd., Railway Station, Machakos Bus Station, KBS/Mfangano St., Nyamakima, and city Market. It is in these areas that the services of handcarts are in great demand.

Among many areas that qualified for inclusion in the study, eight locations were purposively selected with an aim of having a representative sample of locations that would reflect the diverse economic and human activities carried out in the area of study and that are served by the handcart transport mode.

3.1 Site justification

Choice of Nairobi as the research site was influenced by three considerations:

- i. Nairobi is the capital city of Kenya and a primate city at that. It is not only the seat of government but also the hub of the country's transport and commercial networks. Thus, Nairobi receives a disproportionately large share of rural-urban migrants in search of employment than any other town in Kenya. This has implications for the resultant unemployment and emergence and expansion of informal sector activities.

Indeed, Nairobi's share of informal sector activities is as diverse as it is large.

ii. by virtue of its size, the role of transport in a city's growth and efficiency is much felt and dramatised here in Nairobi than in any other town in Kenya. Nairobi has over the years undergone very rapid growth and expansion in terms of both size and population which has not been accompanied by a proportionate increase and expansion in the existing social and physical infrastructure. This has adversely affected the quality of life of urban residents and the prosperity of its economy. This has resulted in a proliferation of non-motorised modes of transport in the city of Nairobi, notable ones being cycling, handcartpulling and head/backloading. It is because of the above reasons that there is a heavy concentration of handcarts in the city of Nairobi. It is therefore imperative that any ground-breaking study on an informal mode of transport like handcart in an urban setting should start but not end in Nairobi.

iii. lastly, Nairobi was chosen as the site for the study out of convenience. It was felt that if carried out in other towns it would have posed many logistical problems among them high transport and accommodation costs. These costs were kept to a minimum because the researcher resides in Nairobi.

2 Population

As stated earlier, the purpose of the study was to explore factors that generate and sustain handcartpulling as an occupation and transport activity in Nairobi. For our research purposes, the relevant population constituted all handcartpullers in Nairobi's CBD region and its environs. It is from this population that a sample size of 120 respondents was randomly drawn.

3 Methodology

This exploratory study was preceded by a pre-survey observation by the researcher of Nairobi's central business district and its environs. The aim was to identify major areas of handcart concentration in order to facilitate a careful selection of a representative sample of locations from the region.

3.4 Sampling

In his discussion of sampling techniques in social research, Kerlinger (1964:52) defined sampling as:

"taking any portion of a population, or universe, as representative of that population or universe"

In sampling we are concerned with taking a sample in order to draw inferences about the population from which it is taken. Considerations behind sampling are:

- i. practicability: This consideration is dictated by the fact that researchers are more often than not studying

a population which would be too large to be dealt with in a single study. This is the primary and compelling consideration.

limitations of resources in terms of both time and money.

Faced with finite resources and choice between studying a large population superficially or a sample from that population in some detail, a researcher will often find the latter a more attractive choice. The researcher, guided by the above considerations could not interview each and every handcartpuller in the city of Nairobi. A sample had to be chosen.

.5 Sampling design

This refers to that part of the research plan that indicates how cases are to be selected for observation . In this study the unit of analysis was the individual handcartpuller from who information relevant to the study was collected. Both probability and non-probability sampling designs were employed for case selection.

First, a few areas of handcart concentration in the central business district region of Nairobi and its environs were purposively selected and used for case selection. Purposive or judgmental sampling is a non-probability sampling design that requires the researcher to rely on his/her expert judgement to select units that are representative or typical of the population. According to

ingleton et al 1988:118),

"The general strategy is to identify important sources of variation in the population and then to select a sample that reflects this variation"

Although this method has its own weaknesses (like other non-probability sampling procedures) at times it may be useful where, depending on the aims and stage of the research, it would be inappropriate to apply probability sampling designs. This point is amplified in Babbie (1995:225) who observes that:

"occasionally, it may be appropriate for you (researcher) to select your sample on the basis of your own knowledge of the population, its elements, and the nature of your research aims"

During the pre-survey observation of Nairobi, the researcher set out to identify locations of handcart concentration that would reflect the diversity or mix in land-use activities carried out in the city of Nairobi. Choice of typical locations made it possible to establish the nature and patterns of linkages between the handcart transport mode and the adjacent business environment. This wouldn't have been possible had selection of locations been left to chance (through use of probability sampling procedures).

After identifying the locations, an exhaustive list of handcartpullers in each of the locations was compiled. Compilation of names was made easier by the fact that members in every location know each other well. It was

possible to list down the names of all pullers who operate from a given location through the assistance of pullers present. The researcher ensured that the list included those pullers who were physically present at the time as well as those who were away at that particular time either to attend to their normal duties or for other reasons.

The co-operation from the handcartpullers was unexpected. A majority of the pullers were eager to have their names listed down in readiness for the interview. This enthusiasm was evident from scores of pullers who later came complaining to the researcher that they had been skipped despite having their names listed. Others wondered why they could not be interviewed in place of those absent. However, the purpose of the sampling frame was explained to them and the impracticabilities of interviewing every puller impressed on them.

After lists were compiled for every selected location, small papers were cut corresponding to the number of names listed and numbered accordingly. They were then crumpled into small balls and put into a container.

A random method of picking without replacement was adopted. It is a superior method of case selection according to Blalock (1985:554).

Each time, a number was picked from the container and the name corresponding to that number on the list was selected

for interview. Where somebody declined to be interviewed another paper was drawn from the container and the person whose name corresponded to the number picked replaced the defiant one. This way, a sample of 120 respondents was drawn from the eight locations. The sampling distribution for the eight locations is presented in the table below.

Table 1: Sampling distribution of the eight locations.

Location	No. Of respondents	%
Wakulima market	31	25.8
Railway station	12	10.0
Accra/Dubois Road	15	12.5
KBS/Mfangano Street	11	9.2
City Market	10	8.3
Machakos Bus Station	15	12.5
Retail Market	17	14.2
Nyamakima	9	7.5
Total	120	100.0

The aim was to draw one-quarter of handcartpullers as found in each location. This coverage was deemed representative enough of the population of pullers in the area covered.

3.6 Data collection methods

The study was largely based on survey method. After singling out the areas and the people to be included in the study, interview schedules using questionnaires were used to solicit for responses. The questionnaires consisted of both closed-ended and open-ended questions some of which required further probes. The questionnaires contained three sections:

- i. the first section sought background information on the socio-economic and demographic statuses of

handcartpullers;

- ii. the second section sought information on the nature of the activity, i.e. its economic and operational characteristics; and
- iii. the last section sought information relating to pullers' attitudes, experiences, perceptions and aspirations while in this activity.

The researcher single-handedly read out the questions in the language best understood by each interviewee. Different languages were used as circumstances dictated . These were: Kiswahili, Kikuyu and Kikamba which the researcher is comfortable with. Use of language that a respondent was familiar with provided the respondent with a medium through which he could express himself freely and clearly.

Observation was employed as a data collection method by the researcher. This took both a participant and direct form. Both methods proved quite useful for shedding useful insights on some aspects relevant to the Subject-matter but not included in the questionnaire. It also served as a useful tool for validating qualitative data collected through interview. Writing on participant observation as a method of data collection, Burgess (1982:45) wrote thus,

"The participant observer gathers data by participating in the daily life of the group or organisation he studies. He watches the people he is studying to see what situations they ordinarily meet and how they behave in them. He enters into conversation with some or all of the participants

in these situations and discovers their interpretations of the events he has observed"

In line with the demands of participant observation method, the researcher spent some of the time when he was not interviewing with the pullers either helping them in their work or socialising with them during their resting sessions after work. It was during those occasions that informal discussions were undertaken.

Through the informal discussions, the researcher learnt more about pullers' personal lifestyles, their attitudes towards this activity and their experiences in their line of work. These observations were noted down by the researcher later at a separate place to avoid alerting the pullers that they were still under scrutiny. Data so collected was used to enrich data collected through interviews. These informal discussions helped to strengthen the rapport between the researcher and the pullers. The researcher capitalised on rapport by voluntarily offering to assist the pullers in their work whenever such an opportunity arose. The offer was always enthusiastically accepted. Dressed simply, in faded jeans trousers and rubber shoes, the researcher would spend a day or two after interviewing the set number of respondents in every location with the pullers doing what they always do. Such occasions enabled the researcher to share in the pullers' daily experiences and proved to be a rich source of qualitative data relevant to the study's

concerns. Data so gathered was used to supplement and validate data collected through interview schedule.

There was a discrepancy in some cases between information collected using interview schedules and what was actually observed by the researcher. For example, while most of the pullers cited harassment from public authorities such as the regular police and City council askaris to be the major forms of harassment, the researcher's observation identified harassment from the general public to be the major form of harassment. Harassment from the latter is mostly perpetrated by the motorised road users who use the roads at a total disregard for non-motorised road users. This not only endangers the lives of the pullers', it also denies them their rightful chance of using the roads. This discrepancy can be attributed to different perceptions of the problem by the researcher on the one hand and the pullers on the other. While the researcher's judgement was influenced by the frequency of occurrence in the type of harassment, pullers based their judgement on the gravity of consequences that befall them from each type of harassment. Thus while harassment by the public is more rampant, its consequences on the pullers operations is perceived by the pullers as less severe compared to harassment that emanates from public law enforcement authorities. Consequences from the latter type of harassment (arrests, beatings, fines, being forced

off the road) are more dreaded by the pullers. It was further established that cases of harassment by the Nairobi city council askaris had drastically decreased since the revocation by the city council in 1995 of a regulation that required every handcart to have a road licence affixed on its side, and to be renewed every year. This regulation had been a major cause of ugly confrontations between handcartpullers and the city council askaris as the latter exploited the opportunity to extort bribes from the pullers.

Through the participant observation method, the researcher was able to discover some problems that face pullers but which most handcartpullers were oblivious of. Such additional problems include the tendency of digging trenches across roads which are sometimes left unfilled for days. Another problem was the habit of leaving objects/barriers that are erected and/or left lying on the roads. These two practices are not only inconveniencing, but a potential source of danger to all road users.

Apart from having a first hand experience of the nature and magnitude of the problems that pullers go through, the researcher was able to observe their ways of coping with them. For example, during peak hours when pullers have to put up with heavy pedestrian and vehicular traffic flow, we had to weave through the traffic at a great physical effort. We had to be more careful, lest we hit other road users such

as motorists and pedestrians which often results in heavy fines and arrests for the pullers.

The researcher managed to register the effect of the road damage to the city roads on the handcart transport sub-sector. The act of pulling not only becomes more tiresome it becomes dangerous to pullers' safety, especially during the rainy seasons. It was found that pullers often suffer from grievous bodily injuries when they unknowingly land in water-filled potholes that litter most sections of the city roads. Most common injuries were found to be leg injuries. Apart from endangering the lives of the pullers the poor state of the roads cause great damage to the handcarts, an observation that was supported by the handcart owners interviewed who complained that they were forced to take handcarts for repair and maintenance services more often than before. This has resulted in increased repair and maintenance costs.

Although most of the pullers were agreed that the bad state of the city's roads was a major problem that hinder their performance, a few handcartpullers viewed the deterioration as a blessing in disguise. The argument was that it had led not only to the slowing down of motor vehicles, but had also forced drivers to exercise more caution thereby minimising pullers' risks of exposure to accidents. The researcher took field notes on each day's

experiences at the end of the day.

The researcher made use of key informants through making contacts with a few pullers in each location to encourage the few sceptical pullers to have confidence in the on-going exercise and participate. The pullers selected were individuals who appeared to command more respect from others and were therefore more influential. Such individuals were always easy to identify as they tended to dominate in normal social discussions.

