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Environmental Health: A study on pests and related diseases, how they impact on women's rights in Kadoma, Zimbabwe.



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ACRONYMS

CEDAW	Committee on the Elimination of Discrimination against Women
EMA	Environmental Management Authority
ICESCR	International Covenant on Economic, Social and Cultural Rights
SEARCWL	Southern and Eastern Africa Regional Centre for Women's Law
UDHR	Universal Declaration of Human Rights
UN	United Nations
MDG	Millennium Development Goal
ICCPR	International Covenant on Civil and Political Rights
SQ	Single Quarters
WHO	World Health Organisation

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Executive Summary

This study was part of learning programme carried out by Southern and Eastern Africa Regional Centre for Women's Law (SEARCWL) to build capacity of participants in feminist research. It was carried out in three high density suburbs of Kadoma city namely Rimuka, Ngezi and Eiffle flats. It was coordinated in a group to investigate environmental health problems, causes, impact and their management. Guided by main objective each group member pursued an individual topic. The main objective of this study was to assess the potential threat of urban pests to public and environmental health and how they impede on women's enjoyment of their rights.

Residents in the targeted areas acknowledged presence of pests and their related diseases. The most common pests mentioned were cockroaches, rats, mosquitoes and flies. Pest related diseases commonly mentioned were cholera, malaria and diarrhoea.

The findings further show that the residents have made attempts to deal with the pests using pesticides. However the study established that many of the respondents who mentioned usage of pesticides did not have knowledge on the types of the pesticides, chemical properties and associated risks. Many of the respondents mentioned that they buy pesticides from vendors which are many times in containers that are not labelled.

Though Kadoma City Council Officials mentioned their responsibility in pests and related diseases management, they acknowledged their failure to conduct pest management activities such as routine fumigation in the targeted areas as expected due to inadequate resources.

The study also revealed the gendered aspect of pests and related disease management and how women are more affected because of their sex and gendered roles as care givers, food and house managers in the home. Their biological makeup also creates more complications when infected by pest related diseases such as malaria and cholera, specifically during pregnancy.

The study also found out the gap between the existence of related laws and effectiveness of the laws in pests and related disease management. The Constitution, highest law of the land did not have any provisions on environmental health. Identified relevant laws namely the Public Health Act, Urban Councils Act, Environmental Management Act, Housing Standards Act were found to be gender neutral. This is problematic as described in the following excerpt by one of the legal feminists;

“As long as we live in a society where men and women have different paths, different living conditions, with different needs and opportunities, legal rules will necessarily affect men and women differently.” (Dahl, 1987)

The environmental Management Act which makes provision for regulation on pesticides use, sale and disposal was not effective as evident in the sale of pesticides by unlicensed and unprofessional distributors.

Based on the findings, policy and other decision makers are paying more attention to obvious drivers of poverty. Pests and related diseases are not among prioritised issues in many developed agendas and yet studies have shown that they pose a threat to human health and create other unfavourable socio-economic conditions. Therefore policy makers and other development practitioners need to redirect their focus on the contribution pests and their related diseases is making to poverty and how it affects women's enjoyment of their rights. Technical and policy options need to be put in place to enable Kadoma City Council to implement adequate surveillance. There need for more research in pests and disease management especially in regards to the changing climate which may be resulting in the emergency of new pests and related diseases. Policy and other decision makers need to understand the interdependency of human rights, calling for more attention to environmental health related rights. Government must reinforce its laws on pesticides sale, use and disposal to minimise health and other risks. The council needs to collaborate with other players to educate and inform the residents of their rights and entitlements in public services delivery. They should also be educated on their roles and responsibilities.

CHAPTER 1

1.1 CONTEXT AND BACKGROUND

Pests and pest-borne diseases pose a considerable threat to human health especially where control efforts are challenged by political, social, economic and cultural issues. They also destroy property and create unfavourable socio-economic conditions. Growing population, rapid urbanisation and migration, poor housing, poor access to water and sanitation are some of the major causes of the emergence and re-emergence of pest-borne diseases in developing countries (United Nations Environment Programme, Ecosystems and Human Well-being: Policy Responses). Pesticide usage and management is an important aspect of pest and related disease management. Evidence from many studies have shown that although laws and regulations exist on the sale and use of pesticides in many countries including Zimbabwe, there is laxity on the establishment and enforcement on differentiation between professional and amateur products. Unlicensed and unprofessional suppliers continue to provide pesticides without undertaking proper risk assessments.

It is therefore important to consider main urban pests, the conditions they create and the resulting economic burden of disease. It is also of great importance to understand the gender dynamics in pests and related disease management, how it impacts on women's enjoyment of their rights.

1.2 INTRODUCTION

Although many studies have shown that pests and their related diseases are of health and environmental concern, there is a general lack of understanding on the linkage between poverty, pests, diseases and women's rights. This has contributed to a lack of comprehensive approach to policy creation and implementation in pest control and disease management especially as it relates to urban poor women. More focus is placed on pest control and disease management related to agriculture, food production or forestry.

Pests and their related diseases are on the increase in most cities among the urban poor, contributing to a list on environmental stressors on health and other socio-economic effects. However there is need to have a good understanding of the living environment and how these stressors act upon it to enable us determine good strategies as part of environmental health and women rights promotion. As policy and decision makers invest effort in addressing poverty

issues related to environmental health to ensure sustainable development, there is need to understand the gender dynamics of the underlying causes of these issues. Understanding how pests and diseases are contributing to poverty and vice versa especially among the poor urban women will enable policy makers and decision makers to come up with more effective strategies in addressing urban poverty. As analyses of urban poverty become more sophisticated, providing more understanding of its drivers and underlying causes, some pertinent contributing factors such as pests and their related diseases may slip off the microscopic view of the poverty analysts as they focus on more obvious drivers. Therefore the study aims at redirecting focus on the impact of pests and related diseases and their contribution to poverty among urban poor women.

1.3 DEFINITION OF KEY TERMS

Clients' Charter- provide a statement of what our clients can expect by way of services

Environmental Health- defined as the management of environmental factors (physical, biological, chemical) in order to prevent diseases. This includes the management of drinking water, handling and disposal of harmful chemical substances, notifiable diseases, pest and vector control, appropriate and safe waste management, housing and infrastructure settlements.

Gender- socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women

Sex- Biological and physiological differences between male and female

Pests- This is a list of common household pests, animal species or general that have a history of living in, or invading, human habitation and causing damage to structures, eating human foods, acting as disease vectors, or causing other threats.

Public Health- all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole.

Vectors- In the terminology of epidemiology, vectors are organisms that transmit infections from one host to another.

Pest-borne disease- is the term commonly used to describe an illness caused by an infectious microbe that is transmitted to people by blood-sucking arthropods

Rate of urbanisation- describes the projected average rate of change of the size of the urban population over the given period of time

Pesticide- is any substance or mixture of substances used to destroy, suppress or alter the life cycle of any pest.

Environmental Stressors- are stimuli in our environment that cause stress. Some common environmental stressors include overcrowding, and pests.

Urbanisation- defined in this report as the proportion of the total population living in areas classed as urban.

