



Coastal Community Resilience to Climate Change and Diarrhoea (C2R-CD) Project: 2020-2025

PROJECT OVERVIEW

DZIDZO YIRENYA-TAWIAH (PRINCIPAL INVESTIGATOR)

ANNUAL MEETING

12 MAY 2021



UNIVERSITY OF GHANA

Lead: INSTITUTE FOR ENVIRONMENT AND SANITATION STUDIES

Academic partners:

- School of Public Health
- Department of Physics
- Department of Marine and Fisheries Sciences
- Centre for Climate Change and Sustainable
- Department of Animal Biology and Conservation Science Development



Danish partner:

- Aarhus University



People's Dialogue On Human Settlement
Ghana

Local partners:

- Peoples Dialogue on Human Settlement, Ghana
- Environmental Protection Agency



Presentation outline

- Project Background
- Project Goal and Objectives
- Year one activities
- Way Forward

Background



- Extreme weather/variability
 - vulnerable populations will be most affected
 - Africa and Southeast Asia
- malaria, malnutrition, heat stress and diarrhoea – (WHO, 2018)

Global estimates of diarrhoea

- 1.31 million deaths/ yr
- approx. half a million deaths in children under 5 years
- relative risks of diarrhoea is projected to increase by 8-11% (2010-2039)
- Ghana - Top 10 position of OPD cases

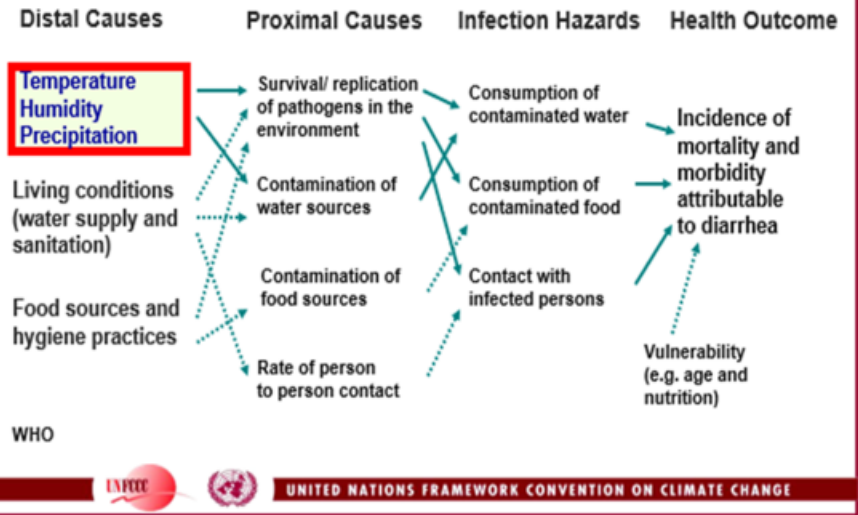
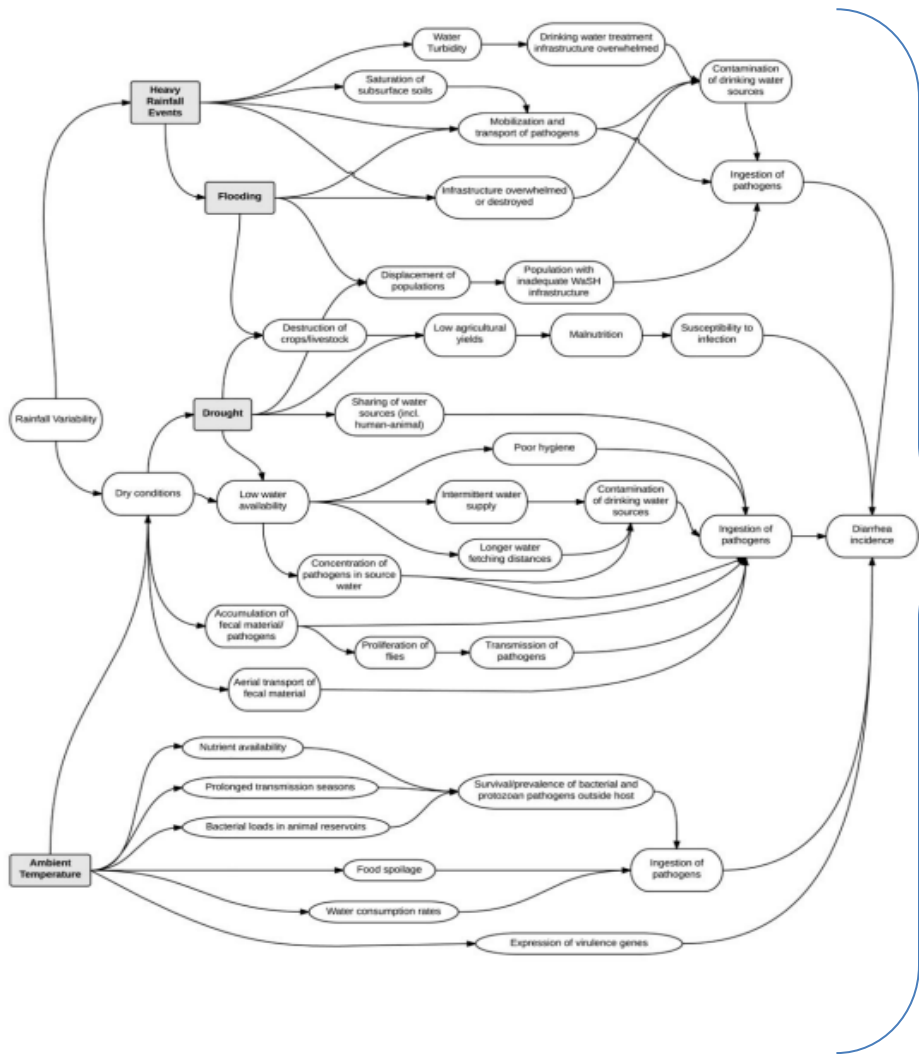