A few handcart owners were selected and interviewed using unstructured interview schedules. Their selection was done purposively. Locating the owners was made with the assistance of the pullers who knew them well. Information pertaining to the number of fleets owned, how they had been acquired, nature of repairs and maintenance to the carts and the general levels of such costs was sought.

Sources of secondary data were also used in this study. Main sources of secondary data were the government's National Development Plans, Economic surveys and the District Development plans. These sources provided data of a statistical nature especially on the incremental expansion of the informal sector, current employment levels in both the formal and the informal sectors and population densities of some specified districts.

3.7 Problems encountered in the field

Compiling an exhaustive sampling frame from each location was quite an involving and time consuming exercise. First, because of the nature of the activity itself which entails a lot of movement which makes it very difficult to have all the pullers gathered at one location at any given time, and secondly due to the difficulties inherent in establishing who was actually a puller and who was not. The latter arose because it was common to find idlers, touts, backloaders and pullers gathered at one location and passing time together. These twin problems were overcome by the researcher explaining to the whole group the purposes of the study and the specific group targeted.

The researcher emphasised that only handcartpullers' names were to be listed down in readiness for the interview, since the questions to be asked were of the kind that concerned handcart transport activity only. The researcher relied on the co-operation of the pullers present to assist him in the compilation of the names. The researcher made sure that the list consisted of those pullers who were members of each location. This included all pullers present at the time and those absent.

The researcher encountered open hostility from a few handcartpullers who said that they did not want to be involved in the study. The researcher was at one time confronted by a puller who appeared drunk and threatened to

beat up the researcher if he went ahead with the proposed interview. However, the researcher remained calm during the confrontation and was shielded by other pullers who ensured that the hostile puller did not disrupt the exercise. The interview, later went on uninterrupted. In some instances, pullers whose names had been listed down in their absence were angry at the researcher for listing their names without their consent. However, the researcher explained to them the necessity of doing so and assured them that there were no ulterior motives.

Suspicion was therefore another problem that the researcher had to overcome. Some pullers were suspicious that the researcher was doing groundwork either for the Nairobi City Council or the Income Tax department, with a long-term aim of having their activities brought under tax and licensing regulations. However, these fears were allayed by the researcher assuring the pullers that the study was purely academic exercise.

Identification of the handcartpuller to be interviewed next was another problem. To surmount this problem the researcher had to rely on other handcartpullers who had been interviewed to identify for him the puller whose name had picked and who was to be the next interviewee.

Handcartpullers who were not available were momentarily skipped and interviewed later, after they were back from

their assignments.

On some occasions the interview had to be interrupted when an interviewee got business from a customer. The interview had to be discontinued to be resumed after the interviewee was back from his assignments . Although such incidents were few and far between they nevertheless affected the smooth flow of the interview.

Weather conditions were not very friendly to the study. Part of the study was undertaken in the months of March and April 1998, a period that was characterised by torrential rains due to the infamous *el nino* weather phenomenon. On one occasion, the researcher had to call off the interview when it was impossible to proceed under the rain.

Lastly, the researcher was more often forced to translate questions from English (the language used in the questionnaire) into the language understood by the pullers. Again, responses given in other languages had to be translated back to English. This nevertheless presented some problems, among them a shift in meaning to some questions from what was intended.

3.8 Data Analysis and Interpretation

As already mentioned, data for the study was collected through survey method with questionnaires as the main instruments of data collection. A total of 120 respondents were interviewed and the data obtained from the interview

was coded by the researcher and run through a computer.

Presentation and analysis of data is descriptive in nature. Frequency distribution tables and percentages have also been used to enhance the clarity of the data collected. Descriptive statistics such as measures of central tendency which include the mean, range, mode and median have been used. No further statistical treatment have been made on the data. However, by virtue of the bulk of qualitative data obtained, presentation of information gathered wasn't straightforward. It was desirable to present it as fully as possible in view of the scarcity of information about the handcart transport activity and operators.

3.9 Study hypotheses, Concepts, Variables and Operational Definitions

Three hypotheses were made to guide the study. These were drawn from the literature review. Each of these hypotheses covered one of the three aspects of the informal sector relevant to the study's concerns. The three include: the Socio-economic and demographic backgrounds of handcartpullers, the economic and operational characteristics of the handcart transport activity. The hypotheses are:

H1. Socio-economic and demographic backgrounds of handcartpullers influence their entry into handcart transport activity.

Variables: Independent: Socio-economic and demographic backgrounds. The indicators for this independent variable are:

Age: This refers to the number of years lived by a handcartpuller since birth.

Level of education: This refers to the level of schooling attained e.g. Primary, Secondary or Post- Secondary.

Technical Training: Refers to any special skills acquired by handcartpullers outside the formal education system.

Marital status: refers to the state of being single, married, divorced/separated or widowed.

Family size: Refers to the total number of individuals related as husband and wife and children.

Number of dependants: Refers to total number of individuals supported financially by the respondent as the breadwinner of the family. These include children, relatives and others.

Duration of urban residence: This refers to the number of years spent in Nairobi since first moving in.

Previous activity: This refers to the income-generating activity a person was engaged in before joining current activity.

Previous income: This refers to the average amount of money (in Kshs.) per month earned from previous activity.

Landownership: Refers to the state of owning land at the time of joining present activity.

place of origin: This refers to a puller's district of birth and upbringing.

Duration in the activity: this refers to the number of years/months one has been engaged in the activity.

Time worked: This refers to average duration of time (in hours) worked by a puller per day.

The dependent variable in H1 is: entry into handcart transport activity. This refers to the act of pulling/pushing of handcarts as a way of earning a living.

H2: Economic characteristics of handcart transport activity influences handcartpullers' entry into the activity.

Variables: Independent: Economic characteristics of handcart transport activity. The indicators of this independent variable are:

Starting capital: This refers to the amount of money (in Ksh.) a handcartpuller was required to bring into the activity.

Income level: This refers to the average monthly earnings by a puller from this activity.

Sources of capital: This refers to ways by which a puller managed to acquire the required money.

Employment capacity: This refers to the number of people required in a single pulling activity

Dependant Variable: entry into handcart transport activity.

This refers to the act of pulling/pushing of handcart as a

way of earning a living.

H3. Operational characteristics of handcart transport sustain it as a viable mode of goods transport in the city of Nairobi.

Variables: **Independent:** Operational characteristics of handcart transport. This refers to the functional aspects of handcart transport activity. It entailed an analysis of the activity as a mode of goods carriage within the study area. This addressed the following:

Location Characteristics: This involved a description of each location and the surrounding economic activities.

Cargo characteristics: This refers to type and nature of goods ferried by handcarts in terms of weight, bulk and perishability.

Transport costs: This refers to the level of charges, costs of handcart repair and maintenance and costs to the environment.

Organisation: This pertains to structures of ownership, rules and regulations that help direct the activity, access to handcarts and social organisation of handcartpullers.

Infrastructure: This refers to the existing physical facilities that are relied on by this transport mode.

Sources of Competition: Other transport modes with a stake in the carriage of goods.

Quality of transport: Refers to aspects of handcart

transport such as speed, safety and availability.

Route characteristics: Refers to nature of trip patterns and approximate length of distance covered.

Sustainability and viability: This is judged according to whether or not the mode is affordable by users and how it fits in the national economy, and how easily it is accommodated within the existing urban transport scenario.

CHAPTER 4: HANDCARTPULLERS' SOCIO-ECONOMIC AND DEMOGRAPHIC BACKGROUNDS.

4.0 Introduction

The presentation and discussion of field data has been done in three chapters as follows:

Chapter 4: Socio-economic and demographic backgrounds of Handcartpullers.

Chapter 5: Economic and operational characteristics of handcart transport activity.

Chapter 6: Attitudes, experiences and perceptions of Handcartpullers as concerns their present engagements and aspirations for themselves and their children.

4.1 Age distribution

The mean age of the pullers was 31.6 years. This average compares well with the findings by Ngethe and Ndua (1984) who in their study of informal sector operators in Nairobi found operators' mean age to be 32.9 years. However, the average age of handcartpullers conceals significant aspects of their age distribution (see table 2). The ages range from 15 years and 59 years between the youngest and oldest puller respectively- a range of 44 years. While 73.4 % of the respondents were in the prime age group of 20-44 years, 64.2% of the respondents were aged below 35 years. Taking into considerations the official retirement age of 55 years, it is significant to note that an overwhelming (97.5%) of

the respondents would still be in formal employment. This is an indication that handcartpulling is a sub-sector dominated by young people. This was hardly surprising because it could be expected that owing to the great physical energy demanded by the activity it would be selective against the aged, many of whom lack the requisite physical strength.

Table 2. Distribution of Handcartpullers by Age (in years)

Age group	No of respondents	%
15-19	13	10.8
20-24	26	21.7
25-29	23	19.2
30-34	15	12.5
35-39	13	10.8
40-44	11	9.2
45-49	9	7.5
50-54	7	5.8
55-60	3	2.5
Total	120	100.0

4.2 Sex distribution

Handcartpulling emerged as an exclusive male domain. There were thus no females among the 120 respondents interviewed. This can be attributed to differences in the physiological make up and cultural consideration between the two sexes. By virtue of being the stronger of the two sexes, the male is more inclined to undertake those jobs that more demanding in terms of physical strength. It is this difference in physiological composition that influenced the cultural division of labour which assigned hard tasks to the males while women took up simpler tasks. The latter

assertion is vindicated by the work of scholars like House (1977) who in his exploratory study of Nairobi's informal sector, found that women in the informal sector were mostly found in such service sectors as tailoring, food kiosks, hawking of vegetables, etc., which are less demanding in terms of physical effort.

4.3 Marital status

It was found that 49.2% of the respondents were married and with a family to fend for [see table 2] while 42.5% were single, i.e. had never been married. The remaining 8.3% comprised those who had left their marriage unions either through separation, divorce or death of their spouses [the widowed, see table 3].

Table 3: Distribution of handcartpullers by their marital status

Marital status	No. Of respondents	%
Married	59	49.2
Single	51	42.5
Widowed	4	3.3
Divorced/separated	6	5.0
Total	120	

Most of the pullers in the latter category still shoulder responsibilities over the children born before their marriages broke up. Most of the pullers therefore are people with family, social and economic obligations.

4.4 Place of origin

An overwhelming majority of the respondents [96.7%] said they hailed from outside Nairobi, having migrated from different parts of the country in search of employment. Only 3.3% were born in Nairobi [see table 4].

Table 4: Distribution of handcartpullers by place of origin

Place of origin	No. Of respondents	%
Nairobi	4	3.3
Outside Nairobi	116	96.7
Total	120	100.0

Our finding agrees with that of House [1977] on the Nairobi's informal sector participants among whom only 1.9% were actually born in Nairobi. The informal sector has gradually become the entry point for both the urban-bound migrants and those born and bred in such urban centres like Nairobi. Migration factor clearly remains an important factor in informal sector activities. A significant observation was that a majority of handcartpullers were found to hail from the Central Province Districts of Murang'a, Nyeri, Kiambu, and Maragwa. As illustrated in table 5, Central province alone accounted for 66.6% of the sample, while Murang'a district alone accounted for 38.3 %, with Nyandarua district having the least representation among central province districts with a mere 3.3%.

