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# Clinical Waste, Environment and Care Giving Pitted against Botswana's Vision 2016: Eclectic Data Sources

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**ABSTRACT** It is timely that clinical waste phenomenon and its environmental impact attracts local, national and international debate so that it can be addressed by policy makers and international communities. This will shed hope that its undesirable impacts to care giving will be addressed. The aim of this article is to discuss and explore pertinent and critical literature pertaining to clinical waste and its relationship to the environment, pitting the literature to Botswana's Vision 2016. The article has used eclectic data sources. Key ideas in the literature indicate that clinical waste handling and disposal affect the quality of care, has a perfidious impact to the environment, and make care giving process a dreadful occupational process. The literature recommends: Instituting policies to compensate informal caregivers against occupational hazards; instituting robust environmental education in communities; strengthening policies and penalties on environmental pollution; and instituting an incentive structure to the informal caregivers.

## INTRODUCTION

The phenomenon of clinical waste handling and disposal especially as it relates to community care is not just a national challenge in Botswana, but is an area that has attracted international attention. It also relates to environmental awareness and sustainability that Vision 16 and Botswana Clinical waste Management Code of Practice envisages to address; as well as the global environmental issues that the Millennium Development Goals objects to address (UNDP 2004). It is therefore important that policies dealing with the phenomenon are interrogated with the hope of strengthening them; adjusting them; or expediting their adequate implementation. Local researchers indicate that there is both human and environmental health risks associated with clinical waste handling and disposal and that policy to address the challenge needs to be active (Kang'ethe 2008; Mari 2005; Mokgwaru 2001). This calls for policies guarding environmental awareness and sustainability to be interrogated to ensure their timely implementation. This puts Vision 2016 under focus (Vision 2016-1997). Though the government has strengthened the policy by funding its campaign machinery, for example, by appointing environmentally qualified personnel to effectuate it, making regional campaigns in different parts of the country, intensifying both print and electronic media on environmental issues, the phenomenon of clinical waste has not received due attention. In this researcher's subjective perspective, the operational definition of environmental sustainability may have to been narrowed to activities such as cleanliness, planting of tress and ensuring tree nurseries are operational in various villages in the country (Vision 2016-1997). It is also apparent that public awareness on issues of clinical waste is still low, and appears to have risen with the burgeoning cases of HIV/AIDS cases in the country (Kang'ethe 2006a). Evidently, issues of irresponsible and unchecked dumping of various types of waste, and possibly clinical waste are evident at the seams of the Gaborone dam that supplies the city of Gaborone with its water. This poses potential environmental hazards of huge dimensions. This makes the phenomenon of addressing clinical waste appears a far-fetched issue. It is important to recognize that the priority in healthcare waste management could have been directed to the protection of human health, with environmental impact taking second priority (Mari 2005; GOB 1998). However, then, the impact of clinical waste upon the lives of the caregivers is human in nature, and is critical. Its contagious effect is alarming and calls for a timely address (Kang'ethe 2008; Mari 2005).

### Operational Definition

#### *Vision 2016*

This is the policy goal of Botswana indicating threshold development the country aspires to have achieved in its fifty years after independence. This includes an AIDS free generation, an educated and a productive nation, an accountable, democratic and a well governed nation, a just and a caring nation, and a well conserved environment etc.

#### *Panacea*

The word panacea which means an answer or solution for all problems or difficulties is operationally taken to mean a phenomenon which is satisfactory and desirable.

