

# Climate resilience and environmental sustainability of primary care facilities in the Cederberg Subdistrict

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# Most at risk subdistricts

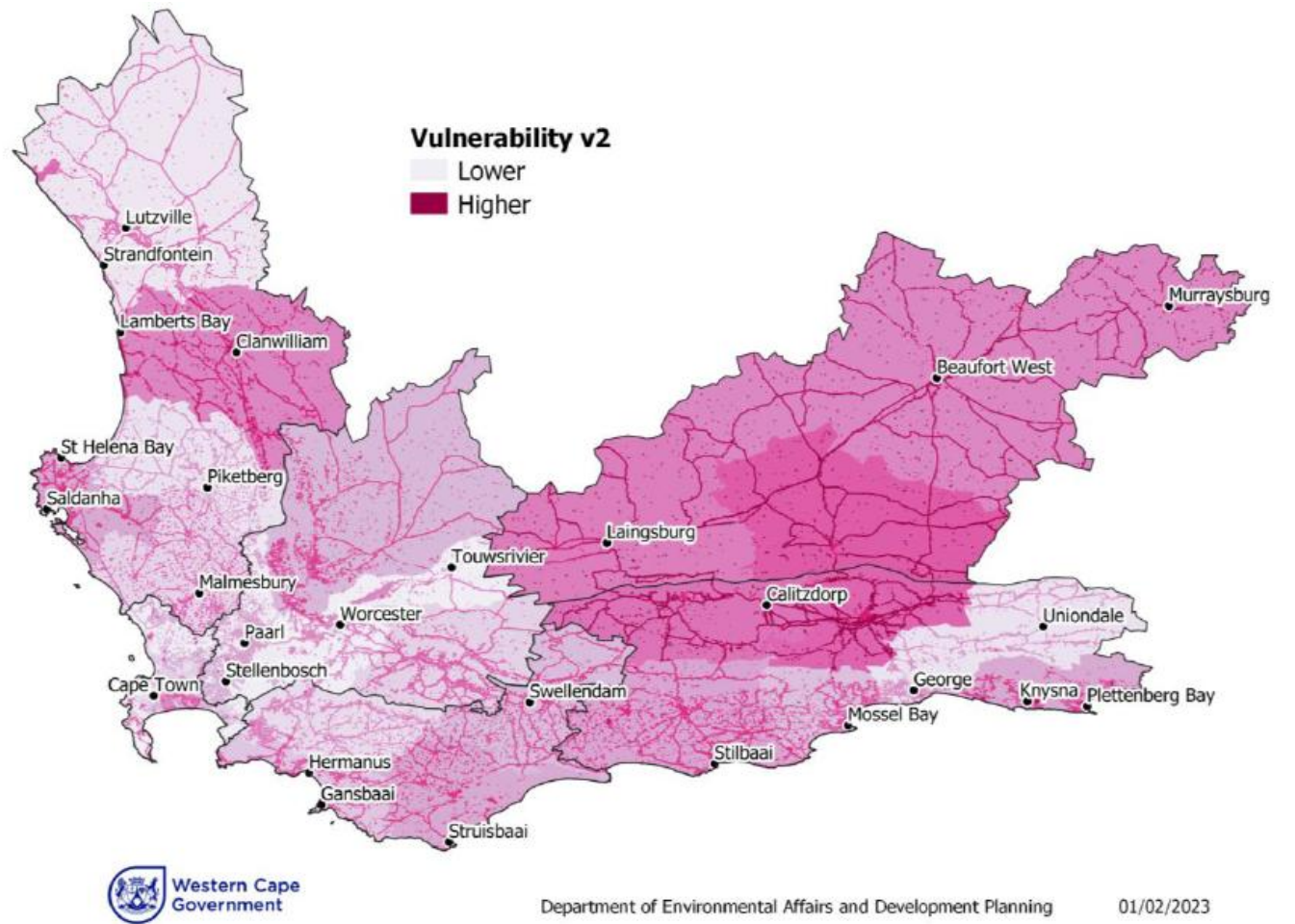
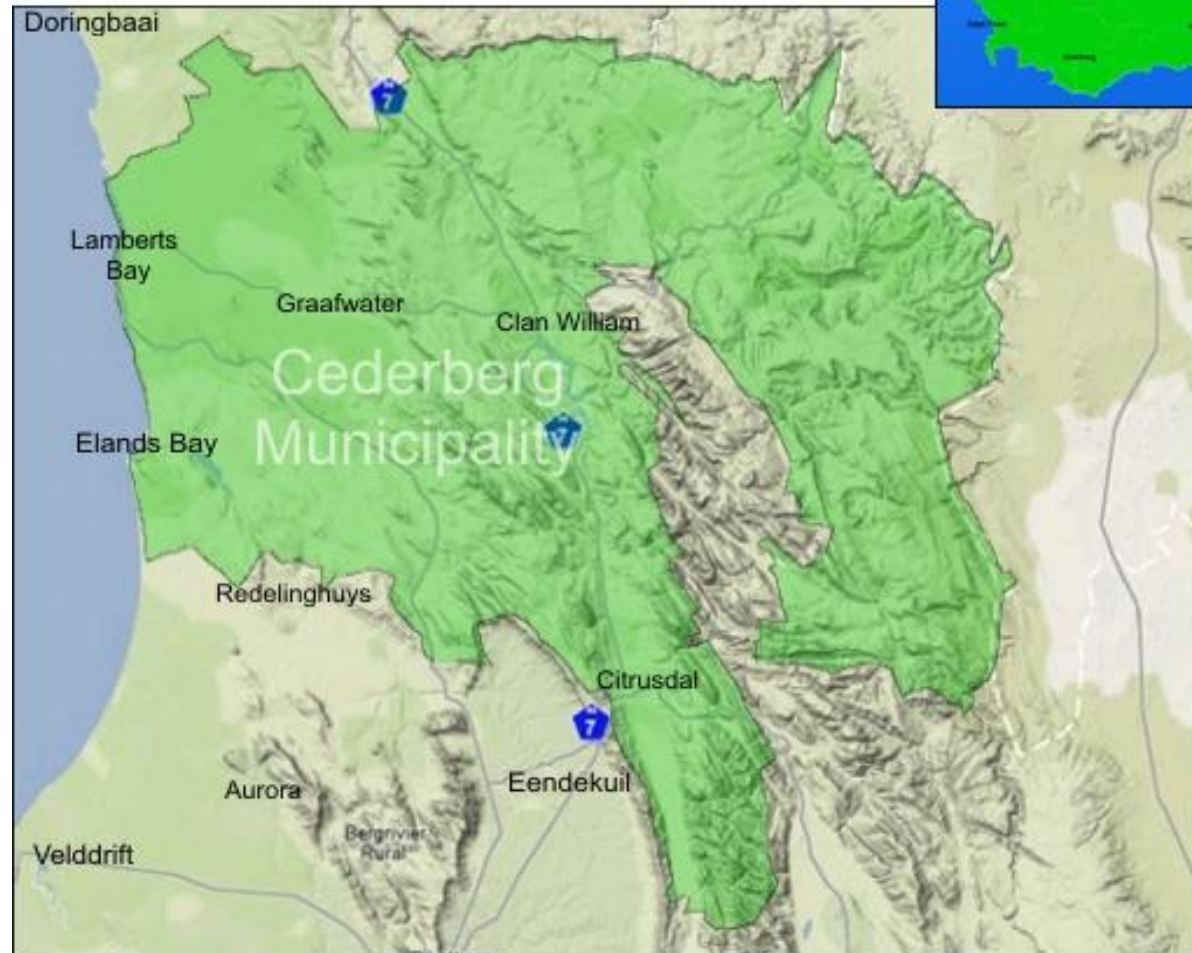


