# Adaptation Roadmap for the Water and Health sectors

ICAT Initiative for Climate Action Transparency

# Initiative for Climate Action Transparency – ICAT
# Adaptation Roadmap for the water and health sectors

Deliverable D

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### DISCLAIMER



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# Abbreviations

| | |
|---|---|
| ALMA | African Leaders Malaria Alliance |
| BERCS | Baphalali Eswatini Red Cross Society |
| BURs | Biennial Update Reports |
| CBIT | Capacity Building Initiative for Transparency |
| CMIS | Client Management Information System |
| CSI | Corporate Social Investment |
| COMESA | Common Market for Eastern and Southern Africa |
| COP | Conference of the Parties |
| DWA | Department of Water Affairs |
| EEA | Eswatini Environmental Authority |
| EEC | Eswatini Electricity Company |
| ETF | Enhanced Transparency Framework |
| ENTC | Eswatini National Trust Commission |
| EWSC | Eswatini Water Services Corporation |
| FAO | Food and Agriculture Organisation |
| GHG | Greenhouse gases |
| HMIS | Health Management Information System |
| H-NAP | Health National Adaptation Plan |
| ICAT | Initiative for Climate Action Transparency |
| IPCC | Intergovernmental Panel on Climate Change |
| IVM | Integrated Vector Management |
| IWRM | Integrated Water Resource Management |
| MOA | Ministry of Agriculture |
| MOH | Ministry of Health |
| MTAD | Ministry of Tinkhundla Administration and Development |
| MTEA | Ministry of Tourism and Environmental Affairs |
| MRV | Measurement, Reporting and Verification |
| NC1 | First National Communication |
| NCCP | National Climate Change Policy |
| NCDs | Non-communicable diseases |
| NDC | Nationally Determined Contributions |
| NDP | National Development Plan |
| NERMA | National Emergency Response Mitigation and Adaptation Plan |
| NGO | Non-Governmental Organisation |
| NMCP | National Malaria Control Programme |
| NWA | National Water Authority |
| RBA | River Basin Authority |
| SDGs | Sustainable development goals |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNDP | United Nations Development Programme |
| UNESWA | University of Eswatini |
| UNICEF | United Nations Children Emergency Fund |
| WASH | Water, Sanitation and Hygiene |
| WHO | World Health Organisation |
| WVI | World Vision International |

# Chapter 1 – Introduction

## 1.1 Introduction

The Government of Eswatini views climate change as one of the greatest challenges affecting the country in present times. It has thus prioritized climate change as a development concern which requires urgent and long-term actions to reduce the vulnerability of Emaswati by increasing adaptive capacity and improving resilience. The health and water sectors have been prioritized as being vulnerable to climate change. These sectors have always been included in the National Communications (NCs), as well as Nationally Determined Contributions (NDCs) as priority areas for adaptation measures. For the water sector, several adaptation measures have been identified to be ongoing while for the health sector, there were no specific adaptation measures being implemented directly.

In this regard, the recently updated NDC (2021) expounded on the adaption measures for both the water and health sectors, which was a welcome progress for the health sector. As part of this deliverables of activity 1 of the ICAT project, a state-of-play report has been developed for both sectors, followed by a gap analysis and action plans which are proposed to meet the NDCs for both water and health. The gap analysis report highlighted that the implementation of climate change adaptation actions has been slowed down by several gaps which include climate finance, infrastructural inadequacies, institutional arrangement and delayed approval of some regulations and policies. This report therefore gives a roadmap for tracking adaptation measures in the health and water sectors.

## 1.2 Approach to developing the sectoral roadmaps

The roadmap was developed through several steps as shown in Figure 1. 1. The first step was the development of an inventory of past and current climate adaptation plans, policies and activities in the health and water sectors. This was done through the review of various government plans, strategies and policies and other related literature as well as stakeholders engagements as reported in the state-of-play report.[1] The stakeholder consultation workshops were followed by consultative meetings with individuals within the sectors. Gaps were identified by comparing completed projects to the NDCs. Outstanding projects were given as a recommendation and they were then converted into an action plan.[2] Another stakeholder workshop (whose report was generated)[3] was held to present and validate the action plan, to validate the broader action themes and to prioritise these actions based on the relevant national strategies and feasibility. The outputs of this workshop were developed into the sectoral roadmaps. In the current report, roadmaps for each sector are presented which are building up on the previous reports. This is to ensure that the adaptation measures are easy to implement and track. The roadmap also defines institutional arrangements required to enhance the enabling environment that ensures the optimum effectiveness of adaptation measures in both sectors.

