STATE DEPARTMENT FOR MEDICAL SERVICES

MINISTRY OF HEALTH

Health Emergency Preparedness Response and Resilience (HEPRR) Project

Credit Number: 7405-KE

Project ID: P180127

TERMS OF REFERENCE

FOR

CONSULTING SERVICES TO UNDERTAKE KENYA'S CLIMATE CHANGE AND HEALTH VULNERABILITY AND ADAPTATION ASSESSMENT (CHVA)

FOR THE MINISTRY OF HEALTH (MoH)

(FIRM SELECTION)

PROCUREMENT/CONTRACT REF NO.: KE-MOH-556692-CS-CQS

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Client:
State Department for Medical Services,
Attn: Project Coordinator, HEPRR Project
P.O Box 30016-00100, Nairobi
Tel: +254721924030
Email: heprr@health.go.ke

1.0 Introduction

1.1 Project Background

The Government of Kenya, through the State Department of Medical Services, and with support from The World Bank, is implementing the Health Emergency Preparedness Response and Resilience Program (HEPRR) which aims to strengthen health system resilience and multisectoral preparedness and response to health emergencies in Kenya. This is to be achieved through providing support for national and regional systems for health emergency preparedness and response to work in tandem with those strengthening health system resilience, and to develop regional pharmaceutical and vaccine manufacturing and logistical capacities, premised on a strong regulatory ecosystem and a reliable market ecosystem, which is imperative to addressing Africa's reliance on imports.

The Project is being implemented by the Ministry of Health (MoH), Kenya Biovax Institute (KBI), Pharmacy and Poisons Board (PPB), National Quality Control Laboratories (NQCL) and Kenya National Public Health Institute (KNPHI).

The Project comprises of the following four (4) components:

Component 1: Strengthening the Preparedness and Resilience of Kenya's Health System to Manage Health Emergencies: (i) Health workforce development including narrowing of gender gaps; (ii) Strengthening of Local Pharmaceutical and Vaccine Manufacturing Capacity, implementation to be conducted in phases, with key conditions to be met before implementing establishment of capacity for F&F of human vaccines; (iii) Information systems for Health Emergencies and the digitalisation of the health sector.

Component 2: Improving the Detection of and Response to Health Emergencies: (i) Collaborative multisectoral gender-disaggregated surveillance and laboratory diagnostics; (ii) Emergency management, coordination, and essential service continuity.

Component 3: Project Management: To support project coordination and activities for program implementation and monitoring and to strengthen management capacity as well as integrate climate change and gender issues into the project.

Component 4: CERC, to be activated as needed based on established procedures described above. Project scope and beneficiaries.

1.2 Rationale

Kenya's health status has improved in the last five years, however, significant challenges to attaining the highest quality of health continue to be experienced, including geographic, gender and economic inequities. This has been further compounded by the COVID-19 pandemic that contracted the economy and reversed gains made in poverty reduction and human capital development. In addition, Kenya still faces several challenges in achieving the core capacities required to effectively prevent, detect, and respond to public health emergencies, that are compounded by extreme climatic events, which account

for up to 70% of disasters (floods and droughts) and affect an estimated 3-4 million Kenyans annually.

To address these challenges including those related to climate, the HEPRRP has prioritized to support the Ministry of Health to conduct climate and health vulnerability and adaptation assessment as well as develop the national climate and health adaptation plan and investment plans as well as design of a climate adaptation curriculum for health professionals at a later phase.

Box 1: Key definitions:

*A **Climate Change and Health Vulnerability and Adaptation Assessment (CHVA)** assesses populations and geographical areas that are most vulnerable to different kinds of health impacts as well as the capacity of health systems to manage these. CHVAs evaluate current and future vulnerability (i.e. the susceptibility of a population or region to harm) to the health risks of climate change and identify policies and programs that could increase resilience, taking into account the multiple determinants of climate-sensitive health outcomes. This process aims at identifying weaknesses in the systems that should protect the population's health as well as adaptation options. The CHVA also serves as a baseline analysis against which changes in disease risks and protective measures can be monitored.*

*A **Health National Adaptation Plan (HNAP)**, as defined by the World Health Organization (WHO), is a plan developed by a country's Ministry of Health as part of the National Adaptation Process. Its development is crucial for prioritizing actions to address the health impacts of climate change across all planning levels, linking the health sector to national and international climate change agendas with a focus on health co-benefits from mitigation and adaptation actions in other sectors, and promoting coordinated and inclusive climate change and health planning among various health stakeholders.*

The Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report (AR6) concluded that climate risks are appearing faster and will become more severe sooner than previously expected, and it will be harder to adapt to increased global heating. Climate change is increasingly recognised as a systemic risk to health systems and economic stability, particularly in climate-vulnerable and fiscally constrained contexts.