1.4 PROBLEM STATEMENT

“We cannot hide from the fact that poor health often results from poor environments.”

Stephen Battersby, President, Chartered Institute of Environmental Health.

Kadoma, just like many cities of the developing world is experiencing rapid urbanisation. Mining activities coupled with other factors have triggered rural to urban migration. Zimbabwe's urbanisation rates are among the highest in the world (Mangizvo, 2009).

The cities are expanding at a rate faster than most municipal environmental services are able to manage. Many cities are characterised by lack of, inadequate or poor sewage systems, poor water supply, and poor solid waste disposal. These conditions provide food and habitat for pests such as rodents and cockroaches. In Kadoma poor drainage systems with stagnant water are breeding grounds for vectors of disease, particularly mosquitoes. Poor housing offers easy access to rodents (Rats and Human Health in Africa, 2006).

Urbanization in many cities of the developing world has been associated with development of slums. Life in slums coupled with urban poverty has contributed to poor health and living standards. According to UN-Habitat (2003, 2006):

“[a] household is a slum if it lacks one or more of the following characteristics: structural quality and durability of dwellings, access to safe water, sufficient-living area, access to sanitation facilities, and security of tenure.”

The area under study, although not identified as such, has households that bear the same characteristics of a slum; lacking basic services, substandard and inadequate housing, overcrowding, unhealthy living conditions, insecure tenure, poverty, social exclusion, poor access to water, sanitation and other services. Quality of urban services in most towns in Zimbabwe in recent years has been deteriorating, constraining productivity and the government's efforts to reduce poverty and improve urban living conditions (Mangizvo, 2009). This has contributed to poor environmental health management, resulting in worsening incidence and prevalence rate of environmental related diseases. Environmental factors contribute to 30% of Africa's disease burden and hinder the continent's development (United Nations Environmental Programme-African Environmental Outlook-3, 2013). The poorest and the most vulnerable groups including women are most impacted.

According to the Malawi National Environmental Health Policy (2010), environmental health encompasses the assessment and control of all physical, chemical and biological factors that can potentially affect the health of individuals. Poor environmental management in Zimbabwe has resulted in worsening incidence and prevalence rate of environmental related diseases.

Pests and related diseases are among the stressors of environmental health. There is growing evidence that slum development has also increased urban areas exposure to pests and (through them) to pest-related diseases (WHO Regional Office for Europe, 2008). While more attention has been given to stressors of environmental health, there are indications that pests and their related diseases have received little and in some cases no attention despite evidence from studies showing their existence has significant impact on people's health and well-being. Pests, according to the study reports, are capable of transmitting diseases to humans (WHO Regional Office for Europe, 2008). Apart from being pathogen carriers, pests are also destructive. They destroy food and property. However few studies have been instituted to understand the impact of pests and their related diseases at household level in the urban areas of the developing world especially how they relate to women's enjoyment of their rights.

Another challenge is urban poor people's attempt to control pests by applying pesticides done haphazardly and/or in an unsafe, uncontrolled manner. Studies have shown that such unguarded and unguided usage of pesticides has resulted in insecticide resistance, health risks and

environmental degradation (Sustainable baby Steps Small Steps: Towards Greener Living), calling for more sustainable and environmental friendly strategies in addressing urban poverty.

1.5 OVERVIEW OF THE STUDY AREA

“Without water we have sewer blockages, dirty toilets and filthy surroundings which are favourable for the breeding of flies, causing cholera.” A resident in Rimuka, Kadoma.

The study was carried out in the city of Kadoma referred to as a city of gold. Kadoma is located approximately 140 Kilometres West of Harare in Zimbabwe. The city provides gold, copper and nickel to Zimbabwe (Chikumba, 2010). According to the 2012 census, the targeted area Kadoma urban has a population of 90, 109 (Zim Stat, 2013). Three areas namely Rimuka, Ngezi and Eiffle flats were randomly sampled for the study. All the three areas are high density areas.

Studies have shown that the city of Kadoma has challenges with public service delivery especially sewage, garbage, water and sanitation which are quite central in the management of pests and related diseases (Mangizvo, 2010). This has, according to the council officials and residents in the three areas contributed to diseases, such as cholera and diarrhoea. Much reference was made to the 2008/2009 cholera outbreak which is recorded to have claimed 23 % (in Kadoma) of all lives lost in the country (Chikumba, 2010).

According to one Council Official, the city of Kadoma, like most of the cities in Zimbabwe, is experiencing high urbanization rates, which is translating into increased demand for public services. Urban population in Zimbabwe constitutes 38% of the total population and the rate of urbanisation is pegged at 3.4% (Indexmundi, 2010). Since the late 1990s, Zimbabwe experienced economic hardships which coupled with droughts forced more people in rural areas to migrate into the cities and the city of Kadoma was not spared (Makwara et al, 2012). The targeted suburbs of Rimuka, Ngezi, and Eiffle flats are characterised by old structures, houses that have cracks and holes, leakages that make favourable for pest infestation.

Year	1936	1941	1946	1951	1969	1974	1982	1992	2002	2012
Kadoma	1718	1564	2380	4600	18740	30000	45000	67267	76173	90109

Table 1. Kadoma's population trends. Source: Urban Development in Zimbabwe: A Human Settlement Perspective 2010 and Census 2012 Preliminary Report: Zim Stat.

1.6 STUDY OBJECTIVE

To assess the potential threat of urban pests to public and environmental health and how they impede on women's enjoyment of their rights.

1.6.1 SPECIFIC OBJECTIVES

- To assess the effectiveness of laws, policies, guidelines on pests and disease management in relation to women's rights.
- To determine if urban infrastructural planning takes into consideration gender/women issues/needs in relation to pests and disease management.
- To learn if all social groups (women, men, boys and girls) access public information and education on pests and disease management.
- To determine if budgeting on pests and disease management is gender sensitive and that both women and men are participating in the budgeting processes.
- To establish whether male and/or female headed households have the financial capacity to access basic pest and disease management resources such as pesticides, mosquito nets.
- To establish whether men and women at household, community and municipal level are actively and meaningfully participating in decision making on pests and disease management

1.7 RESEARCH ASSUMPTIONS

- Adequate/institutions/department/structures/mechanism responsible for the implementation of laws, policies and guidelines on pests and disease management
- There are construction regulations ensuring that new buildings are pest-proofed and do not create conditions conducive to pest infestation.
- There are adequate regulations on pest management which are clear on liabilities on contractors, building managers, house owners, tenants.
- There are adequate or policies and guidelines on management of pest related diseases such as malaria, cholera i.e. on government responses to outbreaks of such disease.
- There are regulations on city planning taking into consideration the risks of pest infestation and disease transmission
- Designs and construction which do not to pest infestation
- Many people are aware how their habits, behaviours and changes in their homes can attract pests and provide ideal living conditions for these pests to thrive.

