

# Building climate resilience in the health sector in Mozambique: experiences of the past 7 years

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*“Instituto Nacional de Saúde”, Mozambique*

*Date: 25<sup>th</sup> September 2024*

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# Presentation outline

## INS

- Historical remarks
- Responsibilities
- Organization structure and representation

## Scientific strategy

- Programs from the Strategy
- Environmental health Program

## Climate & Health activities

- Building blocks
- Challenges
- Perspectives

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# INS's historical remarks

The **Medical Research Institute of Mozambique** is created

1955

1970

Converted to **Provincial Public Health Institute**

After independence is incorporated at MoH at **National Directorate of Preventive Medicine**

1975

1991

Ministerial decree defines a **"semi-autonomous"** institute

**First organic structure** of INS is approved

2004

2018

**The organic statute is publish**, after its redefinition to "supervised" institution in 2017

The INS's **internal Regulation** is approved and published

2019

2024

**The organic statute were reviews and re-published**, and the internal Regulation is in the revision process

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# INS's responsibilities in the Health System

**Biomedical Research**

**Surveillance, Emergencies and Health Observation**

**Public Health Laboratories**

**Communication, Education and Training**

**National and International partnerships for research, teaching and public health activities**

# Organizational structure

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**General Director & Deputy General Director**

**Collective and Advisory bodies**

**Division of Health and Wellbeing Research**

**Division and Survey and Health Observation**

**Division of Public Health Laboratories**

**Division of Training and Communication**

**Provincial Delegation 1**

**Provincial Delegation 2**

**Provincial Delegation 11**

**Dept Management and Quality**

**Dept Finance and Administration**

**Dept of Human Resources**

**Dept of Acquisitions**

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# INS's national representation

## REPRESENTAÇÃO DO INSTITUTO NACIONAL DE SAÚDE

### Delegações provinciais do INS:

1. Cidade de Maputo
2. Província de Sofala
3. Província de Tete
4. Província da Zambézia
5. Província de Nampula
6. Província de Cabo Delgado

### Laboratórios de Saúde Pública:

1. Província de Maputo (Sede)
2. Província de Inhambane
3. Província de Sofala
4. Província de Tete
5. Província da Zambézia
6. Província de Nampula
7. Província de Cabo Delgado

### Centros de Investigação:

1. Centro de Investigação Operacional da Beira (CIOB)
2. Centro de Investigação e Treino em Saúde da Polana Caniço (CISPOC)
3. Centro de Investigação e Treino em Saúde de Chókwè (CISTC)
4. Centro de Investigação e Treino em Saúde de Quelimane (CISQUEL)