In Kenya, the World Bank's Country's Climate and Development Report, 2023[1] highlights increased exposure to diseases, heat stress, and air pollution due to climate change, with predictions of higher malaria and dengue cases, and worsened water quality. Climate change is expected to increase households' exposure to health shocks, due to an increase in vector and waterborne diseases, heat stress, and air pollution. The projected higher temperatures and rainfall intensities are predicted to increase suitability for malaria vector species, with spill-over into seasonal transmission areas, traditionally low-risk areas, and areas where the malaria burden had previously been controlled. Climate change–induced flash floods and prolonged droughts in Kenya have significantly affected the quality and quantity of drinking water, with direct implications for outbreaks

[1] Kenya Country Climate and Development Report: https://openknowledge.worldbank.org/entities/publication/b59c453d-c2cb-421d-909d-7c05cb0d4580

of waterborne diseases[2]. The prolonged dry seasons increase the length and intensity of allergy seasons and pollutants, leading to lower air quality and more respiratory illnesses. Other expected health impacts of climate change include heat-related illness, rising food insecurity, mental health, and well-being challenges, and direct injuries and deaths due to extreme weather events; children, women, and elderly people are disproportionally affected, especially in poor rural households[3].

Kenya's health system, already strained, will struggle to cope with the growing demand for services related to climate change thus threatening to undermine the achievement of universal health care (UHC). To address climate change challenges in health programmes including UHC, deliverables from the planned CHVA are expected to demonstrate that climate–health vulnerability can systematically be quantified at subnational level using deterministic composite indices integrating climate exposure and population sensitivity within a transparent, reproducible framework linking climate–health vulnerability to fiscal, investment, and equity considerations.

2.0 Purpose, Aims and Objectives of the TOR

This Terms of Reference (TOR) outlines the support requirements for Kenya's goals to fulfil the 26th Climate Change Conference of Parties (COP26) Health Programme commitments made in Glasgow, aimed at building climate-resilient and sustainable low-carbon health systems. Kenya's commitment under the COP26 Health Programme includes conducting a Climate Change and Health Vulnerability and Adaptation Assessment, which is to inform the development of first Country Health National Adaptation Plan (HNAP). Kenya's commitment has been further strengthened by its signing of the COP28 Climate Change and Health Declaration[4] and the 77th World Health Assembly Resolutions on Climate Change and Health[5] as well as its own Climate change and health Strategy 2024 – 2029.

This Terms of Reference (TOR) details the necessary technical assistance for the Kenya Ministry of Health through the Climate Change and Health Steering Committee and the Climate Change and Health Technical Working Group to complete the Climate Change and Health Vulnerability and Adaptation Assessment, as well as create the enabling environment and opportunity to automate the Kenya CHVA and create a costed Health National Adaptation Plan as well as develop climate health investment case for three climate sensitive diseases – Malaria, tuberculosis (TB) and HIV/AIDS.

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[2] Kenya National Adaptation Plan: 2015-2030, Government of Kenya, July 2016

[3] https://climatepromise.undp.org/news-and-stories/climate-crisis-health-crisis-heres-why#:~:text=Climate%20change%20impacts%20human%20health,food%20insecurity%2C%20and%20mental%20distress.

[4] https://www.cop28.com/en/cop28-declaration-on-climate-relief-recovery-and-peace [Accessed 18th October 2024]

[5] https://apps.who.int/gb/ebwha/pdf_files/WHA77/A77_ACONF7-en.pdf [Accessed 18th October 2024]

2.1 Aim and Objectives

This project aims to support Kenya's Ministry of Health to complete a comprehensive Climate Change and Health Vulnerability and Adaptation Assessment as well as create an enabling environment and opportunity to automate the CHVA, develop a Health National Adaptation Plan and a health sector Climate Investment Case for Kenya. In addition, the task is expected to facilitate enhanced coordination and forge partnerships with a wide range of government, non-government, and development partners to address the current and projected health risks due to climate change. This activity will be conducted across 10 proposed counties that are prone to extreme climate shocks (list of counties attached).