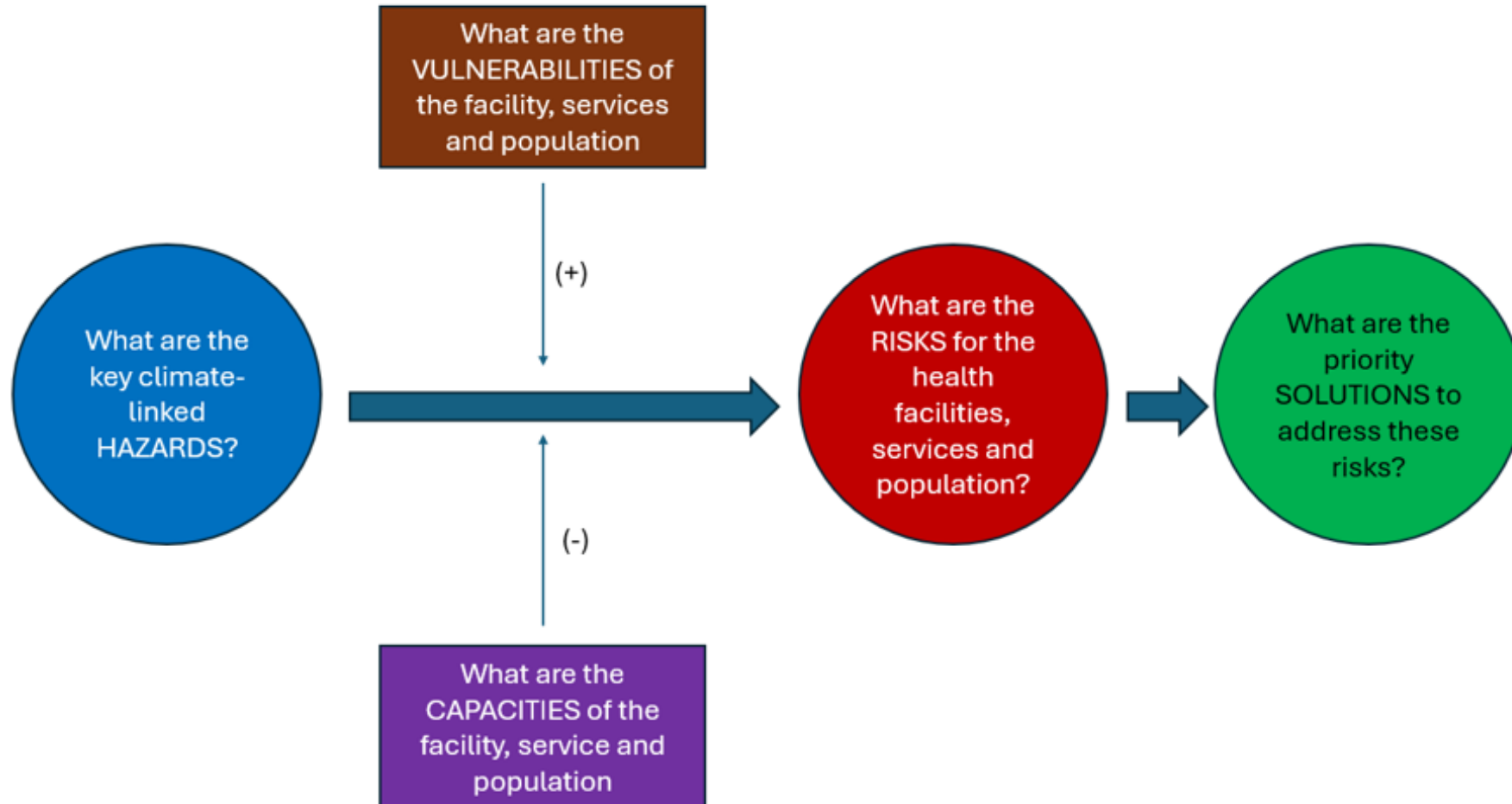
Figure 4: Vulnerability to environmental threats in the Western Cape (combining socio-economic and governance indicators)

