



CLIMATE CHANGE AND HEALTH

Good health is central to human happiness and wellbeing. People in good health live longer and are much more likely to invest in education, making them potentially more productive and better contributors to national income. Climate change however, has significant impacts on health and human development in Zimbabwe. Budget allocations to the health sector reflect the weak fiscal environment that constrains government spending in general. As a result, Zimbabwe's health sector relies heavily on off-budget development partner support, as well as out-of-pocket-payments, which may be unsustainable and perpetuate inequality in access to health. Adding to this, increasing climate change impacts may stress the health system further.

The current state of the health sector and its vulnerability to climate change

The performance of the health sector in Zimbabwe has largely followed its broader macroeconomic trajectory. The economic decline has resulted in a sharp decrease in funding for social services and has contributed directly to a sharp deterioration of health infrastructure, loss of experienced health professionals, drug shortages and a drastic decline in the quality of health services. This situation increased the exposure of the population to vector-borne, water-borne and other diseases, which saw an increase in the rate of diseases such as cholera and other diarrhoeas, malaria, tetanus, asthma and other chest conditions.

Also, Zimbabwe faces food and nutrition challenges, with major challenges being chronic malnutrition and micronutrient deficiencies. In 2014, 27.6 percent of children in Zimbabwe aged 0 to 59 months were

stunted. Life expectancy in Zimbabwe, which was estimated at 61 years in 1990, had dropped to 41.7 years by the year 2000. The decline was mainly due to the impacts of HIV, exacerbated by widespread poverty, which weakened national and individual responses to the pandemic. Concerted efforts were successful in combating and reversing the incidence of HIV and its impacts in Zimbabwe. This saw life expectancy recovering to 60.7 years in 2015. The improvements in life expectancy, which reflect improvements in the general health status of the population, and hence human development, need to be protected against threats from the negative impacts of climate change. Climate change and its potential impacts on poverty, food availability and health, remain a potential threat to the positive developments in life expectancy.

Another leading challenge affecting access to healthcare is the requirement for direct out-of-

pocket payment for health services (formal or informal) which presents hardships especially for poor and vulnerable households. With no public health insurance scheme, most Zimbabweans, rely on having cash on hand to seek healthcare. Private health insurance schemes cover only about 10 percent of Zimbabwe's 14 million people. This prevailing situation needs to be addressed if the health sector is to be strengthened sufficiently to cope with the increasing health burden that is likely to occur with climate change.

Linkages between health and climate change in Zimbabwe

Climate change is predicted to have a wide range of impacts on human health including temperature related morbidity and mortality caused by extreme temperatures and those caused by extreme weather events such as malnutrition, water-borne, as well as food borne and vector-borne diseases.

Compromised food and nutrition security: The expected impacts of climate change on rainfall variability, rising temperatures and frequent heat waves, droughts and floods will destabilise agricultural production. The situation is made worse by the country's excessive reliance on rain-fed agriculture. Drought leads to poor harvests and deficits in food supply. This has adverse effects not only on humans, but also on livestock, which are a strategic investment to rural and farming communities. The most affected and vulnerable people were children, especially orphans, pregnant mothers, the elderly, people with disabilities, widows, diabetics and people living with HIV. People living with HIV and chronic diseases such as diabetes are special groups in terms of vulnerability to food insecurity and malnutrition, in that they need to access food and nutrients to adhere to treatment so that they can live healthy and productive lives.

Compromised water and sanitation: Safe drinking water and sanitation are two of the essential elements that determine improvement of living standards, as they reduce morbidity from diseases such as diarrhoea, dysentery, cholera, typhoid and

schistosomiasis. These diseases can sometimes be induced by climate related shocks and stresses such as floods and droughts.

Safe drinking water is a basic necessity for good health. Easy access to it may be particularly important for women and children, who bear the primary responsibility for fetching water, especially in rural areas. Droughts tend to lengthen the distances that have to be walked as most water sources are no longer perennial because of reduced rainfall. With climate change, reduced precipitation levels may decrease the availability of both surface and ground water.

On the other hand, increased precipitation intensity can overwhelm existing drainage infrastructure and lead to flooding. Depending on location and sanitation conditions, flood water can contaminate drinking water (surface water, groundwater, and distribution systems) and may increase the incidence of water-borne and water related diseases. This may occur in both urban and rural settings. Floods render individual septic systems dysfunctional in urban areas, with the ground becoming too saturated to percolate the sewage and greatly increase the potential for disease outbreaks.

Destruction of infrastructure and settlements: Heavy rains and flash floods also result in damage to transport infrastructure. This makes it difficult for people, particularly in rural areas, to reach health institutions, or for deliveries of medicines to rural health centres and food aid to rural communities to take place. Extreme rainfall and floods have resulted in the destruction of homesteads, school buildings and clinics, in some cases exposing families, students and patients to hostile weather conditions. Heavy rains and flash floods are also associated with direct threats to human life, particularly for those living in low lying areas. When people are internally displaced because of weather related disasters, they are usually settled in camps. In a recent example, Tokwe-Mukosi flood victims were relocated to Chingwizi transit camp where around 12 000 affected people stayed for about two years. More often than not, these camps have poor sanitary facilities, promoting transmission

of communicable diseases.

Increased migration flows: UN Environment anticipates that climate change will affect migration flows in two ways that are relevant to inland countries such as Zimbabwe. The first relates to the effects of warming which, in some areas, will gradually reduce agricultural productivity and degrade ecosystem services such as clean water and fertile soil. Families disintegrate and generally it is elderly people, women and children who are left behind. The second is the increase in extreme weather events, especially heavy rainfall accompanied by flash or river floods in tropical regions. This will affect increasing numbers of people and result in mass displacement.