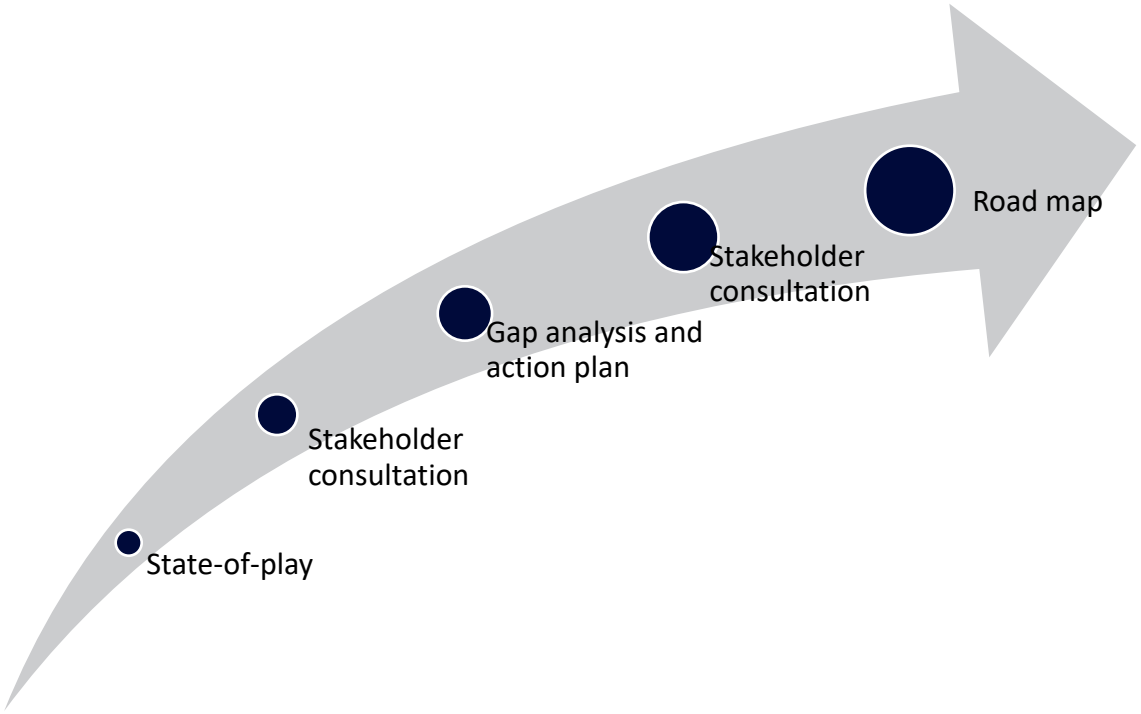


*Figure 1. 1: Steps towards the development of a roadmaps for adaptation in the Health and Water sector in Eswatini.*

## 1.3 Objectives of the Roadmap

A roadmap is a strategic plan that defines a goal or desired outcome and includes the major steps or milestones needed to reach it. The mail aim of the roadmap is to act as a reference point where government ministries and departments including stakeholders, share the same understanding of the goals behind the climate change initiatives to be implemented under the specified timelines.

# Chapter 2 – Water sector Roadmap

## 2.1 Introduction

The Water sector roadmap is an extension of preceding documents under this project which are the Inventory state of play, and the gap analysis and action plan.[4] As such, the actions for this road map are linked to the identified gaps and actions and must be read and understood together with the adopted gap analysis report.

## 2.2 Proposed Actions

The finalised roadmap themes identified are:

- Resource mobilization
- Strengthening of legal framework
- Institutional framework-set up
- Capacity building
- Research and development
- Infrastructure strengthening
- Monitoring and evaluation

The implementation of the roadmap actions under these themes is proposed to occur in four phases spanning a period of 8 years as shown in Figure 2 and explained in the text below.

### 2.4.1 Resource mobilization

The identified gaps for climate adaptation for the water sector will require substantial investment. The Swaziland rural water sustainability study[5] had identified three potential models to forge the development of the sector and associated financing which were the Department of Water Affairs (DWA) model, local government model and public-private partnership models. Eswatini is currently using a blended approach in her operations in the sector and leverages on the economic sustainability, corporate social investment and government funding. However, climate finance has been a major opportunity of late which the country should maximise its benefit for water resources management and climate change adaptation.

Resources will be crucial for the implementation of the rest of the road map actions and as such will be an activity that is cross-cutting through the 4 phases of implementation. However, capital costs are noted to be higher at inception to initiate the actions after which sustainability costs will reduce the investment needs of the sector from phase 2 onwards.

*Measurable outcomes*: the following outcomes will be measured to ascertain the level of success of this action;

- Number of funded programs to advance the establishment of storage infrastructure, WASH infrastructure,
- Availability of funds for the establishment and capacitation of the monitoring and evaluation unit,
- Size of investment in research and development as well as monitoring and evaluation,
- Size of resource allocation for infrastructure set-up and maintenance,
- Incentives for the implementation of the water pricing, permitting and charging regulations.

### 2.2.2 Strengthening of legal framework

Several legal documents were found to be in their draft stage and others have been due for review to streamline climate action and gender inclusiveness. These should be done urgently through advocating for the passing of the draft policies and legislative documents for ease of implementation of various interventions that will advance the water sector climate adaptation. These include the update of the water act of 2003 and the water services corporation act of 1992 to synergise water supply countrywide, provide for, in legislation, the establishment of the monitoring and evaluation unit to service the water sector and other legal recommendations as outlined in the gap analysis report and in Figure 2. The provision of WASH services in the rural areas only deals with the quantity of water availability but does not include quality. This is probably because there is no legal framework that formalises the WASH forum. The WASH forum will be instrumental in the measurement, verification and monitoring of the WASH services.

*Measurable outcomes*: the following outcomes will be measured to ascertain the level of success of this action;

- Number of draft legislative documents that have been passed into law, formalised and launched,
- Framework for the formalisation of the WASH forum,
- Research and development agreements and memorandums of agreement between water partners

### 2.2.3 Set up of institutional framework

The water sector is well-arranged for water resources management with the Department of Water Affairs leading the management and implementation of interventions for the water sector. However, there are a number of other institutions which could play a significant role here and there is an urgent need to incorporate these institutions into the implementation of climate adaptation for the sector and gender inclusivity. These should include the revival and formalization of the WASH forum for data sharing, interpretation and overall collaborations for quality of service. Currently, there are uncoordinated mandates within DWA departments and EWSC in the promotion of WASH in rural, peri-urban and urban areas. Therefore, the government should build capacity in the National Water Authority to assimilate and improve the institutional set-up for better coordination of the water sector and its linkages to health and agriculture. This process should be completed and implemented before the end of phase 3 as shown in **Figure 2.1**.