The objective of this consulting service is to:

Main Objective: Conduct Kenya's Climate Change and Health Vulnerability and Adaptation Assessment at the national level, while representatively covering at least ten (10) counties as pilot sites (Annex I)

Specific Objectives:

a. Undertake a comprehensive climate change and health vulnerability and adaptation assessment (CHVA) for Kenya based on the WHO's latest methodological criteria, systematically integrating evidence across exposure, sensitivity, adaptive capacity, governance, and data systems domains.

b. Compile climate health risk profiles of the climate-sensitive diseases under the current climate and the future projections to 2050, utilizing scenario-based modelling under two Shared-Socioeconomic Pathways (SSP) for all counties in Kenya.

c. Assess the adaptive capacity of the health system using the 6-health building blocks that act as a buffer to the climate hazards' impact on the health systems.

d. Undertake piloting and stakeholder engagement in at least 10 counties to be identified

e. Prepare a national report on CHVA, with generalized recommendations applicable across Kenya and detailed results with contextualized recommendations for each of the 47 counties representing their respective climatic zones

3.0 Scope of Work and Specific Tasks

The task in this Terms of Reference is to complete comprehensive Climate Change and Health Vulnerability and Adaptation Assessment. This task will be undertaken using the World Health Organization (WHO) methods, processes, and tools that will be contextualized and validated for use in the Kenyan context. Additionally, all activities will incorporate participatory, multi-disciplinary, and

transdisciplinary approaches, under the leadership of the Steering Committee appointed by the Ministry of Health.

The tasks are as described below.

Main Task: Undertake a comprehensive climate change and health vulnerability and adaptation assessment (CHVA) for Kenya based on the WHO's latest methodological criteria, systematically integrating evidence across exposure, sensitivity, adaptive capacity, governance, and data systems domains.

Specific Tasks

- Perform a literature review of scientific and local reports, scoping data sources related to climate, health, and socio-economic factors
- Conduct key informant interviews with stakeholders across various ministries, counties and organizations.
- Collect climate change and vulnerability data through published and unpublished reports as well as through field visits to at least 10 counties (Annex 1 list of proposed counties)
- Submit the Vulnerability and Adaptation Assessment (CHVA) report for Kenya and detailed climate health profiles for all the 47 counties in Kenya

4.0 Duration and Location of the Assignment

The expected duration for the assignment will be six (6) calendar months from contract commencement date. The assignment will be implemented in two (2) phases, with Phase 1 lasting a period of four (4) months (lump-sum contract). This period will be for conducting the vulnerability and adaptation assessment and compilation of the key deliverables including the draft CHVA report and the development of the detailed county climate health profiles. It is intended that thereafter the provision of the services will be retained (Phase 2) for a further two (2) months (Time-based contract) during which the consultant shall engage counties and pilot the CHVA in at least 10 counties (Annex 1) and finalize all deliverables. The second phase of the assignment will become effective upon approvals of phase 1 deliverables.

The Consultant should be based in Nairobi, Kenya and any engagement with various stakeholders will be supported by the HEPRR Project Coordinating Team.

5.0 Reporting Requirements and Deliverables Timelines

5.1 Reporting

The consulting firm will report to the HEPRR Project Coordinator who will review the deliverables, advise accordingly and approve.

5.2 Schedule of Deliverables

The consultant shall be paid subject to the provisions of the assignment based on deliverables as follows:

Table 1: Reporting requirements and Timelines for deliverables (Phase 1- Lump Sum)

No.	Deliverable	Timelines for submission of Deliverables after contract commencement date	Format of presentation of Deliverables
1.	Inception report – CHVA	Week 2	1 hard copy and 1 soft copy in pdf format
2.	Preliminary CHVA Country report including modelling and Geographic Information System (GIS)	Week 16	1 hard copy and a soft copy in pdf format
3.	County consultations and technical review workshops reports or minutes	Week 20	1 hard copy and a soft copy in pdf format for each set
4.	Kenya Vulnerability and Adaptation Assessment (CHVA) final report	Week 24	1 hard copy and a soft copy in pdf format
5.	National and all 47 Counties Climate health risk profile data	Week 24	Data matrix and dashboard dummy
6.	County Engagement and CHVA piloting reports	Week 24	1 hard copy and a soft copy in pdf format
7.	Assignment Completion Report	Week 24	1 hard copy and a soft copy in pdf format

