



Bono Nemukula


Ministry of Health, South Africa

South Africa Heat health action plan development and implementation



CHANCE
CLIMATE & HEALTH AFRICA NETWORK
FOR COLLABORATION AND ENGAGEMENT





Government Gazette

REPUBLIC OF SOUTH AFRICA

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THE PRESIDENCY

No. 5050 23 July 2024

It is hereby notified that the President has assented to the following Act, which is hereby published for general information:—

Act No. 22 of 2024: Climate Change Act, 2024


VHUPRESIDENDE

No. 5050 23 July 2024


Zwi khou divhadziwa henefha uri mupresidende o tendelana na uyu mulayo une wa khou andadziwa hu u itela ndivhadzo kha tshitshavha:—

Nom 22 ya 2024: Mulayo wa Tshanduko ya Kilima, 2024


ISSN 1682-5845



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AIDS HELPLINE: 0800-0123-22 Prevention is the cure


REPORT

R

Synthesis Report

Feasibility Assessment Tool and
National Climate RVA for Health

001.00 | Ref No. 8336282



health
Department:
Health
REPUBLIC OF SOUTH AFRICA

NATIONAL HEAT HEALTH GUIDELINES

Extreme heat planning in the human health sector



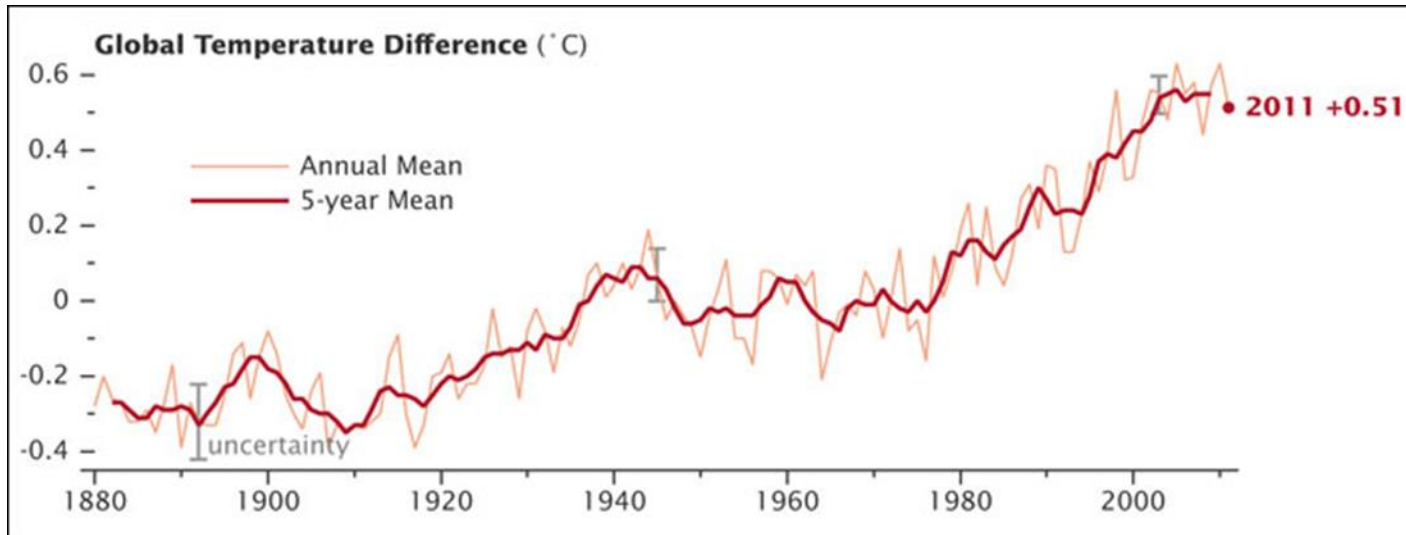
OCTOBER 2020



**2030
NDP**

Evidence for global warming –rationale for guideline development

- Global temperature rise
- The planet's average surface temperature has risen by 1.1 °C since late 19th century largely driven by CO₂ emissions.
- 16 of 17 warmest years on record since 2001.
- **Early Warning System – South African Weather Services**



