DESK STUDY ON WASTE MANAGEMENT PRACTICES AND TRADE FLOW OF DENTAL AMALGAM AND ITS ALTERNATIVES IN KENYA, TANZANIA AND UGANDA

SUBMITTED BY:

iLima

Environmental Conservation through Sustainable Development

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Desk study research team

Dr Jane Wamai, BDS(Nbi)
Assistant Director of dental services. BDS(Nbi), MPH student. Ministry of Medical Services

Prof L.W Gathece, BDS, MPH, PhD (Nbi).
Public Health Specialist University of Nairobi. Chairman, Dept. of Periodontology Community & Preventive, School of Dental Sciences

Dr B.K Kisumbi, BDS(Nbi), MPhil
Senior Lecturer, Chairman, Biomaterials Specialist
School of Dental Sciences University of Nairobi

Dr. Lucina N. N. Koyio BDS(Nbi), Post grad diploma in HIV/STI control (Nbi), MPH - Kit-Amsterdam, PhD student - Radboud-Nijmegen. Senior Director of Dental services, Ministry of Public Health and Sanitation

EXECUTIVE SUMMARY

This desk study was initiated by the United Nations Environment Programme (UNEP) and the World Health Organization (WHO) Global Oral Health Program in collaboration with the respective Ministries of Health and the Ministry of Environment and in line with global initiatives to reduce mercury pollution. It is a component of the East Africa Dental Amalgam Project (EADAP) whose aim to explore essential conditions for a phase down in the use of dental amalgam and its alternatives. The study aimed at obtaining data and information on dental amalgam trade flows and current dentists' practices in handling and waste management of dental amalgam and its alternatives in three East African countries- Kenya, Tanzania and Uganda.

UNEP in collaboration WHO mandated ILima Organization to conduct the desk top survey. iLima nominated a consultant in Kenya to undertake the study. The research team comprised of 4 researchers from University of Nairobi, the Ministry of Medical services (MOMS) and Ministry of public health and sanitation (MOPHS) in Kenya.

The team developed two questionnaires in collaboration with the United Nations environmental program (UNEP), the World Health Organization (WHO), World dental federation (FDI), International Association of Dental Manufacturers (IDM) and national coordinators from the three participating countries. The questionnaire was administered in a cross sectional survey in the three East African countries to a) all traders in dental amalgam and its alternatives b) all registered dentists. The intended mode of administration was an on line survey.

Results and recommendations were presented in an inception workshop that was held on 18th and 19th December 2012 in Nairobi Kenya. These results will inform demonstration projects for phasing down the use of dental amalgam and its alternatives that are scheduled to be implemented in the three East African countries. It is our intention that the results will also inform policy in the use dental amalgam and its alternatives especially in the three countries and in different regions.

We wish to thank all partners and respondents who made this study a success.

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We greatly appreciate the participation of the respondents in the respective East African countries who gave freely their time to fill our lengthy questionnaires and provided their own insights into the study and finally, the research team aforementioned above led by Dr. B. K. Kisumbi, without whose professionalism, objective input, excellent execution and passion for their specialized field, this study could not have been a success.

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ACRONYMS AND ABBREVIATIONS

GIC	Glass Ionomer Cement
EADAP	East Africa Dental Amalgam Project (EADAP)
FDI	World dental federation
IDM	International Association of Dental Manufacturers (IDM)
KEMSA	Kenya Medical supplies Agency
KMTC	Kenya medical training College
MOMS	Ministry of Medical services
MOPHS	Ministry of public health and sanitation
MPH	Master in public Health
SPSS	Statistical package for Social scientists
UNEP	United Nations environmental program
WHO	World Health Organization

1.0 INTRODUCTION

Mercury is a heavy metal and a constituent element of the earth which occurs naturally in the environment. It exists in various forms. In its' pure form it is called "elemental" or "metallic" mercury. It is more commonly found within organic and inorganic compounds (WHO, 2003).

1.1 Emission of mercury to the environment

Mercury pollution occurs as emissions to air, directly to water and land. Natural emission to the atmosphere occurs through volcanic activities and weathering of rocks, while anthropogenic (human activities) are the major contributors to releases of mercury to the atmosphere, water and soil (UNEP, 2011). Examples of human activities are coal-fired power and heat production, cement production, burning of fossil fuels, industrial processes and mining (such as small scale gold mining and silver mining). Of these, mercury use in artisanal and small-scale gold mining is the largest mercury-demand sector globally. Mercury-containing products such as dental amalgam, electrical applications such as switches and fluorescent lamps, laboratory and medical instruments (such as clinical thermometers and barometers), batteries, seed dressings, antiseptic and antibacterial creams, and skin-lightening cream may also pollute the