- Many people are aware that pests may carry pathogens and that simple personal measures can be taken to avoid contact with pests.
- Many people are aware of how to handle pesticides.
- Effective implementation of plans and programmes on pests and disease management due to adequate budgetary allocations
- Up-to-date data on the occurrence and distribution of pests and diseases are generally available to adequate budgetary allocations
- Households have the financial capacity to access basic resources in pest and disease management such as pesticides, mosquito nets.
- Women actively and meaningfully participating in decision making on pests and disease management at all levels

1.8 RESEARCH QUESTIONS

- Are there adequate/institutions/depts./structures/mechanisms to facilitate the implementation of laws, policies and guidelines on pests and disease management?
- Are there construction regulations ensuring that new buildings are pest-proofed and do not create conditions conducive to pest infestation?
- Are there regulations on pest management which are clear on liabilities on contractors, building managers, house owners, tenants?
- Are there adequate policies and guidelines on management of pest related diseases malaria, cholera?
- Are there regulations on city planning taking into consideration the risks of pest infestation and disease transmission?
- Have the building designs and construction helped to curb pest infestation?
- Are people aware how their habits, behaviours and changes in their homes can attract pests and provide ideal living conditions for these pests to thrive?
- Are people are aware that pests may carry pathogens and that simple personal measures can be taken to avoid contact with pests? (levels of awareness among men, women, girls and
- Are people aware of the link between pests and their related diseases?
- Are people aware of how to handle pesticides?

- Are plans and programmes on pests and disease management implemented effectively due to adequate budgetary allocations?
- Are up-to-date data on the occurrence and distribution of pests and diseases generally available due to adequate budgetary allocations?
- Do households have the financial capacity to access basic resources in pests and disease management such pesticides, mosquito nets?
- Are women actively and meaningfully participating in decision making on pests and disease management?

CHAPTER 2

2.1 LITERATURE REVIEW

The study used existing literature from different sources and study reports on Kadoma, pests, related diseases and women's rights. There are challenges with literature related to pests and diseases among the urban poor in Africa. It was found that women to a large degree were invisible if not absent in large parts of the few available literature related to pests and disease management.

An initial search was conducted using the terms pests and diseases. To arrive at a manageable sample, but one that included both the breadth and depth of the topic, the search was narrowed to pests and diseases in urban poor houses. The search was further narrowed down to pests and diseases and urban poor women.

Urbanisation

Reviewed literature provided information on the relationship between urbanisation, pests and pest borne diseases. The research was informed on how unplanned rapid urbanisation in Southern Africa has given rise to problems such as overcrowding, contaminated water, poor sanitation, air pollution, and exposure to mosquitoes and other pests- conditions which are favourable to the spread of environmental health related diseases (Madava, 2000). The review also provided insights on the history of urbanisation and the fact that the majority of the cities of Sub-Saharan Africa were established and grew as a result of imperialism. Much of the rapid rate of urbanisation is attributed to the migration of people from rural to urban areas and high rate of natural population (Patel, 1988). In Zimbabwe, from the time of the colonial occupation in the 1890s until independence in 1980, the urban areas were considered the preserve of the white population (Patel, 1988). To consolidate the colonisation process, and the economic activities the settlers established supportive infrastructure. According to a study report by University of Zimbabwe's Department of Rural and Urban Planning (Urban Development in Zimbabwe: A Human Settlement Perspective, 2010), the physical fabric of the built environment has remained segregated to date, and much more in terms of income and physical characteristics. The report observes that whilst policy may easily be changed or even reversed, it is almost impossible to do the same with the spatial physical developments such as buildings and infrastructure, evident in the housing and infrastructure in Kadoma. The single quarters in Rimuka and Ngezi meant for

single men now accommodate big families, using same facilities and the same infrastructure. To a larger extent the form and structure of our cities has remained as originally conceived, designed and developed. This has also led to the many challenges of urban poverty. These challenges are contributing to pest infestation and pest-borne diseases.

Pests

Literature on pests provided an opportunity at all stages of the research to understand and analyse the direct and indirect impacts of pests and their related diseases. It provided evidence of the contribution pests are making to poor environmental health. It highlighted the environmental health risks and other socio-economic challenges created by pests and their related diseases. However many if not all reviewed literature fell short of reflecting the impact of pests and their related diseases on urban poor women.

Pest-borne diseases

Many of the most serious diseases in cities are 'environmental' because they are transmitted through disease causing agents (pathogens) in the air, water, soil, food, or through insects or animals that are vectors for diseases. Many diseases and disease vectors (for instance the mosquitoes that transmit malaria) thrive when provision for water, sanitation, drainage, garbage collection and health care is inadequate (People and the Planet: Environment and Health). Flies, roaches, rats, mice and ants walk and feed on filthy items, carrying germs and bacteria on their feet and bodies and depositing them on food and utensils they come in contact with. Nearly half of the world's population is infected with at least one type of vector-borne pathogen (National Academics Press, 2008)

Pesticides

Strong and more effective pesticide products are often not only available to individuals. Studies have also shown that even where they are available they are also often misused, due to a lack of knowledge or expertise. In this case, pesticides may be applied when unnecessary, in wrong formulations, at wrong concentrations and in wrong amounts. There is also evidence from study reports that even if used correctly, pesticides still hold a risk for both human health and environmental health. They therefore require a technical risk-benefit analysis before being applied (WHO Regional Office for Europe, 2008).

CHAPTER 3

3.1 METHODOLOGY

The study employed four methodological approaches namely women's law, grounded theory, human rights, sex and gender analysis as part of quality control and to gauge between perceived conditions and the actual reality especially of women's lives on the ground in relation to pests and related disease management. This helped to endorse, challenge and rethink some of the theories that informed some of the assumptions built at the design stage of the research process. However there is need to mention the challenges I experienced in using the mentioned approaches especially the grounded theory. I realised that grounded theory is multifaceted and requires both more time and attention. With only five days to organise the whole field work, collect data and analyse it simultaneously seemed quite a challenge especially that I was using this approach for the first time. However the attempt made to apply it provided an opportunity to dig deeper into the issues. The grounded theory enabled me to generate knowledge that was outside my assumptions and helped me focus less on trying to fit the pattern i.e. wanting to see the data generated through the lenses of the assumptions I had developed. The other biggest challenge was the issue of language. I would like to believe that through interpretation there was great loss of meaning in some of the responses which could have been key issues worth pursuing. Another limiting factor was the fact that we were working collaboratively as a group i.e. generating issues on behalf of the other team mates and the fact that we were sharing one translator between the two of us, the processes were kind of "rushed" and that affected knowledge generation.

3.1.1 Women's Law Approach

The starting point was an inquiry into the existence of laws and policies on or that are related to pests and disease management and if these laws were gender sensitive i.e. addressing women's needs. This led to a review of a set of laws namely the Constitution (the highest law of the land), Environmental Management Act, Urban Council's Act, Public Health Act. The review looked at provisions in these acts related to pests and disease management. This informed the development of research questions on knowledge of laws related to pests and disease management among the residents and council officials. During interviews with the Council officials I learnt about

Kadoma City Council Public Health by laws and Kadoma Public Health Office Clients charter. The new information made me re-organise my research questions to find out on knowledge regarding the existence and impact of these documents. This approach helped to illuminate the gap between law, policy and what is on the ground.