# Cederberg subdistrict

- Six primary care facilities



# Conceptual framework



# Aim and objectives

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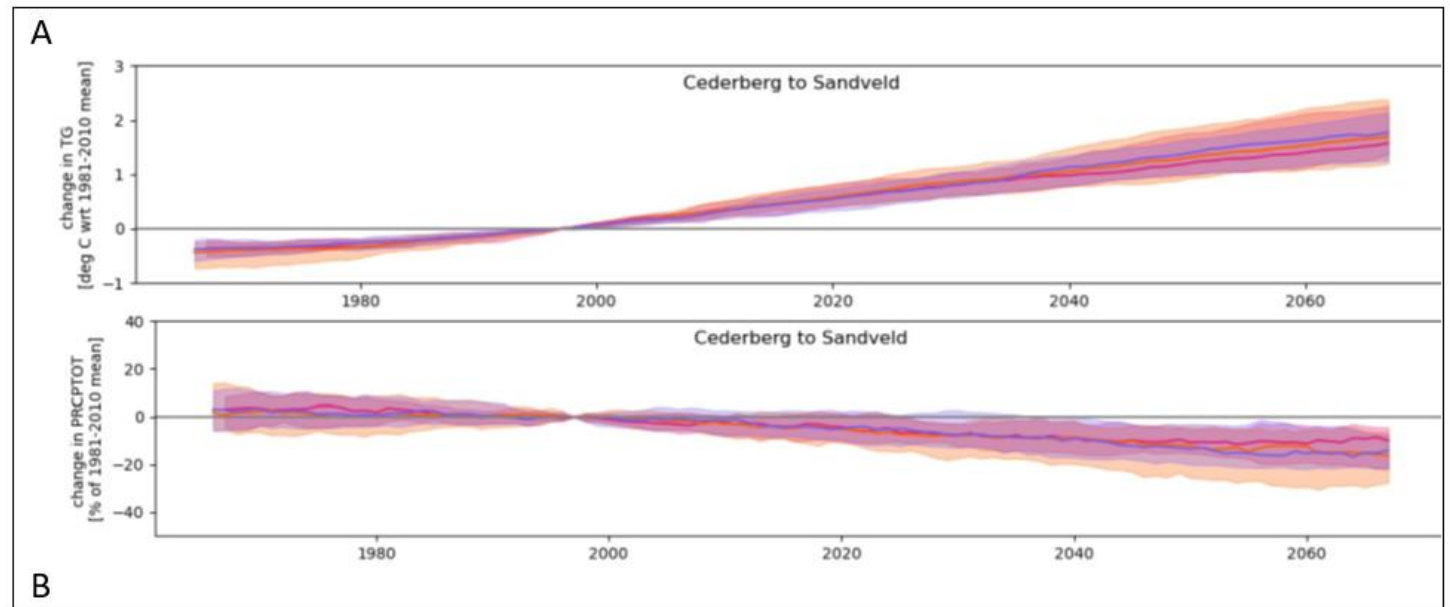
To evaluate the resilience of PHC facilities and services, within the Western Cape, in the sub-districts most likely to be vulnerable and impacted by climate change.

- To identify the sub-districts most vulnerable to the impact of climate change in the Western Cape
- To adapt and validate a tool that can measure the climate resilience of PHC facilities and services.
- To evaluate the resilience of PHC facilities and services in these sub-districts
- To evaluate the carbon footprint of the sub-districts



# Step 1: Desk review

- Climate hazards
- Burden of disease
- Health facilities

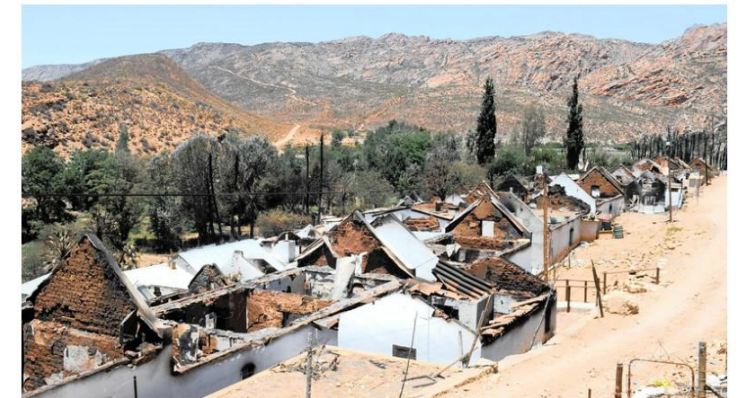


**Citrusdal cut off from the rest of the world after heavy floods wash away part of the R303**



The Sinkhole on the R303 close to the Olifants River in Citrusdal. Picture: Tracey Adams/ ANA