Table 5: Distribution of handcartpullers by district of origin

DISTRICT	NO. OF RESPONDENTS	%
CENTRAL PROVINCE		
MURANG'A	46	38.3
NYERI	10	8.3
KIAMBU	12	10.0
MARAGWA	8	6.7
NYANDARUA	4	3.3
	80	66.6
EASTERN PROVINCE		
MACHAKOS	6	5.0
MERU	6	5.0
EMBU	1	0.8
KITUI	1	0.8
	14	11.6
WESTERN PROVINCE		
VIHIGA	5	4.2
KAKAMEGA	3	2.5
	8	6.7
RIFT VALLEY PROVINCE		
NAKURU	3	2.5
KAJIADO	2	1.7
	5	4.2
NYANZA PROVINCE		
SIAYA	3	2.5
KISII	1	0.8
KISUMU	2	1.7
	6	5.0
COAST PROVINCE		
MOMBASA	2	1.7
TAITA TAVETA	1	0.8
	3	2.5
NAIROBI	4	3.3
TOTAL	120	99.9

The high representation of Central Province in the sub-sector can be attributed partly to the province's geographical proximity to the city of Nairobi and partly to the high population densities in most of the districts in the province. Murang'a district which has the highest

representation has the highest population density in the province while Nyandarua district has the lowest population density. [Ministry of planning: Projections from 1979 population census]

4.5 Duration of stay in Nairobi

The study found that 21.5 % of the respondents had by the time of interview lived in Nairobi for a period not exceeding five years, and were therefore recent migrants; while 46.5 % had lived in Nairobi for less than 10 years. A large percentage (53.5%) of the pullers had lived in Nairobi for ten years and above and were thus residents of longstanding and only 14.7% had lived in Nairobi for 20 years and above. Average duration of urban residence was found to be 11 years. The study compares well with House [1977] who found that 51% of informal sector participants had lived in Nairobi for more than 10 years, while 23 % had been residents for over 20 years. However, there is a discrepancy in the two studies over the proportion of recent migrants (2.4% for House) and 21.5 % for this study. This is attributed to the fact that House's study incorporated proprietors of informal sector businesses who have been found to have a longer duration of urban residence than informal sector employees.

Table 6: Distribution of handcartpullers by duration of stay in Nairobi.

Duration (in years)	No. of respondents	%
Below 1 year	2	1.7
1-4	23	19.8
5-9	29	25.0
10-14	24	20.7
15-19	21	18.1
20 +	17	14.7
Total	116	100.0

N.B Total number of respondents is the sample size less those who were born in Nairobi [i.e 4 respondents]

4.6 Area of family residence.

It was found that 78.3% of the respondents have their families [wife and children for the married and parents for the unmarried] residing in the rural areas, and 21.7 % of the respondents were staying with their families here in Nairobi (see table 7 below). This indicates that a majority of the pullers still maintain strong rural ties with their families while in the city and that their presence in the city is for purposes of earning incomes for themselves and their families in the rural areas. Gugler as quoted in Alan [1981] attributed the tendency of urban dwellers in developing countries to maintain ties with their rural communities to the desire to feel secure in the knowledge that in spite of their alienation while in the urban environment, they continue to be members of their own communities. He went further to state that "it is to the rural areas that this army of migrants expects to return

after their working period".

Table 7: Distribution of handcartpullers by area of family residence.

Area of family residence	No. Of respondents	%
Nairobi	26	21.7
Outside Nairobi	94	78.3
Total	120	100.0

4.7 Handcartpullers' place of residence

The study found that 85.8% of pullers interviewed reside in Nairobi while working, living in rented rooms. Most of them live in small rooms in low-income estates due the low monthly rent rates [average Kshs.600]. The remaining proportion reside outside Nairobi and commute daily to and from the city. This category comprises of pullers from areas adjacent to Nairobi such as Ndenderu, Uthiru, Wangige, etc.

Table 8: Distribution of handcartpullers according to their place of residence.

Place of residence	No. Of respondents	%
Nairobi	103	85.8
Outside Nairobi	17	14.2
Total	120	100.0

4.8 Number of children

The study revealed that 45.8% of the respondents interviewed didn't have children. A majority in this category were unmarried but included a few who were married but by the time of the interview had not yet had their first child. The remaining 54.2% had at least one child. As shown in table 9, 35.4% of the respondents with children had

either 1 or 2 children, 33.8 % had between 3 and 4 children with 69.2% of the respondents being in the 1-4 children bracket. The average number of children per puller was 4, while the highest number of children by an individual puller was 9. Only 30.8% of the respondents had 5 children and above. The general indication is that handcartpullers tend to have small families.

Table 9: Distribution of Handcartpullers by number of children.

No. Of children	No. Of respondents	%
1-2	23	35.4
3-4	22	33.8
5-6	14	21.5
7-8	4	6.2
9-10	2	3.1
10 +	-	-
Total	65	100.0

4.9 Number of dependants

Apart from taking care of their own children, pullers also have responsibility over their parents and other close relatives. This is not surprising bearing in mind that a majority of them [96.7%], come from the rural areas where they have their families residing. Only 25.8 % of the respondents had no dependant while 65.2 % of respondents with dependants had between 1 and 4 dependants, and the remaining 34.8% had at least 5 dependants. The average number of dependants per puller was found to be 4, while the largest number of dependants supported by a single puller

was 10 [see table 10].

Table 10: Distribution of handcartpullers by number of dependants.

No. Of dependants	No. Of respondents	%
1-2	26	29.2
3-4	32	36.0
5-6	19	21.3
7-8	9	10.1
9-10	3	3.4
10 +	-	-
Total	89	100.0

2.10: Educational background

The study revealed that 90.8% of the respondents had acquired at least some elementary education while the remaining 9.2% illiterate [see table 11].

However, the study revealed that in spite of most pullers having been to school they didn't go very far up the academic ladder and very low education. Majority were either primary level graduates who had completed either primary school std 7 in the old system or std 8 in the current 8-4-4 system or had dropped out before sitting for their primary school leaving examination. This category accounted for 65.1% of the sample size. The remaining 34.9% were either secondary school graduates or dropouts. None of the respondents had post-secondary qualifications, at 'A' level or University.

The highest level of education attained was form 4, for 23% of the literate respondents while 11.9% had dropped out

in lower secondary i.e. between forms 1 and 2. Many of the dropouts cited poor socio-economic backgrounds e.g. lack of school fees as the reason for not completing their education. This finding tallies with most studies that have sought to explore the education backgrounds of informal sector participants. One such study is Todaro [1981] whose study found informal sector operators to be people with little formal education. It is to the informal sector that these people turn to because they have no hope of joining the formal sector which is very demanding in terms of education and skills.

Table 11: Distribution of handcartpullers by level of education attained.

Level of education	No. Of respondents	%
Std 1-4	19	17.4
Std 5-8	52	47.7
Form 1-2	13	11.9
Form 3-4	25	23.0
Form 5-6	-	-
University	-	-
Total	109	100.0

4.11 Technical skills possessed

Only 24.2% of the respondents interviewed were found to possess some technical skills. These skills had been acquired either through apprenticeship [working for a person in return to being trained] or enrolling in a technical training institution. These skills had been acquired prior to joining handcart transport activity. Asked why they were

not undertaking the activities for which they had trained for, the respondents cited lack of capital, little/insufficient earnings or a lack of market for their products.

4.12 Type of technical skill(s) possessed

Type of skills possessed by handcartpullers were varied, some pullers having acquired more than one skill. A majority [25.6%] of the pullers possessed skills in shoerepair, 15.4% metal work, 12.8% motor mechanic and a similar proportion welding and soldering, with masonry having the least representation [see table 12 below]

Table 12: Distribution of handcartpullers by type of skill(s) possessed.

Type of skill	No. Of respondents	%
Metal work	6	15.4
Signwriting	3	7.7
Shoerepair/mending	10	25.6
Motor mechanic	5	12.8
Carpentry/Joinery	6	15.4
Tailoring	3	7.7
Soldering/Welding	5	12.8
Masonry	1	2.6
Total	39	100.00

A look at the type of skills possessed and the level of education attained indicates that pullers lack the skills required to join formal sector jobs. This supports the study's first assumption that attributes pullers' entry into their current activities to their socio-economic backgrounds.

4.13 Length of time as a puller.

Average duration of time [in years] spent in this activity was found to be 8. However, there was great variations in the distribution of time as shown in table 13. The duration of time spent in the activity ranged from 3 months to 34 years. Thus while 42.5% of the respondents had been in the activity for a period of 5 years and above, with significant proportion [27.5%] having been in the activity for 10 years or more. This is an indication that most pullers have been in this activity for a considerable length of time.

Table 13: Distribution of handcartpullers by duration of time spent in the activity.

Length of time [in years]	No. Of Respondents	%
Below 1 year	9	7.5
1-4	42	35.0
5-9	36	30.0
10-14	12	10.0
15-19	9	7.5
20-24	6	5.0
25-29	2	1.7
30 +	4	3.3
Total	120	100.0

4.14 Handcartpulling as first occupation.

The study found that handcartpulling was the first occupation for a mere 24.2% of the respondents. This is the category of pullers who had not engaged in another income-generating activity prior to joining this activity. It follows that handcartpulling was not the first income-

generating activity for majority of pullers [75.8%] (See table 14).

Table 14: Distribution of handcartpullers by whether or not they were in their first occupation.

Having previous engagements	No. Of respondents	%
Yes	91	75.8
No	29	24.2
Total	120	100.0

4.15 Nature of previous engagements

The nature of tasks previously undertaken were many and varied. These activities have been placed under 5 broad categories as shown in table 15.

Table 15: Distribution of handcartpullers by previous engagements.

Activity	No. Of respondents	%
Domestic worker	11	12.1
Formal sector employment	15	16.4
Employment in skilled informal sector	11	12.1
Employment in unskilled informal sector	30	33.0
Self-employment in the informal sector	24	26.4
Total	91	100.0

Table 15 that most respondents had been engaged in a variety of informal sector activities. Only 28.5% of the respondents were engaged outside the informal sector. This is the category that had been employed in either the formal or domestic employment. The latter has for purposes of this

study been excluded from informal sector activities. The highest engagement was employment in the unskilled informal sector which accounted for 33%, self-employment in the informal sector 26.4%, formal sector employment 16.4%, while domestic workers and skilled informal sector each accounted for 12.1%. These previous engagements reflects pullers socio-economic backgrounds since the highest proportion were found to have been involved in tasks that were less demanding in terms of skills and capital. This supports the study's assumption that puller's socio-economic backgrounds led them into handcart pulling.

4.16: Place of previous engagements.

It was found that 71.4% of the pullers who had been engaged in other income-generating activities prior to joining their present activities had carried out those activities here in Nairobi. This shows that most of the pullers had come to Nairobi with no specific jobs in mind. Through a method of trial and error, they had changed jobs before finally settling down as handcartpullers. Only 28.6% had carried out their activities outside Nairobi mostly from upcountry locations. This category of pullers had not engaged in any other income-generating activity in the city of Nairobi. These are people who had been engaged in low-earning activities before and had made a conscious decision to join handcartpulling activity to 'try their luck'.

Table 16: Distribution of handcartpullers by place of previous activities.

Place	No. Of respondents	%
Nairobi	65	71.4
Outside Nairobi	26	28.6
Total	91	100.0

4.17: Earnings from previous activities

The average monthly earnings from previous activities was Ksh. 2,398. This is quite a low income bearing in mind the high cost of living. Previous incomes were found to have ranged from Ksh.500 to Ksh.12,000 per month. Majority of respondents who reported relatively high incomes were mostly found in the hawking sub-sector and other vending activities. Many pullers who had been engaged in hawking and vending activities intimated to the researcher that they could still be in their previous activities were it not for rampant harassment by the law enforcement authorities. Majority of pullers, (85.7%), were earning not more than Kshs. 4,500 per month, only 8.8% were earning Ksh. 6,000 and above. Most of the pullers were found in the Kshs. 0-1500 income bracket. The general picture of pullers' previous earnings indicate that a majority had been engaged in low-income activities.