3.1.2 Grounded theory

We started the study using the shot gun approach, asking people on the general knowledge of laws, policies and guidelines related to pests and disease management guidelines. When the sub assumptions were being drawn, using experiential data from professional and personal experience as a development practitioner, I did not envision the existence of a clients' charter in Kadoma District Council. I assumed that service charters are newly introduced concepts in public service delivery in many countries and did not expect to find it in Kadoma City Council. I therefore did not have knowledge of its existence at the research design stage. When interviewing one of the Council Officials mentioned the client's charter as one of the tools that help to ensure timely and quality delivery of environmental health services. This new information helped me refocus on my questions. However limitation on time could not allow flexibility during the data collection process which was necessary to be able to establish an overview, to discover the main issues on the gap between the availability of the charter and residents' lack of knowledge of its existence and later to uncover the nuances within these. The issue of clients' charter made me revisit my literature review where I had to search for resources related to Zimbabwe, clients' charter initiative. Data collected from the three areas was also constantly compared for similarities and differences.

3.1.3 Human Rights Approach

The human rights approach was used at all levels of the study. To begin with I identified what rights were at stake due to increasing number and types of pests and their related diseases among the urban poor especially women. The research process from design to field work and analysis was guided by article 11 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) which obligates state parties to;

“Recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions....”

Throughout the research process related international human rights instruments including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), Universal Declaration on Human Rights (UDHR) and the Protocol to the African Charter on Human and People's rights on the Rights of Women in Africa (Women's Protocol) were analysed. Selection of the instruments was based on their relevance to the research topic.

3.1.4 Sex and gender analysis approach

Emphasis on equality between men and women dates back to 1945, when it was recognized as a global goal in the UN Charter and later on adopted in conventions, protocols, agreements and treaties. After the Beijing Platform for Action in 1995, gender equality as both a human right and a development issue was recognised. This led to the adoption of promoting gender equality as strategy in development programming including research work. This study employed the sex and gender analysis approach. Using gender disaggregation helped to highlight gender perspectives on division of labour, access and control of resources, decision making, responsibilities in relation to pest and related disease management.

This approach was useful to determine women and men's role in pest and disease management. It revealed the societal and cultural expectations and prescriptions on women's roles and responsibilities in pests and disease management such as women as care givers, food managers and home managers. It also revealed how sex has an impact on women in relation to diseases such as cholera and malaria specifically on maternal health.

3.2 IDENTIFIED FEMINIST THEORIES

Africana woman

Poor housing made me relate to this feminist theory because of its assertion that a true understanding of the nature of the relationship between African men and women requires a thorough understanding of and grounding in African culture and history. I tried to understand the gender dynamics related to pests and disease management in relation to poor housing especially in the single quarters in Rimuka and Ngezi.

As discussed under literature review, urbanisation has links to colonialism in Sub-Saharan Africa as European colonial powers established urban settlements to serve their economic interests (Patel, 1988).

Kadoma City Council therefore was one of the cities which started with challenges of housing inherited from the colonial period which are apparently being perpetuated despite the formal disappearance of colonial empires. As such it is difficult to determine how the problem affects women and men as they are both victims of the colonialism. I identified issue of racism other sexism related to poor housing standards. With reference to the single quarters in Rimuka and Ngezi, the colonial masters were more interested to provide accommodation for the workers, without caring for the principles of good housing such adequate space and facilities like kitchens. Women came and joined their men in the same houses which still have space limitations and inadequate facilities. In this regard, women and men should be equal partners in their quest to advocate/demand for good housing which would contribute to the reduction of pests and relates diseases.

Relational Feminism

Studies and experiential data have shown that women feel obliged to provide care and find themselves responsible for care giving, home cleaning and food management. Lack of food in the house can be a stress factor for women than men (Msilikali, 2013). The study established that women in the three residential areas are more involved in ensuring a clean environment in and outside the house. They are responsible for caring for the children and other members of the family especially when they are sick. Women's being relational coupled with sex and gendered care giving roles makes them put the family needs before their own. The study also established how these roles are heavily dependent on public infrastructure, such as water, waste and sewage management systems.

Eco-feminism

The eco-feminist in me observed with great concern that existence of legislation and institutions such as Environment Management Authority plus other structures/institutions which should provide mechanisms for pesticide management, including registration and control is not as effective. This is resonating from responses of the 29 of resident respondents who acknowledged usage of pesticides sold by vendors with no knowledge of their chemical properties. In this case, pesticides may be applied when unnecessary, in wrong formulations, at wrong concentrations and in wrong amounts. This as some research has shown has effects on people's health and the living environment. Pest management should be done using environmental friendly strategies.

‘Mosquito management should consider the health hazards of pesticides and aim to promote environmental changes detrimental to the development of mosquitoes, rather than treating mosquitoes with pesticides.’ (WHO Regional Office for Europe, 2008)

3.3 METHODS

The study was qualitative in nature and its data collection was based on both primary and secondary sources. The primary sources included interviews and observations. Secondary sources were laws/statute, books and other research reports on pests and disease management. Other sources included other research reports written about water, sewage and garbage management in Kadoma, public services in Zimbabwe and elsewhere.

Sampling

Based on the nature of the study (qualitative) and on the women's law philosophy of not proving that a problem exists but rather the investigation, in depth, of how that problem manifests itself in specific circumstances and the various ways in which it has been addressed or not addressed by the community or individual families (Bentzon et al, 1998), a small sample was used which provided a deeper understanding of pests and disease management in the target area. The sampling process chose every tenth household in an area, to ensure generation of variations and complexities in perceptions, conceptualisation or practices within the area. In some cases one household was interviewed in a space of two or more streets.

Semi structured interviews

“We have a lot of issues to raise with the council officials. But they never come here. The only time they come is when there is an outbreak of diseases or when they come to announce rental hikes.” A resident in Rimuka

I conducted semi-structured interviews with both residents and council officials. This method of data collection was chosen to ensure that the interviews are focused and conversational. A checklist was developed to help guide the interviews. Participants were also given an opportunity to ask questions.

From the perspective of the residents, lack of dialogue has contributed to poor service delivery. The interviews generated quite a lot of interest and many respondents were happy that “at last someone had come to listen.”

The interviews lasted between twenty minutes to two hours. Key informants (Council Officials) were targeted in advance and appointments were arranged and confirmed on the first day of the field work. Residents were visited in their homes. Although there were no prior arrangements made most households accepted to be interviewed and others even invited us to interview them. I had made an attempt to ensure privacy in the way I conducted the interviews at household level but space issues were a challenge. The houses were too small for us to sit inside and that forced us to conduct interviews outside in full view of others. Somehow that worked to our advantage because when one household was approached, neighbours came in and joined in the discussions. I ended up with unintended “focus group discussions”.

Study participants included City Council officials (departmental heads), residents and Councillors. Data entry was carried out concurrently in field diaries; that is, data were entered as soon as I came back from the field in order to minimise errors.

A total of 44 interviews (26 done by myself and 18 done by the other group members) were conducted in the course of the research period. These comprised 13 key informants (9 council officials, 3 Ward councillors, 1 EMA Official) and 31 residents. Age range for the resident respondents was 16 to the late 70s. The study finding also show that 27 of the resident respondents were married, 1 divorced, 1 single and 2 widowed. Key informants from City Council were identified based on their position and relevance to the topic under study.

