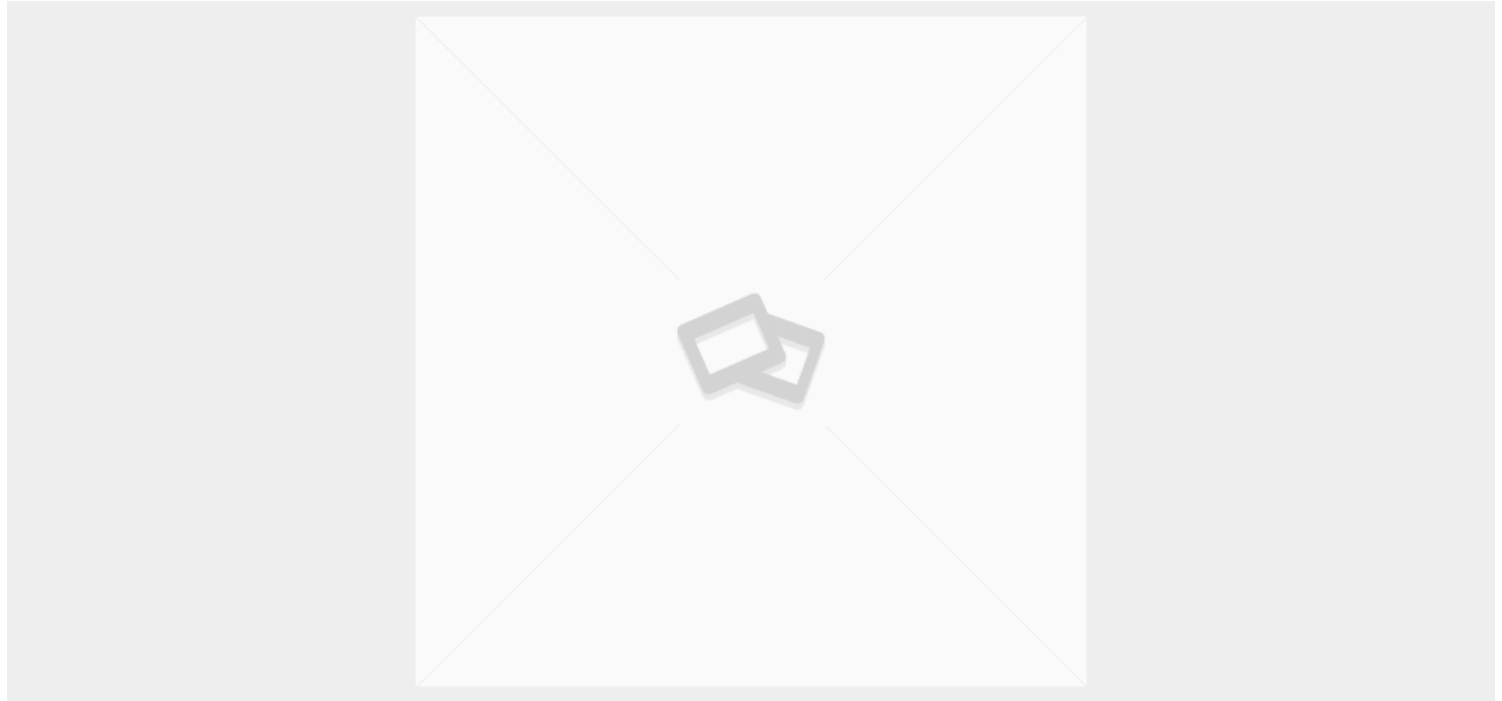


# BARGAINING FOR HEALTH WHILE ADDRESSING DROUGHT

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***“Evidence based public health pushes health workers to absorb and understand natural disasters and its link towards influencing human health, which not only shapes the economy but something which remains instrumental towards the attainment of sustainable futures and the kind of society we collectively intend to build.”***

– Dr. Edmond Fernandes, CEO, CHD Group

Policy making for drought mitigation and measures for drought resilience seldom takes into account health effects that arise directly and indirectly as a consequence. Drought being a natural phenomenon due to low average rainfall which makes way for insufficient water supplies, leads to many public health problems. Public health workers in disaster risk reduction are far and few and often working in isolated quarters. The mechanisms within governments to address health concerns in drought reliefs are limited. In the process of this discourse, civilians not only get affected socio-economically because of drought, but also are hard hit from a health perspective.