*Measurable outcomes*: the outcomes will be measured to ascertain the level of success of this action;

- Number of collaborations and agreements between water sector institutions for water resources management to improve data sharing and management.
- Developed standard operating procedure (and a reporting structure) of water services provision in the rural areas. This will help in monitoring and managing the service provision in the rural areas to avoid conflicts.
- A review of the Water Services Act of 1992 and Water Act of 2003 to synergise the operations of EWSC and DWA in the provision of water services both in the rural areas, peri-urban and urban areas.

### 2.2.4 Capacity building

Several institutions are already functional with regards to water services provision responsibilities. These responsibilities are realised because there exist trained personnel within the sector. However, skill gaps have been identified and anticipated with the advancement of technology within the sector. Currently, workers within the public sector are seldom afforded skills improvement opportunities, in particular the technicians and low-level employees and this frustrates service provision. The sector then needs a defined capacity building plan for national and sub-national structures to improve the quality of service. These should be on-going throughout the 4 phases.

*Measurable outcomes*: the following outcomes will be measured to ascertain the level of success of this action;

- Completed assessment of capacity within implementing partners including JRBA to deliver services.
- Number of employees who have been supported for skills upgrade,
- Number of developed in-house training courses related to water (refresher courses)
- Efficiency of implementing institutions in delivering services.
- A detailed capacity building plan developed in Phase one and implemented in the other phases

### 2.2.5 Research and development

The investment in research and development within the sector will reap benefits that are unpacked in the updated NDC; however, this is currently a gap. This will provide solutions to local problems and innovate the space for new water supply options beyond 2030. The University of Eswatini, the ESERPAC and other private research entities are better positioned to leverage on and maximise cost output through collaborations and postgraduate training to assist in capacity building. Research and development also provides an alternative for cost effective data collection for monitoring and evaluation.

*Measurable outcomes*: the following outcomes will be measured to ascertain the level of success of this action:

- Number of research outputs per annum with specific focus in water
- Size of investment into research and development
- Number of local graduates with postgraduate qualifications with focus in water
- Number of seminars, workshops and conferences that are themed within water resources and management.
- Number of implementable solutions for water supply options, water efficiency use and water monitoring.

### 2.2.6 Infrastructure strengthening

Various infrastructural interventions are needed to ensure effective climate change adaptation. These are based on the gaps outlined in the gap analysis and they include infrastructure for water pricing, permitting and pricing regulations, early warning systems, building of dams and maintenance and other WASH infrastructure. There is also a need for expansion of infrastructure to cater for dry seasons and the growing need for drinking water and agricultural activities.

*Measurable outcomes*: the following outcomes will be measured to ascertain the level of success of this action;

- Number of dams constructed,
- Dam safety plans and implementation of the safety plans,
- Increased reach of potable water, in particular in rural areas,
- Improved coverage of water gauging stations
- Revival of weather stations and improvement of dissemination of warnings and meteorological information.

### 2.2.7 Monitoring and evaluation

The water sector needs a unit that will carry out a comprehensive function of data consolidation and evaluate the return on investment, progress of adaptation actions and forge a way forward to achieve the set-out goals. This exercise should be done quarterly with yearly reports. The reports shall be informed by the activities that have been implemented including auditing of resources, a log of all activities that have been done and benchmarked against the planned activities.

*Measurable outcomes*: the following outcomes will be measured to ascertain the level of success of this action;

- Monitoring and evaluation yearly reports

**OUTCOMES**

*Year 1 & 2*

- Passing of all draft legislations, and review of such to streamline climate adaptation and gender
- Availability of resources for R&D partnerships
- Strategy for implementation of water pricing implementation,
- Gazetted M&E unit to service the water sector,
- Progress report on Hydronet & Hydromet infrastructure installation

*Year 3 & 4*

- Launch and use of the central data system for the sector
- Consistent early warning information and weather,
- Assessment of capacity within JRBA,
- Resources report for R&D, M&E functions and infrastructure strengthening & maintenance
- Progress in implementation if IAPs stratergy

*Year 5 & 6*

- Water quality reports and climate resilience of the sector assessment,
- M&E report on the implementation of water pricing
- Progress and impact analysis of early warning systems
- Preliminary alternative water supply options and prototyping,
- Assessment of impact of water sector climate adaptation.

*Year 7 & 8*

- Water quality reports and climate resilience of the sector assessment,
- Resources for prototyping of alternative WASH service provision,
- IAPS strategy implementation report,
- Skills Audit within the sector,
- Infrastructural assessment report
- Review of sector performance and planning for beyond 2030

