The Link between HIV/AIDS and the Environment

By

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List of Acronyms

ABCG	African Biodiversity Collaborative Group

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Executive Summary

It is estimated that 1.5 million people have died of HIV-related illnesses in Kenya since the first case was diagnosed in 1984. A total of 1.8 million children have been left orphans, and 1.4 million people are currently living with the disease. The high level of dependence of the majority of Kenyans on natural resources means that they have turned to these same resources for solutions in the management of HIV/AIDS. This has therefore put additional pressure on the natural resource base.

The study found that there are both direct and indirect linkages between HIV/AIDS and the environment/natural resources. Factors in the environment can either enhance or inhibit the spread of HIV. Malaria, that is endemic in some parts of Kenya, increases the transmission of HIV as do many sexually transmitted diseases.

The study also shows that herbal medicine is widely used and reduces the risk of infection when used for sexually transmitted infections and febrile illnesses such as malaria. The herbs also slow down disease progression when used to treat opportunistic infections. The same herbs can, however, lead to accelerated disease progression if not used properly such as when used in combination with ARVs or when preferred to ARVs. Unfortunately, the increased demand for herbal remedies is resulting in their over-exploitation and the threat of their extinction. Similarly, there has been an increased use of wild foods and timber due to the pandemic.

Progression of disease is also accelerated by poor hygiene and sanitation which leads to the spread of infectious diseases among PLHIV. Poor disposal of HIV contaminated materials, such as condoms, syringes and home-based care kits poses a threat to communities, especially in the informal settlements in Kenya's urban areas.

The indirect linkages between HIV/AIDS and natural resources include the fact that areas with abundant natural resources tend to attract many people, including those who are running away from stigma due to their HIV status. The key sectors of fisheries, commercial agriculture and tourism tend to create conditions that make people more likely to get infected with the virus. Factors such as mobility, availability of cash and lack of social inhibitions due to distance from family in these sectors contribute to the spread of HIV.

The HIV/AIDS pandemic has also had an impact on the land tenure systems of communities, while at the same time; some of the existing land tenure systems have put more people at risk of contracting HIV. When productive members of the household have passed on, the remaining members may lease the land or leave it fallow. Further, following the death of men from HIV, their widows are sometimes denied their rights to inherit the land and may be forced from the marital home. The sub-division of group ranches, and the subsequent sale of land that is registered under private title, has also contributed to the spread of HIV, as irresponsible land owners have used the money for alcohol and commercial sex.

The impacts of HIV/AIDS on conservation have included the loss of staff and loss of the investment of training them, the cost of meeting medical bills and the cost of recruiting new staff. At the community level, the pandemic makes it difficult for agencies attempting to promote community conservation initiatives to do so, due to the heavy demands on the communities' time to attend to the sick and bury the dead. In some cases, conservation efforts have put communities at risk of contracting HIV, such as when they have been evicted from forests and other conservation areas that previously served as their homes and sources of livelihood.

Rural-urban migration is sometimes prompted by the limited options available for rural communities to eke out a living from a degraded environment with poor soils due to over cultivation and grazing. People who travel to urban areas in search of employment are placed at risk of infection, which then makes them conduits through which the virus is introduced to the members of the community in their rural homes.

Some of the existing initiatives to address issues arising from the linkages between HIV/AIDS and natural resources include projects to generate knowledge and share it with others. Several organizations and networks are involved in this, such as the African Biodiversity Collaborative Group (ABCG), the Population Reference Bureau (PRP), the Food and Agriculture Organization (FAO), the Swedish International Development Agency (SIDA), the Southern Africa Development Community (SADC) and the Coastal Resources Centre (CRC). These organizations have conducted surveys and produced research papers, toolkits and guidelines, aimed at addressing different issues related to HIV and NRM.

Other initiatives are focused on tackling specific emerging issues, by assisting communities to develop more effective coping mechanisms. These include initiatives that target high risk groups within high risk sectors, by educating them on the risks and providing them with sustainable options for using natural resources to address their livelihood needs.

At the organizational, national and international levels, policies are being formulated to tackle the HIV/AIDS issue and mainstream effective responses within different sectors, such as forestry, conservation, fisheries and land.

Due to the complexity of the HIV/AIDS pandemic, with regard to the social and economic factors that contribute to its spread, it is important that a multi-sectoral approach is adopted when tackling specific concerns.

It is therefore important to draw lessons from those communities and countries that have had success in different aspects of the issue, and up-scale and replicate these initiatives after analysing how they should be modified to suit the different social and cultural contexts.