**Schools in Wupperthal set to open again after extensive fire damage**

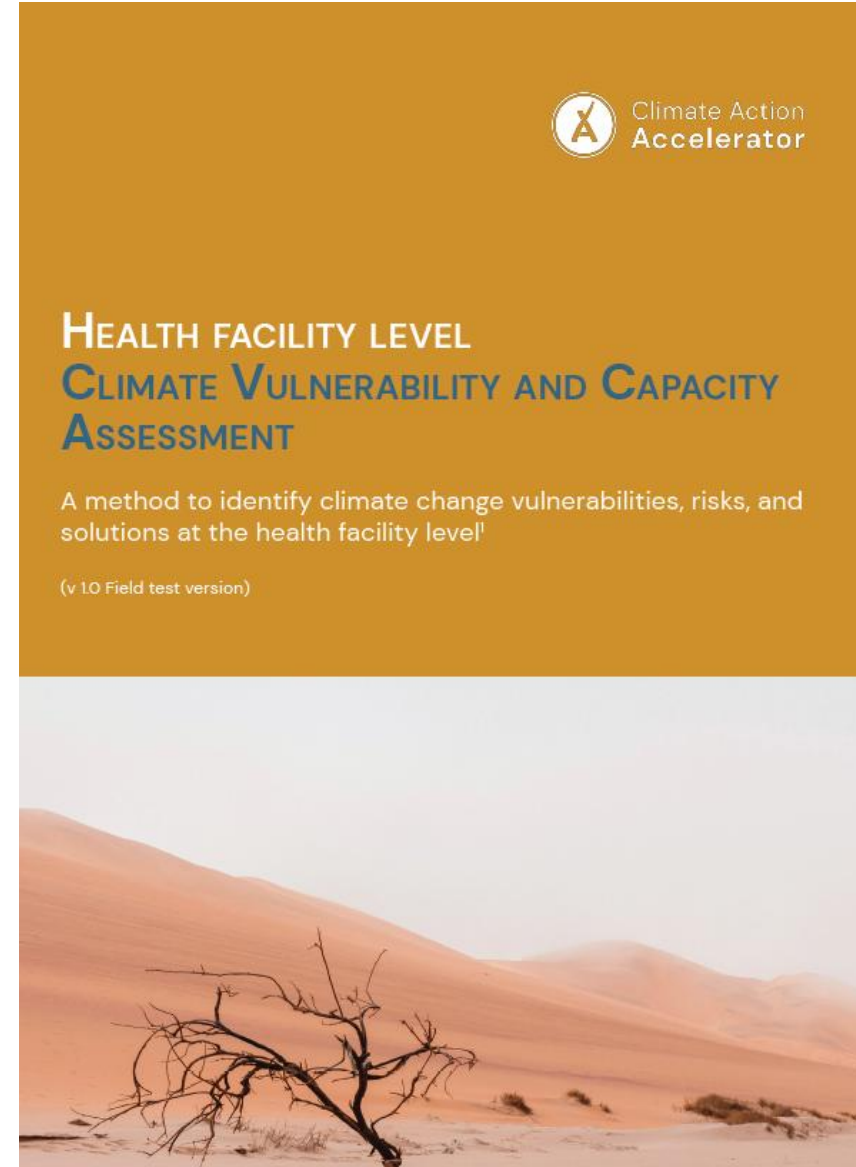


Dozens of homes and other structures were gutted when a fire tore through Wupperthal. Photo: Henk Kruger/African News Agency (ANA)

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# Step 2 – Adaptation and validation of the method

- Collaboration with Climate Action Accelerator
- Introductory meeting with the West Coast District (May 2024)
- Presentation to District Health Council
- VCA Assessment Tool previously piloted in Chad
- Workshop at SU to adapt the tools and train the research team (June 2024)



# Step 2: Audit of facilities

- Visit to each facility (3-days)
- Audit tool (74-items: workforce, service delivery, emergency preparedness, water, waste, sanitation, energy, infrastructure)
- 60-minute interview with facility manager
- Walk-around observations
- Aggregated to SD in spreadsheet

Domain	Questic	Question	CEDERBERG
<b>A. Health Workforce</b>	1	Clinical workers	
	2	Vacant posts	In 2 facilities, but CIT was an issue
	3	Community Workers Outreach to clinic	In all facilities
	4	Support Staff	All had drs and allied health visiting
Climate smart workforce	5	Hot day HR Plan	No pharm asst elands bay
	6	Cool waiting area pts.	No, ASK
Resilience during peaks	7	Have you experienced a peak	Yes, could be better in Clan
	8	SOP for HR during peaks	Yes, seasonal, COVID
	9	Sufficient staff to cover peaks	No, ASK
	10	Opening hours extended for peaks	Strongly disagree
	11	Psych support to staff for peaks	No
	12	Practical support to staff for peaks	Only ICAS, not used
Education - climate health	13	Staff training for peaks	Never
	14	Staff training on health impacts CC	Trained in fire/evacuation drill
	15	Staff training CC - HCF resilience	No training
	16	Staff training on ES	No training
<b>B. Service Delivery</b>	17	Infection Control Officer	No training
Climate smart processes policy	18	SOP Mx pt. flow during power loss	Yes
	19	Reliable ambulance service	No, ASK
Outreach - Health Promotion	20	Does community outreach cover EDoH	Often experience delays due to long
	21	Does health promotion cover CC&H	Never, FGD
<b>C. Water Waste Sanitation</b>	22	Reliant and sufficient supply of water	Sometimes, FGD
Water	23	Water disruption this last year	Yes
	24	Feedback on consumption	Never
	25	Can you collect/store water	No, ASK
	26	Borehole present	2 out of 6
	27	Back up plan provide water in emerg.	No
	28	Process for fixing leaks	No, ASK
Waste	29	Is non-anatomical waste incinerated	Yes, ASK
	30	Is NAW treated and sent to landfill	Yes, ASK (general, medical, sharps, p
	31	Any recycling program	No, ASK
	32	Compost organic waste	Never (1 has cardboard)
	33	SOP on reducing waste	No
	34	Separate waste Mx zone	No
	35		Yes they all had a place