Table 17: Distribution of Handcartpullers by Previous earnings.

Previous earnings [Kshs]	No. Of respondents	%
0 - 1,500	42	46.1
1,500 - 3,000	23	25.3
3,000 - 4,500	13	14.3
4,500 - 6,000	5	5.5
6,000 - 7,500	2	2.2
7,500 - 9,000	3	3.3
9,000 -10,500	1	1.1
10,000 -12,000	2	2.2
Total	91	100.0

4.18: Leaving previous activities

An interesting finding of this study was the revelation that all respondents who had engaged in other income-generating activities prior to becoming pullers had left those activities. The reasons for leaving the previous activities included (see table 18).

Table 18: Distribution of Handcartpullers by reasons for leaving previous activity.

Reason	No. Of respondent	%
Harassment	11	12.1
Sacked by employer	24	26.4
Insufficient income	45	49.4
Independence	6	6.6
End of contract	4	4.4
Difficult work	1	1.1
Total	91	100.0

harassment by the dreaded city council askaris (for 12.1% of the respondents) against those who had been engaged in hawking and other vending activities. They said that although harassment was also found in their present activity, it was relatively less pronounced. Most of the

pullers who cited harassment argued that although their previous earnings were higher or equal to their current earnings, the heavy losses they used to incur through having their wares confiscated, extortion of money through bribes, and heavy fines for operating without a licence ended up reducing their real earnings. In such a working environment, their earning patterns were both erratic and unreliable. Joining handcart transport activities therefore offered them a safer and stable working environment. Some (26.4%) of the respondents who had been employed in the formal or skilled informal sectors said that they had been laid-off by their previous employers, while 49.4% of the pullers cited low earnings. To this group, joining their current activity gave them an opportunity to raise their incomes.

Other reasons cited include desire to work independently [6.6%], termination of their contracts [4.4%] and the difficult nature of previous work [1.1%].

4.19 Landownership prior to becoming a puller.

While 31.7% of the respondents were owners of land by the time they joined their present activity, a larger proportion [68.3%], of the respondents didn't own any land by the time of setting up in the present activity. This is a significant finding because it has been established that ownership of local resources such as land is an important index for determining one's socio-economic status in the rural areas

[Mbatia, 1987]. The general state of landlessness among pullers is an indicator of their low socio-economic status. To this category, it can be assumed that there was no viable rural alternative to survival in the urban informal sector. This finding is vindicated by House (1977) who observed that to a significant extent, informal sector activities are dominated by people who have been pushed out of the rural areas by landlessness.

Table 19: Distribution of handcartpullers by landownership when joining this activity.

Owning land	No. Of respondents	%
Yes	38	31.7
No	82	68.3
Total	120	100.0

4.20 Land size

A further probe revealed that land sizes were too small to allow any viable landbased economic activity as the average land size was found to be 1.3 acres, with 52.6% of the respondents owning less than 1 acre, 23.7% owned between 1 and 2 acres, 13.2% between 2 and 3 acres, 7.9% between 3 and 4 acres, and only 2.6% owning above 4 acres [see table 20]. This shows that 85% of the respondents either own no land or had less than one acre of land. Such land was thus inadequate to support oneself and an average of 4 dependants. Handcart pulling therefore becomes the main source of livelihood for many.

Table 20: Distribution of handcartpullers by size of land owned [in acres].

Land size	No. Of respondents	%
Below 1	20	52.6
1-2	9	23.7
2-3	5	13.2
3-4	3	7.9
4+	1	2.6
Total	38	100.0

The study further revealed that among pullers who owned land prior to joining this activity, 7.9% had by the time of the interview sold their land thereby joining the ranks of landless handcartpullers.

4.21 Land-use activities

Majority [62.9%] of the pullers who had not sold their land said that the land was under cultivation by their wives and children in the rural areas. Produce from the farm is used to subsidise the families cost of living. Another 22.9% of the pullers with land were lessors, having leased out their land. This shows that 94.3% of pullers with land have put it under productive use which provides them with additional sources of livelihood.

Table 21: Distribution of pullers by land activities.

Activity	No. Of respondents	%
Nothing	2	5.7
Under cultivation	25	71.4
Leased out	8	22.9
Total	35	100.0

CHAPTER 5: ECONOMIC AND OPERATIONAL CHARACTERISTICS OF HANDCART TRANSPORT ACTIVITY

5.1 Starting capital

Most of the pullers said that they had invested no money at all in order to start up the activity. However, the study revealed that though capital may not be a critical factor for entering the activity, some conditions are essential for one to qualify to be a handcartpuller. Some of the conditions were common to all the locations while others were applicable to specific locations only. These conditions included:

- i. Prior knowledge of an established puller in a certain location. This could be one's relative, a fellow villagemate or a friend. These people introduce a prospective puller to the urban environment by providing them with food, shelter and an opportunity to earn a living. The latter results in the new arrival joining the established puller in his trade. This pattern of initial urban association was evident in almost all the locations with persons of the same rural origin being found in the same location.
- ii. Payment of a membership fee. This is paid to the old members of a location for one to be accepted in a location. Money payable is not fixed but an arbitrary amount that is set up by members of the specific locations. This condition was found to apply at

railway station, KBS/Mfangano st., and City Market locations.

- iii. Previous engagement in related chores such as head, and backloading in the same location automatically qualifies one to enter this activity. This is necessitated by the fact that participants in such activities are already known by handcartpullers. They are also conversant with the operations of handcart transport activity to require any introduction into it. This condition applies at Wakulima and Retail Market locations where the two mode of goods carriage operate side by side.

5.2 Earnings from the activity.

The earnings from this activity were found to be relatively high, contrary to popular belief that low-capital and low-skill activities in the services sector are characterised by very low earnings [House 1977]. Earnings per month ranged from a minimum of Kshs. 1,500 to a maximum of Kshs. 15,000 per month. The mode of the income distribution was between Kshs. 6,000 -9,000, while average monthly income was Kshs. 6,675. Earnings per puller was arrived at after accounting for the only expense incidental to the activity i.e cost of hiring the handcart.

Table 22: Distribution of handcartpullers by their monthly earnings [in Kshs]

Monthly income [Kshs.]	No. Of respondents	%
0-3,000	19	15.8
3,000-6,000	31	25.8
6,000-9,000	40	33.3
9,000-12,000	24	20.0
12,000-15,000	6	5.0
Total	120	99.9

As shown in the table above, 33.3% of the respondents reported monthly incomes of between Kshs. 6,000 and Kshs. 9,000 while 15.8% reported incomes of below Kshs. 3,000. Only 5% of the respondents reported incomes ranging between Kshs. 12,000 and Kshs. 15,000. The researcher suspected that there was a tendency by pullers to understate their incomes for fear that the disclosure could invite future taxation as the activity is currently not subject to taxation.

5.3 Employment capacity.

Hand-carts are pulled by between 1 and 5 people. The number of people involved in pulling depends on:

- i. Weight of the load
- ii. The gradient of the route to be used. If the route to be followed is steep, more hands are required. People who are hired to assist when factors (i) and (ii) apply are either drawn from the pool of handcartpullers who are being introduced to the activity or from outside [idlers]. Payment for assisting usually varies between Kshs. 10 and Kshs. 20 per person.

Generally, the sub-sector was found to have a low labour absorption capacity, going by the small number of people involved in a single handcart pulling activity. In spite of this, it provides direct employment to a significant number of urban residents who would otherwise be unemployed and whose most likely alternative could have been resort to crime or idle living. In addition to providing an avenue for direct employment, it indirectly serves as a means of livelihood to the families and dependants of the pullers.

5.4 Nature of pullers engagements

The study revealed that handcartpullers participate in this activity on a full-time basis. Of all the respondents interviewed, none of them said he was in the activity on a part-time basis. This not only shows that the activity is the main source of livelihood for the pullers and their dependants, but it is also an indicator of pullers level of commitment to the activity. The pullers generally work long hours which makes it impossible for them to devote their time to another alternative income-generating activities. [see subsequent sub-sections].

5.5 Ownership of hand-carts

Majority of handcarts in the sub-sector are owned by some 'big fish' who own large fleets of handcarts. These individuals also engage in other occupations mostly in business and farming. A notable case is a Mr. Kennedy Kinya

Hiukia who owns a fleet of 1,000 handcarts besides being the proprietor of a chain of hotels and retail businesses in and outside Nairobi. He is also a successful farmer in Kigumo Division of Maragwa District. However, a few handcarts are owned by some 'small fish' who participate actively in the pulling activity. These puller-cum-owners accounted for 3.3% of the sample size. These individuals own small fleets ranging between 1 and 5 handcarts which had been acquired through savings and collection, for later assembly, of the requisite material components. One respondent who owns 2 handcarts said that he began by collecting various components that go into making a handcart which he later took to the Jua kali sheds for assembling. This is a cheap or cost-effective way of acquiring a handcart which would normally have cost him between Kshs.13,000 and Kshs. 15,000.

5.6 Pullers' access to handcarts

Handcarts are made available to the pullers on a hire basis by either the agents [for owners owning large fleets] of the owners or by the owners themselves. In the former case several agents are employed to facilitate the process of hiring out. This process involves noting down every cart collected from the collection point against the pullers' identification and business location. The agents are also charged with the responsibility of collecting the charges by the end of the day as well as ensuring that every cart has

been returned to the collection point. The terms of hire are worked out either per trip or per day. The latter option is more popular with handcartpullers (83.3%). This is because a puller has a chance to benefit from advantages of economies of scale, since the longer the duration of hire, the lower the charges in proportionate terms. The rate of hiring a handcart varies with hire period and type of handcart.

Trip charges ranges from Kshs.20 to Kshs. 40 while per day charges range from Kshs.40 to kshs. 100. There are two types of handcarts depending on the type of wheels used. These are handcarts using either;

- (i) discarded truck or car wheels; or
- (ii) metallic, steel spoked wheels.

It is the first type of handcart which is a favourite of many pullers because it is easier and convenient to pull along and therefore attracts higher charges than the metallic wheeled carts which are less popular because of their heavy contact with the ground, thus difficult to pull them along, especially when the load involved is very heavy.

While hire charges for a tyre coated handcart ranges from Kshs. 60 to Kshs.100 per day, the other type of handcart ranges from Kshs.40 to Kshs. 60. Trip charges are usually half the price of the per day charge applicable depending on the type of handcart involved. Trip charges are levied by the person who has hired the handcart for the day. This sub-

letting arrangement helps to boost the earnings of the puller who hires out his handcart and owners do not benefit.

Handcarts are collected very early in the morning from the collection point and taken by the puller to his operational base. Hire charges are paid at the end of the working day when returning the cart to the collection point or at the end of the working week (usually 6 days). This shows that no working capital is required for one to participate in the activity.

5.7 Period of stay in service locations

Majority of the respondents [85.8%] were found to have operated from only one location since joining this activity. The remaining 14.2% had operated from several locations ever since their entry into the activity. Those locations were either in the city centre or in the city suburbs. The shifts in location were found to be less frequent since many of the respondents in the category had been in their current location during the preceding 2 years. This is an indication that pullers generally operate from a fixed location. The reasons for operating from a fixed location included (see table 23).

Table 23: Distribution of respondents by reasons for operating from a fixed location.