1. Introduction

There has been a growing realization that AIDS in not just a health crisis, but a challenge to development since it affects all spheres of the social, cultural and economic aspects of life, especially in the worst-affected countries. To date, there is scant information about the direct and indirect linkages between HIV/AIDS and the environment and natural resource management (NRM) in the Eastern Africa region. This realization resulted in the formation of a partnership between the African Regional office of the International Planned Parenthood Federation (IPPF) and the Eastern Africa Regional Office of the International Union for the Conservation of Nature (IUCN-EARO) with the aim of promoting greater understanding of the linkages between HIV/AIDS and the environment. IPPF and IUCN commissioned studies in four countries of Eastern Africa; Kenya, Uganda, Sudan and Tanzania and facilitated national level workshops. A regional workshop is scheduled to take place later in 2008.

1.1 The Consultation Process in Kenya

In Kenya, the initial activities involved the contracting of two consultants: one with a medical background and the other with a natural resource management background to conduct a desk review of available literature on the subject. The consultants enriched the literature review with field visits to sites where either IUCN or IPPF had existing projects, during which additional information was generated through focus group discussions and key informant interviews with representatives of communities and stakeholders in the HIV/AIDS and environment sectors. This field research was conducted around Eldama Ravine, Kisumu, Nakuru and Thika towns (Annex 1 provides the list of the organizations that were visited).

The Consultants' preliminary findings were presented during a workshop entitled "*Community Lessons Learnt - Workshop on Establishing the Link between Environment and HIV/AIDS in Kenya"* that was held in Nakuru 9th to 11th June 2008. This workshop was attended by community members from Koibatek, Nakuru and Kisumu municipalities and included People Living with HIV/AIDS (PLWHA); representatives of NGOs that provide services to those affected and infected by HIV/AIDS; and environmental and development NGOs. The workshop generated discussions about the communities' experiences with the linkages between environment and HIV/AIDS. In addition, the community representatives generated action plans and compiled a list of recommendations which were presented to local and national level policy/decision-makers during the final day of the workshop. This report provides highlights from the literature review, the field research and the workshop deliberations.

2. HIV/AIDS in Kenya

The first identified case of HIV/AIDS in Kenya was recorded in 1986 (Ministry of Health, 2008). The disease spread rapidly during the 1990s reaching a prevalence of 20-30% in some areas of the country (NACC, 2005). Resent surveys have shown that the prevalence rates are dropping from a previous national rate of over 10% to 7.4% in 2007 (Min. of Health, 2008). This could be due to an increased death rate given that new infections are still continuing. It is estimated that 1.5 million people have died of the disease, 1.8 million children have been left orphans, and 1.4 million people are currently living with the disease (NACC, 2005).

According to the Preliminary Report of Kenya AIDS Indicator Survey (KAIS) that was conducted in 2007, of the more than 1.4 million Kenyans living with HIV/AIDS, as many as four out of five of them do not know their status (Min. of Health, 2008).

Therefore, many of them are not accessing antiretroviral therapy (ART), although it is the most effective intervention for prolonging survival in people with HIV and when taken regularly, is associated with a 90% reduction in mortality. This is despite current guidelines from the Ministry of Health that recommend ART for all HIV-infected adults with CD4 counts less than 250 cells/ml and for those with counts below 350 cells/ml depending on their clinical status. In 2007, about 65% of the people wh

prompted by HIV infection, such as the increased demand for and use of certain natural resources by the infected. Indirect linkages between HIV/AIDS and natural resources include behaviour around natural resources pre-disposing people to infection and the impacts infections have on the capacity to sustainably manage natural resources due to increased infection rates.

5. Direct Linkages

In literature, the main direct linkages between HIV/AIDS and natural resources identified include the increased use of herbal medicines, wild foods and timber and non-timber forest products by the infected and their families.

5.1 Increased Use of Herbal Remedies

According to the World Health Organization, the majority of the world's population, especially those in developing countries, rely on traditional forms of medicine, largely plant-based, to meet their primary health care needs. In many parts of Kenya, this percentage is higher. For example, according to Nyariki, D.M. et al. (2007), 87% of the households in the Lembus Forests study area use herbal medicine, a slightly higher percentage than the national average of 75%.

A variety of factors contribute to this. For example, many people have limited access to conventional medicines because the expense, distance, and lack of knowledge of the existence of conventional medicines to treat respective ailments. In addition, many people have more trust in herbal remedies than in conventional medicines. Many plants considered weeds also have medicinal properties (Njoroge, N.G., et al. 2004).

Although currently the government is offering free ARVs (since June 2006) and food supplements, the cost of travelling to access them is prohibitive for many. For example, it costs Ksh. 230 to travel to Eldoret from Eldama Ravine (a total of Ksh. 460 to and from) for the ARVs. HIV positive people are required to get their CD4 count measured, before they are given their first or next dose of ARVs; with doses usually given every two months. Inquiries about why the local hospital cannot do the CD4 count test revealed that at Ksh. 4.2 million, the CD4 count machine is very expensive and therefore out of reach for many facilities. Furthermore, many people do not know that they can get free ARVs and food supplements. These are some of the reasons why people continue to rely on herbal medicines, which are relatively easy to access as compared to conventional medicines.