Quotes are provided in the report to illustrate major points, but information that would identify individual informant has been excluded to ensure anonymity.

As we carried out the interviews I found myself asking “haven't I heard this before in my work as development practitioner, have I not experienced pests in my own home?” The interviews I had with the residents made me realise just how important it is to capture these commonalities because they resonate implications for women poverty reduction strategies.

Secondary Data Sources

SEARCWL library, Kadoma public health office and the internet acted as important secondary data sources. There have been a few studies done on pests and disease at among the urban poor especially as they relate to women's rights. The internet provided a good source of general information on pests and related diseases. Laws and policy documents were also used as sources

of information. Kadoma City Council Public Health Office also provided key documents which were also used as secondary data sources such as clients' charter, strategic plan, public health by-laws.

CHAPTER 4

4.0 FINDINGS

4.1 Pests in the study area

“This is their home. Whatever type of pest you can think about you will find it here.”

Resident, Rimuka Single quarters.

All 31 respondents from three residential areas under study have encountered a problem with rodents, cockroaches, flies, lice, mosquitoes and bed bugs. They shared their experiences on how these pests destroyed property, food or carried diseases. The most common type of pests mentioned were mosquitoes, cockroaches, rats, flies. Few respondents mentioned lice, ants and bed bugs. According to one of the respondents in Ngezi, pests in these areas have become “housemates”.

LOCATION	No. Resp	mosquito	rats	cockroaches	Flies	lice	Bed bug	Ants
Rimuka sq	8	*****	*****	*****	****	**		*
Rimuka New stand	8	*****	****	*****	**			*
Ngezi SQ and other old houses	6	***	*****	*****	*****	*	*	
Ngezi New Stand	4	***	****	****	***	*		
Eiffle Flats	5	**	***	***				

Table 2. Showing types of pests in mentioned by resident respondents

4.1.1 Brief description of the common pests mentioned

Rats

Referred to as *Makonz* in the local language (Shona), 20 out of 31 resident respondents mentioned rats as some of the pests found in their homes. Respondents in the study reported that rats destroy their property, compete for human food sources and in some cases they bite their children. Out of the 31 resident respondents only three were able to associate rats with diseases. They associated rats with fleas which cause skin diseases (See fig. 1 below).

Research has found that rat allergens might contribute to development and exacerbation of childhood allergic asthma. (Urban pests and their public health significance: A CIEH summary)



Fig. 1 A woman in Rimuka showing bites by bed bugs

However there is acknowledgement that diagnosis for many rat-diseases is challenging and relies on specialised knowledge, expensive equipment and facilities. New diagnostic tools have been developed for some diseases, but they are not widely available. As rat diseases are not routinely screened or diagnosed, there is no information on how many people contract particular diseases (Rats and Human Health in Africa, 2006). In other words, many African countries are reporting a growing proportion of cases of “fevers of unknown origin” (Refer table 3, an example of consolidated records from health facilities in Kadoma below with unidentified diseases recorded as others).

DISEASES	JUN 2012		JUL 2012		OCT 2012		NOV 2012		DEC 2012		JAN 2013	
	M	F	M	F	M	F	M	F	M	F	M	F
Diarrheal	34	37	37	27	113	139	23	60	26	28		
Malaria	85	55			59	90	52	45	26	33		
Dysentery	0	0	0	0	0	0	25	27				
Bilharzia	0	0	12	5	0	0	16	3	4	1		
Acute Respiratory	198	232	240	472	244	222	214	182	97	107	43	48
Skin Infection	94	101	77	86	110	138	88	82	74	90	154	137
Other Diseases	495	586	504	569	1262	1519			711	851		
Tuberculosis	49	57	40	70	57	58	52	25			69	50

Table 3. Disease trends in Kadoma. Source: Kadoma Public Health Office

The resident respondents also associated rats with property and food destruction. An interview with women selling vegetables and fruits at the market stand in Eiffle flats, mentioned that rats and cockroaches contribute to constraints to improving their livelihoods by spoiling their ware.

The market stand does not provide storage space. So the women have to take their ware back home every night which they say gets spoiled by the pests.

Cockroaches

Twenty four resident respondents mentioned cockroaches as one of the pests found in their homes. Referred to in the local language (Shona) as *mapete*, cockroaches are one of the most significant and objectionable pests found in homes (WHO Regional Office for Europe, 2008)

“The evidence that relates asthma and domestic exposure to cockroaches, mice, and dust mites is clear. These pests are common in urban environments and play a significant role in the pathogenesis of urban asthma” (WHO Regional Office for Europe, 2008).

Cockroaches alone are known to carry 33 different kinds of bacteria picked up from contact with sewage and other decaying matter carried in on the spines of their legs and bodies (Pest Control: Health Spotlight. Truly Nolen).

Flies

Flies constitute a major group of nuisance species in rural and urban environments worldwide. Commonly known as *nunzi* in the local language (Shona), flies are regarded as filth because of their association with potentially contaminated substances, such as food wastes, faeces and animal manures (Filth Flies Significance, Surveillance and Control in Contingency Operations, 2011).

“Filth flies can carry over 100 human pathogens including Salmonella, E. coli O157, Campylobacter and Helicobacter. Houseflies can maintain E. coli O157 for up to 30 days” (WHO Regional Office for Europe, 2008)

This was revealed in their generally low personal and environmental hygiene standards. For example, the inhabitants in these deprived areas had access to only public latrines which were under pressure and poorly managed. Hence, the surroundings were fouled with human excreta which were at the mercy of houseflies and vultures.

Mosquitoes

Although highly mentioned as one of the pests by the resident respondents, Kadoma City Council Official, while acknowledging presence of their breeding sites in the targeted areas explained that not all mosquitoes cause malaria and that in the targeted areas malaria was not a

big problem. The officials however regard mosquitoes as a public health issue especially when their density is great enough to make them a nuisance and when they transmit disease agents.

Mosquito-borne diseases, such as malaria and yellow fever, continue to be a health concern in many parts of the world.

4.2 Pest borne diseases in the study area

In general respondents in all the three residential areas mentioned malaria, cholera, dysentery, skin rashes, typhoid, flu and Tuberculosis as diseases they suffer from. Five out of the 28 respondents mentioned that a member of their household had suffered from malaria. Many resident respondents, whether reliving the 2008/2009 cholera out-break or still experiencing it, mentioned cholera as one of the diseases in their area.

LOCATION	No. Resp	Malaria	Dysentery	Asthma	Cholera	Skin Diseases	Flu	Diarrheal	TB
Rimuka sq	8	***	*		*****	*	**	**	
Rimuka New stand	8	***		*	***			**	*
Ingezi SQ and other old houses	6	***			*	**			
Ngezi New Stand	4	*		*	***				
Eiffle Flats	5	**		**					*

Table 4. shows diseases mentioned by the residents

However consolidated records filed at the Council's Public Health Office from all health facilities in the city from June 2012 to January 2013 show cases of diarrhoea and no single case of cholera recorded. This may be an indicator that cholera has been contained or there is now laxity in its recording and reporting.

