NAP GSP South-South Knowledge Exchange online Forum – (28th June - 1st July 2021)

Climate Change and Health Vulnerability and Adaption(V&A) Assessment

Experiences of Ethiopia and Mozambique

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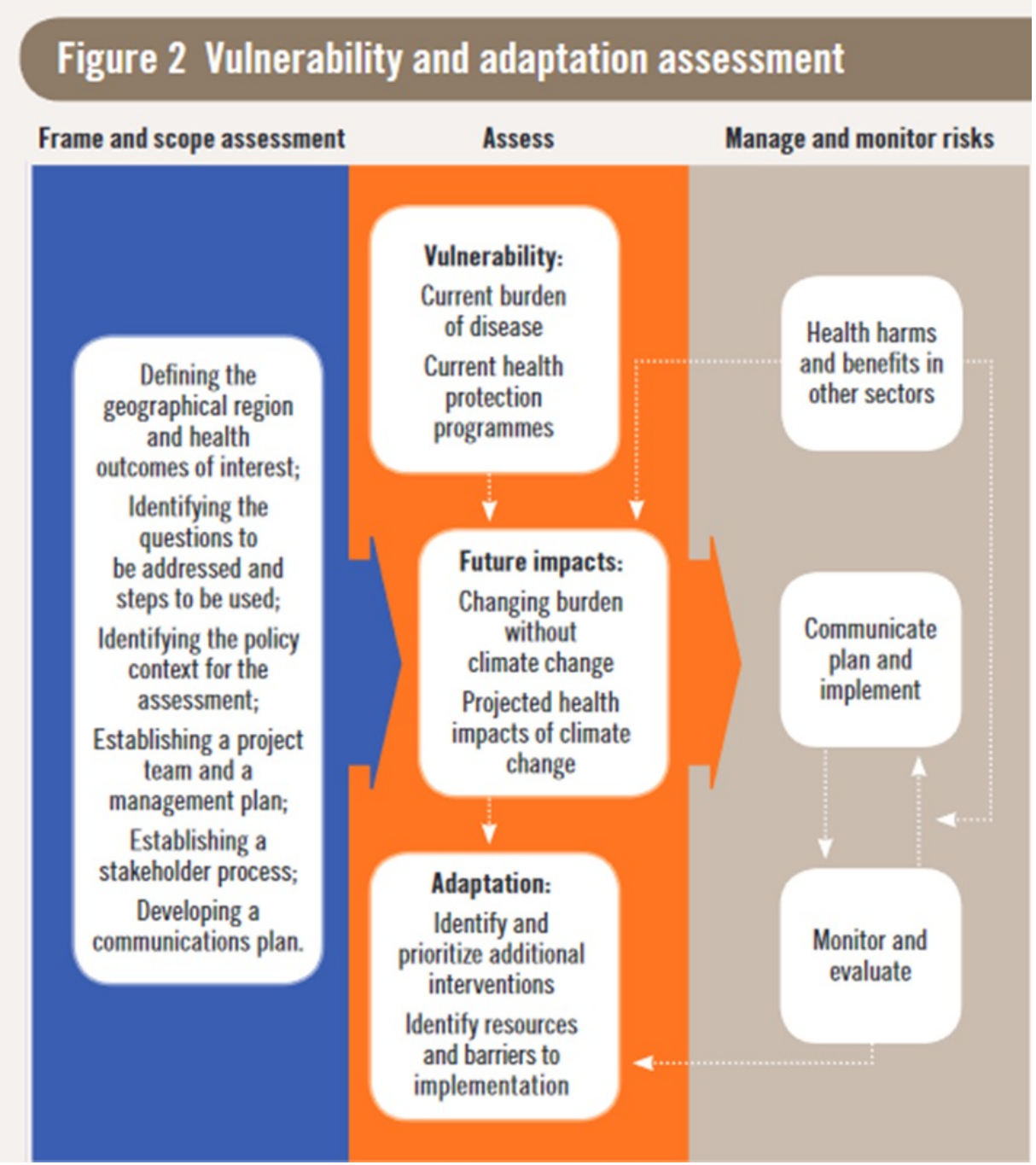
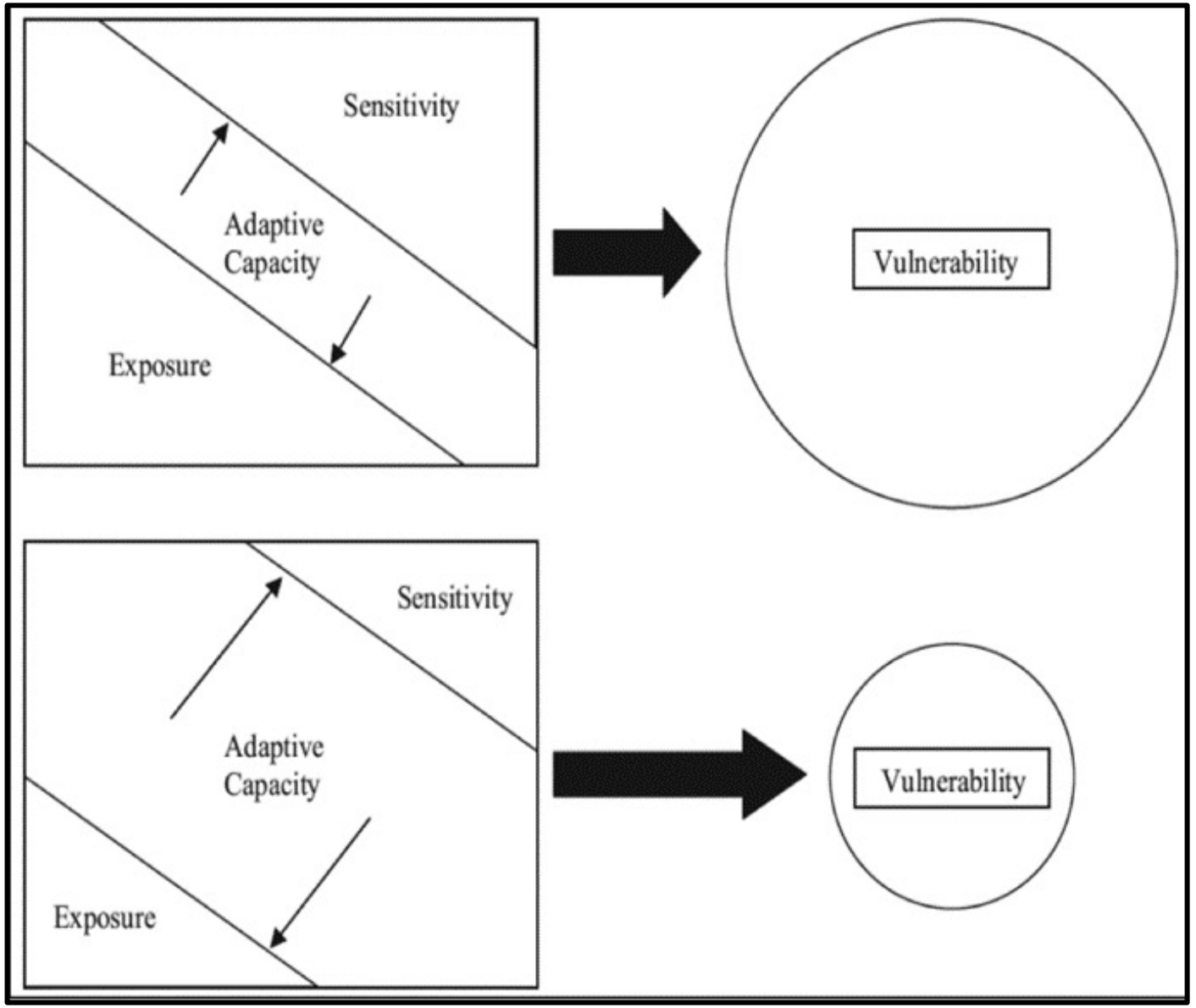