The demand for herbal remedies has increased due to the HIV/AIDS pandemic, which has also resulted in their greater commercialization. Interviews with a Maasai herbalist at Eldama Ravine revealed that many herbalists travel far distances, with their herbal remedies. He was one in a group of Maasai herbalists from Namanga, who travel to different parts of the country and to the neighbouring countries of Congo, Sudan, Somalia and Ethiopia, selling their herbal remedies. The Namanga forests are their main source of plant material, including bark, roots, berries and leaves. This particular herbalist did not claim to cure HIV/AIDS, although it is likely that he has provided herbal remedies for some of the opportunistic infections. Another respondent in Eldama Ravine reported how a lady who was very sick with HIV/AIDS paid Ksh. 5,000 for a two-week dose of a herbal concoction from a herbalist based around Kakamega Forest and is now doing much better.

A 1998 report by Marshall N. identified 102 plant and 29 animal species used in medicinal treatments in East and Southern Africa, that were priorities for conservation and management action, because they were becoming scarce.

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Cirus Wanyoike, a herbalist with Kamirithu Herbal Clinic in Thika, reports that herbs are hard to get. He says the problem got worse after big industries started manufacturing herbal products such as soaps, lotions and toothpaste, while relying solely on wild stocks since they are yet to support the farming of medicinal plants. According to Wanyoike, herbs are now sourced from the neighbouring countries of Uganda, Tanzania, and Democratic Republic of Congo which makes herbal remedies expensive and with limited future sustainability.

Quote 2:
"Herbs are becoming very hard to get. There is a very high demand now. It seems everybody has turned to herbal remedies. They even buy them from around here and carry them away to other towns and even other countries. Right now I am short of Aloe vera*. There is a specific species we use which is no longer available here. Someone has been bringing it to us from Baringo but he has not come of late."*
Isaac, a herbalist in Nakuru

5.2 Increased Misuse of Herbal Medicines

While herbal medications may have important uses in HIV care, inadequate knowledge about them, including how they interact with ARVs, remains a big challenge. According to Gray (2007), herbal remedies may induce liver enzymes or other proteins resulting in increased metabolism of drug binding. This renders ARVs ineffective and accelerates resistance and drug failure.

It is also notable that herbalists are not bound by medical ethics and the advice they give to patients may sometimes be contradictory to known scientific facts. The District HIV/AIDS Coordinator (DASCO), Nakuru, reported that herbalists, who had been members of the Constituency AIDS Committees, were recently expelled from these committees for misleading patients on the effectiveness of herbal medications "

Quote 3:
"Sometimes the herbs are brought to the patients by relatives who are not aware of the HIV status of the patient. The patient who wants to maintain confidentiality of his status will take the herbs even if he has been warned against using them so as to ward off suspicion and please the relatives."
Mark Meyo, Love and Hope Centre, Nakuru

(Hammarskjold, M., 2003). Timber is also being sourced from neighbouring countries, especially the Democratic Republic of Congo for use in the making of furniture and coffins (pers. comm. with a Carpenter at Dagoretti Corner, 2007).

In Uganda, communities are using bamboo and reeds from the Bwindi National Park to transport the sick and the dead from hospitals. The HIV/AIDS pandemic is resulting in greater demand for these products from the forest (Dwasi, J., 2002). Another impact of HIV/AIDS is the increased use of fuel wood during funerals, for cooking, lighting and heating, especially for communities with lengthy burial ceremonies. This has been reported in Southern Africa (CIFOR, 2006) and in several parts of western Kenya .

5.4 Increased Use of Wild Foods

One of the impacts of HIV/AIDS is a reduction in labour for agricultural production, both as a result of the loss of productive members of the household and the additional burden of looking after the sick. There is a tendency for greater reliance on wild foods, including fruits, vegetables and bush meat, for households that have been affected by HIV/AIDS. These meet a critical need for HIV infected people, because nutritional deficiencies increase susceptibility to opportunistic diseases. These are

insecurity. This position was supported by research carried out among children in a rural area in central KwaZulu-Natal, South Africa, where HIV/AIDS vulnerability is high and 4-5% of children under the age of 15 are maternal orphans. Among a sample of vulnerable children, birds, rodents, wild fruits and tubers were key sources of food - especially for boys - who commonly spent prolonged periods of time away from the home, playing, hunting and foraging for food.