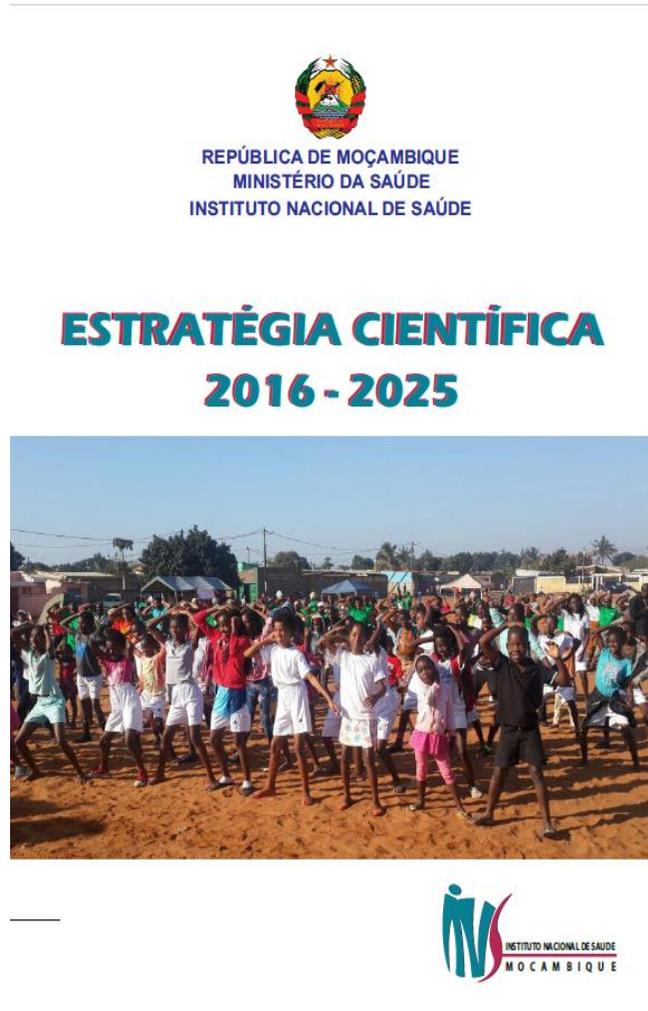


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# INS's Scientific Strategy



## 1) Environmental Health, including the Occupational Health

2) Mental Health, Trauma and Violence

3) Woman and Child Health

4) Adolescent, Elderly health and vulnerable populations

5) Determinants of Chronic diseases

6) Vector-borne, neglected and zoonotic diseases

7) Endemic diseases of sanitary impact

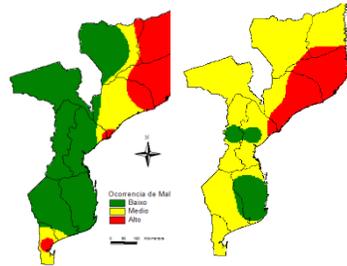
8) Health Systems

# Climate and Health activities (1/2)

**1st Conference of the Impacts of Climate Change on Health**



Released **malaria forecast** for the **rainy season**



Strengthening of **human capacity** (Climate and health, WASH, Modeling)



Improved evidence at national level (**V&A**)



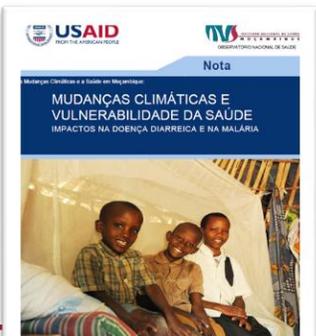
2017

2018

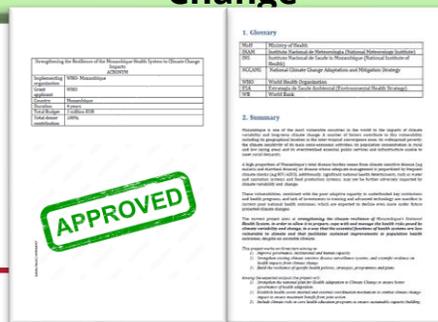
2019

2020

Released the **1st Report of Climate and Health: malaria and diarrheal diseases**



Approved the **1st institutional project: Strengthening the Resilience of Health Systems to Climate Change**



Strengthening of inter and **intra-institutional Coordination**



Strengthening of **emerging diseases surveillance** (diagnose)



# Climate and Health activities (2/2)

**Research Agenda for Climate, Environment and Health finalized**



**1st version of H-NAP finalized**



**First active attendance of the Health Sector at COP28**



**Multisectoral group creation for Resilience and Adaptation at MoH**



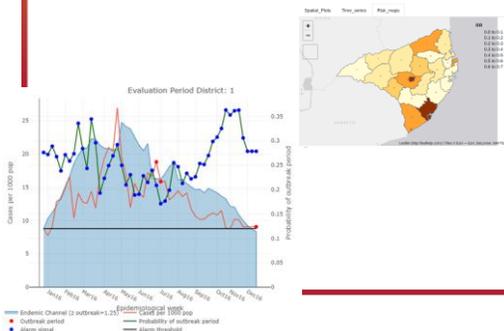
2021

2022

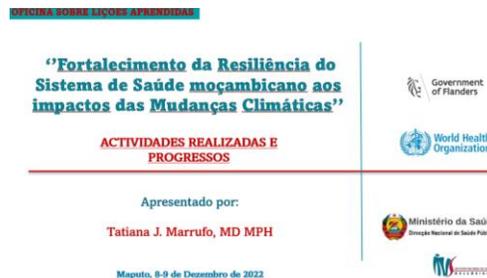
2023

2024

**Development of Adaptation Systems (EWARS, Sentinel sites)**



**Conclusion of institutional project for Climate and Health**



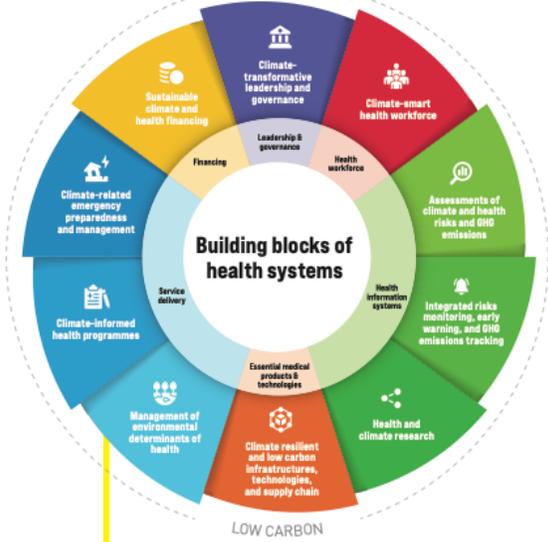
**2nd Conference of Climate Change Impacts on Health**