Outline

- Introduction
- Climate Change and Health Vulnerability and Adaption Assessment Process
- CCH V&A assessment Result
- Challenges
- Lessons

Introduction

- Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity"(IPCC, 2007)
- Why CCH V&A assessment?
  - Importance & added value for country
  - Need evidence for CC mainstreaming to health programs i. e evidence based decision making and interventions
  - Prioritize resource allocation for CC in health with focus on strengthening resilience of health system



The basic role of adaptive capacity in influencing vulnerability
Source: Engle (2011).

Climate Change and Health Vulnerability and Adaption(V&A) Assessment Process

- Reached consensus with environment, Climate and Health TWG at national level, the importance of undertaking V&A
- Developed concept Note and Term of Reference for V&A assessment
- Identification and training of multi multidisciplinary team
- Multidisciplinary team developed inception report and methodology for V&A assessment

More Collaborators

Ethiopia Multidisciplinary Assessment Team

Name and Title	Area of expertise	Role in the study Team	Institution
Wakgari Deressa, PhD.	Epidemiologist	Climate sensitive diseases	Addis Ababa University School of Public Health Dean
Belay Simane, PhD.	Development & Climate Science	Vulnerability index development	Addis Ababa University Institute of Development Director
Abera Kumie, PhD.	Environmental Health	WASH & diarrhea	Addis Ababa University School of Public Health , Postgraduate Study Coordinator
AdugnaWoyessa, PhD.	Epidemiologist &Malaria	Climate sensitive diseases	Ethiopian Public Health Institute , Research Director
Mirgissa Kaba, PhD.	Social Anthropology & public Health	Socioeconomic determinates	Addis Ababa University School of Public Health
Girma Taye, PhD.	Biostatistician	Data Mgt & Analysis	Addis Ababa University School of Public Health
Getachew Berhan, PhD	Earth science	GIS Mapping	Addis Ababa University , Climate Science

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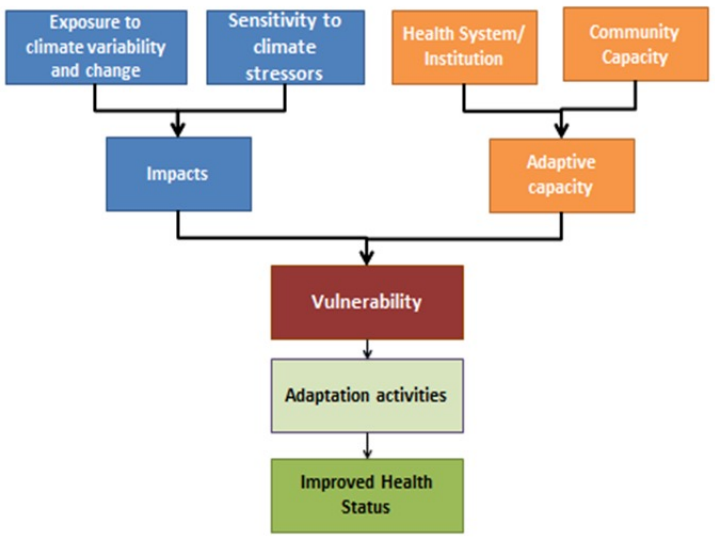
Name and Title (Dr/PhD/MSc)	Area of expertise	Role in the study Team	Institution
Jordi Hernández, PostGrad Degree	Biology/Public Health	Consultant - Team leader	Individual consultant
Genito Maure, PhD	Climate & Environment Modelling	Coordination of liaison WHO - consultants and report editor	Eduardo Mondlane University
António Queface, PhD	Climatologist	Team member – climate analysis	Eduardo Mondlane University
Rachid Joel Guidion Muleia, MSc	Biostatistician	Team member - Biostatistics	Eduardo Mondlane University
Edvaldo Sebastião Zimba, MBA	GIS specialist	Team member – GIS mapping	Individual consultant
Ana Paula Cardoso Thuzine, MSc (?)	Environmental Health	Government link for data and information access	MoH
Sonia Trigo, Msc	Entomologist	Focal-point for Environmental Health	MoH

Mozambique Team



Conceptual Model

Vulnerability factors, Health determinants, profiles, & indicators

Vulnerability Factors	Health status determinants	Profiles/	Indicators	Units of Measurements
Exposure	Climate	1.Climate	• Change in temperature • Change in precipitation	• Changes over time, °C • Changes over time, mm
		2. Hazard	• Occurrence of extreme events (Drought +Floods)	• No of population supported with PSPN • No of events and affected population over the last 20 years
Sensitivity	Natural Capital	3. Ecosystem /Geographic	• Suitability of the area for the CC sensitive diseases	• % of the area prevalent to CC sensitive health issues
		4. Demography	• Proportion of population who are vulnerable (young children, women & elderly)	• % of young children, women and elderly, exposed work force • % HHs in the exposed area

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Adaptive Capacity	Financial Capital	5. Wealth (Health care financing)	• Health care financing	• Wealth profile • Per capita government expenditure on health • Percentage budget of national budget allocated to health • Per capita government expenditure on health
	Physical capital	6. Technology and Medicine	Critical systems, infrastructure and equipment safety	• Status of health facility systems such as electrical, telecommunication, water supply, waste management, fuel storage, medical supplies, equipment and supply , access
		7. Infrastructure	Health care	• Physical infrastructures status • No and type of health facilities • Health coverage • Safe water coverage and trend • Latrine coverage and trend
			Health facilities	• Physical infrastructures status • No and type of health facilities • Health coverage • Health care waste management
	Human capital	8. Community	Human resources for health	• Health professional (doctors, nurses, midwives) proportion per population by geographic area • Number of Health Extension workers per 5 000 by admin unit • # of HDA (Health Development Army) per 5 HHs
	Social Capital	9. Social	social determinants of health and nutrition	• Male No education (%) • Female No education (%) • Safe water coverage (%) • Latrine coverage (%)