As Simo*, an orphaned nine year old boy living with his grandparents, noted: "*We get worried when there is no food in the house, and we cope sometimes by just drinking water and sleeping, or we go and ask neighbours for help. Then we go and hunt and shoot birds. We look to the trees and if the trees are bare, we rip potatoes of the mountain from the ground and roast them in our fires*". Maternal orphan Xolane* (11) explains: "*If we feel like we want to eat meat, we just go out into the forests because we are craving. We are familiar with these areas, so we have no problem going there*."

For hungry, often socially alienated orphans, hunting birds, foraging for food and trapping

due to the different taste of the water and fears that these chemicals could interfere

In addition, while in some areas women are coerced to submit to fishermen in order to get fish to process and sell, the trade-off has been reversed on Ringiti Island, with older women, mostly widows, now identifying young men who can assure them of a steady supply of fish in return for sexual favours. One woman, who was shunned by her community in Suba, after she lost three husbands "after long illnesses", claiming that she had bewitched them, moved to the island to eke out a living from the fish. She is currently "married" to a man who has another wife on the mainland.

The World Fish Centre (2006) cites a comparative study of fisher folk and other "high risk groups" in selected countries that showed prevalence rates among fisher folk of 20.3% in the Democratic Republic of Congo, 24% in Uganda, and 30.5% in Kenya. These rates were between 4.5 and 5.8 times higher than in the general population and about twice as high as among truck drivers, who are conventionally considered a high-risk group.

Box III: Factors Increasing HIV Transmission along Lake Victoria Beaches

Dominic Atendo, the chairman of the fishing community at Dunga Beach, Kisumu, revealed the risky nature of life along the beach. He says that large numbers of people have been claimed by HIV. The community recently contributed money and came up with an orphanage to take care of the many children who had been orphaned.

He attributes the spread of the disease to:

- Ignorance of the disease by the fishing community;
· Migration of fishermen from one beach to the next and into the islands inside the Lake where they sometimes meet people from Uganda and Tanzania and where unprotected sex is common;
· Availability of easy money and lack of a saving culture, leading to careless use of money for alcohol and sex.

The community has now stepped up prevention programmes which include behaviour change communication with the fishermen; promotion and supply of condoms; training on saving and investment, including opening a beach bank; and development of a code of conduct at the beach that condemns exchanging fish for sex.

Source: Atendo, D. 2007

7.2 Commercial Agriculture

The abundance of key natural resources, such as rich soils and water, results in the establishment of intensive commercial plantations. In Kenya, there are plantations of the key cash crops of tea, coffee, sugar cane and horticultural crops, especially flowers. These plantations normally attract people seeking employment. Such plantations also act as havens for people who have been cast out by their communities, for various reasons, including because of HIV/AIDS.

In 1999, Kenya surpassed Israel and Columbia, to become the largest cut flower exporter to the European Union. Lake Naivasha, with its many surrounding flower farms is a classic example of intensive commercial agriculture. The flower farms around Lake Naivasha employ approximately 40,000 – 50,000 workers, 75% of whom are women (Opondo, M., 2005). However, every job attracts nearly seven other people to the area – especially dependents and others who come to look for employment. The high number of people migrating into the area has put a strain on the existing natural resources, increasing the amount of charcoal used, which is taken from the surrounding forests and drylands. Over-crowded living conditions, due to the limited number of houses available to host the workers, and sexual abuse are some factors that tend to promote the spread of HIV/AIDS (Ogondo O. 2007).

In Ethiopia, where the floriculture industry is growing at a rapid rate, concerns have been expressed on the need to proactively address the HIV/AIDS issue. According to a coordinator of an HIV/AIDS organization in Addis Ababa, “now, the majority of the workers come

- A flower farm saw a similar ten-fold rise in spending on employee health costs between 1985 and 1995.

Source: Bollinger, L. et al. (1999) as cited by the World Bank website.

7.3 Tourism

Tourism is one of the top foreign exchange earners for the country, often competing with cash crops like tea and coffee. Big game safaris, mountains and sandy beaches are the main attractions for tourists coming to Kenya. Tourism is also one of industries which are considered high risk for HIV/AIDS infection. As more communities establish community conservation initiatives, they become exposed to tourism realities, including the lure of 'easy' money. This increases their risks of getting HIV/AIDS.

The HIV/AIDS Transmission Through Tourism Prevention Programme (HATP, 2007) notes that every year there is an influx of international tourists to the Kenyan beaches along the Indian Ocean for the famous 3 S (Sand, Sun and Sea) and the less talked of 4th S (Sex). There are many tourists who travel from overseas to engage in sex with the locals and/or to take pornographic pictures. The areas with the highest levels of prostitution, and other associated vices such as violence, drug/alcohol abuse and robberies are the Mombasa-Mtwapa area and the Watamu-Malindi area, since they are centres of mass tourism. A report by UNICEF (2006) observes that commercial sex tourism is not only growing rapidly along the Kenyan coast, but increasingly gaining acceptance as a valid means of earning an income.

