

# **SOUTH AFRICA'S NATIONAL DEVELOPMENT PLAN 2030 WILL NEED TO PUT CASCADING RISK AT THE HEART OF DEVELOPMENT**

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Droughts in the Western Cape and wildfires along with changing vector bionomics is evidently visible in the South African region. The impact of global climate change, extreme weather events and a COVID-19 like pandemic will lead to cascading risks in South Africa which can hamper the National Development Plan 2030. The country has witnessed growing incidence of malaria resurgence, rift valley fever, diarrheal pathogens, avian influenza, schistosomiasis due to climate variability. Going by estimates, there is a possibility that the South African interiors will have a rise in temperature by about 4 degree Celsius and by over 6 degree Celsius in the western, central and northern parts of South Africa by the year 2100.

Evidence showcases that high ambient temperatures have considerable impact with rise in mortality of 0.9% per 1-degree temperature rise with elders and young children being most affected. Changing temperature will have snowballing effect on food security as several provinces will have livestock loss and regular meals among vulnerable at-risk children may reduce facilitating the rise in moderate and severe acute malnutrition.

## **Extreme weather events and disease conditions**

Extreme weather events emerging from climate change are increasing the intensity of flooding in places like Kwazulu-Natal and also other regions like Western Cape are facing the worst droughts in living memory. Regular flooding and drought like situations will force health care practitioners to shift their focus to community health and practice medicine with limited resources.

Primary health care will take precedence above others as flooding will directly increase vector borne diseases, diarrhoeal diseases and to some extent skin infections and respiratory infections among those in temporary shelters. This will also affect patients with chronic diseases as their supply chain will be cut off for medicines and patients with chronic kidney diseases requiring dialysis will get affected if critical units of hospitals go down with the waters.

Likewise during droughts, the direct consequence will be diseases emerging from compromised quality of water, sanitation and hygiene methods. The cycle of drought will propagate the burden of malnutrition among families and will have direct implications on the nutritional status of children and hijack their growth and development besides affecting their socio-economic status.

Drought related air quality changes can irritate the respiratory systems and exacerbate chronic respiratory disease conditions due to airborne toxins which are the result of algal blooms and particulate matter. Water quality changes with contaminants can put immune-compromised patients at-risk of complications.

## **What health systems must prepare for moving forward**

Health systems can combat climate change by adapting new models of primary health care built around the social determinants of health. The drivers of this model of care will ought to be the public health work-force who can champion and bring in translational epidemiological frameworks into policy action.

Practicing medicine with limited resources must be in-built, but building community ownership simultaneously in healthcare will be the key response moving forward. Capacity building of physicians-in-training will remain crucial as medical education often provides only a passing glance

with regard to disaster risk reduction and extreme weather events having human health implications. Public private partnerships emerging out of bilateral global health co-operations, industry institution interactions as an off-shoot of shared public health ideals and interests will be key drivers of social development which will encourage developmental agendas and plug leakages where appropriate.

Investing in mobile hospitals, social innovation at the corridors of medical colleges in collaboration with public health engineering teams will be a move in the right direction in realizing the National Development Plan 2030 for South Africa.