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### **Kenya: Ending The AIDS Epidemic**

Kenya is a country located in East Africa, between Somalia, Uganda, Tanzania, South Sudan, Ethiopia and the Indian Ocean. It has an area of nearly 580,367 square kilometers which is about five times bigger than Ohio (The World Factbook). Its climate varies geographically with its interior being arid and semi-arid, while its coastal areas are tropical. Its terrain is mostly made up of plains that rise to highlands in Central Kenya that are bisected by the Rift Valley which runs through the country. Its highest point, Mt. Kenya, is the second highest mountain in Africa rising at 5,199 meters (The World Factbook). Kenya's population is 45,925,301 making it the thirty-first most populated country in the world. The official languages of Kenya are Swahili and English. Ethnically, Kenya is very diverse. Its three major ethnic groups are the Bantus, Cushites and Nilotes. Most Kenyans are Bantus with a majority of them being from the Kikuyu and Luhya tribes. Christianity and Islam are the most prevalent religions (The World Factbook).

Kenya is a republic that was formerly colonized by the British and gained its independence in December 1963. Its current president is Uhuru Kenyatta (The World Factbook). It is considered one of Africa's most developed economically although its growth has been hampered by political instability and economic slowdown. 80% of Kenya's population works in the agricultural sector, in small-scale farms, rain fed farms or livestock production. The main exports include tea, petroleum, flowers and coffee while its imports include machinery and motor vehicles (Heritage.com). Kenya's capital city, Nairobi, is the largest city in East Africa with a population of 3.915 million people. Its other major city, Mombasa, is an island located on the southeastern part of Kenya. It is East Africa's largest port and Kenya's main tourist hub (Mombasa-city.org).

A middle-class home will typically have two bedrooms, a living area, bathroom and kitchen with indoor plumbing, which would be used by two parents and three children. Two thirds of Nairobi's population lives in slums, where typical houses consist of one small room (around three square meters) with no electricity, running water or sanitation. In the largest shanty town of Kibera, one pit latrine can be used by up to 500 people (Our Africa).

Kenya's most common system of education is the 8-4-4 system in which students must complete eight years of primary school, four years of secondary school and four years of university. In 2003, Kenya instituted a free primary education for all program and as a result, nearly 3 million more students were enrolled in primary school in 2012 than were in 2003. Additionally the number of schools has grown by about 7,000 (Our Africa). However, the institution of free universal education also put a huge strain of resources. The rapid increase in the amount of students has led to overcrowded classrooms and high pupil to teacher ratios (an average of 60-1 in 2008) (Our Africa), positions in secondary schools and universities are also limited. Many middle-income families are therefore turning to private schools and colleges to better their children's education. Kenya has a high literacy rate with over 90% of Kenyans being able to read and write (Our Africa).

Kenya is a diverse country in the many different lifestyles lived by the people in it and this is reflected in the food eaten. The majority of Kenyan food is filling, easy and cheap to make with staple foods consisting mainly of maize (corn), potatoes and beans. Foods like ugali, (a starchy polenta-like dish made of cornmeal), chapati (a flatbread made of wheat flour) and sukuma-wiki (collard greens) are the most commonly eaten foods and in urban areas, families who can afford to often eat at fast food restaurants. Fish is also frequently eaten but more commonly in areas on the coast of Lake Victoria and the Indian Ocean ('Food in Kenya'). Food is also available for purchase at supermarkets and outdoor markets, supermarket chains such as found in every major town and carry a wide variety of items.

Access to health and medical care is unequally distributed across the country, with Kenyans living in more urban areas having access to the best health-care facilities. The best quality of care is found at national referral hospitals who provide diagnostic, therapeutic and rehabilitative services (Our Africa). The two public national referral hospitals are Kenyatta National Hospital in Nairobi and Moi Referral and Teaching Hospital in Eldoret; the equivalent private referral hospitals are the Nairobi Hospital and the Aga Khan Hospital which are both in Nairobi (Our Africa). Kenya also has a severe shortage of healthcare professionals with 16 physicians and 128 nurses per 100,000 people (Allianzworldwidecare.com). In order to improve the funding of the healthcare system and to give more Kenyans access to better healthcare, the Ministry of Health introduced a National Social Health Insurance Fund (NSHIF) which intends to systematically enroll 60-80 percent of the Kenyan population in a national insurance scheme offering a comprehensive benefits package over a transition period of nine years ('National Social Health Insurance Fund').