### Problem Statement

Clinical waste phenomenon in Botswana has not received its deserving attention, policy wise, operationalization wise, as well as implementation wise. Perhaps the overwhelming nature of HIV/AIDS concentrated on the apparently conspicuous human health challenges and overlooked other equally compelling issues such as clinical waste handling and disposal. It is therefore important that such challenges are brought to the fore for the attention of the policy makers and care managers. Increasing the local literature on this topic will also fill in an important educational gap that the topic finds itself in. However, emphasizing on the clinical waste hazards to the lives of the caregivers is critical. This is because the lives of the caregivers who are protecting the lives of the persons living with HIV/AIDS also need human rights consideration against any possible exposure to the virus through unskillful handling and disposal. Its impact to the environment is also crucial. This is to safeguard and conserve the environment in line with the national and international covenants. Since countries have a global deadline to ensure they fulfill Millennium Development Goals (MDGs) by the year 2015, this puts the MDG goal number 7 on environmental sustainability in focus. Botswana also needs to fulfill its Vision 2016 aspirations of an AIDS free generation and a well conserved environment.

## OBSERVATIONS AND DISCUSSION

### Critical Literature on Clinical Waste, Environment and Care Giving Pitted Against Botswana's Vision 2016

According to the Botswana's Clinical Waste Management Code of Practice (BCWMCP), (GOB 1998), clinical waste consists wholly or partly of: human or animal tissues, blood and body fluids and excretions; blood and other body fluids and excretions; drugs or other pharmaceuticals products; swabs or dressings; and used syringes, needles and other sharp instruments. These types of waste are dangerous to the people, animals and the environment. They can contaminate water body masses and can be the sources of diseases. The waste dumped at the seams of Gaborone dams is of such a great danger to human, animals and the environment (Kang'ethe 2008). Plants can also be negatively affected and therefore pose environmental degradation.

Clinical waste handling and disposal continue to be a thorn in the neck, and a stressor to especially the caregivers taking care of persons living with HIV/AIDS (Kang'ethe 2006b). This characteristic is acute in many care giving contexts of many resource constrained countries of the world and poses a serious environmental pollution effect (WHO 2002; Kang'ethe 2008). According to Lemo (2001), caregivers immensely risk infection from the disease of their clients. This is because most caregivers especially the informal ones are usually illiterate, poor, untrained and unprepared for the task they find themselves in. Mbatha-Ndaba (2001) indicates that inexperienced caregivers are usually subjected to an overwhelming experience because their degree of care giving, coping mechanisms and adaptation are low. Further, caregivers are not used to handling sickness and death as professional health workers do. Caregivers in Kang'ethe's (2005-2006) research in Botswana study pointed to possibilities of some of them contracting HIV/AIDS due to their care giving preoccupation (Kang'ethe 2008). This has caused uncertainties, fear and desperation among the caregivers, throwing away their confidence and ownership of the programme that immensely thrives under their goodwill. When the government of Botswana instituted community home based care programme and integrated it within the mainstream health sector, it pegged

its success and trust from the caregivers through tapping and exploiting their human resource capacities (NACP 31 1996).

Though many care programmes have been doing well especially giving the sick immense psychosocial support, the process has had many challenges (Kang'ethe 2006a). Despite many years of campaign since the first case of HIV/AIDS was discovered in 1985, communities are still dragging their feet to normalize HIV/AIDS and accept it as a living disease (Tirisanyo Catholic Commission 1993). Many, especially the strong and the young have shunned care giving as they respond to the waves of stigma, leaving the elderly to toil with care giving in many care settings in Botswana and elsewhere (Kang'ethe 2009, 2010). These are some of the circumstances that have driven and made HIV/AIDS to adversely affect the physical, social, emotional and the mental health of the caregivers, sometimes driving them to succumb to a state of burnout (Strathdee et al. 1994). Largely, the phenomenon of clinical waste handling and disposal continue to pose a serious challenge to the health of the caregivers, and also have an environmental dimension (Kang'ethe 2006a,b, 2008). This sends waves of fear and doubts to the country's realization of Vision 2016 and the Millennium Development Goal number 6 of combating HIV/AIDS and other diseases; and also number 7 of working to ensure environmental sustainability (UNDP 2004, 2005).