Development

- **Developed draft Heat Health Action Guideline 2019**
- **Stakeholder mapping 2019**
- **Consultations workshops 2019/20**
- **COVID-19**
- **Approval 2021**

Purpose of the Heat health Guidelines

To ensure that the health sector is prepared to effectively respond to rising temperatures across South Africa

Impacts of heat on health in South Africa

Indirect impacts

Impact on health services

- Increased ambulance call-outs & slower response times
- Increased number of hospital admissions
- Storage of medicines

Increased risk of accidents

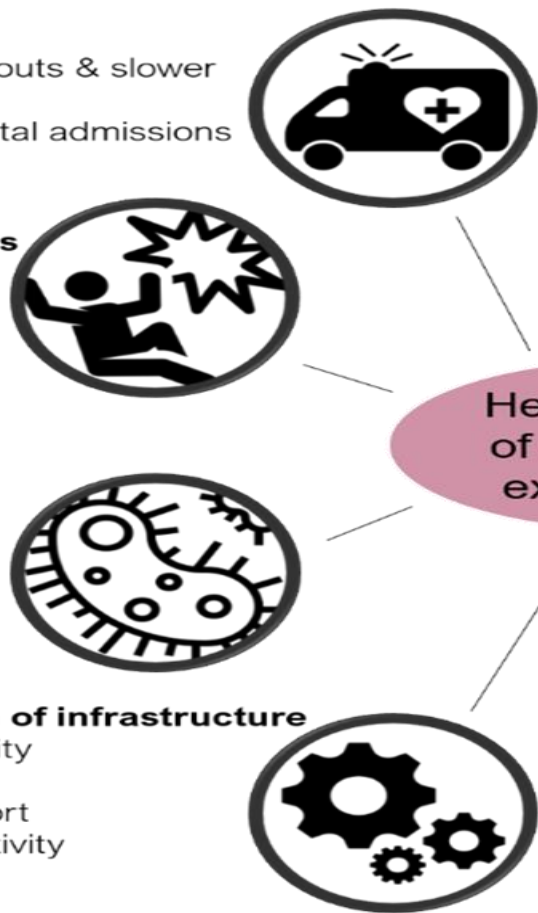
- Drowning
- Work-related accidents
- Injuries, including road traffic injuries

Increased risk of

- Outbreaks of gastrointestinal disease
- Violence, including homicide
- Exposure to environmental toxins
- Marine algal blooms