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- Scoping of the assessment

CCH V&A assessment Process

- Adapting conceptual model for CCH V& A assessment
- Developed methodology, Identification and consent on indicators for CCH V&A assessment
- Data collection, management and analysis

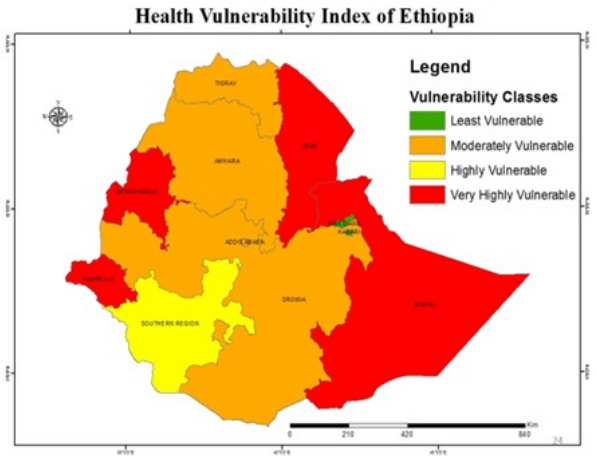
Climate Change and Health V&A Assessment Process

- Write up workshop, stakeholders consultative meeting
- Commented by internal & external reviewers
- Presented to State Minster, Permanent Secretary of Health & Technical Council of Health
- Final V&A assessment report with adaption options

CCH V&A assessment Result

Ethiopia Area coverage and population of Ethiopia by vulnerability classes

Vulnerability classes	Regions	Area coverage		Population	
		Km²	%	Million	%
Least Vulnerable	Dire Dawa and Harari	1901	0.6	0.635	0.74
Moderately Vulnerable	Oromia, Addis Ababa, Amhara and Tigrai	565875	49.95	59.562	69.48
Highly Vulnerable	SNNPR	117263	10.35	17.403	20.3
Very Highly Vulnerable	Afar, Benshangul-Gumuz, Somali and	447855	39.95	8.129	9.48



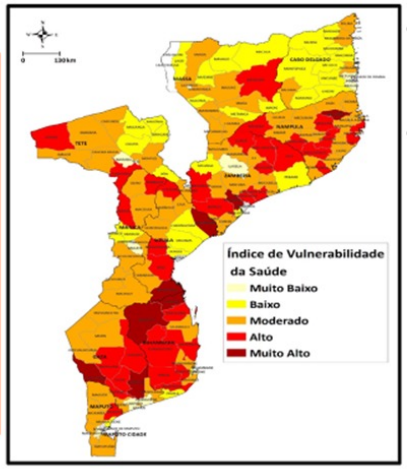
- Health Vulnerability Index(HVI)
  - Ethiopia at Regional Level
  - Mozambique at District level
- Adaptation options by HVI category

Suggested health Adaptation options

No	Adaptation Options (Priorities)	Vulnerability Category			
		Low	Medium	High	Very High
1	Improve public health surveillance systems	***	***	***	***
2	Establish Health and Climate data management system	***	***	***	***
3	Strengthening Early warning systems:	***	***	***	***
4	Improved Public Health Services	*	**	***	***
5	Improved Water, Sanitation, and Hygiene system	*	**	***	***
6	Human Resource Development	*	**	***	***
7	Enhanced public awareness and attitudes	*	**	***	***
8	Targeted intervention to regional contexts by enhanced financial resources	*	**	***	***
9	Research	**	**	**	**
10	Mainstreaming climate change adaptation	***	***	***	***

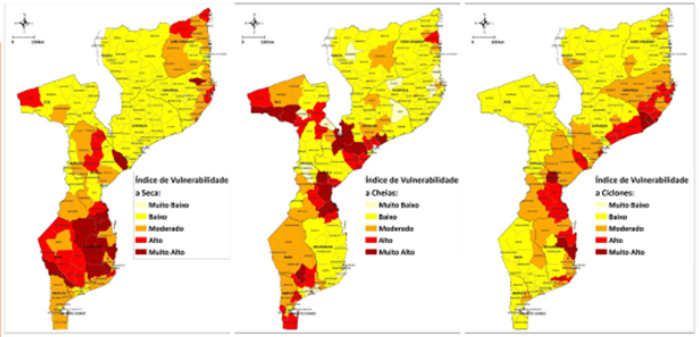
*** high priority option
** Medium priority option
* Low priority option

Mozambique Health Vulnerability Index(HVI)



- High to very high HVI in 42 districts (31.8% territory & population)
- 15 of the 20 districts with low HVI are urban (75%)