6.0 Payment Schedule

Payment to the consultant will be made upon submission of deliverables, approved by the HEPRR Project Coordinator as will be guided by Climate Change and Health Steering Committee, as detailed below. Any eligible and approved reimbursable expenses shall be paid upon submission and approval of relevant verifiable supporting documentation and receipts.

Table 2: Payment schedule (Lump-Sum)

No.	Deliverable	Timelines for submission of Deliverables after contract commencement	Percentage of the contract sum (Lump Sum)

		date	
1.	Inception report – CHVA	Week 2	30%
2.	Preliminary CHVA Country report including modelling and Geographic Information System (GIS)	Week 16	0 %
3.	County consultations and technical review workshops minutes or reports	Week 22	50%
4.	Kenya Vulnerability and Adaptation Assessment (CHVA) second draft report	Week 22	
5.	County Engagement and CHVA piloting report	Week 24	20%
6.	National and County Climate health risk profile data	Week 24	
7.	Kenya Vulnerability and Adaptation Assessment (CHVA) final report	Week 24	
8.	Final activity completion report that include schedule or road map on development of the linked deliverables, that include Costed Health National Adaptation Plan, electronic CHVA (E-CHVA) and Climate Health Investment Case for Kenya	Week 24	

7.0 Human Resource, Skills Requirements and Selection Criteria

Consultants for this project are expected to be strong team players with excellent communication skills and proficiency in Office tools, with at least 80% of the team based in Kenya.

7.1 Team composition

Key roles include a Lead Consultant with specialty in Public Health and registered and accredited by relevant health professional body in Kenya and should have a minimum of 10 years of experience in public health consultancies and vulnerability assessments in low- and middle-income countries, particularly in sub-Saharan Africa. The lead consultant will oversee the development of the Kenya Climate Health Vulnerability Assessment (CHVA) among other deliverables as per the scope of the assignment. Importantly, all consultants should have advanced degrees in their respective fields, with a strong focus on health, climate change, environment and economics.

Other than the team leader, the team or the consulting service firm shall comprise of other experts with different areas of specialty relevant to the assignment as follows;

i. Public Health or environmental Specialist with a minimum of 7 years of experience in social/environmental health determinants and policy development,
ii. Climate Change specialist
iii. Health Data Analyst and Modelling Specialist
iv. Communication Specialist to manage the project's visibility and media relations, and
v. A Health Economist experienced in cost-benefit analysis and economic modelling to support the development of the health sector climate health investment case.
vi. Support services: The firm will also put in place necessary administrative and support services including engaging other relevant experts on short term.

7.2 Consulting service Firm & Consultants Qualifications

7.2.1 Consulting service Firm

1) Proven track record of successfully completing public health and climate health consultancies, with particular focus in assessing public health impacts and developing health impact assessment and management plans and climate change vulnerability and adaptation assessments in low and middle income countries particularly in sub Saharan Africa.
2) Experience with projects funded by international financial institutions, such as the World Bank, World Health Organization, Global Fund and familiarity with the World Health Organization's guide on climate vulnerability and adaptation assessments and the World Bank's Environmental and Social Framework (ESF) among other global best frameworks.
3) Proven Experience: Minimum 7 years for the lead expert in conducting public health consultancies in the areas of HIA, ESIAs, climate health modelling preferably with climate health projects financed by World Bank, World Health organization, IFC, UNICEF or other multilateral institutions.

4) Regulatory Compliance: Familiarity with: World Bank ESF (ESS1-ESS10), WHO climate change and health vulnerability Assessment and HNAP Guidelines.
5) Kenyan health, environmental and climate change laws (e.g., Public Health Act, Health Act, Climate Change Act, County health laws).
6) Technical Expertise: Consulting service team to have experience in health impact assessment, environmental health and climate change specialization. Details for each specialty in the table below.
7) Knowledge of Good Industry Practices in development of health policies and undertaking of health impact assessment in the African Region.
8) Stakeholder Engagement: Demonstrated ability to conduct public consultations with affected communities, government agencies, and civil society.
9) Communication skills: to manage the project's visibility and media relations
10) Preferred credentials: Past Projects, examples of completed or credibly ongoing HIA/CHVA/C-HNAP or any health project or policy impact assessment reports.