4.2.1 Brief Description of two commonly mentioned diseases

Cholera

Cholera is an acute diarrhoeal disease caused by the bacteria vibrio cholerae. Typical symptoms include: the sudden onset of profuse, effortless, watery diarrhoea followed by vomiting, rapid dehydration, muscle cramps and suppression of urine (Chikumba, 2010). The disease is transmitted through the faecal-oral route, that is, eating food and drink contaminated by faecal matter that contains Vibrio cholera (Wachsmuth et al, 1994).

In mid-August 2008 to end of July 2009, Zimbabwe experienced a devastating Cholera outbreak that claimed lives of many and was the worst recorded in Africa in 15 years. Kadoma recorded

the highest incidence of cholera cases within the region (Mashonaland West Province), 23% of all cases, was recorded in the country by June 2009 (Chikumba, 2010).

In the midst of the 2008 -2009 cholera outbreak, the health sector and various local authorities faced economic challenges, limiting their effective management of the cholera outbreak. In January 2009 most of the recorded deaths were noted to have occurred at home (Dirksen, 2009).

Malaria

Malaria is a major health problem in Zimbabwe, although its epidemiology varies in the different regions of the country.

Although not acknowledged as a pandemic, Kadoma Public Health Office records show malaria as one of the diseases in the area. Interviews with the residents also gave indications that malaria was one of the most common diseases.

Malaria is caused by blood parasites transmitted from person to person through the bites of infected mosquitoes. If treatment is not available or delayed it may cause death (WHO Regional Office for Africa, 2009).

Biological (sex) differences and pest related diseases

Little has been written about the implications of sex and gender for the surveillance of and response to outbreaks, especially for diseases that are not sexually transmitted (WHO). Addressing sex and gender in epidemic-prone infectious diseases, there is acknowledgement of the existence of the biological differences between males and females. It is believed that the anatomical and hormonal differences between males and females can influence the infectious disease process and that;

“At the cell level, a major difference is that female cells have two X chromosomes, whereas male cells have one X and one Y chromosome. Although the influence of cellular differences between males and females on the infectious disease process is not fully understood, it is known that the X chromosome governs many of the immune system responses” (Institute of Medicine, 2001).

Major changes in the female body during pregnancy and lactation also affect the infectious disease process. Some diseases are particularly severe during pregnancy, while others affect the unborn child.

Cholera and pregnancy

Cholera affects everyone including expectant women. Most pregnant women with cholera do not suffer from complications and are treated like other sick adults. But in some cases, cholera leads to premature labour or obstetrical complications (Medicine San Frontiers, 2010). Due to the mother's dehydration, the baby will not receive enough oxygen, blood flow, or the necessary nutrients, which causes distress. The complications associated with cholera and pregnancy puts the mother and the unborn baby at a high risk (Medicine San Frontiers, 2010).

Malaria and pregnancy

In Africa, 30 million women living in malaria-endemic areas become pregnant each year. For these women, malaria is a threat both to themselves and to their babies, with up to 200 000 newborn deaths each year as a result of malaria in pregnancy (WHO).

Pregnant women are particularly vulnerable to malaria as pregnancy reduces a woman's immunity to malaria, making her more susceptible to malaria infection and increasing the risk of illness, severe anaemia and death. For the unborn child, maternal malaria increases the risk of spontaneous abortion, stillbirth, premature delivery and low birth weight - a leading cause of child mortality.

Responsibility for caring for the sick

Female respondents and council officials acknowledged women's burden of caring for the sick especially during disease outbreaks. In most societies women are more likely than men to be caregivers for the sick in both health-care settings and at home. In this capacity, women are more exposed than men to infectious agents. This is of particular importance for diseases that are transmitted by close contact. Women's care giving role was especially acknowledged and given more attention in the wake of the HIV and AIDS pandemic. Study report on the cholera outbreak indicated that more deaths occurred at home which may mean that women were burden with caring for the sick.

Many studies have looked at the role of women and family caregiving. Although not all have addressed gender issues and caregiving specifically, the results are still generalizable to women because they are the majority of informal care providers in this country. Although the study could not establish any health problems associated with caregiving among the women, other

studies have shown that 25% of women caregivers have health problems as a result of their caregiving activities (Family Care Giver Alliance).

4.3 Laws, policies and guidelines related to pests and disease management

Regulation and enforcement

“I get pesticides from the vendors at a dollar for a very small bottle. The bottle is not labelled and the vendors do not provide us with any instructions. We just use our own knowledge, general knowledge on pesticides.” A resident in Ngezi

The study identified four laws of Zimbabwe that were found relevant to the topic under study namely the environmental management act, public health act, housing standards act and urban councils act . All these acts had provisions on broad environmental health issues but inadequately covered issues of pests and their related diseases. However the study established that even development of good and relevant laws is just but “half-way-bridge to enable people cross over to the “promised land” where their rights can be fully enjoyed. The other half is ensuring that the legal framework is properly implemented. Even the provisions that are available related to pests and disease management are not yielding their intended result in practice. An example is the Environmental Management Act sections 74 to 78 which provide for mechanisms to deal with the environmental quality standards in particular standards of pesticides and toxic substances. The sections underscore Governments’ responsibility in ensuring that pesticides used nationally are safe; are marketed, applied, handled and disposed of appropriately. However 29 of resident respondents who acknowledged usage of pesticides buy them off counter, sold by vendors. Almost all those who said they buy from vendors did not know the names and the chemical properties of the pesticides for reasons which include lack of labels. They just use general knowledge on application and disposal. One female respondent in Ngezi mentioned the use of temik to kill rats. Temik is known to have health and environmental effects (Toxipedia, 2010). Although there were no reported cases of the dangers around its usage, there have been reports of fatalities caused elsewhere.

Pesticides are also often misused, due to a lack of knowledge or expertise. In this case, pesticides may be applied when unnecessary, in wrong formulations, at wrong concentrations and in wrong amounts. This in some cases has shown to create resistance (WHO Regional Office for Europe, 2008).

“We buy cheap chemical from the Chinese, which make the lice actually increase. We now just let them bite us.” Rimuka resident.

Even when used correctly, pesticides still hold a risk for both human health and environmental health. They therefore require a technical risk–benefit analysis before being applied (WHO Regional Office for Europe, 2008).

Findings from study reports show that the inability of governments to enforce existing legislation can create major pesticide-related risks (WHO Regional Office for Europe, 2008). The existence of legal requirements which are a fundamental requirement for implementing the right (and effective) preventive and control measures in pest and disease management allowing appropriate ministries and agencies to take appropriate action and that provide them with the authority to take these actions, though not adequate, are there.

Knowledge on laws, policies and guidelines

“Our office is guided by Statutory Instrument 12 of 2007 under the Environmental Management Act, on hazardous substances and pesticides.” EMA Official.

The study also tried to establish knowledge of the laws related to pests and disease management among the respondents especially among women. All respondents did not have any knowledge of laws generally let alone those related to pests and disease management. On the other hand all city council interviewees were knowledgeable of the laws and policies related to environmental health. They mentioned the environmental management act, public health act, urban councils act, housing standards act, public health by laws, public health clients' service charter, gender policy. Where they have been effectively designed and implemented, clients' charters have been used as a tool to strengthen administration and management procedures and as a driver for cultural change within the public service delivery sector. The Kadoma Public Health Office Clients' Charter comprises standards and its commitment to environmental health service delivery. A clients' charter also known as service charter is;

“a simple public document, developed by service sectors in consultation with staff and citizens, setting out the standards of service that citizens can expect” (Malawi Public Service Charter, 2011).

