RESEARCH PROPOSAL SUBMITTED IN PARTIAL FULFILLMENT FOR THE AWARD OF A BACHELOR OF SCIENCE DEGREE IN NURSING, OF THE UNIVERSITY OF NAIROBI

TITLE
THE HEALTH IMPACT OF SCAVENGING ON WASTE-PICKERS AT THE DANDORA DUMPSITE

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DECLARATION.

I, Rosamaria Mutheu Nzoka, do declare that this is my original work and that it has not been submitted by any other persons or myself for research purposes, degree or otherwise in any other University or institution.

Signature: Rosamaria

Date: 03/09/07
SUPERVISOR'S APPROVAL

This research project has been submitted in partial fulfillment of the degree of a Bachelor of Science in Nursing with my approval as a university supervisor.

Mrs. Eunice Odhiambo  
School of Nursing Sciences  
University of Nairobi  
Signature: [Signature]  
Date: 3rd September 2007
## OPERATIONAL DEFINITIONS

<table>
<thead>
<tr>
<th>Term</th>
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<tr>
<td>Waste</td>
<td>Objects or materials for which no use or reuse is intended</td>
</tr>
<tr>
<td>Waste -pickers (scavengers)</td>
<td>These are those workers whose livelihood depends on informal collection, segregation and sale of scrap.</td>
</tr>
<tr>
<td>Scavenging (waste-picking)</td>
<td>Searching for and salvaging anything useful from discarded material.</td>
</tr>
<tr>
<td>Health</td>
<td>WHO states that health is a state of complete physical, mental and social well-being and not merely the absence of diseases or infirmity.</td>
</tr>
<tr>
<td>Dumpsite</td>
<td>A place for depositing rubbish.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>TEQ</td>
<td>Toxic Equivalent</td>
</tr>
<tr>
<td>POPs</td>
<td>Persistent Organic Pollutants</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>BScN</td>
<td>Bachelor of Science in Nursing</td>
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ACKNOWLEDGEMENT

First and foremost, I would like to thank my family for the support they have given me during the development of this proposal. It would not have been possible without their financial help, concern and emotional support.

I also wish to acknowledge AMREF for having enabled me to access a wide range of resource information from their library.

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Last but not least, I would like to thank Mr. Peter Waithaka (Lecturer, School of Nursing Sciences) for his willingness to share his knowledge and for being my inspiration.
EXECUTIVE SUMMARY

This is a cross-sectional quantitative and qualitative survey of waste-pickers visiting the Dandora dumpsite. The aim of this study is to determine the health impact of scavenging in landfills, namely the Dandora dumpsite, on waste-pickers.

The study will be carried out between August 2007 and January 2008. Semi-structured questionnaires that have been pretested in the Korogocho dumpsite will be used in order to ensure the validity and reliability of results/data obtained.

The pretested semi-structured questionnaires will be administered by trained research assistants in the presence of the principal investigator.

The study population consists of waste-picking who are willing to participate in the study and those who have practiced consistent waste-picking at the Dandora dumpsite for not less than 1 month.

Only cleaned data will be entered in the database for analysis. All incomplete questionnaires will be nullified. The Statistical Package for Social Sciences (SPSS) will be used in data analysis. Presentation will be in the form of bar graphs, pie charts, tables, histograms.

All research ethics will be observed during this study. The study findings will be published in various relevant medical journals.
CHAPTER ONE

1.0 BACKGROUND INFORMATION

Scavenging is an approach to solid waste collection. It is a phenomenon predominantly seen at intermediate refuse dumps. Scavengers earn their living through collection and trade in recyclable waste. The Nairobi City Council has no specific policies towards the scavenging community. Lack of awareness of the important role they play in the recycling industry is attributed to insufficient documentation on this activity.¹

Municipal solid waste management encompasses the functions of collection, transfer, resource recovery, recycling and treatment. Its primary target is to protect the health of the population, promote environmental quality, develop sustainability and provide support to uneconomic productivity.

However, like in many developing country cities Nairobi’s solid waste sector is characterized by low coverage of solid waste management services, pollution from uncontrolled dumping of waste, inefficient public services, chaotic or unregulated private sector participation and lack of key solid waste management infrastructure.²

The solid waste found in the Dandora dumpsite is indiscriminately mixed and it includes industrial, domestic, commercial and healthcare/medical waste. As such, this dumpsite can be described as a breeding ground for disease-causing agents. It is also important to note that the city of Nairobi generates over 1500 tonnes of solid waste each day most of which is collected by the Nairobi City Council and other private companies. This solid waste eventually ends up at the Dandora dumpsite, which is the principal landfill in Nairobi.³

1.1 PROBLEM STATEMENT

Solid waste arising from man’s domestic, social and industrial activities is increasing in quantity and variety as a result of increasing population, improved standard of living, changes in food consumption patterns and development in technology.
In many developing countries, proper management of solid waste has been neglected cause of failure to recognize potential environmental as well as health hazards resulting from inadequate management. The Dandora dumpsite which is Nairobi’s principal dumping site is an example of this. It poses serious health risks to the waste-pickers who collect materials from the dumpsite in order to earn a living.  

Although these waste pickers may enjoy certain socioeconomic benefits, the health hazards that they face are numerous and this therefore raises some public health concerns that need to be addressed. For example, the clinical waste that is found here can be highly infectious. Most of this contains gauzes dressings, syringes and needles, some with human blood which poses a high risk of transmitting HIV / AIDS, Hepatitis B and Hepatitis C amongst other dreadful diseases.

Poor handling of waste and application of inappropriate methodologies act as a major contributing factor for high occurrences of faecal-oral diseases like diarrhoea, helminthic infections like roundworms.

1.2 STUDY JUSTIFICATION

Refuse dumps apart from being unsightly, pose serious health problems to human beings and the environment. This concern is also reflected in the Agenda 21 of the Rio Dedication of Environment and Protection which states in chapter 21 that; “…… rapidly growing quantities of solid waste poses threats not only to human health but also to the environment”.

It cannot be refuted that these waste-pickers are in deed faced with a number of health hazards due to the unsanitary conditions of this landfill. These include HIV and Hepatitis B infections through contaminated medical waste such as needles and blood-soaked gauzes. Other diseases include helminthes infections such as roundworms; diarrhoeal diseases such a cholera and dysentery.