7.2.2 Team Lead:

The Team Leader must have:

i. Advanced degree (Master's or PhD) in Public Health, Environmental Health, Epidemiology, or a related field with a minimum experience of 10 years in public health consultancies assessing public health impacts and developing health impact assessment and management plans and vulnerability and adaptation assessments in low and middle income countries particularly in sub Saharan Africa.
ii. Project management skills to oversee all aspects of a consulting service or research projects right through from inception report, situational analysis/data collection protocol/tool to final report
iii. Expertise in working with Governments, UN agencies, and NGOs, and preparing high-quality research reports or publications
iv. Demonstrate knowledge of Kenyan health, environmental and climate change policy and regulations, AfDB, World Bank, WHO, and IFC health and environmental standards.
v. Proficient in English (Oral and written).
vi. Ability to work with little supervision

7.2.3 Other Project Team and Qualifications

The team should also consist of multidisciplinary experts with the following minimum qualifications:

No	Expert	Minimum Qualification	Roles
1	Public Health Specialist:	Advanced degree (Master's or PhD) in Public Health, Environmental Health, Epidemiology, or a related field with 7 years in public health consultancies assessing public health impacts	Technical expertise during the development of the Climate Health

		and developing health impact assessment and management plans and vulnerability and adaptation assessments in low and middle income countries particularly in sub Saharan Africa.	Vulnerability Assessment (CHVA) and among other deliverables.
2	Climate Change and Health Data Analyst or Modelling Specialist	Advanced degree in climate change including in assessment and/or modelling or a related field with 7 years' experience in climate change and analyses of complex datasets and geospatial and health data analysis.	The expert to provide deeper understanding of climate change including climate health assessments.
3	Health Data Analyst or Modelling Specialist	Advanced degree in data science or a related field with 7 years' experience in statistical modelling, e.g regression modelling and analysis of complex datasets and geospatial and health data analysis	The expert to provide deeper understanding of data structures, algorithms, and statistical methods beneficial for all related assignment data modelling roles.
4	Communicatio n Specialist	Advanced degree with experience o 5 years in communication of public health and climate health events and communication of routine health work place happenings.	Manage the project's visibility and media relations.
5	Health Economist	Advanced degree in health economics with 5 years of experience in cost-benefit analysis and economic modelling to support the development of the health sector climate health investment case.	To lead the development of the health sector climate health investment case.
6	Computer Scientist/IT expert	At least a Bachelor's degree in either Computer Science, IT or related field from a recognized university. The consultant shall demonstrate general experience of at least 8 years in website and software solutions development, and at least 5 years' specific experience in PHP, AJAX, Java Script, HTML (including version 5), CSS (including version 3) scripting and coding languages and standards, use and configuration of Word Press CMS, MySQL Database, Apache web server applications. Experience with database management systems like SQL Server, Oracle, or MySQL. Experience with common data science programming languages such as Python, R, Spark, Matlab. Experience in cyber security, is an added advantage. Be conversant with Kenya's legal and regulatory frameworks such as on data protection.	To lead the development of the National and County Climate health risk profile data with support of the health data analyst.

7.3 Consultant Selection Criteria

Criteria	**Score**
Technical Qualifications of Firm/Teams	60%

Criteria	Score
Experience in Public Health Multinational Consultancies, CHVA, HNAP, and Other Climate Change Policies	20%
Financial Proposal	15%
Reference from previous clients	5%
Total	100%

8.0 Obligation of the Client and Consulting Firm

8.1 Obligation of the Client

The Client will:

1. Provide to and collaborate with the Consultant in making available all Project-related data, documents and reports relevant to the assignment subject to the extent of availability of such information.
2. Facilitate the Consultant's access to other National Government Ministries, Departments and Agencies (MDAs), Institutions and County Governments, where necessary.
3. Review and approve reports.