Major barriers facing the typical Kenyan family are unemployment, poor health and poor education (Berrebi). Kenya's unemployment rate is currently at about 40 percent, up from 12 percent in 2006, causing the number of Kenyans living in poverty to rise (Berrebi), this is mostly concentrated among the youth and is caused by poor education and lack of jobs. The Kenyan government has taken steps to fix this problem by providing tax breaks to employers and establishing the NYS (National Youth Service) which hires unemployed young people and gives them jobs like fixing roads and directing traffic. Due to its numerous water sources, Kenya has a high rate of water borne diseases. Malaria, the most common of these diseases, is the leading cause of morbidity and mortality in Kenya (KEMRI.org). Malaria is usually spread by the infective female Anopheles mosquito but it can also be spread through blood transfusion, organ transplant or the use of contaminated needles or syringes (CDC.gov).

Agriculture is the leading contributor to the Kenyan economy (The World Factbook). Barriers facing agricultural productivity are climate change, use of outdated technology, pests and diseases, soil nutrient deterioration and poor infrastructure (Heritage.org). Kenya's agriculture is mainly rain fed and is dependent on the bi-annual rainy season in most parts of the country and because of climate change, extreme and unpredictable conditions such as droughts and floods negatively affect their ability to plan their farming activities and reduce the land available to support agriculture. Although Kenya is one of the most advanced African countries in their integration of technology into everyday life, the use of modern technology in its agricultural sector is limited (Kibet), the use of outdated technology is a hindrance in the effort to increase agricultural production. Pests and diseases cause major losses among farmers who do not have access to information on how to deal with them properly; aflatoxins have affected maize in Eastern province have made them unsafe for consumption in the past due to lack of proper storage facilities (Kibet). Poor rural roads or lack of proper transport systems have caused great losses to farmers especially those who transport perishable goods (Kibet).

One in three Kenyan children suffers from chronic undernutrition resulting in stunted growth (Van Vark). Barriers to accessing proper nutrition are lack of money, lack of nutritional education and lack of sanitary cooking conditions. The average minimum wage in urban areas, excluding housing allowance, is between Ksh. 12,136 (\$120) and Ksh. 15,357 (\$151) depending on where one lives (Mbutia), a lot of families make less than this and as a result are not able to afford enough food to eat. Fast foods, such as french fries, smoked sausages, samosas (a fried pastry with a savoury filling) and roasted corn, are popular among Kenyans living in urban communities because they make cheap, filling and tasty meals (“Food in Kenya”), but some of these foods lack essential nutrients essential for proper growth and development, and can cause malnutrition even in those who can afford to eat a balanced diet due to the fact that they lack the proper education on how to nourish their bodies and are unaware of how badly they are eating. Africa’s largest urban slums are Kibera, which are located in Nairobi and in these slums there is limited access to clean water and most of them do not have kitchens where they can safely prepare their foods. People who live in these conditions are vulnerable to diseases such as cholera, rickets, and Dengue fever (Foodbycountry.com).

Kenya has the fourth-largest HIV epidemic in the world with an estimated 1.6 million people, more than 6% of the population living with HIV in 2013. HIV is a virus that gradually attacks the immune system, which is our body’s natural defence against illness so when a person becomes infected with HIV, they will find it harder to fight off infections and diseases. HIV causes AIDS (Acquired Immunodeficiency Syndrome), which is when a person’s immune system is too weak to fight off many infections, and develops when the HIV infection is very advanced, this is the last stage of HIV infection where the body can no longer defend itself and may develop various diseases, infections and if left untreated, death. There is currently no cure for AIDS but a strict anti-retroviral regimen could lengthen a sufferer’s life (AVERT.org).