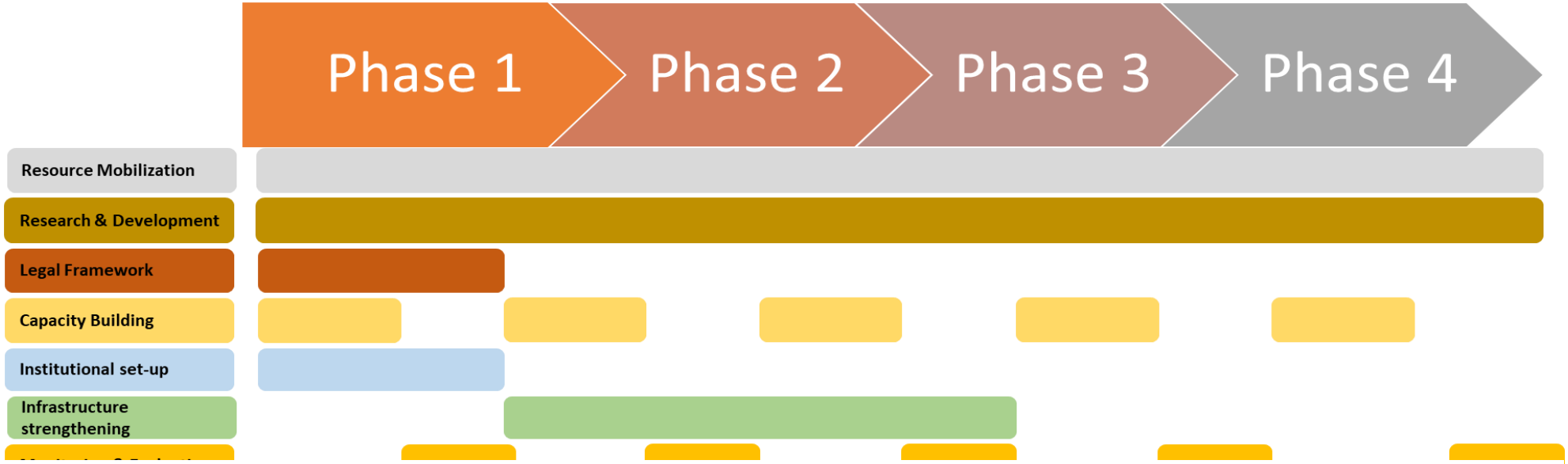


*Figure 1: Summary of roadmap for the water sector adaptation*

# Chapter 3 – Health sector Roadmap

## 3.1 Introduction

The health sector roadmap is derived from the action plan and focuses on actions that need to be undertaken under each adaptation measure identified in the updated NDC.[6] These adaptation measures are enumerated below and discussed in detail in subsequent sections.

- Mainstreaming climate change into the national health policy and other strategic documents.
- Financing health actions to address inequities and climate related vulnerabilities
- Promoting capacity building through research and development, education and awareness, and training in climate change related issues.
- Strengthening climate-informed disease control programmes.
- Improving and integrating the health management information system with other systems from relevant sectors to achieve a centralized MRV system.
- Strengthening the preparedness & resilience of the health sector to respond to climate related emergencies & illnesses through preparedness plans & programmes
- Strengthening capacity of healthcare workers on the adverse impacts of climate change
- Educating and informing the public of the needed measures to protect health from the adverse impacts of climate change.
- Adopting sustainable climate smart technologies to enhance the resilience of health care facilities to the adverse effects of climate change.
- Establishing a multi-hazard early warning system to trigger prompt public health intervention when certain variables exceed a defined threshold.
- Mainstreaming gender responsive climate policies and emphasize special efforts to support vulnerable groups (women, youth, and children) in climate change adaptation efforts within all sectors of the economy.

For each adaptation measure, the policy framework, indicators for measuring success, responsible institutions and implementation timelines are identified. It must be noted that in order for these actions to be implemented, there are some key enablers, some of which cut across many adaptation measures, whilst some may be specific for particular actions. These enablers include political buy in, access to adequate and sustainable finance, inter-ministerial or multi-stakeholder cooperation, institutional arrangements, etc. and others.

## 3.2 Institutional arrangement

Institutional arrangements are key to adaptation planning and implementation. They are key in determining the channel for information flow within the health sector and thus exploit this channel and the existing structures to maximise on data capturing which can feed to the Monitoring, Reporting and Verification (MRV) Framework of the country. The information used to compile the state-of-play report as well as the gap analysis was also used to

understand the current institutional arrangement in the health sector. This information was obtained from the key stakeholders during the stakeholder engagement process.

From analysing the operations of the MOH, it was noted that data is collected or sent to the Strategic Information Department which houses the Health Management Information Systems (HMIS) Unit, Epidemiology Unit, Health Research Unit and Monitoring and Evaluation Unit. These departments are thus responsible for sharing received data with all other stakeholders. Data flows from all MOH departments and health facilities to HMIS. In cases where projects are implemented by NGOs as well as the private sector, such information can reach the MOH through the relevant department of the MOH where they are implementing the support/intervention. For this reason, the identified institutional arrangement for the health sector is presented in **Figure 3.1**. To improve the efficiency of the reporting, it would be pertinent to have a focal person in each department/ programme. This office will assist in collating all the climate information that is received and generated by that particular department/programme and will also be responsible for safeguarding the data and transmitting reports when and where needed. These focal persons can be used to establish a health sector climate change coordination committee which may also be used to link the sector to the national climate change coordination committee.