8.2 Obligation of the Consultant

1. The Consultant will be answerable to the HEPRR Project Coordinator in the execution and delivery of this consulting service;
2. The consultant will be required to make their own travel and accommodation arrangements during stakeholder consultations and ensure the assignment is undertaken smoothly and seamlessly within the timeframe provided; and,
3. Timely provide reports and deliverables, in English, as per the agreed schedule.

All the stakeholders supporting the assignment will support the client in providing technical feedback on the assignment where necessary.

8.3 Reporting Arrangements

This assignment is to be procured through the Ministry of Health (MOH) procurement system under the leadership of the State Department for Medical Services. The budget and project deliverables will be managed by the HEPRR PCT.

The consultants will be reporting direct to the Principal Secretary, State Department for Medical Services, Ministry of Health through the Project Coordinator HEPRR Project. They will be working under the direction of the HEPRR project PCT with technical guidance from the Steering Committee on climate Change and health for the day-to-day operations.

The Lead consultant will be responsible for providing progress updates and lessons that will be shared with coordination structures such as: 1) Relevant Health Sector Inter-Agency Coordination Committees, and 2) the Climate Change and Health Technical Working Group. The Ministry of Health through the Council of Governors (COG) will also ensure continuous communication with county-level actors.

9.0 Risks and mitigation measures

Risks	Mitigation Measures
Modest engagement of government and development partners on process and outputs	A governance and oversight mechanism will be established which is convened by the government and co-chaired by Health Development Partners, with representation across key levels of government and with the breath of development partners.
Delay in the timeline	The Lead consultant will work closely with national and county-level focal persons to ensure that all administrative risks of delay are prevented early. The Steering Committee will review progress towards milestones monthly to monitor and address potential risks of delay.
Quality and depth of vulnerability and adaptation assessment are insufficient to plan adaptation measures at the County level	As Kenya is a very diverse country, with a range of climate risks, and extreme geographical, economic, and social contexts, it will be crucial that the CHVA includes detailed work across the eight geopolitical zones. This work should be in-depth enough to understand the specific risks and to design cost-appropriate health adaptation measures at the County level.
Access to the necessary mix of expertise on Climate Change and Health	Kenya already has some trained capacity in vulnerability and adaptation assessment. This risk will be mitigated by selecting the team appropriately for a mix of skills.

10.0 Management and Accountability of the Assignment

The Ministry of Health (MoH) through the State Department for Medical Services is the Client for the consulting services. In terms of performance and deliverables, the consultant will carry out the assignment under the direction and report to the HEPRR Project Coordinator. The Steering Committee on Climate Change and Health will provide the technical and coordination support necessary for the successful implementation of the assignment.

10.1 Confidentiality and Data Ownership

1. All the reports, data, and information developed, collected, or obtained from the implementing agencies, MDAs, and other Institutions during this exercise shall belong to the Client. No use shall be made of them without prior written authorization from the Client.
2. Adhere to the Kenyan data protection laws and regulations and the World Bank data privacy and protection requirements. All data is confidential and is the property of the Ministry of Health.
3. At the end of the Services, the Consultant shall relinquish all data, manuals, reports and information (including the database, codes, and related documentation) to the Client and shall make no use of them in any other assignment without prior written authority from the Client.

Annex 1: Proposed Counties to guide conduct, Piloting and Engagement on the Kenya Climate Change & Health Vulnerability and Adaptation Assessment

S/N	County Name	Water Scarcity Score	Heat	Flood	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Selected yes/no	Justification
1	Mombasa	8.5	3	10						1	Yes	Urban, island and climatic zone 6 representation
2	Tana River	9	7	9.7				1	1	1	Yes	High exposure indicators
3	Wajir	10	9.5	5				1				High exposure indicators and zone 4 representation
4	Marsabit	10	7.3	4.8			1	1			Yes	Very high exposure and zone 3 representation
5	Makueni	8.7	6.6	3.7					1		Yes	Zone 5 representation and water scarcity
6	Murang'a	0	6.6	3.4	1						Yes	Zone 1 representation
7	Turkana	10	9.4	9.9		1	1				Yes	Very high exposure and zone 3 representation
8	Baringo	7.6	3.8	3.8		1					Yes	Zone 2 representation and water scarce
9	Kajiado	8.6	6.5	3.8					1		yes	Zone 5 and water scarce
10	Kisumu	5.7	6.9	8.8		1					Yes	Zone 2 (lake), floods and urban