Secondary impacts of decreasing rainfall and drought: A secondary impact of climate change induced drought and other stressors is that some parents marry off their daughters at an early age in return for dowry or bridal wealth as a coping mechanism. However, there are significant health impacts as children born to teenage mothers face a 15 percent higher chance of under-5 mortality and 10 percent higher chance of low birth weight. Female teenage marriages (15 to 19 years) increased from 21 percent in 2009 to 24 percent in 2012 and to 25 percent by 2014, which means that one in every four female teenagers was married. Early marriage also reduces the age of sexual debut and early sexual debut is associated with higher risk of contracting HIV.

Increase of frequency of vector-borne diseases: Small changes in temperature and precipitation have the potential to increase the frequency of vector-borne diseases, including malaria, dengue and yellow fever epidemics, as well as water-borne diseases, such as diarrhoea and typhoid fever. By 2100, changes in temperature and precipitation as a result of climate change, are likely to alter the geographic distribution of malaria in Zimbabwe, with previously unsuitable areas becoming suitable for transmission.

Increased incidences of wild fires: The rise in temperatures increases the vulnerability of many forests to wildfire. Long periods of high temperatures

are associated with droughts that contribute to dry conditions and tend to drive wildfires. Wildfire smoke contains particulate matter, carbon monoxide, nitrogen oxides, and various volatile organic compounds and can reduce air quality significantly, both locally and in areas downwind of fires. Smoke exposure increases respiratory and cardiovascular diseases and the need for medication for asthma, bronchitis, chest pain, chronic obstructive pulmonary disease, respiratory infections, and lung illnesses. Wild fires are now common in Zimbabwe and destroy over 1 million hectares per year of rangelands and forests. With the predicted drier conditions under climate change, fires are expected to increase in intensity.

Responses to Health Related Challenges of Climate Change

Government led responses for coping with climate change related health challenges

The Government of Zimbabwe has made several health-related commitments at international, regional and national levels that indicate the extent to which the country considers health as a national priority issue, including under weather related shocks and stresses. Some of the international obligations have been domesticated into national policies and legislation, starting with its Constitution, medium term policies and sectoral strategies in the health sector and in relation to climate change. The National Climate Policy and Climate Change Response Strategy makes specific mention of health, while the 2016-2020 National Health Strategy makes explicit reference to the need to improve climate change awareness and the need to develop a Public Health Adaptation to Climate Change Plan.

One of the key national programs to counter the projected increase in vector borne diseases is The National Malaria Control Programme, spearheaded by the Department of Disease Prevention and Control in the Ministry of Health and Child Care. The programme implements many strategies, including vector control, case management, epidemic preparedness and response, intermittent preventive

therapy, research, monitoring and evaluation, and information, education and advocacy for malaria treatment and prevention. Zimbabwe's malaria programme receives support from two major donors, the Global Fund to Fight AIDS, Tuberculosis and Malaria and the President's Malaria Initiative.

However, the ongoing decline in economic growth rates has diminished budgets available for healthcare. Budgetary allocations to the Ministry of Health and Child Care have declined, from USD381.00 million (10 percent of total budget) in 2013 to USD330.79 (8.3 percent) in 2016. The amount allocated in 2015 was the lowest USD311.93 million and was 7.3 percent of the total budget. Total Health and Child Care allocation has remained below the 15 percent Abuja target and the Sub-Saharan Africa average of 11.3 percent of total budget. As a share of GDP, at 2.3 percent, the Health and Child Care budget is still far from the level of total health expenditure of 4 to 5 percent of GDP recommended by the UN High Level Commission on Macroeconomics and Health. It is also 0.7 percentage points lower than the Sub-Saharan Africa average of 3 percent.

Zimbabwe depends heavily on off-budget development partner support, projected at USD 411.67 million for the year 2016, for its health sector. This is higher than the national budgetary allocation of USD 330.79. With 60.5 percent of government funding going towards employment costs, much programme spending and cost of infrastructure has been borne by development partners and out-of-pocket payments by individuals.

This clearly points to the need to increase resources for the health sector as well as to re-configure the financing structure of the sector to make it sufficiently robust to tackle the anticipated increasing negative effects of climate change.

Community led responses for coping with climate change related health challenges

Communities have also taken measures to build resilience to the effects of climate change by:

- Coping with increasing prevalence of droughts and mid-season dry spells by shifting from growing maize only, as a cereal, to cultivating small grains on rain fed farm land. However, the shift to small grain cereals has faced resistance from some communal farmers, because of the more labour demanding processing required for small grains compared to maize.
- Coping with decreasing rainfall by cultivating on wetlands and stream banks because of higher moisture content, although these practices have their own serious negative environmental effects and increase problems of siltation of waterways.
- Using their social capital in the form of extended families and community relationships and networks to help each other out in times of difficulty, e.g. when dealing with the impacts of extreme weather events.
- Using indigenous knowledge systems, religious leaders, including prophets as well as traditional healers (n'angas/inyangas) to address the health effects of climate change.

The above highlighted climate risks, their impact on human health and development in the country and the prevailing health sector challenges illustrates the need for a strong response to climate change and increased funding for the health sector. The current heavy reliance on development partner support, as well as out-of-pocket-payments, may be unsustainable and perpetuate inequality in access to health in the long run. If not addressed, increasing climate change impacts will put additional stress on the health system and may roll back human and economic development gains of the country.