7.4 Mining and Quarrying

The mining industry, especially in countries with substantial mineral deposits, is another industry that pre-disposes communities to the risk of infection by HIV/AIDS. Southern Africa and Tanzania face a much greater threat than Kenya, which has fewer minerals. In Kenya small scale mining is practiced in parts of Western Province (for gold) as well as in Macalder in South Nyanza, West Pokot in Northern Kenya, Kerio Valley in the Rift Valley, Kariandus near Nakuru, and Kibongwa near Kisumu. Big scale mining occurs in Athi River (for cement) and plans are underway to start mining in Kwale (for titanium). A study done by Amutabi M. (2001) in Mukibira, one of the small gold mining sites in Western Province, showed a high prevalence of illegal drugs, illicit sex, child abuse, defilement and child marriages. All these are risk indicators for the spread of HIV.

A workshop participant, Mark Meyo, reported that the Love and Hope Centre in

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being taken over by relatives who continue to farm it. Leasing of land, due to a reduction in household labour, sometimes results in changes in land use. One consequence of HIV/AIDS is the farming of less labour intensive crops. For example, in Malawi, one study found that the production of cassava had risen, because it is not a labour intensive crop. Communities are also turning to wild, indigenous vegetables that do not require much tending, or farm inputs such as fertilisers and pesticides. According to the Eldama Ravine District Public Health Officer (pers. comm. 2007), indigenous vegetables, such as *amaranth spp*.(*terere)* tend to do well on abandoned farms.

11. Impact of HIV/AIDS on Conservation

Another impact of HIV/AIDS has been on the capacity of conservation organizations at the national, regional and community levels. Several studies have highlighted the fact that, because many people working in national conservation organizations tend to be away from their families for extended periods of time, this puts them at risk of HIV/AIDS. These organizations are increasingly being force 0 TD (,) Tj 2e16 Tcrj1bies

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collaboration. ABCG is funded through a grant from the John D. and Catherine T. MacArthur Foundation.

The ABCG has commissioned studies on HIV/AIDS and natural resource management linkages, including linkages between HIV/AIDS and coastal biodiversity, agriculturehtp3 -11F5U7urDo ants (een agrir role w (safetyS and coastal) Tj 0 Tc -1.432

The project is conducting extensive research into these initiatives with the aim of lobbying policy makers to allow regulated urban agriculture, which is currently illegal in East African urban centres.

The Society of Orphans and AIDS Network (SOAN) manages various healthcare, poverty eradication and microfinance initiatives in the Coast Province of Kenya to prevent and mitigate the impact of AIDS and related opportunistic diseases on communities. An intern from the Foundation for Sustainable Development (FSD) worked with SOAN and other CBOs to prepare educational posters and a resource booklet about nutrition and herbal remedies. These tangible resources will support efforts to expand awareness and empower CBO staff and community members to cost-effectively prevent and manage macronutrient malnutrition.

Future FSD interns have the opportunity to address macronutrient malnutrition and subsequent diseases through public awareness and education campaigns. Interns may also work to improve public access to herbal remedies and the resources needed to improve general nutrition. Those interns with business skills may wish to promote the development and sale of herbal remedies as a business opportunity that supports community health, ensures the proper preparation and use of such remedies, and empowers the community to manage their health with local resources (FSN, 2007).

Similarly, the Trust for Indigenous Culture and Health (TICAH) has produced a herbal and nutritional guide for Kenyan families (TICAH, 2006). The authors initially intended to exclusively focus on HIV-positive children and their families but realized that the conditions that affect the HIV-positive child can also affect any child in Kenya.

14.3.3 HIV/AIDS and the Flower Industry

In response to public outcry and market demands, the flower industry in Kenya has attempted to implement activities to mitigate against HIV/AIDS. As an example, the Horticultural Ethical Business Initiative (HEBI) was registered in 2003 and it seeks to promote more responsive practices among the flower farms, with regard to the way they treat their employees and address critical issues around HIV/AIDS (Opondo, M. 2005). Additionally, several of the flower farms have sought certification under various schemes that promote sound social and environmental practices, such as the Fair Trade Mark.

14.3.4 HIV/AIDS and Conservation

According to Dwasi (2002), KwaZulu Natal Wildlife has implemented HIV/AIDS intervention strategies to prevent and/or minimize the impacts of long periods of illness and frequent HIV/AIDS deaths on the agency and its activities. The agency's strategies are laid out in its HIV/AIDS policy that allows for and authorize1.25mize the impacts to ph3TD -0.13(

discounts and networking with health and HIV/AIDS NGOs and the provincial government for antiretroviral drugs and other benefits for people with HIV/AIDS.