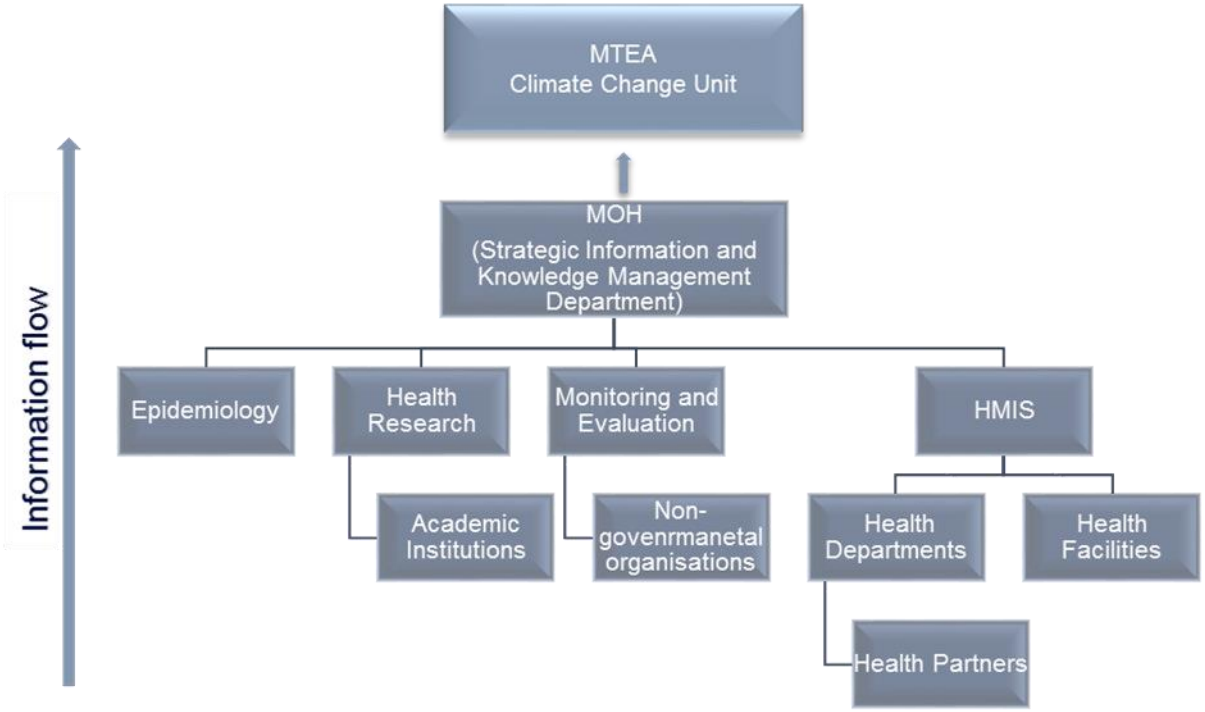


*Figure 3. 1: Institutional arrangement for the health sector*

## 3.3 Heath sector Roadmap

The roadmap for the health sector is presented in the following sections. It must be noted that there are several actions under each of these adaptation measures. The proposed timelines for these overlap, hence each adaptation measure has its own roadmap. The timeframe was classified as either short-term (1-3 years), medium-term (3-5 years) and long-term (over 5 years). Some other actions should occur continually as they can be implemented throughout the timeframe, provided resources are available. It must be noted that this roadmap is a build-up on the action plan presented in the gap analysis and action plan report.[2] The indicators for each activity under each NDC are therefore presented in detail in the said report.

### 3.3.1 Mainstreaming climate change into the national health policy and other strategic documents

#### Background

In Eswatini, there are currently no programmes or projects that deliberately mainstream climate change in the health sector. Most healthcare programmes are implemented as a response rather than as a preventative measure.

#### Policy and legal framework

The National Health Policy 2016 and National Health Sector Strategic Plan 2019-2023 form the backbone for the implementation of this action, however, there are still several health policies and legislation that have not mainstreamed climate change.

#### Indicator

The indicator for this adaptation option will be policies and strategic documents that mainstream climate change in the health sector. Gender issues should always be considered for all activities.

#### Roadmap of proposed actions

| *Action* | *Short-term* | *Medium-term* | *Long-term* | *Responsible institution* |
|---|---|---|---|---|
| Conduct a risk assessment study for the health sector | | | | MOH, MTEA |
| Sensitizing Senior Health Personnel on Climate change | | | | MTEA |
| Developing Health National Adaptation Plan (H-NAP) | | | | MOH, MTEA |
| Develop a costed implementation plan for the H-NAP | | | | MOH, MTEA |
| Include climate planning when developing and reviewing policies in the health sector | | | | MOH |
| Develop an M&E plan for the H-NAP | | | | MOH, MTEA |

### 3.3.2 Strengthening climate-informed disease control programmes

#### Background

The health sector responds to climate change; however, this response is *ad hoc* and not mainstreamed. There are several programmes responding directly to climate sensitive disease outcomes, such as the Malaria Control Programme, the Neglected Tropical Disease Programme, and others. These need to be strengthened to be cognisant of the effects of climate change and thus incorporate appropriate planning to maximise their effectiveness.

#### Policy and legal framework

The National Health Policy 2016 and National Health Sector Strategic Plan 2019-2023 form the backbone for the implementation of this action, however, there are still several health policies and legislation that has not mainstreamed climate change.

#### Indicator

The indicator will be the improved disease control programmes that are not only responsive but proactive and use the one health approach to improve health outcomes.

#### Roadmap of proposed actions

| *Action* | *Short-term* | *Medium-term* | *Long-term* | *Responsible institution* |
|---|---|---|---|---|
| Strengthen and coordinate vector control with other ministerial departments for optimal use of IVM | | | | MOH, MOA |
| Strengthen preventative strategies, particularly the one health approach | | | | MOH |
| Implement breastfeeding hour in the workplace to improve nutrition of under 5 | | | | Ministry of Labour<br>National Nutrition Council |
| Build capacity of healthcare workers within the programmes | | | | MOH |
| Conduct continuous education and awareness raising in communities | | | | MOH |
| Spread awareness on locally available nutrient rich indigenous foods to circumvent the problems of malnutrition (especially in under 5 and elderly) | | | | MOH, MOA, MTEA, MNRE |

### 3.3.3 Improving & integrating the HMIS with other systems from relevant sectors to achieve a centralized MRV system

#### Background

The improvement and integration the Health Management Information System (HMIS) is essential to making evidence-based planning and decision making in the health sector. Currently the system does not relate the health outcomes to climate change and therefore inform the climate decision making. The system needs to be improved and be linked to the national MRV system.