Clinical waste handling and disposal is exacerbated by the fact that most of the CHBC requisite inputs are either not available to the clients, or their supply is not regular. Education to handle the waste is also not adequate. Studies in Kanye CHBC programme of Botswana in 2005-2006 acknowledge the irregular provision of these items such as gloves, incontinence pads, and mackintosh tops etc. (DMSAC Report 2005). Lack of, especially the pads is critical because of the caregivers whose clients are incontinent. With some caregivers who may not have resources to buy these items, they may not have a good option but to reuse or recycle them. This presents a loophole of possible contamination especially for the caregivers who have no water connected into their premises (DMSAC Report 2005). However, the circumstances under which the care is performed may sometimes dictate that clients had better be taken care of at the hospitals in Botswana, if conditions could allow, or institutional care is available. In a research in Botswana by Mojapelo et al. (2001), for instance, some of the caregivers were not happy upon their clients being discharged for home care. This is because of lack of resources to meet the demands of care at home. Issues surrounding hygiene, waste disposal and handling were especially worrying. Some caregivers were captured making the following sentiments:

"*I am suffering because I am poor. I do not have anything to support my patient and myself with.*"

"*We need more food and soap. I do not have any clothes for myself as well as my patient.*"

"*We do not have a toilet, we use our neighbour's.*"

In circumstances like these, then, community care stands to be a stressor than it can be a relief (Kang'ethe 2006a). This is because poverty and lack of hygiene facilities pose the challenge of clinical waste contamination. Perhaps those community members in Kanye that indicated aspects of the CHBC programme being a dumping process had such evidences in their minds. However, Motana (2001) conducted an in-depth qualitative research with a 13 CHBC nurse sample from Gaborone, Mochudi, Francistown and Tutume to assess the validity of this allegation and found that generally, the programme was well accepted, appreciated, and had immense community ownership. This proved that it was not a dumping process. However, he pointed to the need to look into the very many glaring challenges such as irregular provision of CHBC requisite inputs such as gloves and protective clothing. This was affecting the quality of clinical waste handling, disposal, hygiene and possible contamination (Kang'ethe 2006b, 2008).

Nthabitseng (2001), in his research in Botswana, indicated escalating risks of infection associated with care giving. She, like other researchers attributed the undesirable state to caregivers' state of illiteracy, ignorance, their advanced age and the fact that they had not been adequately trained (Kang'ethe 2009). This meant that they lacked adequate information on how to use and dispose of the contaminated materials. This has heightened the cases of contagion. This also put caregivers on the receiving end. Walker (1982) as well Kelesetse (1998) have made open criticisms to the governments of the day by indicating that CHBC programmes are vessels for exploiting women. They indicate that through the programmes, the governments have shifted

their burden and placed it on the shoulders of women. They also contend that care giving tasks constitute a form of unpaid labour. This also works against human rights covenants (OAU 1990; UNDP 1995). This kind of volunteerism, besides exposing them to possible occupational hazards, has also contributed to feminization of their poverty (UNDP 1995). This, according to this author is gender exploitation, and poses the challenge of increased gender inequality and inequity. It also has a serious bearing towards realizing Goal number 3 of the Global Millennium Development Goals of gender equality and empowerment as well as national Vision 2016 policy (UNDP 2004, 2005; UNAIDS 2008).

**Way Forward Towards Redressing Clinical Waste and Environmental Challenges to Buffer Care Giving amid Botswana's Vision 2016 Aspirations.**

***Institute Policies to Compensate Informal Caregivers***

Contentions by several feminist researchers such as Kelesetse (1998), Finch and Grove (1983), conclude that CHBC programmes, despite being seen as a panacea in many resource constrained countries in the world, constitute gender exploitation. This author also believes that the cultures and patriarchal systems that continue to incline care giving to be handled by women, are retrogressive and deterrent towards achieving goal number three of equality and women empowerment enshrined in the Global Millennium Development Goals and also Botswana's Vision 2016 aspirations (Vision 2016 1997; UNDP 2005; Lekoko 2009).