Box V: War on HIV/AIDS on at the Kenya Wildlife Service

Despite the fact that estimates given by the Kenya Wildlife Service (KWS) HIV/AIDS office are scaring, the campaign against this scourge seems to have begun in earnest, and the rapid test results on the same are encouraging, to say the least!

According to Salome Kangethe, the HIV/AIDS Coordinator, "While statistics on HIV/AIDS related deaths in our work place have been an issue of great concern, we at the HIV/AIDS office and more so, the Human Resource Department, are optimistic that since this campaign is ongoing, we can see some light at the end of the tunnel."

Her optimism, Kangethe categorically states, is not based on fiction but on facts. "We have been able as an organization to draw on the funding of the Centre for Disease Control and Family Health International, among other donors. And with their generous funding, KWS has gone ahead to facilitate two seminars and two workshops all geared towards the campaign against HIV/AIDS."

Similar preliminary results have been reported in Nigeria following preliminary evaluation of two herbal preparations claimed by THPs to be effective against HIV/AIDS. These herbal medicines used for the management of Nigerian volunteers in a retrospective and a prospective study, brought about a marked improvement in symptoms such as diarrhoea, fever and oral thrush, all of which diminished after four to six weeks of therapy.

In South Africa, a herbal preparation developed by a local pharmaceutical firm is used as a tonic for diseases associated with significant loss of body mass. The information available from this country indicates that some 50% of patients experience a weight gain of between five and 10 kilograms within three to six months of use while 50% stabilize. A significant improvement in the mood, appetite, diarrhoea and sleep patterns of the patients has been also reported. Another product being sold in South Africa for case management of PLWA is Hypoxis rooperii (also known as the African potato).

In Uganda, often cited as a success story in Africa in the control of HIV/AIDS, MPHs and THPs have been working together since 1992 under the auspices of an NGO called Traditional and Modern Health Practitioners Together Against AIDS (THETA). The NGO was established to, among other things, conduct research on potentially useful medicines for HIV-related illnesses. THETA has observed that many of the herbal medicines used in Uganda by THPs have combated some opportunistic infections and generally improved the quality of life of PLWA. One such herbal preparation was used for the treatment of herpes zoster. It was concluded after preliminary studies that herbal treatments constitute important local and affordable alternatives in managing herpes in HIV/AIDS-infected persons in the country.

Malawi reports that the country's National AIDS Control Programme had been working with THPs and that the two bodies had jointly produced guidelines on how to prepare commonly used herbal preparations for various conditions. The guidelines itemize AIDS-related conditions such as abdominal pain, anaemia, cough and upper respiratory infections, diarrhoea, fever, general body pains, mouth and throat problems and skin infections, which can be treated with local herbs. The document includes the local names, parts of the plant to be used, route of administration and mode of preparation and dosage.

In Zimbabwe, one of the most seriously affected countries; members of the Zimbabwe National Traditional Healers Association (ZINATHA) have since 1993, started collaboration with some research and training institutions to evaluate the impact of herbal treatment on persons with HIV infection and assessed the quality of life of those persons with respect to HIV disease progression, including socio-demographic characteristics. The findings supported the role of herbal medicine in improving the quality of life of HIV-1 infected patients. WHO is providing support for the preliminary evaluation of one of the herbal preparations used for the treatment of HIV/AIDS in order to produce evidence on safety, efficacy and quality.

Other countries such as Benin, the Democratic Republic of Congo, Ghana, Mali, Tanzania, Togo, and Zambia have also undertaken laboratory studies on CD4 and or CD8, viral load, kidney and liver function tests on herbal preparations used for the management of HIV/AIDS. Results showed that these herbal preparations seem also to have alleviated HIV/AIDS symptoms. The difficulties that MHPs and THPs face in this type of study is the high cost involved; therefore financial resources have to be mobilized for further evaluation of efficacy, safety and quality of these herbal preparations.

Source: WHO/AFRO, 2001.

Through collaborative efforts, between research and academic institutions, NGO and local communities, community knowledge and experiences that are relevant to the management of HIV/AIDS are being documented. Resources such as the Herbal and Nutritional Guide (TICAH, 2006), based on community knowledge and research reports documenting the different uses of wild plants and animals in the management of diseases (such as Njoroge, N.C., 2004), are contributing to the growing body of knowledge.

According to the Eldama Ravine District Public Health Officer (pers. comm. 2007), there is growing use of indigenous vegetables and herbal remedies. Some community groups are collecting and/or growing these vegetables, drying, grinding and packing them for sale. He gave the example of stinging nettle (*hatha),* that is believed to treat joint pains. A group in Nyeri is drying the leaves, packing them and selling them for Ksh. 50 for a 50 gram pack. In addition, there is increasing interest in growing Atimiserin, the plant from which the newly introduced drug for malaria is produced.