**Update and revision of V&A and H-NAP**

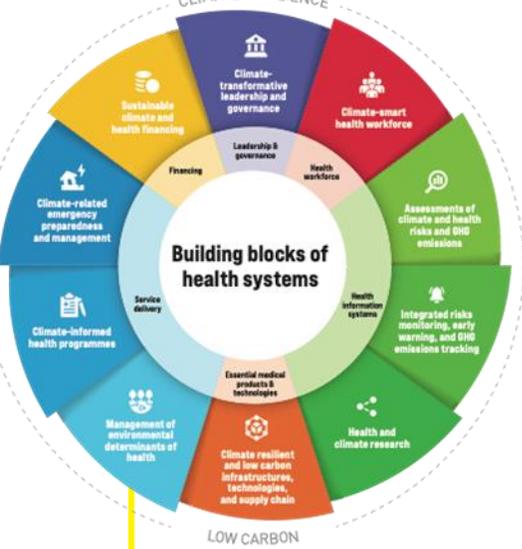


# Leadership and Governance



**Mozambique actively attended to COP28 and endorsed the  
Climate and Health Declaration**

# Climate smart-health workforce



□ Response to emergencies related to the impacts of climate change



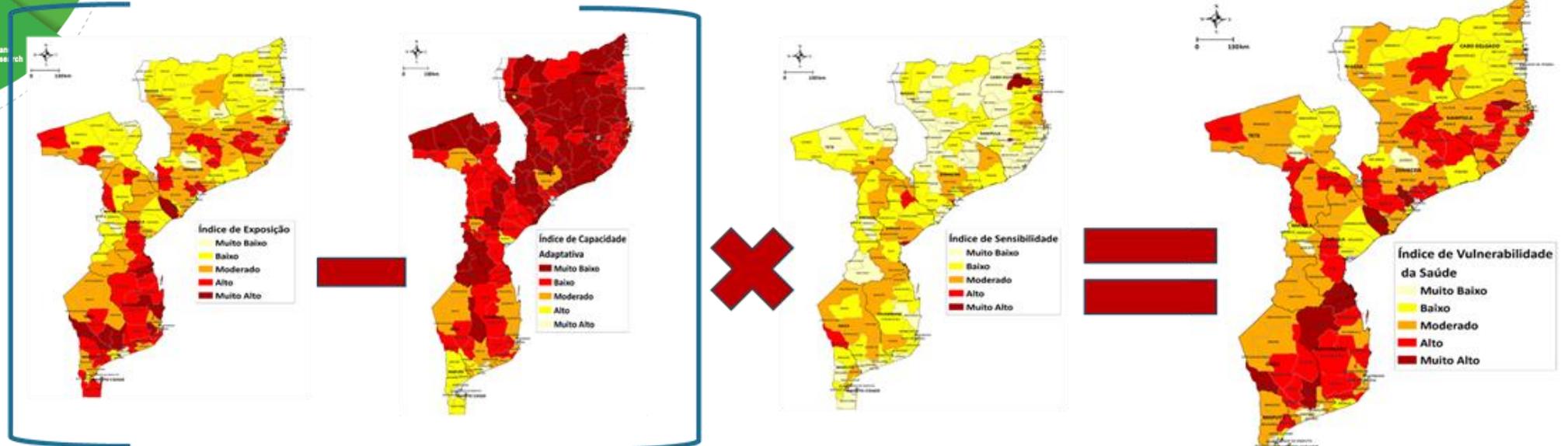
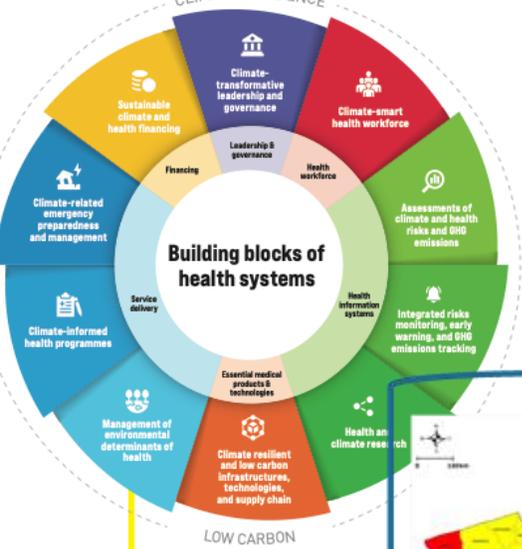
□ Training in risk mapping at provincial level