Reasons	No. of respondents	%
I wouldn't be accepted elsewhere	67	55.8
Location is ideal for business	68	56.7
Being used to the location	68	56.7
Fear of losing one's customer's	55	45.8
Total	258	

NB: The totals in table 23 above surpass the study's sample size because the respondents cited more than one reason.

location's centrality for business (56.7%). Once a location is perceived to be strategic enough, a puller is less inclined to shift to another location. A similar proportion cited operating from one location simply because they had got used to it. The location and its immediate social and physical environment thus become familiar, hence providing the pullers with a sense of security. Another reason was that a puller from one location would not be welcome in another location. Shifting operational sites is perceived to raise the competition, thus reducing the earnings for those already in particular locations. The pullers are also disinclined to shift from one base to another for fear of losing one's customers. Handcartpullers in such locations as Wakulima, Retail and City markets tend to have regular clients who provide them with regular business. These clients are traders who regularly come to these markets to obtain fresh supplies. With time a relationship develops between pullers and the market traders. Through this relationship, pullers have a guaranteed income which they would lose if they relocated to another place. Some handcart pullers, however, operated from more than one location citing several reasons for their doing so. Majority of them [64.7%] said that they had done so in order to improve

their chances of earning higher incomes. Pullers in this category were found to be those who had formerly operated from the outskirts of the city and were lured by the good business prospects in the C.B.D and its environs. Another 23.5% had moved in order to escape from areas with stiff competition, while 11.8% moved to break the monotony of operating from one place (see table 24).

Table 24: reasons for changing their locations.

Reasons	No. Of respondents	%
To improve their earnings	11	64.7
To escape from competition	4	23.5
To break monotony	2	11.8
Total	17	100.0

5.8 Hours worked by handcartpullers

Most pullers work long hours, 6 days in a week. The average daily number of hours worked by a puller was found to be 10.3 hours. The hours worked ranged from 5 hours to 16 hours. However, the mode of the distribution was between 9 and 12 hours [see table25].

Table 25: Distribution of handcartpullers by number of hours worked.

No. Of hours worked	No. Of respondents	%
5-8	32	26.7
9-12	62	51.7
13-16	26	21.6
Total	120	100.0

The activity generally starts early, with starting time varying with location. Wakulima and Retail market locations

recorded the earliest times from around 5.00 a.m. Starting time is dictated by the activities in the market which start around this time. Pullers in these locations work relatively fewer hours than their counterparts in other locations with closing times being between 2.p.m and 3 p.m. when the adjacent markets close.

Pullers in other locations starts their activity between 6 a.m. and 7.00 a.m. This is understandable because they are locations that mostly cater for commuters' needs. The commuters start trickling in and out of the city with their luggage from about 6.00 a.m. It is also around this time that many business premises open their operations. Pullers in these locations work longer hours, with their activities sometimes extending beyond 7.00 p.m.

5.9 Type of commodities dealt in by handcart pullers.

Different types of commodities are handled by this mode of transport, ranging from agricultural products such as vegetables, fruits, cereals, etc, to non-agricultural goods such as office equipment, stationery, furniture, crates of beer and travellers' luggage. An investigation of type of commodities ferried by the mode revealed a tendency for certain locations to specialise in certain commodities. For example, commodities handled by pullers in Wakulima and Retail market locations were predominantly agricultural products such as vegetables, onions, carrots, bananas,

fruits and cereals of different kinds. Handcart are used to ferry these commodities from the two markets, either:

- i. to waiting vehicles for delivery to various destinations within or outside the city
- ii. to various bus/matatu terminus for transportation to the traders' respective destinations within or outside the city
- iii. directly to the traders' respective selling joints within the central business district and its environs.
- iv. Locations such as railways, Accra road, K.B.S/Mfangano and Machakos country bus handle goods of a mixed variety but dominated by travellers' luggage. Other goods handled in these locations include office equipment, stationery, crates of beer, furniture, etc. Pullers in these locations are hired by owners of adjacent businesses to ferry goods for them. This reflects the level of dependence between the handcart transport mode and the surrounding business activities.

5.10 Nature of goods ferried

Goods ferried through this mode were examined in terms of their bulk, weight and density. The study found that hand-carts are capable of carrying up to a 1,000 kg of cargo depending on the type of wheels involved and the terrain of the route followed. Handcarts that are fitted with discarded automobile wheels can handle goods of greater weight and

bulk than those with metallic steel-spoked wheels. Similarly, where the terrain of the route is relatively flat, more goods can be handled by a handcart. Generally, goods that are handled by handcarts tend to be of greater bulk, weight and density. As such they cannot be conveniently ferried through non-motorised modes such as back, shoulder, headloading or cycling. Conversely, the cargo characteristics and the relatively short distances covered make it uneconomic to ferry them through motorised means of transport. This is an indication that the operational characteristics of handcart transport mode make it better suited to cater for specific needs of the diverse urban business environments.

5.11 Quality of transport

The quality of transport offered by handcarts was analysed in terms of speed, safety and reliability. It was found that as load carriers that are propelled through human effort they offer a convenient means of moving goods slowly over short distances. This slow movement make it a safe means for transporting perishable and/or delicate goods. The mode's reliability is guaranteed by the fact that by being located near areas teeming with commercial activities, the handcarts are readily available on demand. These qualities of handcarts enhance their efficiency as a means of goods carriage.

5.12 Route characteristics and transportation costs

The handcart transport mode, despite relying mainly on the existing road infrastructure also make use of available passes, alleys and sidewalks. This flexibility enables the mode to break from the long and circuitous movements that characterise motorised travel in the city. It therefore provides a more direct link between points of origin and destination which results in reduced trip distances. Another advantage of the mode is its ability to link-up areas not directly served by motorised modes of travel. In terms of transportation costs, the handcart mode was analysed by:

- 1) cost to the customers
 - 2) cost to the owners
 - 3) cost to the environment.
- 1) The cost of the transport mode to the customer involved an examination of the charges that are levied on goods. The study found that charges on goods are arbitrary there being no objective and fixed charge structure. Amounts paid therefore depend on a subjective assessment of goods to be ferried on the basis of their weight, perishability and the distance involved. The charge is mutually negotiated between the puller and the customer. Despite the non-existence of a charge structure to guide the pullers, the pullers have through experience evolved their own charge structure that reflects the dynamics of

weight, bulk and perishability of the goods involved and the distance to be covered, with a fair degree of uniformity in the charges levied, for various types of goods. Since the charges depend on a customer's ability to negotiate a fair price, it means that a stranger to the activity is likely to pay more than a regular customer. In fact, it was found that in most cases regular customers know how much they should pay even without negotiating with the pullers. Where both the pullers and their customers are in frequent contact, the latter may enjoy credit services. This entails a puller ferrying a customer's goods and the latter paying for the services at the end of the day after selling his/her goods. Despite its arbitrariness, the charges are very low compared to the charges for hiring a motor vehicle to provide similar services. This makes handcart transport a popular mode among many business and trade operators within the city of Nairobi.

- 2) As mechanical devices that are propelled by human physical effort, handcarts use no fuel. Apart from the costs of lubricants which are applied on wheel bearing, no other running costs are involved. The lubricants such as oil can be obtained free of charge from industries and motor garages. It was difficult to obtain precise estimates of repair and maintenance costs incurred by

handcartpullers since the costs are met by owners who keep no records of such costs. To obtain a general picture of the level of costs the researcher relied on pullers and a few owners who pointed out the nature of repairs and maintenance work involved and the frequency of the services. The repair and maintenance usually entail replacement of worn-out tyres, tubes, bearings, bolts, broken pieces of metal and wood, etc. These components are readily available either at a cheap price or free of charge as second-hand or discarded items. This widespread reliance on used up items reflects not only the low level of repair and maintenance costs but also the mode's ability to "make much out of little". The few owners interviewed, indicated that repair and maintenance work is rarely done. According to one handcartowner, a Mr. Kennedy Kinya Hiukia, his handcarts are serviced only once in a year in the informal sector sheds popularly known as jua kali. Other owners also take their handcarts to the jua kali garages for repair and maintenance. It is in these jua kali workshops that handcarts are initially assembled. Thus hand-cart transport mode indirectly provides a source of income to operators in other sub-sectors like manufacturers in the jua kali, who assemble and carry out repair and maintenance work. This points to the high degree of

interdependence within the diverse informal sector where emergence and growth of each sub-sector is necessitated by, and inextricably tied to, other sub-sectors.

- 3) Unlike motorised modes of transport, the handcarts use simple technology and are thus less environmentally harmful [no waste and emissions]. The handcarts that are fitted with steel spoked-metallic wheels, however, do contribute to noise pollution by their heavy and rough contact with the ground and cause great damage to the surfaced road networks in the city. This is not so for hand-carts that are fitted with motor vehicle wheels which ensure a soft contact with the ground.

The handcart transport mode is thus seen to have economical, technological and environmental viability.

5.13 Organisation of the activity

To a distant observer, the activity is devoid of any form of organisation and characterised by haphazardness and chaos. However, on careful observation one discovers the existence of a fair degree of organisation within the sub-sector. Such organisation entails:

- i. existence of an unwritten set of rules and regulations that govern handcartpullers' conduct towards each other and their customers. These rules inject a sense of order in an activity that would otherwise be chaotic and unregulated. By instilling discipline among pullers

these rules prevent competition from degenerating into open conflicts such as physical fights and quarrels which can have disruptive repercussions on the activity. A case in point is the rule that forbids pullers from applying underhand tactics as a way of out-doing each other in business. Such underhand practices include undue interruption of negotiations between a puller and a customer with an intention of 'snatching' a customer away. These rules and regulations derive their force from the general consensus of members of each location. Persons who violate these rules are likely to face reprisals from other members to ensure compliance. The rules evolve spontaneously in the course of informal meetings that occur during the pullers' rest periods either after or in-between working hours. New entrants gradually internalise these rules right from the initial stages of their participation.

- ii. existence of 'unofficial leaders'. In every location there are individuals who are generally accepted and recognised by other pullers as the undisputed leaders of the location. Such leaders were easy to pick out from a crowd of pullers in social gatherings and in the course of normal discussions after work or during rest periods. The leaders wield more influence over other pullers and appear to dominate during normal discussions. Some have

been nicknamed 'commander', 'chief', Mutongoria [kikuyu word for leader], 'Brigadier' etc, names which give a hint to the status accorded such people. These leaders play crucial roles in establishment and enforcement of the unwritten rules and are capable of galvanising other pullers around a particular point of view. This way, they can also easily rally other pullers against an errant member in an attempt to make him either comply or leave the location.

iii. social organisations. Another semblance of organisation was evident from the existence of welfare groupings. These are small groups of handcartpullers with memberships ranging from 10 to 30. These groups are mainly composed members of the same location. However, it is not uncommon to have associations with membership drawn from across locations. These associations are formed on the basis of any one or a combination of factors such as age, duration of time in the activity, place of origin, ethnicity, etc. These welfare groups assist members meet their short-term socio-economic needs such as burial, education and medical expenses. These needs are met through periodic monetary contributions [merry-go-round] made into a collective fund. From the common pool, certain fixed amounts are availed to individual members on a rotational basis.

Apart from the monetary benefits accruing, these welfare associations serve as fora for self-evaluation as members take the chance to remind each other of their responsibilities towards each other and to their respective families. This serves as a challenge to members to adopt responsible living while in the city. However, these welfare groups only cater for sectional interests of handcartpullers. Other wider issues pertaining to handcartpulling as an occupational activity are beyond the scope of these organisations. Pullers therefore lack a forum through which they can jointly reflect on issues that affect the smooth operation of their activities so that they can articulate them to the authorities concerned. This can be achieved through the formation of an umbrella organisation for handcartpullers operating within the city. The need for such an organisation was reflected by the high proportion of respondents who were in favour of its formation [See table 26 below].

Table 26: Distribution of handcartpullers by preference for an umbrella organisation.

Preference	No. Of respondents	%
In favour	105	87.5
Against	15	12.5
Total	120	100.0

The high response in favour of an organisation underscores pullers' conviction that such an organisation

can help bring improvements in the activity.