Disruption of infrastructure

- Electricity
- Water
- Transport
- Productivity



Direct impacts

Heat illness

- Dehydration
- Heat cramps
- Heat stroke

Death from

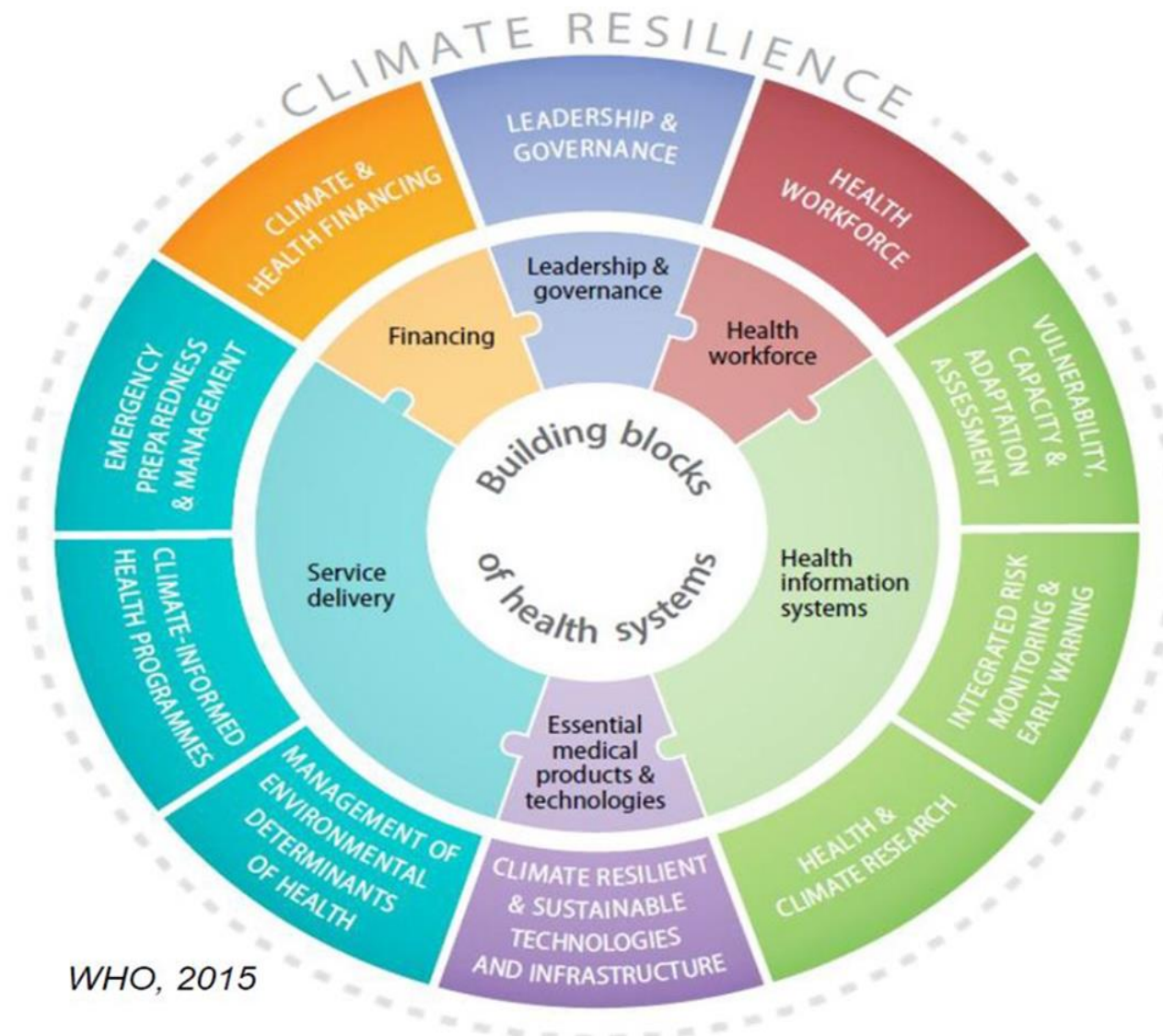
- Respiratory disease
- Cardiovascular disease
- Other chronic disease (mental health, renal disease)

Hospitalisation

- Respiratory disease
- Diabetes mellitus
- Renal disease
- Stroke
- Mental health conditions
- Preterm births and other adverse birth outcomes



Effects of Heat on Provision of Health Services



WHO, 2015

Heat health action plan elements

8 core elements

Heat-health information plan: Messages developed for education and awareness of identified areas.

Reduce heat indoor exposure: Through natural ventilation, evaporative cooling, high thermal mass and night ventilation.

Particular care to vulnerable groups: infants and children, elderly and people with chronic conditions/diseases including homeless and people working outdoors.

Preparedness of health care and social services: Operational plans for hospitals, clinics, retirement and nursing homes and training of health personnel to address this special risk., Inclusion of cool rooms

Long-term urban planning: Adaptation strategies focus on improving urban planning and reducing urban heat islands. Covering buildings with living edible vegetation lowers indoor temperature.

Real-time surveillance : Timely health data (less than 48 hours) for monitoring the health impacts of heat-waves and the effectiveness of the interventions

Process evaluation : whether the plan was implemented to the expected standards.

Outcome evaluation: Mortality outcome can be used to evaluate impacts as a response to prevention programmes and adaptation strategies.