□ Capacity in vulnerability and risk communication



# Health Information Systems (1/6)



**Exposure:**  
variability of T, R, RH  
Extreme events

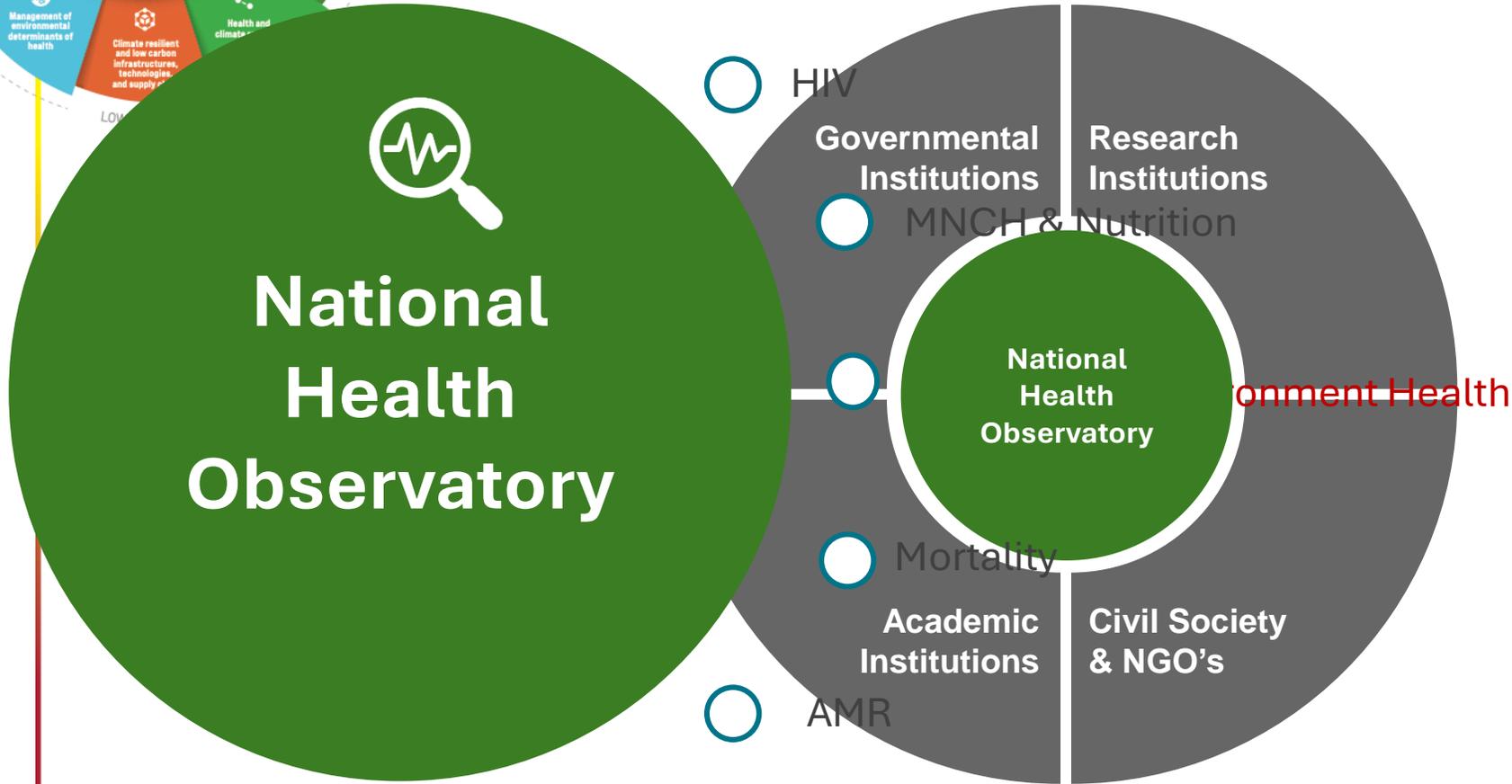
**Adaptive capacity:**  
HR and budget for health  
Access to HS, WASH  
Social determinants