#### Policy and legal framework

- National Climate Change Policy 2016, National Health Policy 2016, National Health Sector Strategic Plan 2019-2023

#### Indicator

Availability of an integrated HMIS which feeds to a national MRV system.

#### Roadmap of proposed actions

| *Action* | *Short-term* | *Medium-term* | *Long-term* | *Responsible institution* |
|---|---|---|---|---|
| Train personnel to ensure accurate data capturing and timely reporting | | | | MOH-HMIS, MTEA |
| Appoint a focal person for health on climate change | | | | MOH |
| Develop a module within the Client Management Information System (CMIS) to incorporate climate change | | | | MOH-HMIS, MTEA |
| Relate patient data to climate change events<br>Data capturing and analysis | | | | MOH -HMIS, M&E, EDCU, Research |
| Create a link between climate change and MOH data | | | | MOH-HMIS, MTEA |
| Develop an interoperable system between health and other climate data sources | | | | MOH-HMIS, MTEA |
| Develop a module within the CMIS to incorporate climate change | | | | MOH-HMIS, MTEA |
| Use knowledge gained from the COVID-19 disease surveillance and vaccination to improve data capturing and use of technology for other notifiable diseases | | | | MOH -HMIS EDCU |
| Transition from paper-based client data capture to CMIS – currently at about 80% coverage | | | | MOH -HMIS |
| Link HMIS with the births and deaths register to improve reporting | | | | MOH -HMIS |

### 3.3.4 Strengthening the preparedness & resilience of the health sector to respond to climate related emergencies & illnesses through preparedness plans & programmes

#### Background

Adverse weather events resulting from climate change oftentimes present scenarios that put pressure on the health system. It is important that preparedness is strengthened to allow the health sector to respond in such circumstances efficiently and effectively.

#### Policy and legal framework

- National Climate Change Policy 2016, National Health Policy 2016, National Health Sector Strategic Plan 2019-2023

#### Indicator

A resilient health sector which has adapted to climate change impacts including being prepared to respond in emergency situations

#### Roadmap of proposed actions

| *Action* | *Short-term* | *Medium-term* | *Long-term* | *Responsible institution* |
|---|---|---|---|---|
| Integrate climate change to existing preparedness plans and programmes | | | | MOH |
| Complete the hospital health index assessment | | | | MOH |
| Integrate emergency numbers into one central call centre | | | | NDMA, MOH, Fire Services Department, REPS |
| Develop an integrated preparedness plans and programmes | | | | MOH |
| Ensure adequate supply of human resource, equipment and drugs to enable response in emergencies | | | | MOH - Pharmaceutical Services |
| Ensure hospital emergency rooms are readily organized & resourced to receive patients in times of emergencies | | | | MOH – EPR |
| Improve management & coordination of preparedness systems to ensure that hospitals are prepared to receive patients in case of emergencies | | | | MOH |
| Develop tracking systems to determine availability of beds/space | | | | MOH-EPR |

### 3.3.5 Strengthening capacity of healthcare workers on the adverse impacts of climate change

#### Background

Healthcare workers are not capacitated to link climate change and health outcomes. Presently, there are no training programmes that help health workers link the observed health outcomes to climate change. There is need to strengthen the capacity of healthcare workers to respond to climate change through relevant training. These courses can also be mainstreamed in the health training institutions in the country to ensure that capacity is built pre-service. There are also capacity gaps for use of technology, particularly the Client Management Information Service (CMIS), early warning systems and within specific programmes, therefore there is a huge opportunity to strengthen capacity of healthcare workers.

#### Policy and legal framework

- National Health Sector Strategic Plan 2019-2023, Human Resources for Health Strategic Plan 2012-2017, Human Resources for Health Policy 2012.

#### Indicator

Healthcare workers who are knowledgeable about climate change and its impacts.

#### Roadmap of proposed actions

| *Action* | *Short-term* | *Medium-term* | *Long-term* | *Responsible institution* |
|---|---|---|---|---|
| Introduce regular on the job training/awareness for healthcare personnel on climate change | | | | MOH, MTEA |
| Strengthen capacity by training of trainers on climate change | | | | MOH, MTEA |
| Develop modules on climate change | | | | MTEA |
| Strengthen processes for Nurse's & Dental councils to include pre-service training on climate change impacts on health | | | | Nursing Council, Medical & Dental Council |
| Mainstream climate change in training institutions | | | | MOE, MOH<br>Nursing Council<br>Medical & Dental Council |
| Development and updating of curriculum in training institutions where health workers are trained | | | | Institutions of higher learning, MOE |
| Develop standard operating procedures and operational norms | | | | MOH |

### 3.3.6 Educating & informing the public of the needed measures to protect health from the adverse impacts of climate change

#### Background

In order for people to be able to protect themselves from the adverse impacts of climate change, there needs to be continuous education. Within the Ministry of Health, the Health Promotion Unit presents a good opportunity to educate the public on climate change and particularly its impacts on health. The health needs to strengthen this forum and use it as a platform to convey messages on the impacts of climate change to health.

#### Policy and legal framework

- The National Health Policy 2016, National Health Sector Strategic Plan 2019-2023

#### Indicator

The Ministry will have a number of climate change information dissemination fora.