Figure showing environmental determinants of health

Background

- **C2RCD Project Goal**

To Build Resilience To Climate Change and Improve Diarrhoea Management In Coastal Communities

Objectives

- ✓ Assess climatic and non-climatic determinants of diarrhoea diseases in coastal communities in Ghana and understand how they impact on diarrhoea transmission.
- ✓ Understand the epidemiology and transmission pathways of diarrhoea in coastal communities.
- ✓ Assess social and local governance systems in relation to disaster and health management

By 2025

We seek to

- 1. Unearth the drivers and barriers that promote or inhibit adaptations to climate change and diarrhoea management in coastal communities*
- 2. Generate data to predict weather changes on coastal communities and diarrhoea*
- 3. Explore some scalable, locally appropriate actions to meet immediate and future community adaptation needs to create climate resilient sustainable development pathways;*
 - i. Strengthen study communities to develop sustainable local solutions to enhance their adaptive capacity for diarrhoea and climate change*
 - ii. strengthen and support government and civil society to facilitate local-level adaptation;*
 - iii. Set up horizontal and vertical dialogue systems between communities, government, civil society and the private sector*

Time lines

WP	Tasks / activities	Partners	2020				2021				2022				2023				2024/25			
			3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12	3	6	9	12
WP1	1: Characterize the biophysical environment and climatic conditions of identified coastal ecosystems	1																				
	2: Acquire and process meteorological data from GMET and ECMWF	1,2																				
	3: Generate land use and elevation maps	1,2																				
	4: Test hydrological approaches for flood screening	1,2																				
	5: Assess the role of climate change induced sea level rise and storm surges in driving flooding events	1,2																				
WP2	1: Investigate the epidemiological determinants of diarrhoeal outbreaks in coastal communities	1,2																				
	2: Assess water supply, environmental sanitation and hygiene practices in the study communities	1,2																				
	3: Assess household food, water sources and point of use for microbial contamination levels	1,2																				
	4: Undertake abundance, distribution and disease carrying capacity of mechanical vectors in study areas	1,2																				
	5: Identify potential environmental hotspots for diarrhoeal diseases transmission	1,2																				
WP3	1: Characterize the study communities (social, economic, cultural and demographic)	1,4																				
	2: Investigate stakeholder perceptions and knowledge on information	1,4																				
	3: Examine formal and informal practices for climate related hazards and diarrhoea	1,4																				
	4: Develop a risks and community resilience matrix for adaptive capacities	1,4																				
WP4	1: Organize data from WPs 1, 2 and 3 into Python	1,2																				
	2: Test an array of statistical approaches for predicting diarrhoea	1,2																				
	3: Develop a Python-based scenario workflow	2																				
	4: Develop Python-based interactive visualizations	2																				
	5: Training course on data analysis and applied statistics in Python	2																				
WP5	1: Establish a platform for community involvement and multi stakeholder participation	1,3																				
	2: Co-develop innovative community interventions	1,3																				
	3: Build capacity of key influencers and champions to facilitate behavioural change	1,3																				
	4: Identify and engage key decision makers (formal and informal) for support and adoption of methodologies	1,3																				
	5: Develop capacity of OTMS on innovative interventions and market opportunities	1,3																				