**Sensitivity:**  
Ecosystem and risks  
Demography  
Vulnerable Pop. and health

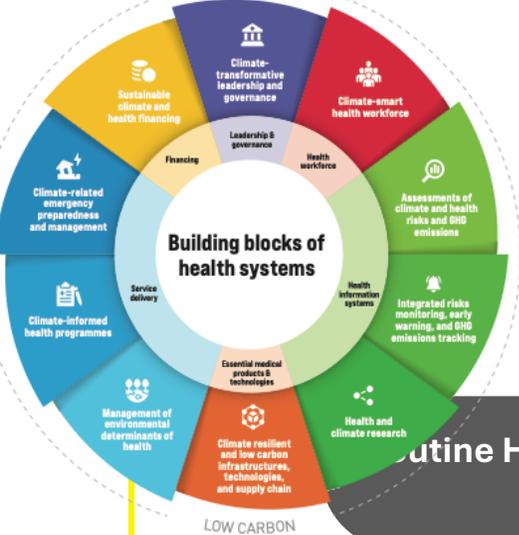
**Health Vulnerability Index:**  
(E-AC)xS= HVI

Muleia, R.; Maúre, G.; José, A.; Maholela, P.; Adjei, I.A.; Karim, M.R.; Trigo, S.; Kutane, W.; Inlamea, O.; Kazembe, L.N.; Marrufo, T.J. Assessing the Vulnerability and Adaptation Needs of Mozambique's Health Sector to Climate: A Comprehensive Study. *Int. J. Environ. Res. Public Health* **2024**, *21*, 532.  
<https://doi.org/10.3390/ijerph21050532>

# Health Information Systems (2/6)



# Health Information Systems (3/6)



Routine Health Data

Surveillance data of health issues

Survey's reports and database

Other sectors data:

- Vital statistics;
- Social determinants;
- Environmental data;
- Climate data;
- Budget and economy data;

National Health Observatory

Situation Analysis

- 1 Trend Analysis
- 2 Indicators Monitoring

Modelling

- 1 Risk Analysis and Mapping
- 2 Current and Future Impact (predictions and scenarios)