Health Vulnerability Index to Specific Extreme Events drought, flood cyclone

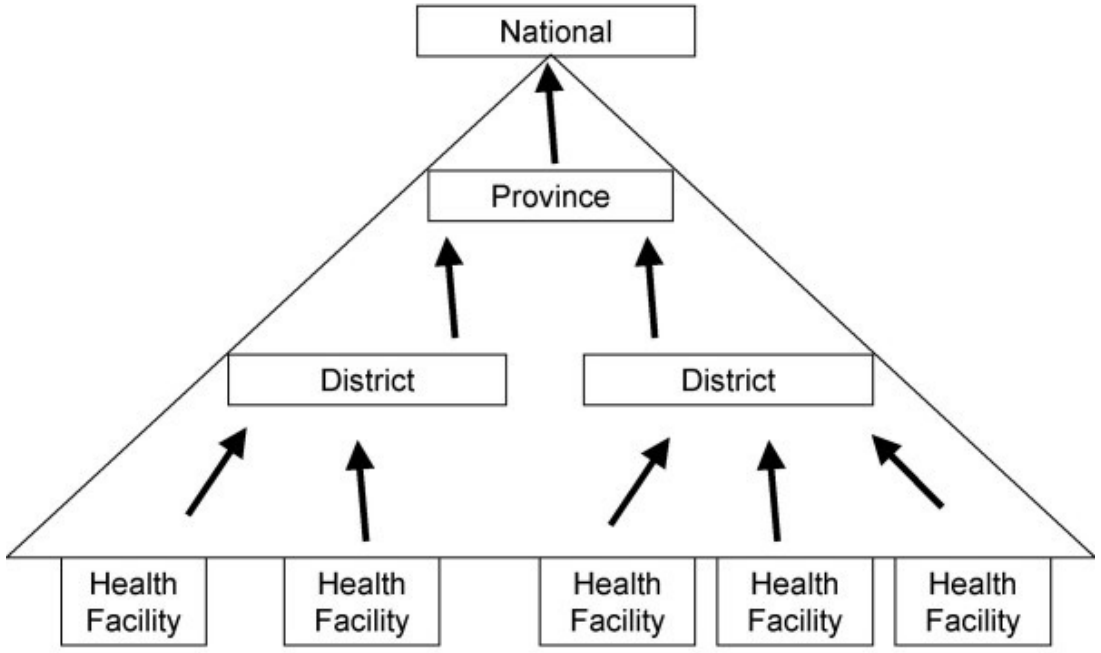


In general, the vulnerability to each extreme event is quite aligned with exposure to the corresponding event type

Mozambique Adaptation Options

- **Mapear as infra-estruturas** de saúde em função do tipo de risco por fenómeno climático e assegurar que sejam **resilientes a eventos climáticos extremos**.
- **Integração** robusta da **vigilância epidemiológica** de **diarreias, dengue, chikungunya** (e talvez outras doenças emergentes) nas actividades rotineiras do sistema nacional de saúde.
- **Padronizar** um único **software ligado ao BES** para assegurar a recolha de dados epidemiológicos em casos de perturbações (ciclones, cheias, terramotos, etc), mediante dispositivos digitais, assegurando a recolha de dados.
- Reforçar a **vigilância entomológica** de vectores de arboviroses. Pode se ligar às actividades do PNCM para optimizar recursos
- Utilizar a informação da **antevisão climática** da época chuvosa para priorizar áreas de PIDOM (coordenação com INAM)
- **Mapeamento dos principais criadouros** dos vectores da malaria, priorizando áreas urbanas e periurbanas onde são melhor identificaveis

Climate Change and Health V&A Assessment Result



Health Data Collection Process

Challenges/gaps

- Availability retrospective (10 years & above) health data
- Managing and making fit for the VA assessment purpose accessed health and climate data
- Resource limitation for primary information and data collection
- Management of Multidisciplinary team of V&A assessment

Lessons

- Ministry of Health ownership and leadership
- Collaboration and partnership with multi sectors and development partners specially with National Meteorology Agency, Universities & Research Institutes including oversea
- Multidisciplinary nature off the team helped in adapting WHO VRAM health emergency risk assessment & Agriculture livelihood vulnerability assessment tool for the health V&A
- National Capacity established & followed by CC and Health used as Ethiopia Public Health Association Annual Symposium Theme
- Methodology used for V&A installed at national health institute for future update of V&A
- Eye opening for health decision makers at national level & commitment to use the evidence in health planning
- Availability of small resource for health and CC helped a lot in undertaking V&A assessment with limited resource(the use of national researchers & experts with capacity building training & coaching)