Ecological degradation, population expansion, industrial advancement and the rising demand for water will add in concert to increase drought vulnerability. Evidence based public health literatures suggest that drought is accompanied with not just crop loss, but also increased atmospheric dust

and increased forest fires besides having health effects from exacerbations of respiratory illnesses to mental health and psychological burdens which are the direct result of socio-economic pressures, particularly affecting farmers the most.

Addressing health needs during drought must take into account differences in geographic regions as well as the ability of a particular society and region to adapt to water shortage which offers effective supply solutions as well. Public health experts have been performing with less than appropriate understanding of how water shortage affects health in communities. Medical education curriculum does not even discuss disaster management as a discipline in detail which naturally filters the level of understanding health workers have towards addressing health during natural disasters.

An article read before the Public Health Engineering Section of the American Public Health Association at the Sixtieth Annual Meeting on September 15, 1931, in Montreal, Canada, highlighted a number of adverse health effects and conditions attributed either directly or indirectly to drought. These included increases in malnutrition, rickets, pellagra, intestinal disorders (e.g., dysentery, diarrhea, enteritis), and typhoid fever (Ravenel 1931).

### **Water related**

Surface water quality gets affected due to drought. Concentration of water pollutants increases due to reduced streams leading to stagnation. Warmer water temperatures decrease oxygen levels affecting the aquatic flora and fauna. Diseases like Hepatitis A, Salmonellosis, Amoebiasis, Typhoid, Shigellosis are transmitted from water which are the result of being drought affected.

### **Under-nutrition and Food Insecurity**

Food supply chain in terms of quality and quantity gets compromised leading to food insecurity and then in turn, leading to episodes of gradual under-nutrition and mal-nutrition. Under-nutrition and malnutrition have transgenerational effects. Many of the children who end up surviving beyond the age of five in low and middle income countries, end up having compromised immunity and some form of permanent adverse effect. It is not about getting a meal somehow, it is rather also about ensuring optimal intake of micro-nutrients which leads to the physical, psychological and cognitive development of the individual concerned. Preventing learning disabilities and securing support systems for women and children need to form part of the health policy discourse for addressing drought.

### **Suicide & Mental Health**

Drought brings a very emotional consequence which has behavioural implications and suicidal tendencies. Higher rates of suicide have been observed in many rural farming communities of Southern India and Australia where some documentation has been made. Drought as a risk factor for stress in rural communities needs to be considered, though explicit link has not been established as yet due to limitation on numerous grounds.

### **Vector Borne Diseases**

Drought could possibly lead to increase in trends of malaria, dengue, west nile fever, rift valley fever, chikungunya, st louis encephalitis besides other vector induced conditions. There is mixed evidence with regard to vector borne diseases aggravating because of drought, but this could well be an

interface of climate change and drought condition as well.

### **Cancer Concerns**

A study done in China using GIS mapping compared oesophageal cancer mortality with drought indices which suggested an association existing in areas with high oesophageal cancer mortality and high drought index. The explanation provided in the study was high salinity in water scarce region led to growth of nitrosamine formation (Carcinogen for oesophageal cancer) and growth of fumonisin B<sub>1</sub> in plant which entered the food chain.

### **Migration**

Historical evidence serves to point out that drought has contributed to mass migration as livelihood was no longer possible. Public health evidence exist where drought related migration have occurred, but it remains difficult to identify drought as a sole contributor with health outcomes resulting from migration.

### **Heat wave and wild fire**

Long episodes of droughts can lead to heat waves and wild fires particularly when anti-cyclonic conditions occur on land for a long time.

### **Limitations**

Disaster management in low and middle income countries operates on a fire fighting basis. Same holds good for drought mitigation which often operates on ad-hoc basis to quench the thirst temporarily. Most governments do not see a priority to set aside funding for future research, engaging with civil society organisations who directly work with front-line workers and communities to achieve sustainable long term development. This culture requires a revolutionary shift and the bureaucracy must be held accountable.

Health problems and outcomes from drought range from high priority to even negligible depending on existing infrastructure, available human resource and financial capital and drought characteristics. Drought being a slow onset phenomenon health impacts are often under-reported, not recognized and seldom investigated. Mainstreaming drought resilience through the lens of a public health discourse must be put on immediate priorities across all nations experiencing drought

Credit:

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