One advantage is that many indigenous vegetables are not susceptible to pests; therefore there is no need to spray them with pesticides. However, the commonly used non-traditional vegetables, such as kale (*sukuma wiki)* and cabbage are now being sprayed with more potent pesticides, because many of the pests have become resistant. He reported that in some cases, farmers are using very poisonous soil fumigants, in order to ensure that their vegetables are free of pests, which in turn means that people are consuming more poisons with their vegetables.

16. Policy and Legislative Instruments

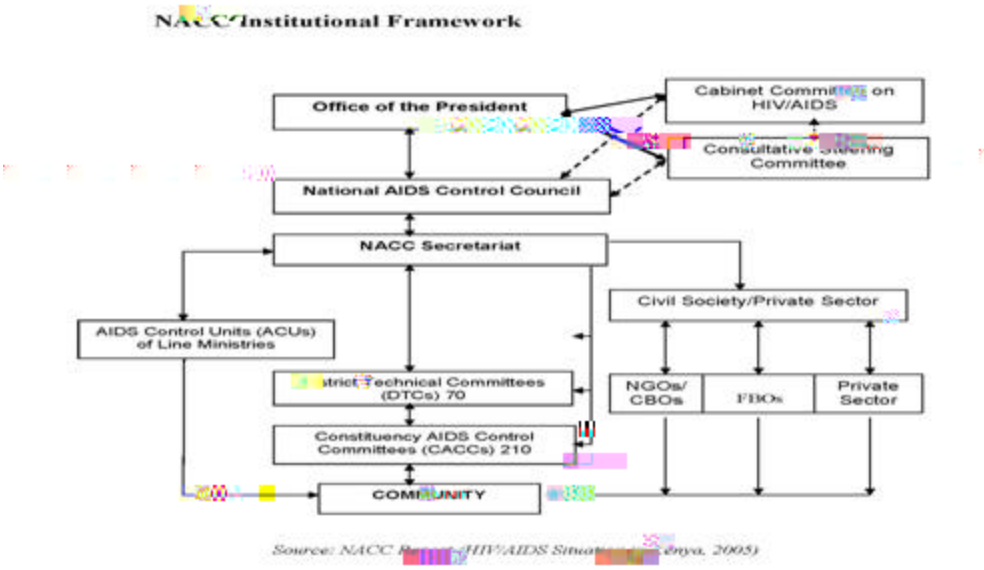
In 1999, the Government of Kenya declared the HIV pandemic a national disaster and established the National AIDS Control Council (NACC) to coordinate the multi-sectoral response to HIV/AIDS. Since 1984, when the first HIV/AIDS case was diagnosed in Kenya, the impacts of the disease have grown over the years, making it necessary for the government to formulate policies and legislative instruments to respond to the pandemic.

16.1 National Policies.

The government developed the policy guidelines in Sessional Paper No. 4 of 1997 on AIDS in Kenya and the then President of Kenya, Moi, declared AIDS a national disaster in 1999, and established the National AIDS Control Council (NACC) under the Office of the President, to coordinate a multi-sectoral response to the pandemic.

The NACC is decentralised, with the Constituency AIDS Control Committees coordinating activities at the local level (see diagram below) and also providing community groups with funds for their HIV/AIDS related activities. There are District Technical Committees and AIDS Control Units in the Line Ministries. The country's response to HIV/AIDS is meant to be guided by the Kenya National HIV/AIDS Strategic Plan (KNASP) 2005/6 - 2009/10 (National AIDS Control Council, 2005).

Diagram II:



16.2 Sector Specific Policy and Legislative Instruments

In addition to the national policy and legal instruments on HIV/AIDS, the government has enacted, or is in the process of enacting , sector-specific policies and laws. Some of these are explained below.

Industrial Property Act, 2001

The Industrial Property Act of 2001 facilitated the greater importation of generic drugs for the management of HIV/AIDS. In 2006, proposed amendments to this Act were met with resistance both from government and civil society. A Task Force from the Ministry of Health recommended that the government not pass the said amendments, as they would reduce the level of access to cheaper generic drugs for the management of HIV/AIDS and other diseases (Ministry of Health, 2006).

Draft National Policy for Traditional Medicine and Medicinal Plants (TMMP)

The government has also formulated a Draft National Policy for Traditional Medicine and Medicinal Plants (TMMP). In January 2007, an inter-ministerial committee on the draft policy invited members of the public to debate on the policy, through several regional meetings. The overall objective of the draft policy is to promote the conservation and sustainable, safe and effective use of traditional medicine and medicinal plants, as well as to guide the integration of traditional medicine into mainstream public health services. The policy was developed after the realisation that although conventional systems provide health care to many Kenyans, a large percentage of the population relies on traditional medicines for their primary health care, due to their accessibility, sustainability and affordability. However, there are weaknesses in the existing policy, regulatory and legislative framework guiding the

use of TMMP. The Cabinet approved the draft policy for public debate in August 2006, with the Minister for Planning and National Development launching the public debates on November 17, 2006 (Secretariat, National Coordinating Agency for Population and Development, 2007).