Decision Making



Analytical Products

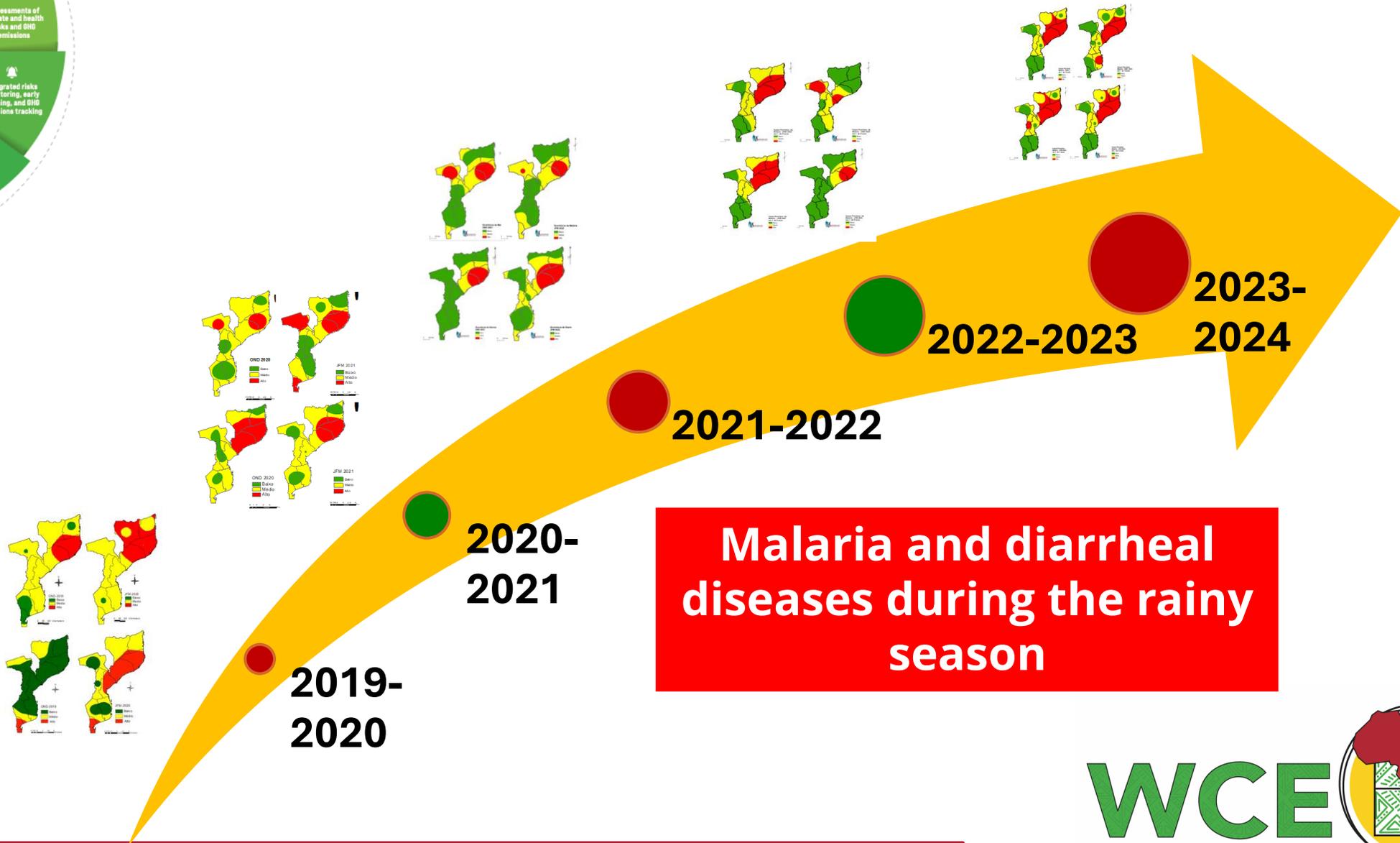
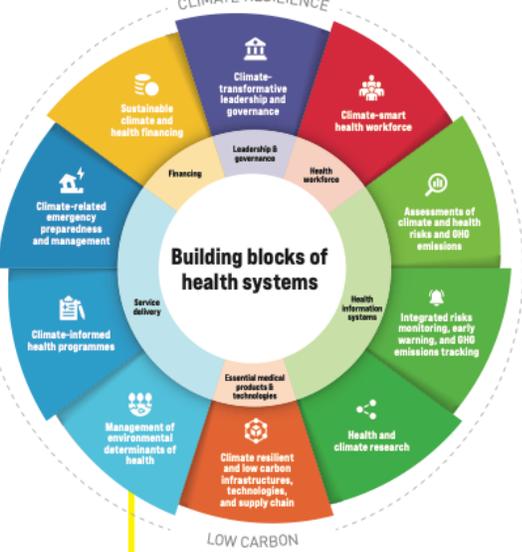
- Fact sheets
- Analytical sheets
- Infographics
- Bulletins
- Reports
- Summary
- Policy Brief

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# Health Information Systems (4/6)







# Health Information Systems (6/6)

*Am. J. Trop. Med. Hyg.*, 104(6), 2021, pp. 2233–2237  
doi:10.4269/ajtmh.20-1321  
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## Cyclone Idai as a Trigger for Pellagra Outbreak in Nhamatanda, Mozambique: A Case–Control Study

Váio André Mugabe,<sup>1,2\*</sup> Arlete Mahumane,<sup>3</sup> Cynthia Semá Baltazar,<sup>4</sup> Érika Valeska Rossetto,<sup>5</sup> Crescêncio Sequeira Nhabomba,<sup>3</sup> Neusa Fataha,<sup>4</sup> Unicia Nyamula,<sup>3</sup> Angélica Sotomane,<sup>3</sup> Wilson Irugula,<sup>6</sup> Benigno Canze,<sup>3</sup> Osvaldo Frederico Inlamea,<sup>4</sup> Uriel Kitron,<sup>7,8</sup> Guilherme Sousa Ribeiro,<sup>1,7,9\*</sup> and Eduardo Samo Gudo<sup>4</sup>



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Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

## Weather and Climate Extremes

journal homepage: [www.elsevier.com/locate/wace](http://www.elsevier.com/locate/wace)



REPUBLICA DE MOÇAMBIQUE  
MINISTERIO DA SAÚDE

LOW CARBON

### AGENDA DE PESQUISA EM CLIMA, AMBIENTE E SAÚDE (APECAS) 2022-2031

Por uma saúde ambiental eficiente, transparente e que promova a equidade para o bem-estar e saúde dos moçambicanos

INSTITUTO NACIONAL DE SAÚDE MOÇAMBIQUE

Maputo, Abril de 2022

## Heatwaves in Mozambique 1983–2016: Characteristics, trends and city-level summaries using high-resolution CHIRTS-daily