# Step 3: Focus group tabletop discussions

- Discussions at 3 facilities (2-days)



## Step 1: Create a map

Where is your health facility in the community?  
Where would you place yourself?

## Step 2: Orientate to scenario

What was the hottest day you can remember, tell me about that day?  
How did the day begin – describe what happened.

## Step 3: Facilitate a conversation

Prompt group interaction and use the map to focus questions on different parts of the facility (e.g., waiting area, pharmacy, consultation rooms)  
How were staff affected? How were patients affected?

## Step 4: Listen for solutions

What would you have wished for?  
Describe what went well? Describe what could be done better?

## Step 5: Closure

Close in a way that feels natural for the group.  
Offer a summary of the key points if necessary.

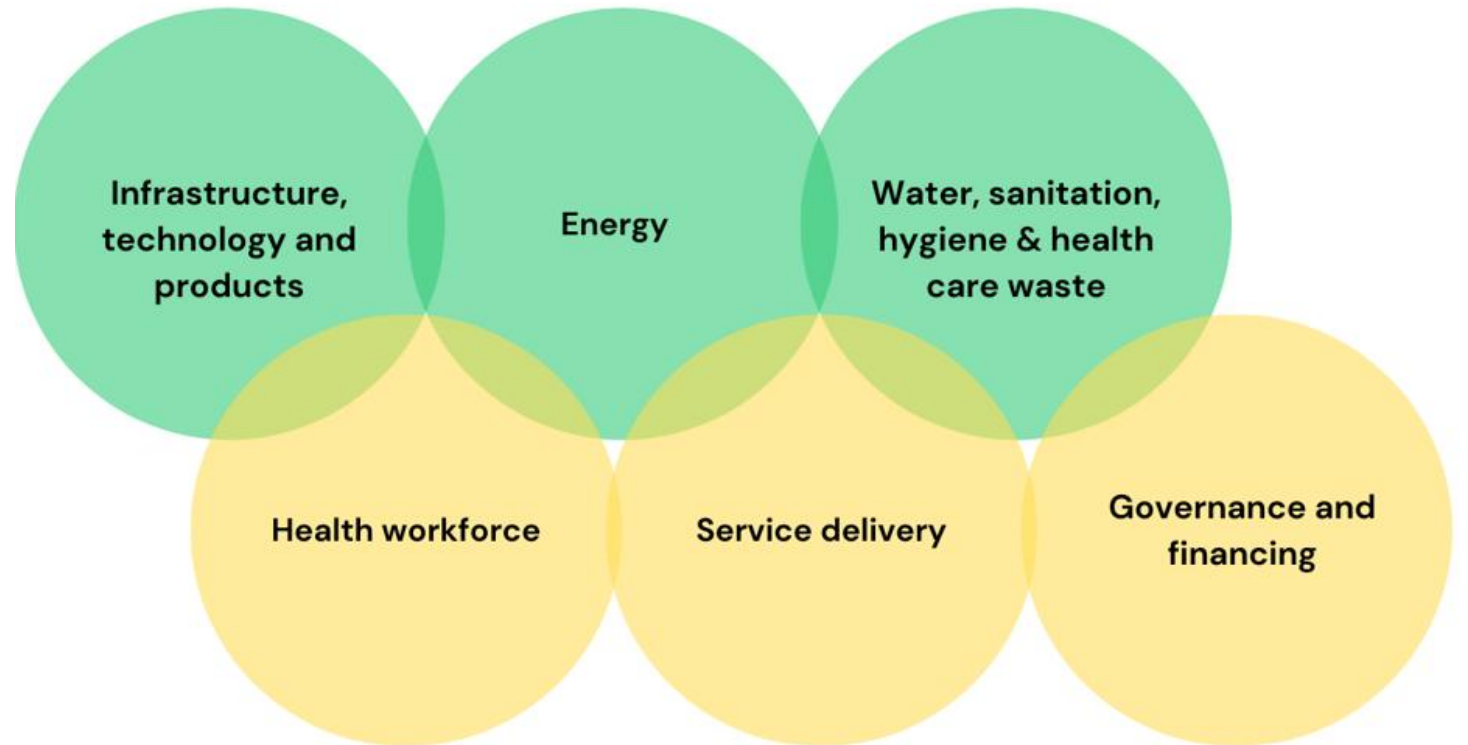
# Step 4: Information analysis

CLIMATE RESILIENCE AND ENVIRONMENTAL SUSTAINABILITY HEALTH CARE FACILITY RISKS					
Climate hazards and sustainability challenges	Vulnerabilities	Capabilities	Risks (Population / Facility)	Potential interventions	Classification
Extreme heat and drought	Roofs do not reflect heat	Several clinics have white tiles but not highly reflective	Increase in facility temp and increased use of energy to cool	Paint roofs with highly reflective white paint	Infrastructure, technology, products
	During loadshedding the alternate energy supply does not include air conditioners	All clinics have window based air conditioning units	Inability to cool clinic during loadshedding/power cuts	Review policy for high temps. Increase efficiency of natural ventilation.	Infrastructure, technology, products
	Open window policy reduces effectiveness of air conditioning		High temperatures in clinic vs reduced ventilation for TB risk	Review policy for high temps. Increase efficiency of natural ventilation.	Governance and financing
	Patients waiting outside in the heat may be vulnerable	Four clinics have sufficient shade areas for usual workload	Patients' condition may worsen when waiting outside in extreme heat	Ensure that every clinic has sufficient shade for waiting outside. Clanwilliam.	Infrastructure, technology, products
	Farm/manual labourers working in extreme heat	Mobile clinics go to farms and CHW teams cover communities	Manual/farm labourers at risk of heat related diseases, dehydration, heat exhaustion, stroke	Health promotion in farms (other workplaces) on action to take and modification of work patterns during extreme heat. Occupational health	Service delivery