5.14 Reasons for preferring an organisation.

Pullers who were in preference of an umbrella organisation gave several reasons for their preference

[See table 27].

Table 27: Distribution of pullers by reason(s) for preferring an organisation.

Reasons	No. Of respondents	%
To instil order	48	40.0
To help articulate our problems	88	73.3
A step towards recognition	50	41.7
To be like others	36	30.0
Total	222	

NB: Number of respondents exceeds the study sample size because pullers cited more than one reason.

Table 27 indicates that 73.3% of the pullers were convinced that such an organisation would be an effective forum through which they could articulate their problems to the relevant authorities [Central government and civic authorities]. It was also noted that 41.7% saw the formation of such an organisation as a significant step towards recognition of the sub-sector since it would have to be registered with the Registrar of societies. It was their concern that at present, the government is oblivious of their existence. Another 40 % cited need to restore order and the harmonisation of the activity's practices across locations while 30% rooted for the formation of an umbrella

organisation so that they can be like operators in other sub-sectors e.g. the Matatu and jua kali sub-sectors. This category felt it would be prestigious to have such an organisation.

5.15 Reasons for non-preference of an organisation.

On the reasons for being opposed to the formation of an umbrella organisation, various reasons were given [see Table 28].

Table 28: Distribution of handcartpullers by reason(s) for non-preference of an umbrella organisation.

Reason	No. of respondents	%
It might lead to introduction of tax	6	40.0
It will lead to payment of membership fees.	3	20.0
It won't serve any purpose	2	13.3
It is impossible to form such an organisation due to our fragmentation	4	26.7
Total	15	100.0

As shown in table 28 above, a majority of the pullers (40%) were opposed to the formation of an umbrella organisation for fear that it would not only increase their costs but also increase incidents of harassment in the sub-

sector, while 26.7% felt that such an organisation would be impossible to form due to the fragmentation and disunity that exists within the sub-sector, and 20% felt that the move would lead to introduction of membership contributions which would be additional costs to the pullers and which could lead to the discrimination or expulsion of pullers failing to subscribe for membership. Another 13.3% who were contented with the status quo saw the organisation as serving no useful purpose.

While majority were not essentially opposed to an umbrella organisation per se, the pullers were either Sceptical about the success of such a scheme or were not convinced of its cost-effectiveness.

5.16 Competition faced by handcartpullers

Handcartpullers face stiff competition in their activity, however, the greatest source of competition comes from within the sub-sector i.e. from fellow handcartpullers [see table 29]. Many pullers said that level of competition within the sub-sector has of late soared to unprecedented levels due to the infiltration of new arrivals into the sub-sector. This has resulted in reduced earnings and erratic earning patterns. Other sources of competition in order of their magnitude are:

Head, back, and shoulder-loading (13.3%), Motorised modes

(11.7%) and Trolleys (5.0%).

Table 29 : Distribution of handcartpullers by perceived sources of competition.

Source	No. Of respondents	%
Fellow handcartpullers	84	70.0
Back, shoulder, headloaders	16	13.3
Motorised modes	14	11.7
Trolleys	6	5.0
Total	120	100.0

Table 29 shows that other transport modes, both motorised and non-motorised do not offer formidable competition to handcartpullers. This finding agrees with Dimitriou [1992] who observed that despite using the same infrastructure, different transport modes in the developing countries cater for different segments of the market and do not compete with each other.

5.17 Coping with competition

Several coping strategies were reported as shown in table 30:

Table 30: Distribution of handcartpullers by ways of coping with competition

Coping strategy	No. Of respondents	%
Charging less	25	20.8
Being more aggressive	65	54.2
Working long hours	36	30.0
Nothing	18	15.0
Total	144	

NB: Number of respondents exceeds the study sample size because some pullers gave more than one response.

Over half of the pullers [54.2%] cited aggressiveness as

their way of coping with competition. This entails being always on the look-out for any prospective customers who may be in need of transport. The prospective customers may be disembarking commuters with heavy luggage or other goods. Such commuters are approached by the pullers and if the offer is accepted the delivery is undertaken. The respondents are at times forced to work extra hours in the hope of earning enough for the day, while some are forced to charge less in order to get business as indicated by 30% and 20.8% of the respondents, respectively. Only 15% would do nothing under such circumstances.

CHAPTER 6: HANDCARTPULLERS' PERCEPTIONS, EXPERIENCES AND ASPIRATIONS

6.1 Occupational attitudes

On their views of the activity as a way of earning a living 51.7% describe the activity as better than no job at all, 36.7% said that it was a good occupation, while 3.3% of the pullers described it as a very good occupation. Only 8.3% dismissed the activity as useless. Majority of the pullers [91.7%] have a favourable view of the activity as a means of earning a living [See Table 31].

Table 31: Distribution of handcartpullers by their views of the activity.

View	No. Of respondents	%
A very good occupation	4	3.3
A good job	44	36.7
Better than no job	62	51.7
Useless occupation	10	8.3
Total	120	100.0

6.2 Occupational future.

As to whether or not the pullers would remain in this activity in the next five or more years, 66.7% didn't intend to remain in the activity, 30% would remain, while 3.3% were non-committal. These responses reflect pullers' different motivations for joining the activity. There are those who are in this activity as a springboard to other activities while others are already settled in the activity (see table 32).

3.3% were non-committal. This shows that although a majority of the pullers were found to hold a favourable attitudes towards their current activities, they do not regard the activity as being good enough for their children. This discrepancy in attitude can be attributed to handcartpullers' realistic assessment of their low chances of being absorbed in the formal sector, owing to their poor socio-economic backgrounds. The pullers were of the view that their children were likely to be better educated and expected to aspire for lucrative careers in the job market. Thus 40.8% of the respondents cited payment of school fees as one of their top financial obligations (see table 34).

Table 34: Distribution of handcartpullers by their view of their children joining this activity.

Response	No. Of respondents	%
Yes	11	9.2
No	105	87.5
No idea	4	3.3
Total	120	100.0

6.4 Family's knowledge of the work they do.

In an attempt to establish whether or not the handcartpullers' immediate family members were aware of the work they were engaged in while in the city, 75.8% said that their families were aware while the remaining 24.2% said that their families did not know the kind of work they were engaged in (see table 35).

Table 35 : Distribution of handcartpullers by whether their families know what they do.

Response	No. Of respondents	%
Yes	91	75.8
No	29	24.2
Total	120	100.0

It was further clarified that 92.3% of the pullers whose families were aware of the nature of their tasks had deliberately informed their families about their occupations, while 9.7% said that their families learned it from 'other sources'. This shows that majority of handcartpullers are proud of their work, but a small proportion are ashamed of their work, hence they do not inform anybody about it. Among the latter group are those pullers who have not settled in the activity and who see it the wrong occupation for them. These are the 'community of the poor' according to Rempel (1974).

6.5 Handcartpullers' expenditures patterns

The pullers channel their incomes towards meeting their various social and personal obligations (see table 36).

Table 36: Distribution of handcartpullers by expenditure patterns

Needs	No. Of respondents	%
Food	69	57.5
School fees	49	40.8
Rent	97	80.8
Capital to start business	73	60.8
Personal needs	51	42.5
Saving in order to pursue training	11	9.2
Harambee contributions	-	-
Total	350	

NB: The totals exceed the study sample size because respondents mentioned more than one need.

6.6 Activity's needs satisfaction capacity

While the activity is said by most to have the earning capacity to enable them fulfil their social and personal obligations, most pullers intimated that this is often frustrated by pullers' own lifestyles while in the city such as excessive drunkenness and immoralities. Only 20.8% of the respondents said that earnings are insufficient (see table 37).

Table 37: Handcartpullers view of the activity's capacity to satisfy their needs.

Response	No. Of respondents	%
Yes	95	79.2
No	25	20.8
Total	120	100.0

6.7 Starting an investment since setting up in this activity.

A majority [75%] of handcartpullers had by the time of the interview not started another income-generating activity. This shows that handcartpulling activity is the main source of livelihood for a majority of pullers. The remaining 25% of the respondents had since joining their current engagements set up other income-generating activities or in the same activity. The latter refers to the pullers who had managed to acquire at least a handcart of

their own. Most pullers had invested in the small-scale businesses such as market stalls, food kiosks, retail shops and hosts of other petty trades. These businesses are run mostly by their wives or close relatives and help to supplement the pullers' incomes.

6.8 Harassment within the sub-sector.

It was found that 60% of the respondents had been subjected to harassment prior to the date of the interview, while 40% had experienced no harassment at all

(See table 38).

Table 38: Distribution of handcartpullers by whether or not they had been subjected to harassment.

Response	No. Of respondents	%
Yes	72	60.0
No	48	40.0
Total	120	100.0

On the frequency of such harassment; in terms of once, rarely, twice and many times (see table 39),

Table 39: Distribution of handcartpullers by frequency of harassment.

Frequency	No. Of respondents	%
Once	3	4.2
Rarely	14	19.4
Twice	2	2.8
Many times	53	73.6
Total	72	100.0

73.6% of the respondents were found to have been subjected to harassment on many occasions.

6.9 Knowledge of a harassed colleague

When pullers were asked whether or not they knew any colleague who had been a victim of harassment, majority of the respondents (80.8%) responded in the affirmative [see table 40]. These was a clear indication that incidents of harassment are prevalent within this sub-sector (see table 41).

Table 40: Distribution of handcartpullers by knowledge of a harassed colleague.

Response	No. Of respondents	%
Yes	97	80.8
No	23	19.2
Total	120	100.0

One thing that was evident from their list of ill-treatments was that many pullers are oblivious of some of the treatments and do not regard some treatments as harassment even when they are serious enough to be regarded as such. For example, none of the respondents mentioned harassment that emanates from the wider public. Harassment from the general public is mainly perpetrated by the motorised road users such as Matatus and private vehicles. Both Matatus and private car owners have no regard for non-motorised road users including cyclists and handcartpullers. The latter are subjected to all forms of mistreatment such as incessant hooting from intolerant drivers, insults and being physically manhandled by rowdy matatu touts, being forced off the road etc. In the process, pullers are exposed to great risks of grievous bodily injuries or deaths. In most

cases the pullers are forced to suspend their operations during peak hours.

The most common forms of harassment that most pullers are aware of are the ones perpetrated by public authorities mainly the Nairobi city council and the regular police. The Nairobi city council askaris are notorious of confiscating handcarts for alleged wrong parking, seizing customers' goods while on transit and demanding payment of dubious city council levies. In most cases the aim is to extort bribes from the pullers. Regular policemen harass handcartpullers through forcing them off the road as a way of easing congestion from the roads. In addition, the pullers are arrested on trumped-up traffic offences in order to intimidate them into parting with bribes. Failure to do so often results in the puller concerned spending several days in the police cells thus losing business time and incomes. In most cases the pullers are forced to bribe in exchange for their freedom.

6.10 Problems encountered by handcartpullers

The pullers had much to say about their current problems. No more than 2.5% who said they face no problems which emerged [see table 41]. The study regarded those problems that were mentioned by less than 25% as minor problems.

6.11 Major problems

The major problems were as follows:

The poor state of roads in the city was mentioned by 75.8% of the respondents who expressed concern that the poor state of the roads make pulling a very exacting and risky activity. The pullers often get injured after stumbling against rough patches and potholes that characterise most sections of the city roads. The problem is much more felt if the load being ferried is very heavy. The poor state of the roads also causes great damage to handcarts, leading to increased repair and maintenance costs.