Carolina Pereira Marghidan<sup>a,\*</sup>, Maarten van Aalst<sup>a,b,c</sup>, Justine Blanford<sup>a</sup>, Kiswendsida Guigma<sup>b</sup>, Izidine Pinto<sup>d,e</sup>, Genito Maure<sup>f</sup>, Tatiana Marrufo<sup>g</sup>

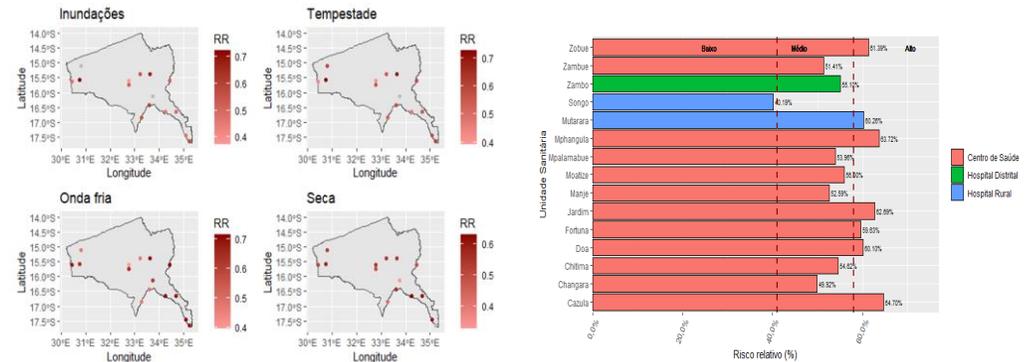
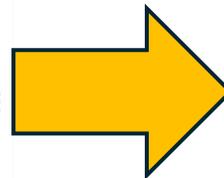
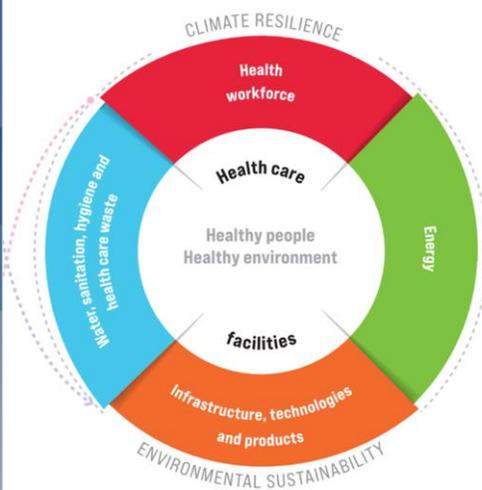
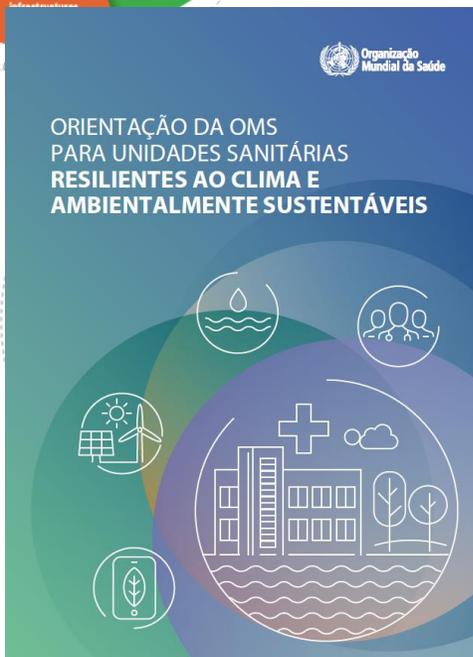
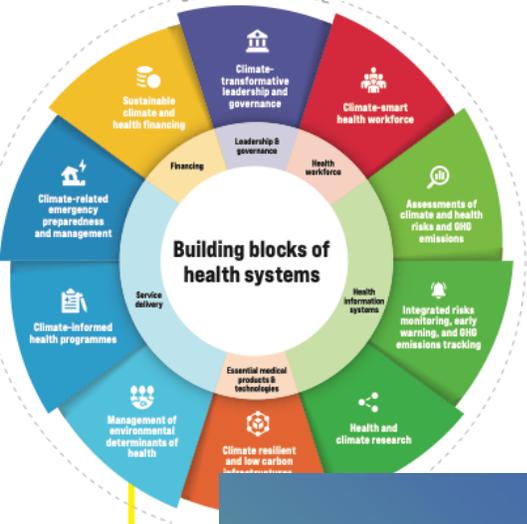
Open Access Article