Stakeholders mapping

- EMS (Disaster Management)
- Communications
- Ward Based Outreach Team (WBOT)
- Community Development Workers (CDW's)
- Community Health Worker (CHW's)
- South African Weather Services (SAWS)
- Research Institutions
- Academic Institutions / Institutions of Higher Education
- Dept. of Basic Education
- Dept. of Sports, Arts and Culture
- Dept. of Labour
- Dept. of Agriculture
- PHC, Health Programmes team – CDC, Nutrition, EPI, EHP's, M&C, Youth Services & School Health
- Public Health (clinicians)
- Infrastructure
- ORT (RRT)
- Corporate Services
- Surveillance and Epidemiology

Heat-related medical conditions, symptoms, and management

Medical condition	Signs and symptoms/mechanism	Management
Heat rash	Small, red, itchy papules appear on the face, neck, upper chest, under breast, groin and scrotum areas. This can affect any age but is prevalent in young children. Infection with Staphylococcus can occur. It is attributed to heavy sweating during hot and humid weather.	Rash subsides with no specific treatment. Minimize sweating by staying in an air-conditioned environment, taking frequent showers and wearing light clothes. Keep the affected area dry. Topical antihistamine and antiseptic preparations can be used to reduce discomfort and prevent secondary infection.
Heat syncope (fainting)	This involves brief loss of consciousness or orthostatic dizziness. It is common in patients with cardiovascular diseases or taking diuretics before acclimatization takes place. It is attributed to dehydration, peripheral vasodilatation and decreased venous return resulting in reduced cardiac output.	The patient should rest in a cool place and be placed in a supine position with legs and hips elevated to increase venous return. Other serious causes of syncope need to be ruled out.

Short- and long-term plan of action for heat health guidelines implementation in South Africa

	Action	Expected results	Responsible and participating institutions
Short-term actions	Assessment of heatwave definition and then finalise a set of messages about heat and health	Consistent messaging	DOH Research institutions SAWS
Medium-term actions	1. Set a temperature threshold above which sports events, school sports etc. will not be permitted to occur. Such events would need to be postponed and re-scheduled during cooler weather	Safer conditions for schoolchildren, athletes, marathon runners etc. during hot weather	Sports DOH DBE
	Implement climate change indicators Surveillance activity met	Monitor and evaluation from baseline and assess interventions	DOH Research Institutions NICD

Short- and long-term plan of action for heat health guidelines implementation in South Africa

Long-term actions	Review school uniforms for heat health implications	Cooler schoolchildren who can work comfortably and safely	
	Review regulations around personal protective equipment for outdoor occupational workers	Cooler outdoor workers who can work comfortably and safely	
	Urban planning to provide heat interventions	Cooler city spaces, access to water and shade	

Implementation – capacity building



CLIMATE-CHANGE-AND-HEALTH,-DOMESTIC-INDOOR-AIR-QUALITY-AND-VECTOR-CONTROL-TRAINING-SCHEDULE-(2022--2024)

PROPOSED-DATE	TIME
01-to-03-February-2023	09:00--15:00
16-March-2023	09:00--16:00
15--17-February-2023	09:00--16:00
3-March-2023	13:00-16:00
8-March-2023	09:00--16:00
14-March-2023	13:00-16:00



DRAFT-CLIMATE-CHANGE-AND-HEALTH,-AIR-QUALITY-AND-VECTOR-CONTROL-TRAINING-SCHEDULE-(2023--2024)