	Community members at risk of high temperatures esp children, older adults, NCDs, pregnant women, homeless, and informal settlements	Mobile clinics go to farms and CHW teams cover communities	Community members at risk of heat related diseases (dehydration, diarrhoea). Elderly risks of falls and isolation.	Health promotion in communities on action to take and modification of work patterns during extreme heat. Schools close during very high temps. Visit isolated elderly. Establish or reinforce a community alert system for extreme heat with health messaging. Register of patients particularly vulnerable to extreme heat (elderly, kidney failure, multimorbidity)	Service delivery

# Step 5: Prioritisation and planning

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- Workshop with SD managers (1-day)
- 43 potential solutions
- Prioritisation:
  - Cost
  - Impact on climate resilience
  - Impact on carbon footprint
  - Impact on other environmental parameters
  - Other sectors
  - Provincial initiatives
  - Feasibility



# Action plan

Key focus area	Short-term priorities	Longer-term priorities
<b>Infrastructure</b>		Install insulation in roof spaces for better temperature regulation Paint roofs with highly reflective white paint – especially inland
<b>Products</b>	Ensure NPOs/CHWs have adequate PPE for weather challenges – high temperatures, heavy rainfall	
<b>Service delivery</b>	Reduce people waiting outside by implementing appointment systems and increasing decentralized care via mobiles	Implementation of COPC should include consideration of environmental determinants of health in local communities
<b>Workforce</b>	Include management of heat-sensitive conditions, emergency skills, disaster management and behaviours to improve environmental sustainability in training plan. Ensure a clear SOP for CBS on flexible working hours to adapt to extreme heat, storms/flooding	
<b>Energy</b>	Complete conversion of lights to LED Provide feedback to facilities on energy use and link to behaviour change	Install solar energy as an alternative to Eskom supply Install day-night light switches
<b>Waste</b>		Install alternative system for medical waste for the whole SD as per regional hospitals
<b>Water</b>	Ensure all facilities have water collection tanks as emergency supplies Provide feedback to facilities on water use and link to behaviour change	