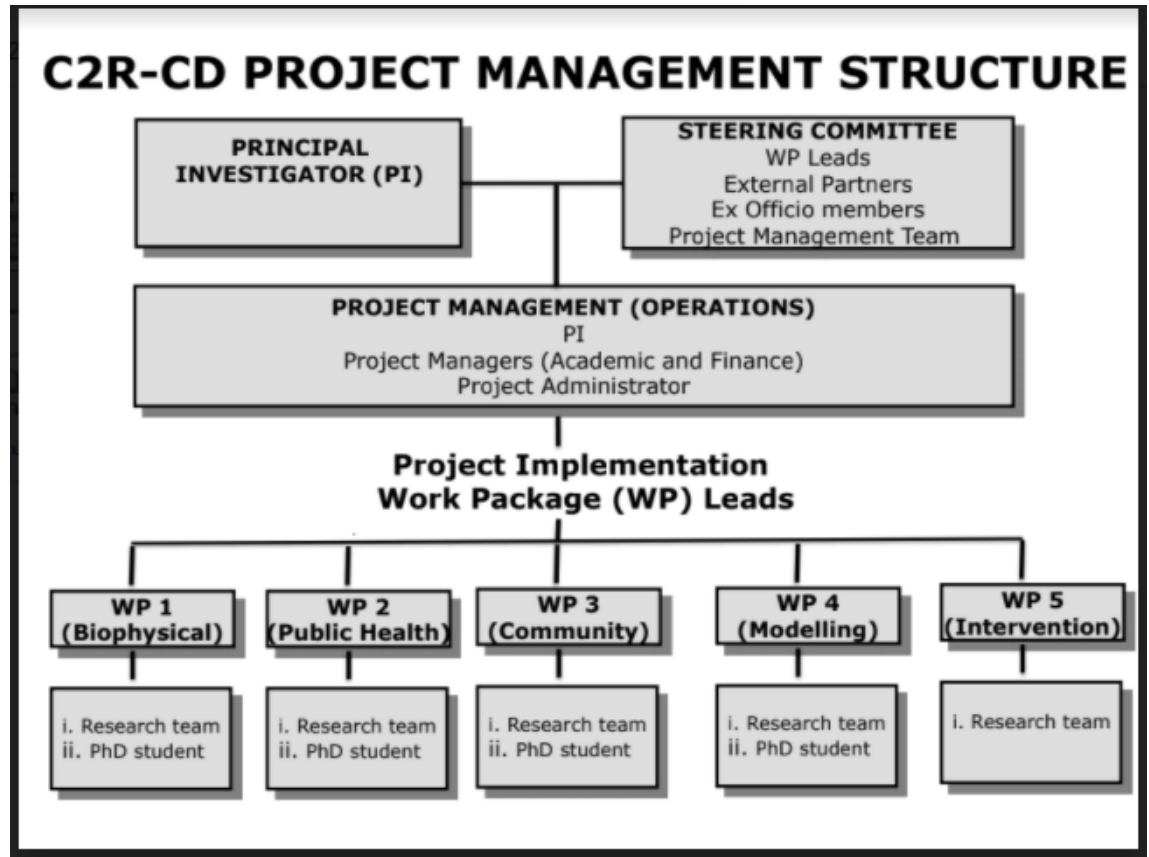


Our one year journey

Partners	Colour code
1 University of Ghana (Ghana)	Upstart

Start-up

Covid Restrictions



START-UP

Covid Restrictions

Ethical Clearance

- Ghana Health Service
- University of Ghana, (CBAS)

Inception Meeting

- 11-12 August, 2021

Partnership Agreement

PhD students recruitment

- School of Public Health
- Institute for Environment and Sanitation Studies
- Department of Marine Sciences and Fisheries

Masters (3)



Community Entry



Baseline data

WP1 – Climate data/Biophysical assessment

WP2 – Diarrhoea data, Entomological survey, Water/Food quality

WP3- Socio cultural characterization of coastal communities

WP4 – Testing of models, data storage, developing training module

WP5- Community engagements, community networks

Other activity



Coastal Communities Resilience - Climate and Diarrhoea (C2RCD)

TRANSDISCIPLINARY WORKSHOP AGENDA

4th-5th FEBRUARY, 2021

Two-day workshop

DAY ONE

Time (GMT)	Activity
12:45 – 13:30	Registration and lunch
13:30 – 13:45	Introduction to workshop
13:45 – 14:30	What is Transdisciplinary Research (TDR)?
14:30 – 14:40	Break
14:40 – 15:30	Transdisciplinary Methods and Approaches
15:30 – 16:00	Discussion/Reflections

DAY TWO

Time (GMT)	Activity
12:45 – 13:30	Registration and lunch
13:30 – 13:50	Review of key concepts
13:50 – 15:00	Application of TDR in Work Packages
15:00 – 16:00	Reporting and Plenary

Way forward- Year 2

Continue baseline study

Trainings

- PADA
- Modelling

Project visibility

- Website
- Conference participation
- Publications

Networking

- Local
- International

Acknowledgement

*Ministry of Foreign Affairs of
Denmark- Funding*

Partners

Municipal and District Assemblies

*Communities- Traditional leaders ,
Assemblymen , community
members*