PROVINCES	PROPOSED-DATE	TIME	ACTIVITY
Quarter-1			
Western-Cape	10-May-2023	09:00--15:00	Domestic-Indoor-Air-Quality-guidelines-&-Vector-Control-Workshop
Western-Cape	11-May-2023	09:00--15:00	Risk-Vulnerability-Assessment-&-Heat-and-Health-Action-Guidelines
Free-State	30-May-2023	09:00--15:00	Risk-Vulnerability-Assessment-&-Heat-and-Health-Action-Guidelines
Free-State	31-May-2023	09:00--15:00	Domestic-Indoor-Air-Quality-guidelines-&-Vector-Control-Workshop
Quarter-2			
Kwa-Zulu-Natal	11-and-13-July-2023	09:00--15:00	Domestic-Indoor-Air-Quality-guidelines-&-Vector-Control-Workshop
Kwa-Zulu-Natal	12-and-14-July-2023	09:00--15:00	Risk-Vulnerability-Assessment-&-Heat-and-Health-Action-Guidelines
Eastern-Cape	27-July-2023	09:00--15:00	Domestic-Indoor-Air-Quality-guidelines-&-Vector-Control-Workshop
Eastern-Cape	26-July-2023	09:00--15:00	Risk-Vulnerability-Assessment-&-Heat-and-Health-Action-Guidelines
Northern-Cape	14-and-15-August-2023	09:00--15:00	Domestic-Indoor-Air-Quality-guidelines-&-Vector-Control-Workshop
Northern-Cape	17-and-18-August-2023	09:00--15:00	Risk-Vulnerability-Assessment-&-Heat-and-Health-Action-Guidelines
Quarter-3			
Mpumalanga	11-October-2023	09:00--15:00	Vector-Control-Workshop
Mpumalanga	12-October-2023	09:00--15:00	Risk-Vulnerability-Assessment-&-Heat-and-Health-Action-Guidelines
Limpopo	8-November-2023	09:00--15:00	Domestic-Indoor-Air-Quality-guidelines-&-Vector-Control-Workshop
Limpopo	9-November-2023	09:00--15:00	Risk-Vulnerability-Assessment-&-Heat-and-Health-Action-Guidelines
Western-Cape	September-2023	TBA	World-Environmental-Health-Day
Quarter-4			
North-West	13-February-2024	09:00--15:00	Domestic-Indoor-Air-Quality-guidelines
North-West	14-February-2024	09:00--15:00	Risk-Vulnerability-Assessment
Gauteng	28-February-2024	09:00--15:00	Domestic-Indoor-Air-Quality-guidelines
Gauteng	29-February-2024	09:00--15:00	Risk-Vulnerability-Assessment-&-Heat-and-Health-Action-Guidelines

Bono Nemukula (Bono.Nemukula@health.gov.za) is signed in



Education and awareness

How to keep babies and children safe when it's hot

When the weather is hot, babies and young children should be kept in a cool, shady place, given enough clean, cool water to drink, and get plenty of rest.

Babies and children have thin skins, and may easily suffer from sunburn. They should wear wide-brimmed hats that allow the air to move through them.

How to prevent heat illnesses

Heat illnesses, such as heat stroke, can be very serious and may even cause death. How to avoid heat illnesses:

- 1. Take hot weather warnings seriously**
- 2. Drink lots of clean water**
This is one of the best ways to prevent dehydration.
 - Breastfeeding moms**
Breastfed babies may need extra feeds in hot weather. If your baby is older than 6 months and growing well, you can give small amounts of cool boiled water between feeds, especially if the baby is having other foods. Breastfeeding moms should also drink water.
 - Formula fed babies**
If you are bottle feeding your baby, you can give her extra formula or small amounts of cool boiled water.
 - Children**
Give children water to drink often throughout the day. Don't give any coffee or tea, sugary or fizzy drinks, too much sugar, fatty or salty foods.
- 3. Rest**
Help babies and children rest as much as possible, or participate in quiet activities such as reading stories and solving puzzles. They can rest indoors or outside, so long as they are in the shade. They should not do any strenuous physical exercise, if possible, between 11.00 and 15.00 on hot days.
- 4. Keep cool indoors**
 - Try to cook when it is cooler.
 - Keep windows open but close curtains or blinds
- 6. When you have to travel**
It is best not to go on a journey; go, make sure your baby or child has a wide-brimmed, breathable hat and a blanket.
- 7. When in a vehicle**

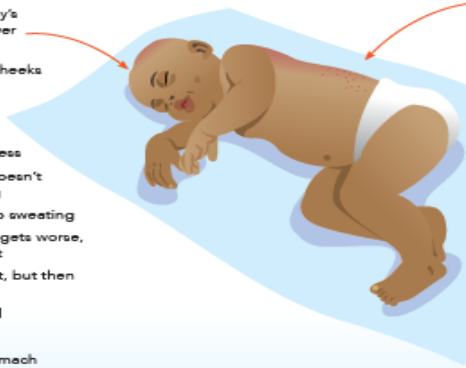
Signs of heat illness

Serious signs of heat illness:

- unconscious
- irritable, restless and confused
- floppy body and no energy
- can't breathe easily
- dizzy
- sore head
- the soft spot on top of a baby's head (fontanelle) may be lower (sunken) than usual
- sunken 'soft spots', eyes or cheeks
- vomiting
- dry mouth or tongue
- thirsty at first, but as baby gets weaker they may drink less
- dry eyes and baby or child doesn't have many tears when crying
- temperature going up but no sweating
- drier skin but, as heat illness gets worse, skin becomes cool and moist
- skin is cool when you touch it, but then becomes hot and red
- fewer wet nappies than usual
- dark yellow or smelly urine
- muscle cramps in legs or stomach



Keep an eye out for signs of heat illness. If you think your baby or child is suffering from heat illness, get medical help as soon as possible.