#### Roadmap of proposed actions

| *Action* | *Short-term* | *Medium-term* | *Long-term* | *Responsible institution* |
|---|---|---|---|---|
| Use the media for briefings on climate change and health e.g., use of national radio, national television and social media | | | | MTEA-CCU<br>MOH |
| Develop a talk package for healthcare workers | | | | MOH, MTEA |
| Produce a documentary about climate change and health | | | | MOH, MTEA, Health Partners & stakeholders |
| Publish weather alerts with related health risks | | | | MTEA-CCU<br>MOH |
| Prepare, print and distribute infographics about the impact of climate change on health and the measures to protect health from climate change | | | | MOH |
| Strengthen Health talks by training health workers to integrate climate change in their routine health talks at facility level | | | | MOH, MTEA |
| Publish weather alerts with related health risks | | | | MTEA-CCU<br>MOH |

### 3.3.7 Adopting sustainable climate smart technologies to enhance the resilience of communities and health care facilities

#### Background

Adopting sustainable climate smart technologies is important in enhancing the resilience of healthcare facilities to the adverse effects of climate change. This will ensure that health services are not disrupted during adverse weather events.

#### Policy and legal framework

- The National Climate Change Policy 2016, National Health Policy 2016, National Health Sector Strategic Plan 2019-2023

#### Indicator

Climate proof health infrastructure

#### Roadmap of proposed actions

| *Action* | *Short-term* | *Medium-term* | *Long-term* | *Responsible institution* |
|---|---|---|---|---|
| Develop guidelines for the design & location of healthcare infrastructure outside climate risk prone areas |  | | | MPWT, MOH-Biomedical Engineering Unit |
| Install sustainable & weatherproof power supply in health service facilities, particularly those located in areas where natural disasters may occur | |  | | Biomedical Engineering Unit, Environmental Health Programme, MPWT, Development Partners |
| Design and build climate-proof water facilities to prevent flooding and contamination of water supply | |  | | MOH-Biomedical Engineering Unit, NGOs, WASH Partners |
| Make it mandatory to incorporate climate proofing in new infrastructure development for the health sector by incorporating climate proofing in the national health policy and strategic documents | | |  | MOH-Biomedical Engineering Unit, MPWT, Development partners/communities |
| Install boreholes in health facilities, especially rural clinics and provide tanks for water harvesting |  | | | MOH-Biomedical Engineering Unit, Environmental Health Programme |

### 3.3.8 Establishing a multi-hazard early warning system to trigger prompt public health intervention when certain variables exceed a defined threshold

#### Background

Presently, the MOH, represented by the Epidemiology and Disease Control Unit and the National Malaria Control Programme, participates in monthly and seasonal forecasting meetings facilitated by the National Disaster Management Agency and the Meteorological Services Department in the MTEA. When this system is properly used, it can improve preparedness and reduce mortality and the incidence of diseases related to climate change and weather extremes.

#### Policy and legal framework

- Disaster Management Act 2006, National Disaster Risk Management Policy of 2011, Climate Change Policy of 2016, Swaziland Disaster Risk Reduction National Action Plan 2008 – 2015.

#### Indicator

Improved weather forecasting and dissemination of information related to projected health impacts

#### Roadmap of proposed actions

| *Action* | *Short-term* | *Medium-term* | *Long-term* | *Responsible institution* |
|---|---|---|---|---|
| Improve weather forecasting, early warning systems, and local climate impact scenarios to ensure that information reaches the most exposed and vulnerable |  | | | MOH<br>MTEA-CCU<br>NDMA |
| Improve communication of early warning information among the key departments/programmes within MOH |  | | | MOH – Emergency Preparedness & Response Unit |

### 3.3.9 Financing health actions to address inequities & climate related vulnerabilities

#### Background

Health financing is an important subject and ensures that the public has access to equitable health services. The health sector has a huge leaning towards donor funds and therefore many of the programmes that are able to make headway are financed by partners. This is a disadvantage for the country because the donor funds are biased towards the programmes where donors currently have an interest in and other programmes remain under financed. An increase in funding for climate related diseases will reduce health inequities and vulnerabilities associated with climate change.

#### Policy and legal framework

- National Health Policy 2016, National Health Sector Strategic Plan 2019-2023, National Development Strategy 1997, Eswatini Strategic Roadmap, 2019-2030

#### Indicator

Proper financing of health actions that address inequalities and climate related vulnerabilities.

#### Roadmap of proposed actions

| Action | Short-term | Medium-term | Long-term | Responsible institution |
|---|---|---|---|---|
| Engage private sector to fund specific programmes as part of their CSI | | | | MOH |
| Build capacity on the development of climate bankable proposals | | | | MOH |
| Mobilise resources for the health sector (use lessons learnt from COVID resource mobilisation) | | | | MOH |
| Develop projects and project proposal to target climate change funding | | | | MOH |

### 3.3.10 Promoting capacity building through research and development, education and awareness, and training in climate change related issues

#### Background

There is currently no research being done to link climate change and the related health impacts to inform decision making and identification of gaps in the health sector. Therefore, strengthening research and training in climate change will ensure that there is data available to inform decision making in the heath sector The National Health Research and Innovations Department and Higher Education institutions will play an integral role in conducting research on the synergy between health and climate change.

#### Policy and legal framework

- National Health Policy 2016, National Health Sector Strategic Plan 2019-2023

#### Indicator

Prioritised capacity building in climate change through research and development, education and awareness.