Education Policy on HIV/AIDS

The government produced an Education Sector Policy on HIV /AIDS in 2004, that led to the approval of the Sessional Paper No. 1 of 2005 on a Policy Framework for Education, Training and Research, the Kenya National Union of Teachers'

17. Conclusion and Recommendations

Torell (2006) summarizes the effect of HIV/AIDS on biodiversity in three categories—accelerated rate of resources extraction, decreased availability of labour and management capacity, and loss of indigenous knowledge on resource management and biodiversity conservation. Recognition that the environment also influences transmission and progression of HIV disease has also been made. In addition, several initiatives have been implementing programmes aimed at gaining a better understanding of these linkages, as well as addressing specific issues of concern. From the foregoing, the following recommendations can be made:

Interventions around the Use of Herbal Medicines

There is need to act proactively to increase the benefits of herbal medication in reducing the adverse effects in HIV. Due to the increasing demand for herbals, it is important for programmes to be initiated to promote the farming of commonly used herbs so as to stem the current depletion of wild herbs. Furthermore, the sale of medicinal plants should be regulated and standardized.

Herbs are playing an important role in HIV care. To reduce their misuse, clear messages on their interaction with ARVs need to be developed and passed on to PLHIV and their care-givers. It is important to sensitize herbalists on the impacts of their trade and also on the role of conventional medicines. Similarly, those using conventional medicines need to understand the role played by herbal medicines.

Safe Disposal of Contaminated Materials

It is important that the relevant government agencies develop guidelines and ensure their implementation on the safe disposal of HIV contaminated materials, such as condoms, syringes and home-based care kits.

Support for HIV and Conservation

Conservation and development organizations should establish and strengthen their programmes by incorporating considerations of HIV prevention, management and mitigation. Therefore, conservation efforts should seek to understand the impacts of HIV/AIDS on the environment, and vice versa, so as to ensure that their programmes take appropriate measures to ensure effectiveness in conservation and improving people's livelihoods.

Support for Supportive Policies

Greater awareness about the linkages between HIV/AIDS and natural resource management should lead to policies that are supportive and that result in the appropriate allocation of resources. Both "stand alone" policies on HIV as well as the mainstreaming of HIV and NRM considerations into the policies of all sectors are needed to address the complex, interlinked issues.

The strategies that should be used to address the issues around the linkages between HIV and the environment are outlined below.

Need for a Multi-Sectoral Approach

Due to the magnitude of the issue of HIV/AIDS, especially when viewed within the context of poverty, environmental degradation and climate change, it is important that a multi-sectoral approach to the issues be adopted.

Sharing of Knowledge and Information

Through sharing of knowledge and information, between conservation organizations and those dealing directly with HIV/AIDS, the issues can be tackled in a more effective manner.

Gaining Insights from Communities

It is important to gain insights from existing initiatives, especially those that have organically emerged from within communities, on how to cope with HIV/AIDS.

Up-Scaling and Replicating Successful Initiatives

There are initiatives that provide best practices that should be analyzed and up-scaled, with the relevant modifications to make them culturally and contextually relevant. The experiences of countries and communities that have successfully reversed the rate of HIV/AIDS infection and improved on its management should provide valuable lessons.

Use of Existing Tools

Some organizations have produced tools and guidelines on different aspects of managing HIV/AIDS and issues arising from its linkages with natural resources. Collating the existing resources and modifying them to suit different contexts will speed up the rate at which initiatives are effectively implemented.

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Annex I:

Organizations Visited

NAKURU
Love and Hope Centre
International Community for Relief of Starvation and Suffering
District AIDS Coordinator (DASCO)
Urban Harvest of the Collaborative Group on International Agriculture Research (CGIAR)
Tumaini na Fathili
Herbalist Edward
Herbalist Isaac
KISUMU
Safe Water and AIDS Project
Kisumu Urban Apostolate Program
Swedish Cooperative Centre VI-Agro Chemistry (SCC VI)
Thong Sondu Women's Group
Dunga Fishing Community
Herbalist Alice Awino
THIKA
Hope and Love Support Group
Kamirithu Herbal Clini c
Speak and Act CBO
Thika FHOK Support Group
Del Monte Industries (Declined to give information)
NAIROBI
National Environment Management Authority (NEMA)
National AIDS Control Council
ELDAMA RAVINE
Nuru Support Group
District Public Health Officer
Eldama Ravine Town Council
District Social Development Office
District Youth Office
Herbalist Baraka
Sustainable Development Forum (a CBO)
Bishop Kigen Children's Home

Ravine Roses