What to do

If you see a baby (or anyone) is showing signs of a heat illness, get medical advice. The baby or child may need to be treated at a hospital or clinic. In the meantime:

- settle your child in a cool place
- wet their clothes with cool water, or wet a cloth and wipe it on their skin
- talk with your baby or child in a calm way
- if your baby or child can still respond to you, try to give them something to drink
- give the baby plenty of breast milk or formula and, if 6 months or older, a little water
- don't give your baby or child medicine – let the healthcare workers decide what is best.

Tell people in your community about the signs of heat illnesses, and how to prevent them.

PREVENT HEAT RELATED ILLNESSES THIS SUMMER!

Be cautious and Observant!
Keep an eye out for signs of heat illness.

If you think, you, your child, partner, family member, colleague or community member is suffering from heat illness, get medical help as soon as possible.

Implementation of the guidelines

- Support provinces / municipalities
- Stakeholder engagement – National Climate change and health steering committee [research sub-committee, indicators (WitsRHI and District Health Barometer Report), and RCCE]; Urban Heat engagement with World Bank (Cities Support Programme and Heat Early Warning System programme for Gauteng to benchmark in India in November 2024)

Identified challenges

NC cases of Heat Radio Talk SABC – 02 February 2023

Farm deaths in Northern Cape

Northern Cape farmworkers' deaths over h
The workers died from heat stroke due to the week.



1. What are some of the core fundamentals of policy guidelines heat and health in South Africa?

1.a Follow-up question: And how has this policy guide informed to rising temperatures, which in some cases have led to pe strokes?

2. From an environmental health perspective, what are resources and health promotion contingencies in place at cor primary healthcare levels to scale- up capacity for responc health and environmental emergencies because of effects caus

3. Other than increased hospitalisation rates, deaths and h what are some of the other noteworthy impacts of heat on the trying to get an up sound that will reflect issues such a infrastructure, increased risk of outbreaks, mental health, gender based violence to name a few?

SABC Questions – May 2023 for a special series



SABC May 2023: Special series investigating the countries commitment to Net Zero and the impact climate change ha on human health.

1. Any statistics around deaths/hospitalization due to extreme heat? Check for the past 5 years. In which area were these deaths recorded and dates.
2. Highlight challenges in terms of stats – for instance comorbidities.
3. Accepting that climate change is a reality – what measures does the department have in place to educate the vulnerable communities.

Implementation of the guidelines

FIGURE 3.3. GREEN APARTHEID: CONTRASTING GREEN SPACE ABUNDANCE AND HOUSING QUALITY BETWEEN NEIGHBOURING CITY QUARTERS (KYA SAND AND BLOUBOSRAND).