None of the respondents had any knowledge of the Kadoma Public Health Office clients' charter and there was a general lack or inadequacy of awareness, on the part of residents as clients of what standards to expect from the service providers in particular the public health office.

Government of Zimbabwe has invested effort to improve delivery of basic services aligned to basic rights. The country instituted public service reform programme from 1997. The reform included the development of client charters and service delivery targets in order to make public servants more client-focused and accountable (Moving forward in Zimbabwe: Reducing poverty and promoting growth).

4.4 Relationship between poor urban infrastructure and pests and disease management

“They go in the filthy toilets, burst sewer systems and then come and walk all over our food, transporting germs that make us sick.” A resident in Rimuka.

Urban sewers especially the broken ones are said to be the perfect man-made rat and cockroach habitat. Rats prefer the dry parts of the network, disused pipes and excavations next to cracks or bad joints in pipes. (Urban pests and their public health significance: A CIEH summary).

According to World Health Organisation, housing is intimately related to health. The structure, location, facilities, environment and uses of human shelter have a strong impact on the state of physical, mental and social well-being.

4.5 People's knowledge, attitude and practice related to pests and management

“We try to keep our houses clean and deal with the pests but as you can see the block of attached houses. If I apply pesticides, the pests disappear to my neighbour's house. It requires collective effort to deal with the pests.” A female respondent Eiffle flats.

Residents in Rimuka and Ngezi single quarters found it difficult to control pests like rats, cockroaches and bedbugs when they infest a block of homes, without co-operation from every one affected. Houses in these areas are blocks of old dilapidated houses (see fig. 2 below).



Figure 2. A block of houses in Rimuka Single Quarters

Female respondents in all the three areas said they try keeping the house clean and tidy as a way of keeping pests out of their homes. However Kadoma City Council Assistant Environmental Director mentioned urban agriculture as one of the issues contributing to pest infestation in the homes. The study also established that the public is also largely unaware of how to handle pesticides and use them responsibly in the environment as discussed above.

4.6 Budgetary allocations on pests and disease management in public budget

Kadoma District Council Public Health Official acknowledged that pests and disease management is not prioritised due to inadequate resources. According to the officials this has contributed to lack of up-to-date data on the distribution of pests and pest-related diseases.

According to Kadoma District Council Finance Director, as of 2012 budget the council was only able to collect 45% of revenue which was inadequate to finance all public services. This was attributed to residents' refusal to pay for the services such as rent, water and garbage collection.

Kadoma Public Health Office mentioned that lack of funding has also contributed to no effort being invested towards pest-related research which would provide refined knowledge of the biology, ecology and behaviour of pests, the epidemiology of pest-borne diseases and their socio-economic impact especially on less advantaged social groups such as women.

4.6 Household financial capacity to access pests and disease management resources

The female respondents said they have to make difficult choices, one of them is to use their meagre resources to manage pests versus putting food on the table for the family. In almost all the households men had lost their jobs and only a few were engaging in informal and petty money making ventures. Few women were engaged in small enterprise, selling fruits and vegetables in the neighbourhood or at the local markets.

In areas where the respondents mentioned mosquitoes, almost all the respondents said they had difficulties to purchase mosquito nets among other competing household priorities such as medical fees, school fees and rentals.

4.7 Human Rights

Zimbabwe and many other governments around the globe, party to human rights instruments, are expected to deliver their development agendas, fulfilling, protecting and respecting citizens' rights. These instruments include ones that aim at promoting and protecting the rights of women. Related to pests and related diseases, Article 11 of the United Nations International Covenant on Economic, Social and Cultural Rights (ICESCR) for instance, spells out state parties' obligation to:

“Recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions...”

The need to improve urban poor's living standards and health has been one of the issues included in international development agendas. For instance Millennium Development Goal (MDG) number six (combat diseases, including HIV/AIDS, malaria, and other diseases), seven (ensuring environmental sustainability) targets 10 and 11 of the goal, focus on halving the proportion of people without sustainable access to safe drinking water and sanitation and improving the lives of people living in slums, respectively.

Throughout the research process human rights were a “centre of gravity” in the formulation of assumptions, research question, data collection and data analysis.

The study shows that only two people of the 31 resident respondents understand their rights. As such many of the respondents do not know government obligations to fulfilling their rights.

4.7.1 Sources of human rights related to pests and disease management

National Constitution and laws- The study established that the old constitution (used before the adoption of the new constitution) did not have provisions on environmental health which caters for pests and disease management. The new constitution (2013) in section 73, 76, 28, 80 has factored in environmental health rights, basic health care, adequate shelter, and equality for women respectively. It was also noted that there are laws that are facilitating Government's obligation to ensure effective environmental health service delivery such as the Public health Act, Environmental Management Act, Urban Councils Act, Housing Standards Act. It is however important to note ineffective implementation of these laws as evident in the poor living standards in the three residential areas characterised by poor access to water and sanitation, poor housing, poor sewage and garbage management.

International Declarations and Conventions related to environmental health specifically pests and disease management.

Zimbabwe is bound by human rights laws which were signed as international treaties. Examples include the Stockholm Convention on Persistent Organic Pollutants. The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods. Government of Zimbabwe domesticated the stockholm Convention in the Environmental management Act which spells out how use of hazardous substances and pesticides will be controlled and managed. As discussed above the study established improper distribution and use of pesticides among the residents in the three residential areas.

Zimbabwe is also a signatory of the Earth Charter and supports the Agenda 21. Agenda 21 is an action agenda for the UN, other multilateral organizations, and individual governments around the world that can be executed at local, national, and global levels. Chapter 6 of the Agenda 21 is on promoting human health, chapter 21 of Agenda 21 is on environmental sound management of solid waste and sewage related issues. Zimbabwe is also a party to human rights instruments related to pests and disease management in relation to women's rights such CEDAW, UDHR, ICESCR, African Charter, Women's Protocol.

4.7.2 Analysis of study finding based on the principles of human rights

Equality-As enshrined in Article 1 of the UDHR the basis of human rights is that all human beings are born free and equal in dignity and rights. The study however established that rights of residents of the three sampled residential areas have been violated by lack of access to basic needs such as water, decent shelter and other public services which make them vulnerable to pest infestation. Pest infestation, according to research reports contributes to diseases, food insecurity and some cases loss of property. The right to equality is also supported by to Articles 2, 3 and 18 (3) of African Charter; Articles 1 and 2 of CEDAW ; Article 8 of the Women's Protocol; Article 7 of the UDHR, instruments which Zimbabwe ratified.

Non-discrimination-The UDHR and other international human rights laws accords the same rights and responsibilities to all women and men, boys and girls. However from the findings of the study there is evidence of discrimination based on sex roles i.e. women are expected to care for the sick, cleaning and manage food in the home. In relation to pest and disease management, when there is an outbreak women spend more time caring for the sick which overburdens them and takes away their already limited time from productive activities and other empowering opportunities. In most households, women as food managers are concerned with food damage caused by pests such cockroaches and rats.