The issue of subjecting the caregivers to fear and dilemma of contagion, needs special consideration. It is these caregivers' goodwill that the running of the community care programmes' vests on. This is in line with the Vision 2016 tenet of the country aspiring its citizenry to hold the virtues of being caring and compassionate (Vision 2016 1997). However, being a caring nation does not imply exploitation and exposure to health hazards. Since many formal health care providers are covered by the worker's compensation Act no. 23 of 2001 of the laws of Botswana for injuries sustained or for occupational hazards arising in the course of employment, and or for death resulting from such injuries or occupational diseases, policy adjustments to ensure that the informal caregivers are also included in this compensation consideration needs to be explored. Due to the nature of their work, many health service providers are at a greater risk of accidental HIV infection. This Act obliges all employers to ensure safety and secure all workers. This includes providing all requisite protective facilities such as protective clothing suitable for their work. In case of accidental infection, the employer is obliged to meet the victim's medical expenses and further treatment where possible. The employer is also obliged, under Section 11 of the Workers Compensation Act, to pay compensation for any such injuries or death resulting from serving clients. This is a central issue that calls for advocacy and lobbying to ensure that the human rights of the informal caregivers against such occupational challenges are met. Such compensation will set in motivational waves that will make care giving an attractive preoccupation. This would ensure productivity and therefore fulfill one of the Vision 2016 aspirations of a productive nation (Vision 2016 1997; Tabengwa 2003).

***Institute Robust Environmental Education in Communities***

Conserving environment and ensuring environmental sustainability form critical spirited campaigns, by the global environmental campaign architects and also is in the country's Vision 2016 (Vision 2016 1997; UNDP 2005). This is critical because of the pace of the adverse environmental changes such as global warming and the encroachment of desertification in the erstwhile rich agricultural land. Environmental degradation is, therefore, a critical issue in the agendas of many countries. United Nations is spending millions and millions of money to spearhead the campaign urging countries to conserve the environment as a way of ensuring sustainable water and food sources. For example, communities are urged to avoid farming directly on the slopes without proper erosion mitigation strategies in place; to plant as many trees as possible and reduce the use of wood for fire etc. These campaigns have been passed on to the private governments and environmental friendly non-governmental organizations (UNDP 1995-2005).

During the 2001 United Nations General Assembly Special Session (UNGASS), (UNAIDS

2008), many countries of the developing world were signatories to United Nations call to committing themselves to work hard to conserve their environments in order to give their countries a sustainable future, and also work hard towards halting the pace of the epidemic. In Botswana, policy wise, environmental campaign is contained in its vision 2016 tenets. By the year 2016, Botswana aspires the following on environmental conservation:

- That its economic growth and development will be sustainable,
- Renewable resources will be used at a rate that is in balance with their regeneration capacity,
- Non renewable resources such as minerals will be used efficiently,
- There will be a fully integrated approach towards conservation and development,
- Key natural resources and assets of the country will be equitably distributed between its people,
- Communities will be involved in the use and preservation of their environmental assets, and will benefit directly from their exploitation,
- The attitudes towards natural resources will pay attention to a fair distribution between present and future generation,
- The eradication of poverty will have created a situation where no one will be forced to damage the environment in order to obtain their basic needs,
- The wildlife of Botswana will be managed for the sustainable benefit of the local communities, and in the interests of the environment as a whole (UNAIDS 2008).

With the current global hunger and famine affecting many countries especially in Africa, environmental conservation is a very topical issue that deserves immense attention. Globally, and in the Millennium Development Goals' (MDG) shelf, it is number seven of the MDGs tenets (UNDP 2004, 2005; UNAIDS 2008). However, a quick analysis of the current achievements or the developments on the ground pitted against the threshold Vision 2016 expectations, suggests that much needs to be done as 2016 is just around the corner. While measures such as having communities benefit from their natural resources have been strongly advocated for, implementation has taken a snail's pace. Again, the pace of the eradication of poverty continues to cast doubt as to the fulfillment of most of these factors. However, Botswana government's goodwill to have all these factors achieved is great and commendable. The current government of President Lieutenant General Ian Khama Seretse Khama has sworn to see delivery being the cornerstone of the country. The concept "delivery" has been added to make the five Ds of his development principles. These development principles are: Democracy, Development, Discipline, Dignity and Delivery. This author has great confidence and feels that these principles are working and they will bear dividends in the near future (Mbuya 2008).