# Carbon footprint Cederberg primary care facilities

10.5Kg eCO2 per  
consultation

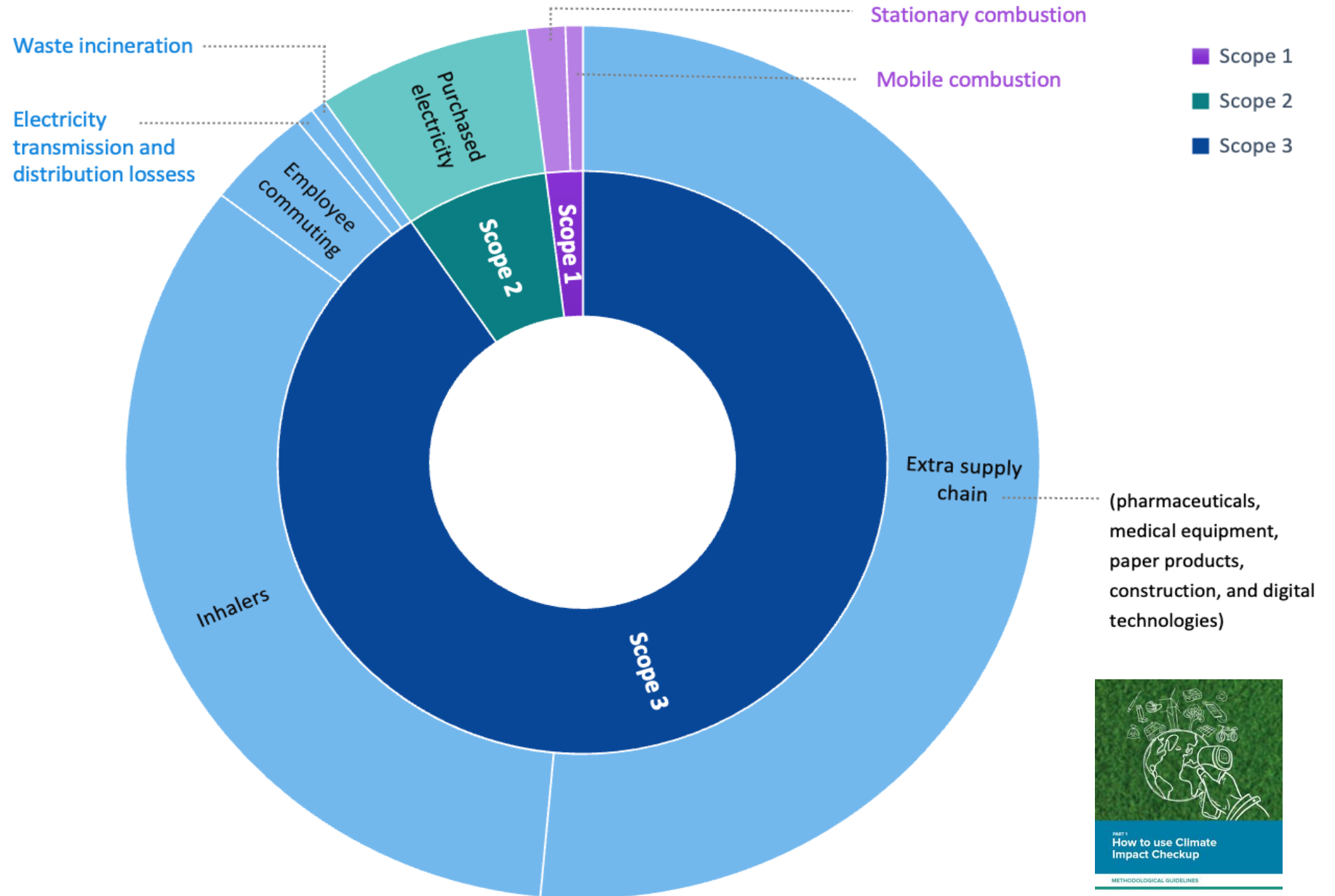
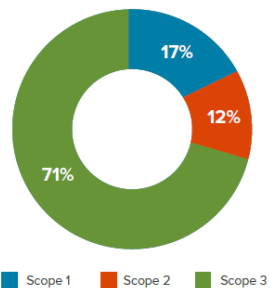


Figure 2 – Global health care footprint split by scopes



Source: Health care's climate footprint, Health Care Without Harm, 2019<sup>1</sup>.