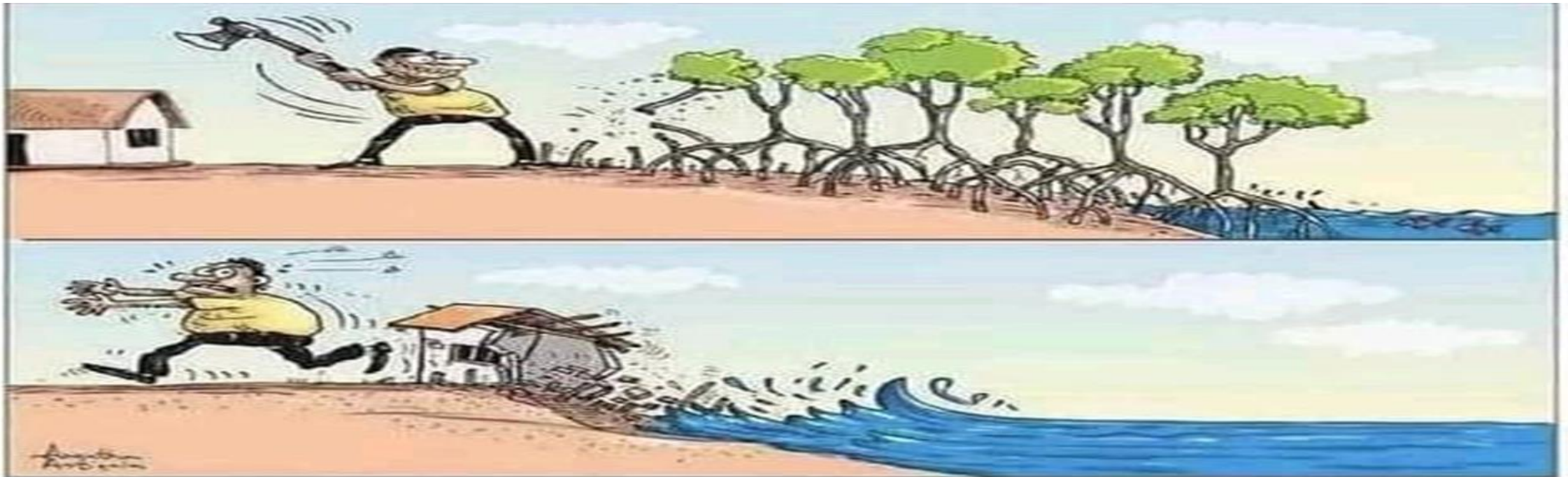
Source: Google Earth.



Projects – Urban Heat



Implementation of the guidelines



Research

SAMRC and ACDI – Heat Adaptation Benefits for vulnerable groups in Africa (HABVIA) – Thohoyandou (Vhembe DM) and Khayelitsha (City of Cape Town) – 5 years project (Ghana and SA)

Shortlisted interventions




Cooling Roof Paints
Ceiling Insulation
Evaporative Cooling
Air Bricks
Fans
Cooling Clothing




Research

- HIGH Horizons Heat and Maternal, Newborn and Child Health Indicators SA and Zimbabwe - Wits RHI


Impacts of high temperatures on child health




International Journal of
*Environmental Research
and Public Health*



Review
The Effect of High and Low Ambient Temperature on Infant Health: A Systematic Review
Darshnika Pemi Lakhoo ^{1,*}, Helen Abigail Blake ^{2,3}, Matthew Francis Chersich ¹, Britt Nakstad ^{4,5} and Sari Kovats ⁶



International Journal of
*Environmental Research
and Public Health*



Article
Temperature Variability and Occurrence of Diarrhoea in Children under Five-Years-Old in Cape Town Metropolitan Sub-Districts
Gentile Musengimana ^{1,*}, Fidele K. Mukinda ^{1,2}, Roderick Machekano ³ and Hassan Mahomed ^{1,4,*}

Small wins

Heat and Health Guidelines

- Health sector leadership and coordination of stakeholders
- Heat Health Warning System
- Heat Health Information Plan
- Reduce exposure to heat in indoor settings
- Care for vulnerable groups
- Preparedness of health and social services
- Monitor and evaluate the Heat Health Action Plan



Small wins

- Researches conducted and sharing of such studies by research institutions (**influence on DHIS**) **High Horizon study**
- Support from stakeholders – RCCE to address recent extreme heat
- Western Cape Province painting health facilities roof with white paint
- Establishing of the association of heat with indoor air pollution – Gauteng Health
- Inclusion of heat related illnesses as part of IDSR
- Identification of the most vulnerable and targeted/tailored RCCE intervention – Northern Cape

Reflections

- Monitoring and evaluation
- Proactive planning – use of early warning systems
- Inability to respond to media queries – limited indicators (limited data collection)
- Utilization of baseline information to inform interventions
- Webinar for health care workers
- RCCE to reach all settings

- ***“All hands on deck”***

Thanks

NGIYATHOKOZA!

ro livhuwa!

dankie!

ke a leboga!

ENKOSI!

thank you!

ndo livhuwa!

inkomvu!

ke a leboha!

ngiyabonga!

siyabonqa!

All hands on deck