However, there is also a link between clinical waste to environmental degradation and pollution. Mokgwaru (2001) in his research in Botswana on health hazards associated with unskillful collection and disposal of clinical waste found that it is a source of both environmental damage and pollution and can predispose the community to the epidemic. The fact that caregiving is carried out by elderly and usually illiterate women, compounds the problem. Perhaps putting in place motivational factors in the programme to lure younger persons to the occupation could be a step towards ensuring lesser infections. This is because younger persons are likely to be equipped with epidemiological knowledge and also preventive strategies more than the elderly. That may entail relooking at policies governing the running of the care programmes. For example, care programmes may have to contain incentives and motivational components (Kang'ethe 2011). This is also likely to redress the serious gender skewed situation prevalent in many care programmes in Botswana. Attaining and mainstreaming gender is one of the strategies of attaining both Millennium Development Goals and equally those of Vision 2016 (Vision 2016 1997; UNDP 2004, 2005).

All in all, education on the importance of conserving the environment is critical. The country needs to be praised for coming with robust environment policies and encouraging environmental based NGOs such as Somarela Tikologo (Conserve the environment). The aim of the organization is to promote sustainable environmental protection by educating, demonstrating and encouraging best practices in environmental planning, resource conservation and waste management in Botswana (UNDP 2004). Though the civil society's role in environmental conser-

vation is weak, increased education on the environment can bear great dividends in the near future and ensure a significant score in both the 2015 Millennium Development Goals and Vision 2016 (UNDP 2004; Vision 2016 1997).

### *Strengthen Policies and Penalties on Environmental Pollution*

Perhaps stronger policies or policy reinforcement and penalties need to accompany the environmental campaign. Dumping and polluting the environment poses immense health hazard to the lives of people, animals and also the vegetation. For example the vehicles emitting carbon monoxide need to be heavily penalized as emission of carbon monoxide poses a serious health challenge to human life (GOB 1998; Mari 2005). Apparently on the ground, monitoring and surveillance to track those vehicles breaking these laws and policies has not been adequate. More efforts need to be added. Another critical issue affecting the environment is the plastic paper challenge. Over the years, these plastic papers have been thrown everywhere, especially in the grazing areas. Though the government has passed a law and placed stringent measures to stop dumping of these plastic papers, including having them charged by the merchandise sellers, people are responding only slowly. However, and subjectively, the policy direction to sell the polythene plastic papers has reduced indiscriminate throwing and dumping of these papers into the environment, though awareness has not been fully owned (Mari 2005).

Clinical waste materials thrown into the bush, or buried into the soil poses a very serious health hazard. This is because clinical waste contains contagious soiled products that can pass the diseases. These contaminated products especially if not deeply buried can easily be washed and be carried by water to many places. The products could also find themselves in the rivers which are the sources of water consumption for both people and animals. This author bears witness of some cases where caregivers indiscriminately throw some clinical waste products into the council environmental bins and some in the nearby bush in Kanye region of Botswana, prompting animals such as dogs to scavenge and open the content in search of food (Kang'ethe 2006b). This poses a challenge to the health of these animals. The issue of throwing this clinical waste happens because the CHBC authorities have not been collecting the waste from the caregivers' premises, caregivers are required to take the waste to the nearby clinics. Unable to take the waste to the clinics from where the council vehicle would collect them, some caregivers, who may be aged grandmothers, may be tempted to secretly throw the waste into the nearby bush. Availing and collecting the waste from the caregivers' premises can definitely reduce or eliminate this practice. The dumping of the clinical waste in red plastic clinical bags together with domestic waste in black plastic bags in the Nyangabwe Hospital car park in Francistown in 2006 that caught the eyes of the Midweek Sun's Newspaper and was reported on 17 May 2006 and again on 31st May 2006 is an indication of the fact that policy makers and implementation regarding environmental conservation and education are still not adequate. Fulfilling Vision 2016 on this issue remains a daunting task (Kang'ethe 2006b, 2008).