The other problems included congestion on the roads (cited by 54.2% of the respondents). This is caused by the heavy human and vehicular traffic which has resulted from rapid expansion of the city. Harassment (cited by 50%) of the respondents and exposure to weather elements (cited by 45%) in both rainy and dry seasons make a combined impact. Exposure to rain leaves the pullers prone to all sorts of ailments. During dry seasons, they are exposed to scorching sunshine. This is in spite of the negative public attitude towards them (cited by 25.8%). The general public was seen not to appreciate the work by the pullers. The public tends to regard the pullers as criminals who are in the activity only to camouflage their criminal inclinations. This negative attitude subjects pullers to psychological torture.

6.12 Minor problems

Topping the list of minor problems (see table 41), was loss of goods while in transit through theft. This was cited by 21.7% of the respondents. Pullers said that theft of their customers' goods while on transit complicates matters for them because they are often forced to either compensate their customers or forfeit their delivery charges. This is the only way to avoid being suspected of colluding with the thieves.

The respondents (15.8%) complained over the common tendency of digging trenches across roads and other pathways that are used by handcartpullers. This is a common sight when underground telephone or electricity cables and water pipes are being laid. Such trenches are often left unfilled for many days thereby blocking use of the affected routes.

It is common to come across objects and barriers that are erected or left lying on the road. This is a common sight near construction sites and (as said 14.2% of the respondents) erected without warning, blocks the use of the affected routes and endangers the lives of other road users.

Table 41: Distribution of handcartpullers by problems faced.

Problem	No. Of respondents	%
Harassment	60	50.0
Theft of goods on transit	26	21.7
Congestion/overcrowding	65	54.2
Exposure to weather elements	54	45.0
Poor state of roads	91	75.8
Objects/barriers on roads	16	13.3
Unfilled trenches dug across roads	19	15.8
Negative public attitude	31	25.8
Insufficient earnings	17	14.2
No problem	3	2.5
Total	382	

NB: Number of respondents exceeds the sample size because handcartpullers were asked to mention several problems.

6.13 Solutions to the problems from pullers point of view.

Solutions offered by the pullers were as diverse as the problems they sought to solve. They indicate pullers ability to reflect on their operating situation and conditions and advance tailor-made solutions. However, it emerged from the interview that many pullers are quite skeptical about any possibility of implementing the solutions. This reflected the degree to which the pullers feel neglected and marginalised on matters of policy. Indeed, many voiced their feelings that they were 'on their own' in the urban survival game.

Road repairs was cited by 61.7% of the respondents. The pullers said that roads within the city centre and its environs should be repaired to make their tasks easier. Specifically, pullers called for the filling up of potholes

and tarmacking of passes that are used by hand-carts. Pullers in Wakulima market location cited the tarmacking of the road that leads to the market as an example of how their operations had been improved. This road was tarmacked in 1995 after a presidential directive. Before then, the pullers used to suffer a lot during rainy seasons as the road would become muddy and impassable. The pullers felt that the same should be done to other sections of the city's road network. About 54.2% rooted for the formation of an umbrella organisation, seen as an effective forum that would enable pullers reflect regularly on their common problems and articulate them to the public authorities. This was seen as a significant step towards redress of their myriad problems.

Another 40% called for the cessation of harassment as a step towards creating an enabling environment for them to operate. They felt that the various treatments they are subjected to tend to criminalise the activity. According to the pullers, other road users should be made to understand that they too have a right to use the roads. A need was also voiced (by 35.8%) to create separate passes/lanes for their use as an effective step towards easing congestion and safeguarding their lives while on the city roads. One puller argued, "we hear that this has been done in other countries. There is no reason why our government should not

do the same to us".

Modification of the handcart (cited by 20.8%) would make it more efficient, easy to pull and less risky. Possible improvements suggested included; installation of an in-built braking system and bells or hooting devices to alert other road users like pedestrians. Thus the current design of a hand-carts was seen to exposes pullers and other road users to great risks of accidents.

CHAPTER 7: SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.0 Introduction

The study's main purpose was to explore factors that generate and sustain handcart transport activities in the streets of Nairobi. Specifically, the study sought:

1. to explore the socio-economic and demographic backgrounds of handcartpullers.
 2. to investigate the activity's economic characteristics.
 3. to investigate the operational characteristic of the activity in relation to its business environment.
- to explore handcartpullers perceptions, attitudes and experiences as pertains to their present engagements and the aspirations for themselves and their children.

Using an exploratory method, data was obtained to test the tree hypotheses and to find solutions to the questions raised by the research problem.

The first section of data presentation was focused on highlighting the background information of handcartpullers

7.1 Socio-economic and demographic backgrounds

7.1.1 Age The mean age of the pullers was found to be 32 years. This is a true reflection of the age distribution of the pullers who were found to be generally young.

7.1.2 Educational attainment

In terms of education, the study revealed that the sub-sector is dominated by people with low levels of education

as 9.2% of the respondents were found to be illiterate while 59.2% were either primary level graduates or had dropped out of school before sitting for their primary leaving examination. Thus 68.4% of the respondents were either illiterate or had primary education while 31.6% had obtained secondary education and none of the respondents had gone beyond secondary level (i.e. form 4). The low levels of education blocked their chances of being absorbed in the formal sector.

7.1.3 Technical skills

Majority of the pullers have no technical skills to enable them join either formal or skilled informal sector jobs. The 24.2% who had acquired some skills were unable to practice them either because they lacked capital or due to lack of market for their goods and services.

7.1.4 Duration of residence in Nairobi

Most of the pullers are Nairobi residents of long-standing with average residential duration of 11 years and 53.5% of the respondents having lived in Nairobi for at least 10 years.

7.1.5 Duration of time in the activity

Duration of time pullers had been engaged in the activity was found to be considerably long averaging 8 years with 57.5% of the respondents having been in the activity for a minimum of 5 years.

7.1.6 Handcartpulling as the first occupation

The study found that only 24.2% of the respondents were in the activity as their first occupation. The rest had been involved in other income generating activities and that 71.4% of handcartpullers with previous engagements were involved in informal sector activities while the remaining 28.6% had been in either formal or domestic employment. This shows that the sub-sector constitutes a diversified assortment of individuals who had been driven by different motivations into joining their current chores. There are those who had no previous work experience who found handcartpulling a ready alternative, others had deliberately left their previous engagements to join this activity, while others had been forced to join this activity after being deprived of an opportunity to remain in their previous occupations through sacking etc.

7.1.7 Previous incomes

It emerged that handcartpullers were previously engaged in low-income chores whose average income was found to be Ksh. 2398 per month. This shows that a majority of the had joined the current activity with expectations of raising their earnings.

7.1.8 Place of origin

A majority of pullers were found to be migrants from the rural areas into the city in response to pull or push factors or both handcartpullers had been attracted (pulled) by the prospects of landing an opportunity to earn a living in the city. On the other hand, scarcity of life-sustaining resources in the rural areas had pressurised most of the pullers into migrating to the city in search of alternatives. The latter view is supported by the study's finding that only 31.7% of the respondents owned land by the time they joined their current activity. The general state of landlessness tells much about their low socio-economic backgrounds.

7.1.9 Family, social and economic responsibilities

A majority of handcartpullers, 74.2% have financial and social responsibilities over their families that they seek to satisfy while in this activity. This is supported by the finding that a majority of the pullers are married and with at least a child and a spouse to fend for. Apart from taking care of their own children, many pullers also take care of their parents and other close relatives. The latter is indicated by the finding that 74% of the respondents had at least one dependant to look after, while the average number of dependants per puller was four.

The above findings support the study's first hypothesis that socio-economic and demographic backgrounds of

handcartpullers influence their entry into handcarpulling activity.

7.2 Economic characteristic of handcart transport activity

7.2.1 Starting capital

No capital is required for one to set up in the activity. Most of the pullers did not have any starting capital at the time of entering the activity. The few who reported having injected any capital did so for purposes of being accepted as members of a location. The amount paid, so arbitrary, was quite low. Lack of capital requirement can be attributed to the fact that handcarts are available on hire basis at a charge ranging from Ksh. 40 to Ksh. 100 per day. These hire charges are defrayed later from each day's earnings or at the end of every week. This arrangement ensures that one puller is barred from working just because he has no money to hire a handcart. This economic characteristic makes the activity attractive to pullers as people of poor socio-economic backgrounds.

7.2.2 Income levels

The average net monthly income earned by the pullers from the activity was Ksh. 6675 by far higher than the average incomes earned from previous activities. Thus entering handcart transport activity marked an improvement on pullers' earning levels.

7.2.3 Profitability

In terms of profitability, the study found that every one-shilling invested by the puller into the activity fetches three shillings which is a significant input-output ratio.

7.2.4 Labour absorption capacity

Labour absorption capacity was found to be low with many pullers preferring to operate alone in order to avoid overhead costs (payment made to their assistants). However depending on the weight of the load or the terrain of the route to be followed, a handcart can be pulled by up to five people. Any extra labour required is usually drawn from the already existing reservoir of pullers mostly, new entrants who are in the process of being oriented to the activity.

7.3 Operational characteristics of handcart transport

The handcart operations tend to be concentrated near public markets, adjacent to commercial and business premises such as retail and wholesale outlets, supermarkets, beer and soft drinks depots or at nodes of transportation transfer such as matatu and/or bus terminuses. The surrounding businesses, commercial and human activities depend heavily on handcart transport mode for the distribution of goods to various destinations within the city where the distances involved are relatively short. Proximity to commercial and business premises makes the handcarts readily available on

demand and a more reliable means of goods carriage than the motorised means. Their slow speed makes them a safe means of ferrying delicate or perishable goods. The combination of safety and reliability makes handcart transport a high quality mode of goods carriage.

7.3.1 Cargo characteristics

A handcart can ferry up to a 1,000 Kg of cargo, depending on the terrain of the route and the type of wheels used. These goods are usually greater in weight, bulk, and density, hence cannot be conveniently be transported through other non-motorised modes such as cycling, head, shoulder, and backloading. Conversely the goods are less in weight, bulk and density and cannot be economically ferried through motorised means over short distances. The nature of goods ferried makes handcart transport mode enjoy a natural monopoly in the transport of goods within the city.

7.3.2 Flexibility

Handcart transport mode is a flexible means of goods carriage. Handcarts are not restricted to the main road which often condemns motorised transport modes to long and circuitous movements. The handcarts often break from this circuit by making use of any available pass, pathways or alleys that may offer direct links between points of origin and destination thus shortening trips and distances and enhancing the quality of this transport mode in terms of

speed.

7.3.4 Costs of handcart transport mode

Charges of goods ferried are arbitrary and always up for negotiation between the puller and the customer. Through a process of haggling over the price, a final charge, deemed to be fair to both parties is finally arrived. These charges are very low compared to charges

That will be levied on similar goods by motorised modes.

Without fuel consumption, the running costs for handcarts are very low or non-existent. Repair and maintenance costs are kept low by the fact that materials are readily and cheaply obtained as second materials or free of charge (as discarded materials), coupled with the fact that repair and maintenance works are rarely undertaken.

7.3.5 Environmental costs

The study further examined the impact of handcart transport on the environment. The simple technology used by handcart makes them less environmentally harmful. There are no waste and emissions emanating from the handcarts. Some handcarts are however, fitted with metallic, steel-spoked wheels which are a great source of noise pollution in the city in addition to causing great damage to the city's tarmarcked roads. This effect however could be minimised by use of handcarts that are fitted with automobile tyres.

7.4 Handcartpullers' perceptions, experiences and aspirations.

While many pullers were found not to harbour any fantasies of ever joining the competitive formal and skill-intensive informal sector, most of them have realistically set up in this activity. Their poor socio-economic background, coupled with the favourable levels of reward (income), accruing from the activity makes most of them remain in the activity for along time. The pullers were however, largely clear that neither did they intend to remain in the activity in future nor would like their children to join it. Most of them thus saw and used the activity to setting up their own businesses.