## Assessing the Vulnerability and Adaptation Needs of Mozambique's Health Sector to Climate: A Comprehensive Study

by Rachid Muleia<sup>1,\*</sup> , Genito Maure<sup>2</sup> , Américo José<sup>3</sup> , Plácida Maholela<sup>3</sup> , Isaac Akpor Adjei<sup>4</sup> , Md. Rezaul Karim<sup>5</sup> , Sónia Trigo<sup>6</sup> , Waltaji Kutane<sup>6</sup> , Osvaldo Inlamea<sup>3</sup> , Lawrence N. Kazembe<sup>7</sup>  and Tatiana Marrufo<sup>3</sup> 



# Essential medical products and technologies



**Assessment of V&A** of Health facilities were already conducted in two provinces (Tete and Inhambane) and findings released at local level.



# Financing

1.5 Title of the Readiness support proposal	Strengthening Climate Resilient Health Systems in Mozambique		
1.6 Type of Readiness support sought	<p>Please select the relevant GCF Readiness objective(s) below (click on the box – please refer to Annex I and II in the Guidebook):</p> <p><input checked="" type="checkbox"/> I. Capacity building</p> <p><input checked="" type="checkbox"/> II. Strategic frameworks</p> <p><input type="checkbox"/> III. Adaptation planning</p> <p><input type="checkbox"/> IV. Pipeline development</p> <p><input type="checkbox"/> V. Knowledge sharing and learning</p>		
1.7 Brief summary of the request	<p>The National Strategy for Adaptation and Mitigation of Climate Change, 2013-2025 endorsed by government of Mozambique identifies adaptation and reduction of climate risk as a national priority, while recognizing the need to take advantage of the opportunities the country has, without prejudice to development actions, to reduce the impacts of CC through a mitigation and development. Strategic actions. Adaptation and reduction of climate risk, through strengthen the early warning system; capacity to prepare the response to climate risks amid at:</p> <ul style="list-style-type: none"> <li>Increasing the capacity of water resources management; increase access to and capacity for abstraction, storage, treatment and distribution of water;</li> <li>Increasing the resilience of agriculture and livestock; increase fishing resilience; ensuring adequate levels of food security and nutrition;</li> <li>Increasing the capacity of vulnerable people and reduce people's vulnerability to disease transmission associated with climate change;</li> <li>Ensure and protect biodiversity; promote mechanisms for planting trees and establishing forests for local use;</li> <li>Develop resilience mechanisms for urban areas and other settlements;</li> <li>Adapt the development of tourist areas and coastal zones to reduce the impacts of climate change</li> </ul> <p>This proposal intention is to realize increasing the capacity of vulnerable people and reduce people's vulnerability to disease transmission associated with climate change which is one of the priorities among the 8 intervention in the national strategy.</p> <p>The as part of the national strategy overall objective the vision of this proposal is to put action in place which build resilience, including the reduction of climate risks, in communities and "ensure that the Mozambique is fully engaged in and facilitate the access to human, technical and financial resources necessary to address the effects of climate change on health".</p> <p>The main expected results from this proposal are:</p> <ul style="list-style-type: none"> <li>Built capacity at national and local level, that capable of predicting, preparing and responding to climate risk to health system and vulnerable population;</li> <li>Integrated climate resilience to health system and health programmes;</li> <li>Knowledge sharing and learning on impact of climate change on health, actions to manage climate risk to health including evidence for health decision making</li> <li>Multi-sectoral coordination strengthened for health and climate change including availing climate service for health sectors and consideration of health determinates sectors such as water, food and energy.</li> </ul>		
1.8 Total requested amount and currency	USD \$ 1,000,000	1.9 Implementation period	36 Months (1 January 2023 to 31 December 2025)

❑ A proposal to apply to **Green Climate Fund** were elaborated with **WHO** for **“Capacity building”,** entitled **“Strengthening Climate Resilient Health Systems in Mozambique”.**

❑ Proposal was reviewed by the country **NDA** and are in the final validation process to be submitted.

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# Main challenges

## Data

Access, sharing and data quality

## Appropriate metrics

Impact, vulnerability and adaptation to incorporate in HNAP and NDCs

## Capacity and literacy

Health and climate professionals

## Sustainability

Resources for loss and damage and mitigation activities

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# Perspectives

Resource mobilization for the implementation of H-NAP (once approved)

Support “service delivery” health system building block

Track health co-benefits metrics

Incorporate health metrics on NAP and NDCs

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# Acknowledgments



# Muito Obrigada!!

Cape Town | September 2024

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