### *Institute an Incentive Structure to the Informal Caregivers*

The issue of elderly caregivers being left to handle care giving without the younger individuals getting interested in the affair has a solid reason. Care giving being such a distressful, and emotionally draining preoccupation, needs to have in place strong incentives and motivational components. Studies by several researchers in Botswana such as Mojapelo et al. (2001) indicate that the care programme has little or no incentive or motivations; posing questions of the sustainability of most care programmes (Mojapelo et al. 2001). However, research by Kang'ethe (2006) learnt that even without any form of incentives, the driving force behind the sustainability of care programmes is love for one's kins or what he called "blood is thicker than water phenomenon" (*Kang'ethe Paradigm*) (Kang'ethe 2006a). This also finds support from Bowlby's (1977) attachment theory that explains love bonds emanating from blood relationships. With incentives in place, care giving could attract the young and also men. Optimistically, younger persons are likely to be knowledgeable and understand the HIV/AIDS environment better than the elderly. They can possibly handle issues of clinical waste and environmental impact with increasing success and ease (Kang'ethe 2008).

On the incentive issue, Botswana should borrow a leaf from other countries to operationalize the issue of incentives. In Namibia, for instance, caregivers are given minimum support through Christmas and Easter bonuses, a funeral policy, ongoing training, and the allocation to each caregiver of N$100 per month as a token of reimbursement for whatever the caregiver has spent in performing care. These incentives to caregivers ensure that they do not go around looking for some complementary income. In Zimbabwe, Chirumhanzi CHBC caregivers receive as an incentive, a year's pocket money in a lump sum. Workshops and monthly meetings where they get a good meal and an opportunity to interact with one another also serves as an incentive for their work. In South Africa, caregivers working at the Hillcrest AIDS Centre on the outskirts of Durban, receive no money for their services, but are given after six months of satisfactory service, a monthly supply of basic foods, including mealie meal, beans, rice, sugar and tea (UNAIDS 1999). The government of Botswana should follow the steps that other countries have taken to settle the challenge of incentives for its caregivers. For example, the Mozambique government has drawn an attractive policy to remunerate the caregivers with a package of sixty percent of the government minimum wage which is about $55 per month. This is an adequate goodwill making many caregivers feel they are being taken seriously by the government. Motivation will have an immense bearing towards achieving Vision 2016 (Kang'ethe 2011; Vision 2016 1997; Http//www. rinews.org./AID Sreport. asp?. 2005).

## RECOMMENDATIONS

The study makes the following recommendations:

- The government and the NGOs to work together to address the challenges posed by clinical waste handling, collection and disposal. This is because the phenomenon poses health hazards to the society,
- Societies need to be educated on the contagious effects of clinical waste and caregivers of people living with HIV/AIDS need to be educated on how to handle and dispose of the clinical waste. Disposal knowledge is especially the key,
- Caregivers in absence of protective tools need to be educated on how to use other tools such as the plastic paper bags to handle the clinical waste,
- Instituting policies to compensate informal caregivers against occupational hazards,
- Instituting robust environmental education in communities,
- Strengthening policies and penalties on environmental pollution,
- Instituting an incentive structure to the informal caregivers.

## CONCLUSION

The phenomenon of clinical waste and its environmental impact needs to be given significant emphasis as countries gear up to halt the epidemic and conserve their environments. Since most countries of the developing world signed the 2001 declarations to halt the epidemic and conserve the environment, areas such as clinical waste which have not achieved much attention need to be brought to the fore for consideration. Clinical waste phenomenon, if not addressed in time can continue to pose a threat to the environment and compromise care giving by putting fear among the caregivers and therefore work to compromise their esteem, freedom and productivity. This would have an impact towards realizing both the country's Vision 2016 and the Global Millennium Development Goals.

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