The pullers' aspirations for their children had more to do with providing their children with the requisite education to enable them secure better paying jobs.

7.5 Conclusion

The study concludes that handcart transport activity is not only a vital part of Nairobi's urban economy but has the potential to continue to be so in future and should therefore be accorded the necessary recognition and support to facilitate realisation of its full potential.

7.6 Recommendations

The study recommends the following:

1. There is need to strengthen market linkages of the handcart transport services with the rest of the economy eg through sub-contracting of the sub-sector's services

by formal sector, beyond the informal sector itself. This would have the effect of raising the earnings of the pullers as well as increasing the employment potential of the sub-sector.

2. The operators within the sub-sector should be allowed to exhibit their services in such fora as the annual Jua Kali exhibition or the Nairobi International Agricultural Show in order to market and boost demand for its services.
3. Effort should be made to develop tangible programs specifically geared towards benefiting the sub-sector and incorporating:
 - i. Pullers being educated and enlightened on such issues as road safety awareness, need to adopt good saving habits and alternative ways of investing the savings to maximise their returns.
 - ii. Good customer relations and elementary book-keeping.
 - iii. Improvement and expansion of the road infrastructure to benefit all road users. This should involve recarpeting of those sections of the city's road network that are in a dilapidated state as a result of many years of neglect. Long-term measures should involve the provision of separate lanes for non-motorised modes.
 - iv. Shelters be erected at convenient positions in each of the locations where handcarts are concentrated, for

pullers own use. The shelters would come in handy during hot and wet seasons as a safeguard against exposure to the vagaries of weather.

V. In order to instil order in the activity, pullers should be encouraged to form a City Handcartpullers' organisation. This could facilitate regulation of the activity's operation within each location.

Vi. All handcartpullers working in the city should be registered and up-to-date particulars of their identity and locations of their operation kept and maintained by the relevant city authorities. There should be work permits for the pullers which should be issued free of charge on upon payment of a small fee to be used in subsidising the cost of providing vital services in the city.

Vii. Harassment of handcartpullers by the City Council's askaris and regular policemen should be stopped. This would create an enabling environment for the pullers' operations. And

Viii. Since handcart transport will continue to be a mode of goods carriage in our major towns, further research and adaptation would be necessary, in search of improved designs, lighter materials and better components. More so, the study should seek and incorporate the views of

all stakeholders, including not only the owners of handcarts but also the general public and handcart service consumers, City planners, civic law enforcement agencies and the government.

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INTERVIEW SCHEDULE (FOR HANDCARTPULLERS)

Questionnaire no.

1. Respondents' s full name.....
2. Area of location.....
3. Date of interview;
Day.....
Month.....
Year.....

SECTION I: SOCIO-ECONOMIC AND DEMOGRAPHIC BACKGROUNDS

1. Age.....Years.....
2. Sex (observation).....
(1) Male (2) Female
3. Marital status?.....
(1) Married (2) Single
(3) Widowed (4) Divorced/separated
4. Where were you born?.....
(1) = Nairobi
(2) = Outside Nairobi (Specify District).....
5. When did you come to Nairobi? (for those not born in Nairobi) 19.....
6. (a) Do you stay with your family here in Nairobi?
(1) Yes (2) No
(b) If no, where does the family stay? (Specify District).....
7. Do you live in a rented place? (1) = Yes (2) = (No)
(b) If yes, how much do you pay for rent?.....Kshs. per month.
8. How many children do you have?.....
9. How many:
(i) have not yet attained school going age?.....
(ii) are in school ?.....
(iii) are of school going age but not schooling?.....
(iv) are out of school but no working?.....
(v) are employed?.....
10. Do any of them support you financially?.....
(1) Yes (2) = No
11. In total, how many people are dependent on you for either one, some or all of the following:-
food , clothes, shelter, education, hospital care or pocket money?.....dependents.
12. (a) Did you go to school ?.....
(1) Yes (2) No
(b) If yes, up to what level?
(1) = standard 1-4
(2) = standard 5-8
(3) = Form 1-2

- (4) = Form 3-4
 (5) = Form 5-6
 (6) = University
 (7) = Adult literacy classes.
13. (a) Do you posses any technical skill(s)
 (1)Yes (2) No
 (b) If yes, which technical skill(s) do you possess?
14. How many years have you been involved in this activity?.....Yrs
15. (a) Is handcart pulling your first job?.....
 (1)Yes (2)No
 (b) If yes, why did you join it?.....
 (c)If no, what were you engaged in before joining this activity?
 (1).....
 (2).....
 (3).....
 (4).....
 (d) Where did you undertake this/these activity (ies).....
 (e) (i)Did you abandon this/these activity (ies)?.....
 (1) = Yes (2) No
 (ii) If yes, why did you abandon it?.....
 (iii) How much were you earning per month from that / those activity(ies)
 (i)Kshs
 (ii)Kshs
 (iii).....Kshs
 (f) (i) If no, who takes care / charge of the activity(ies) in your absence?
 (1) = wife/wives (2)= children (3)Employee(s)
 (ii) How much do you earn per month from the activity (ies)
 i).....Kshs
 ii).....Kshs
 iii).....Kshs
 iv).....Kshs
16. (a) Did you own any land anywhere before joining this activity?
 (1)= Yes (2)No
 (b) If yes, what size?.....Acres?
 (c) Do you still own land?
 (i) = Yes (ii) = No
 What do you do with the land?.....

SECTION II: ATTITUDES, PERCEPTIONS AND ASPIRATIONS

17. What do you think of handcartpulling as a way of earning a living?
 (i) = A very good job
 (ii) = A good job

- (iii) = Better than no job at all
- (iv) = A useless occupation
- 18.(a) Do you intend to remain in this activity in future?
- (i) =Yes (ii) = No
- (b) If no, reasons
- 1. Because it is low-paying
- 2. because I intend to join a better paying job
- 3. Because of health reasons
- 4. Because I am too old for hard tasks
- 5. Because it is a difficult job
- 6. After accumulating enough to start a business
- 7. In order to concentrate on other economic activities.
- 19. Given an alternative, would you change your current occupation?
- i) =Yes, (preference).....
- ii) = No (reasons).....
- 20. Would you like your children to engage in this activity as a means of earning a living ?
- i) Yes
- ii) No
- 21. What do you want to achieve through your present involvement in handcartpulling?

Goals :

- 1. = Providing for family needs
- 2. = To pay school fees
- 3. = To pay rent
- 4. = To accumulate enough capital to start a business
- 5. = To contribute in harambee
- 6. = To provide for my personal needs
- 7. = Others (specify).....
- 22. Do you think that this activity has the capacity of making you meet these goals?
- (1)= Yes (2)= No
- 23. Have you invested in any business since you started this activity ?
- (1) Yes (2) No
- 24. Does your family know the kind of job that you do?
- (1) Yes (2)No
- (b) If Yes, how did they come to know ?
- 1. I told them
- 2. Accidentally
- 3. From friends
- 4. I do not know
- (c) If No, why don't you tell them?
- 1. = It won't make any difference
- 2. = I would be ashamed
- 3. = I would be seen as a failure
- 4. = Other (specify)

25.(a) Have you ever been harassed by the police or city council askaris for matters related to this activity?

(1) Yes (2) = No

(b) If Yes , how would you describe the frequency of harassment?

- 1. = once
- 2. = rarely
- 3. = twice
- 4. = Many times

(c) Do you know of a colleague(s) who has been harassed in the course of this activity?

(1) Yes (2)No

(ii) If yes, how frequently have you witnessed or heard it?

- 1.= once
- 2.= rarely
- 3.= twice
- 4.= many times

26. What are the major problems that you face while carrying out this activity?

- 1.....
- 2.....
- 3.....
- 4.....

27. What are your suggestions on solving the above problems?

- (i).....
- (ii).....
- (iii).....
- (iv).....

SECTION III ECONOMIC AND OPERATIONAL CHARACTERISTICS

28. Do you engage in this activity:

(1) = Full time (2) = Part time?

29. (a) Are you the owner or hiree of the handcart that you use?

(1)= Owner (2)= Hiree

(b)How many handcart do you own in total (for owners).....

(c) If hiree , what is the duration of hire?

(1) = per trip (2) = per day (3) = per week

(4) = other (specify).....

(d) How much do you pay per duration of hire?.....Kshs

(e)How much money is one required to have inorder to start this activity?.....Kshs.

(f) Apart from raising the minimum capital , are there any other conditions for entry?

(1) = Yes (specify).....

(2) = No

30.(a) Do you have an organization for handcartpullers?

(1) = Yes (2) = No

(b) If yes, what is its name?.....

- (c) How big is the membership?.....
- (d) What is its role?.....
- (e) If no, would you prefer one?
- (1) = Yes
- (2) = No (reasons)
31. (a) Who determines where handcarts are to be located ?
- (1) = Owner (2) = Puller
- (b) What factors influence choice of location ?
- (i).....
- (ii).....
- (iii).....
- (iv).....
32. (a) Have you always operated from this location ?
- (Operating from a fixed location)
- (1) Yes (reasons).....
- (2) = No
- (b) If no, which other locations have you/do you operate from? (name them)
- i.....
- ii.....
- iii.....
- iv.....
- (c) What considerations(s) make you change from one location to another.....
33. At what time of the day do you start this activity?.....
- Why this time?.....
34. What time of day do you stop working?.....
- Why this time?.....
35. (a) Do you pull the handcart alone all the time ?
- (1) = Yes (2) = No
- (b) If no, why do you involve others?
- (1) = When the load is too heavy
- (2) = In order to share the costs of hire
- (3) = When the distance to be covered is too long
- (4) = Both 1 and 2
- (5) = Both 1 and 3
- (6) = 1, 2, and 3
- (7) = Other(specify).....
36. Who are your most regular customers?
- (1) = travellers
- (2) = business concerns
- (3) = market traders
- (4) Others (specify).....
37. What is the:
- i) Minimum amount of money that you can earn in a day?.....Kshs
- ii) Maximum amount of money that you can earn in a day?.....Kshs.
38. (a) Do you pay any tax (es) from your activity?

(1)= Yes (2) = No

(b) If Yes , name the tax and the amount paid.

i) = Tax.....Amount.....Kshs

ii) = Tax.....Amount.....Kshs

iii)= TaxAmountKshs

39. Apart from the costs of purchasing a handcart, what other expenses do handcarts incur in their operation?

i).....

ii).....

iii).....

iv).....

40. (a) Who meets the above costs / expenses?

(1) = Handcartpuller (2)= Owner

(b) If puller , about how much do you pay for each cost?

i).....

ii).....

iii).....

iv).....

41. Where is the maintenance/repair work for handcart done?

(1) = No repair is done

(2) = In Jua kali workshops

(3) = Others (specify).....

42. Which of the following infrastructure do you rely on most in your operations?

(1) = Main streets

(2) = Pavements

(3) = Alleys

(4) = 1 and 2

(5) = Others (specify).....

43. (a) Do you regard these infrastructure:

(1) = Adequate

(2) = Inadequate for your use?

(b) If inadequate, what do you think is missing?

i).....

ii).....

iii).....

iv).....

44. (a) Do you face any competition in this activity?

(1) = Yes (2) = No

(b) If yes, from where do you get the stiffest competition?

(1) = From fellow pullers

(2) = From head and backloaders

(3) = From motorized vehicles

(specify).....

(c) How do you cope with the competition ?

(1) = by charging less

(2) = by being more aggressive

(3) = by working many hours

(4) = nothing

(5) others (specify).....

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