HIV/AIDS has a large number of negative effects on a country’s agricultural productivity and food availability. It primarily affects those aged 15 to 50 years, the population that makes up the bulk of the labour force. The Food and Agricultural Organization (FAO) estimates that AIDS has killed seven million agricultural workers in Africa since 1985 and it has the potential to kill 16 million more within the next 20 years. The foundation of the family is severely affected by HIV/AIDS. Loss of parents/guardians to HIV leads to reduced incomes, lack of alternative food sources, and increased medical costs and debt. This threatens food security, by increasing costs and stretching limited income and food reserves. Labour shortages and reduced productivity are experienced as sick people are less productive, their caregivers are diverted from productive activities and productive time is lost to attend funerals. In urban areas, HIV contributes to high absenteeism, low productivity, increased health care costs, loss of skilled staff, and increased recruitment & retraining costs which results in substantial business losses (FAO.org).

Kenya has made huge strides in tackling its HIV epidemic and has been a pioneer in the provision of HIV prevention. HIV testing and counseling is a major feature in Kenya’s response to HIV with services such as Provider Initiated Testing and Counseling (PTC), Outreach Testing and Counselling, Home-based Testing and Counseling and the integration of HIV Testing and Counselling in antenatal care, STI and sexual and reproductive services. As a result of this there has been an increase in people getting tested for HIV with annual testing rates doubling since 2008/2009 (AVERT.org). Although progress is being made, in order for more people to have access to these services a number of social, cultural and legal barriers need to be overcome in order to allow people belonging to marginalized groups, such as LGBT individuals, women and people who inject drugs, to be able to access them (AVERT.org).

The National AIDS Control Council (NACC) is the body responsible for coordinating the response to the HIV epidemic in Kenya. The Kenya AIDS Strategic Framework was implemented by the Kenyan government and it sets out four objectives over its five year duration: reduce new HIV infections by 75%, reduce AIDS-related mortality by 25%, reduce HIV-related stigma and discrimination by 50% and increase domestic financing of the HIV response to 50% by 2019 (UNAID.org).

In order to successfully lower HIV prevalence in Kenya, means such as condom distribution and use, voluntary male medical circumcision and education and awareness would be the most effective and should be scaled up. For sexually active people, using condoms is one of the most effective ways to prevent the spread of HIV. The Kenyan government has only actively promoted condom use since 2001, but distribution has been increasing year by year, however, it is still an issue in rural areas either due to inaccessibility due to poor road networks and affordability, and in areas where condoms are easily accessible, availability does not always guarantee that they will be used (The 2014 Kenya Demographic and Health Survey revealed that only 40% of women and 43% of men who had two or more partners in the last 12 months, reported using a condom the last time they had sex (Kenya National Bureau of Statistics)). To fix this the Kenyan government should make condoms more readily available to people in rural areas through small kiosks and clinics at affordable prices and should also make sex education mandatory for all teenagers and young adults in order to educate them on condom usage (AVERT.org).

Medical male circumcision reduces the risk of female-to-male sexual transmission of HIV by approximately 60%. In 2008, Kenya implemented the voluntary medical male circumcision (VMMC) for HIV prevention programmed and it aimed to circumcise 860,000 males aged 15-49 by 2013 to achieve universal coverage (80%). The number of VMMCs performed annually has increased dramatically, although by the end of 2013 only 670,000 VMMCs were performed, about 77% of the original target, with roughly 50% of Kenyan men aged 15-19 circumcised. In 2012, a new initiative involving handing out vouchers to men who had the procedure, which could be exchanged for money upon attending a follow-up appointment, was introduced to boost the number of men being circumcised annually. The men were also encouraged to bring a friend who was interested in getting circumcised (AVERT.org). This strategy is effective in that it gets individual people in a community actively involved in spreading information about HIV and also gave them an incentive to get involved ensuring at least some participation from the public.

HIV and AIDS education has been part of the school curriculum in Kenya since 2003.

However, the 2014 Demographic and Health Survey found that only 54% of young women and 64% of young men aged 15-24 had comprehensive knowledge about HIV prevention. Inclusion of HIV and AIDS education into the Kenyan school curriculum is important as it allows for information about HIV to be spread to the masses in a controlled way in order to ensure no misinformation occurs and also in a widespread way to ensure that it reaches as many people as possible as early in their lives as possible. It also allows for a way for stereotypes about HIV sufferers to be dispelled in order to avoid stigmatization and discrimination. The future of Kenya depends on the health of its citizens and by preventing the spread of HIV/AIDS and ending this epidemic it is saving the lives of thousands of people who contribute to its agricultural sector or, at least, ensuring one less child goes to bed a hungry orphan.

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