The CEDAW (which Zimbabwe is party to) article 5 (a) expects State parties to address social and cultural patterns that lead to discriminate and to stereotype roles for women and men. The study established efforts by the Government of Zimbabwe to addressing discrimination issues such as the National Gender Policy and establishment of office responsible for promoting gender equality. However in the areas under study there was no or little evidence of such effort translating to non-discrimination especially where roles and responsibilities at household level were concerned where women are confined to care giving, home and food management.

Indivisibility-Interviews with council officials and councillors indicated some degree of divisibility of the rights i.e. rights related to environmental health specifically pests and diseases which contribute to poor living standards and health. Environmental health especially pests and related diseases management appeared not to be prioritised by Kadoma City Council. More focus was on right to water and sanitation and other issues.

Interdependence- The study established the right to decent and adequate housing, right to clean and safe water and clean environment are interdependent and their violation contributes to increased pests and diseases which in turn violates other rights i.e. right to health, right to life.

Responsibility- The study established that Governments is failing its responsibility to protect, respect and fulfil human rights, failed to promote environmental health specifically pests and disease management by not inserting it in the Constitution as a fundamental objective. Kadoma City Council also failed to promote awareness among the residents of their right to participate in public service delivery.

Implications for Women

The study's main focus was to illuminate women's rights perspective of pests and disease management with an aim to inform how poor pests and disease management contribute to impediment on women's rights enjoyment.

Women are commonly responsible for making up any deficiencies in services at household and frequently also neighbourhood level (Songsore and McGranahan, 1998). Women in Zimbabwe, just like many African countries are perceived more as care providers at the household level. The study established that women in the three residential areas are more involved in ensuring a clean environment in and outside the house. They are usually responsible for caring for the children and other members of the family especially when they are sick.

“Since women hold primary responsibility for care and reproductive activities, they are especially affected by limited (or, in some cases, lack of) access to basic services. Similarly, limited access to essential infrastructure such as water and sanitation and inadequate shelter all contribute to increase the burdens related to unpaid care work, and thus exacerbate gender-based disadvantage,” (Songsore and McGranahan, 1998).

Increase in pests and diseases may result in more responsibilities for women, eating on their already limited time.

The study established gaps of women in decision making. At City Council level only two positions at senior level management are occupied by women. There are five female councillors out of eighteen.

There is a growing belief in development circles that participation by local communities in basic service delivery can promote development outcomes. The study found no evidence of structures

at community which are facilitating communities' participation in public service delivery. There was mention of resident associations which many respondents indicated no knowledge of. Absence of such community-based structures push women further away from the decision making circles.

At household level many respondents indicated that women by virtue of being home managers, food managers and providing care are involved in decision making in pest and disease management. This however changes when the decisions require money i.e. buying pesticides and seeking medical care, men were said to make the decisions.

CHAPTER 5

CONCLUSIONS

- The study established that failure of Government to provide environmental health services has in some contributed to poor health and in some cases resulted in death.
- The study revealed lack of prioritisation of pests and disease management in Kadoma City Council's development agendas. Currently there are no pests and diseases surveillance mechanisms.
- There is inadequate understanding among residents on the biology and behaviour of urban pests, the causes of the diseases they transmit, particularly in the case of newly emerging diseases and their impact on women's rights.
- The study established that many of policy makers and other decision makers, through their practice and planning fail to realise the interdependency of human rights.
- The study noted that large quantities of chemicals, currently produced and marketed with largely unknown effects on human health and the environment, constitute a potential risk to the people working with them, as well as to the general public.
- District Council officials are stuck on the fact that mosquitoes in most part of the studies area does not cause malaria without taking into consideration pathogens undergoing mutation and changing their host species and mode of transmission due to climate change and other factors.
- According to the residents there are no mechanisms to facilitate accountability and transparency at all levels to ensure efficient and effective public service delivery.
- There is a climate of suspicion and mistrust surrounding the relationship between the residents and Kadoma City Council especially related to revenue collection.
- There is general lack of understanding among the residents on their rights and entitlements in public services delivery.
- Pests and pest related diseases contribute to the burden and gendered roles of women at household level.
- The study establish how the sexist and stereo typical behaviours, practices and values disadvantage women in pests and related diseases regarding their roles as care givers, home and food managers

CHAPTER 6

RECOMMENDATION

- Research has shown urban pests, the medical conditions they create and the resulting economic burden of disease. Technical and policy options need to be put in place to enable Kadoma City Council to implement adequate surveillance.
- While the biology and behaviour of urban pests has been well studied, the causes of the diseases they transmit, particularly in the case of newly emerging diseases and their impact on women's rights, are poorly understood and hence the need for more research in pests and disease management.
- There is need for policy makers and other decision makers to realise the interdependency of human rights. Most development planning focuses more attention to promote certain rights when others are equally at stake.
- Kadoma city council needs to include Integrated Pests Management in its policies. Good pest control cannot be achieved through the sole use of chemicals. Pest problems are complex and require integrated responses.
- The study noted that chemicals, currently produced and marketed with largely unknown effects on human health and the environment, constitute a potential risk to the people working with them, as well as to the general public and recommends that government must reinforce its laws to address it.
- Increasing concern about pathogens undergoing mutation and changing their host species and mode of transmission, need careful scientific evaluation.' (Public health significance of urban pests). Kadoma City Council needs to be alert on the emergence of new pests or increase of the existing one. An example should be attention given to increase in number of mosquitoes which transmit malaria instead of just being stuck on the fact that most mosquitoes in the area do not cause malaria.
- The City Council should facilitate mechanisms to promote accountability and transparency at all levels to ensure efficient and effective public service delivery. This can be done by promoting transparency on budgets especially on public service projects. There is also need to orient communities and service providers on public budgeting with the inclusion of special interest group members especially women.
- Kadoma City Council should invest effort to prevent creating a climate of suspicion and mistrust between the council and residents; sustained dialogue between residents and the council as a service provider should be facilitated. Conflict resolution should be part of council strategies.
- The City Council needs to facilitate greater citizen accessibility to council decision-makers through a variety of resident participation mechanisms--regular public hearings/dialogue sessions and public awareness campaigns.
- The council needs to collaborate with other players to educate and inform the residents of their rights and entitlements in public services delivery they should also be educated on their

roles and responsibilities. They need to understand that as residents they also have a role to play and that rights go side by side with responsibilities.

- To be more effective in addressing the issues of pests and disease Kadoma city council needs to employ the multi-sectoral approach, to engage with other stakeholders such community-based structures, religious institutions, local NGOs and International NGOs.
- In regards to women's rights, pursuant of articles 3 and 5 (a) of the CEDAW, Zimbabwe has an obligation to ensure the development and advancement of women; and take appropriate measures to address sexist and stereo typical behaviours, practices and values that subordinate women. Article 12 (2) of the CEDAW which promotes women's access to health care . Pregnant women who are need to be protected relevant to pest-related diseases such as malaria where pregnant women need to be given women need

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