#### Roadmap of proposed actions

| Action | Short-term | Medium-term | Long-term | Responsible institution |
|---|---|---|---|---|
| Avail grant funds to conduct research on climate change and health - through budget allocation | | | | MOH research department, Health partners Universities / Research Institutions |
| Write proposals for funding to conduct research on climate change and health | | | | MOH research department, Health partners Universities / Research Institutions |
| Commission studies on health and climate change | | | | MOH research department, Health partners Universities / Research Institutions |
| Using the UNESWA-MTEA MOU, encourage and fund students to conduct health adaptation projects | | | | MTEA, UNESWA |
| Develop specific reaserch topics and share with tertiary institutions | | | | MOH, MTEA |

### 3.3.11 Mainstreaming gender responsive climate policies & emphasize special efforts to support vulnerable groups in climate change adaptation efforts within all sectors of the economy

#### Background

There are no specific climate policies that are gender responsive, however, health response by nature is not gender bias. The health sector is one of the sectors that target vulnerable groups. The only challenge often arises when there are no services available in public facilities and individuals are forced to procure services from private practices. This creates challenges with equitable access to health services, particularly for women and girls, as they are usually the most vulnerable in society.

#### Policy and legal framework

- The National Health Policy 2016, National Health Sector Strategic Plan 2019-2023, National Gender Policy 2010

#### Indicator

A gender sensitive health sector

#### Roadmap of proposed actions

| Action | Short-term | Medium-term | Long-term | Responsible institution |
|---|---|---|---|---|
| Include vulnerable groups in climate change strategies in the health sector | | | | MOH |
| Ensure that programmes are gender responsive and sensitive and therefore do not increase the already existing inequalities | | | | MOH |

# Chapter 4 – Adaptation Roadmap for WASH

## 4.1 Introduction

Water, Sanitation and Hygiene have a huge bearing on health outcomes. If people do not have access to clean and safe drinking water, there will be an increase in water related diseases such as cholera, diarrhoea, skin diseases, etc. Equally, poor waste management practices, especially household and industrial waste, leads to the spread of diseases. The roadmap for adapting for WASH is presented in the following sub-sections.

## 4.2. WASH Roadmap

### 4.2.1 Enhance Water supply, Sanitation and Hygiene (WASH) Sector contribution

#### Background

WASH has a huge bearing on the health of human beings. This sector must be resilient to climate change as its impacts can readily be felt by the health sector.

#### Policy and legal framework

- National Water Policy 2018, Sanitation and Hygiene Policy 2019, National Environmental Health Policy 2002, National Sanitation and Hygiene Strategy, 2019-2023 and National Water and Sanitation Sector Development Plan and Monitoring Framework, 2006

#### Indicator

An increase in the number of people and/or households with access to proper WASH facilities, including water.

#### Roadmap of proposed actions

| Action | Short-term | Medium-term | Long-term | Responsible institution |
|---|---|---|---|---|
| Conduct an assessment of the sustainability of sanitation & hygiene infrastructure in the country, especially in peri-urban & rural areas | | | | MOH, MNRE, NGOs |
| Capacitate rural communities on water management including sanitation & hygiene | | | | MOH, MNRE, NGOs |
| Mobilise resources for the implementation of sanitation and hygiene programmes in peri-urban & rural areas | | | | MOH, MNRE, NGOs |
| Facilitate and encourage safe and equitable rainwater harvesting technologies at household and community levels | | | | MOH, MNRE, NGOs |
| Gender mainstreaming | | | | MOH, MNRE, NGOs |

### 4.1.2 Create an enabling environment for the governance of WASH activities to promote resilience against climate change

#### Background

The implementation of WASH activities currently is on an ad hoc basis. This makes it difficult to manage interventions at country level.

#### Policy and legal framework

- The National Health Policy 2016, National Health Sector Strategic Plan 2019-2023, National Water Policy 2018, Sanitation and Hygiene Policy 2019, National Environmental Health Policy 2002, National Sanitation and Hygiene Strategy, 2019-2023 and National Water and Sanitation Sector Development Plan and Monitoring Framework, 2006

#### Indicator

A conducive environment that promotes resilience against climate change and allows for the governance of WASH activities

#### Roadmap of proposed actions

| Action | Short-term | Medium-term | Long-term | Responsible institution |
|---|---|---|---|---|
| Capacitate MTAD and relevant sub-national structures on promoting resilience on climate change adaptation for all sectors, including WASH. | | | | MOH, MNRE, NGOs |
| Lobby for the passing of outstanding WASH related legislation | | | | MOH |
| Implement the sanitation and hygiene strategy with a climate change lens | | | | MOH, MNRE, NGOs |
| Gender mainstreaming | | | | MOH |

### 4.1.3 Secure climate proof WASH infrastructure

#### Background

The available infrastructure is currently not climate change proof. Most WASH structures were built and are still being built without considering climate change impacts.

#### Policy and legal framework

- The National Health Policy 2016, National Health Sector Strategic Plan 2019-2023, National Water Policy 2018, Sanitation and Hygiene Policy 2019, National Environmental Health Policy 2002, National Sanitation and Hygiene Strategy, 2019-2023 and National Water and Sanitation Sector Development Plan and Monitoring Framework, 2006

#### Indicator

Climate proof WASH infrastructure available in all parts of the country

#### Roadmap of proposed actions

| **Action** | **Short-term** | **Medium-term** | **Long-term** | Responsible institution |
|---|---|---|---|---|
| Regulation of NGOs for the implementation of WASH activities | | | | MOH, MNRE, NGOs |
| Work together with land management committee for allocation of land to construct homes and in particular pit latrines | | | | MTAD |
| Construct climate proof pit latrines in schools and health service facilities | | | | MOH<br>MOE |
| Gender mainstreaming | | | | MOH |

# Chapter 5 – Conclusions

## 5.1 Conclusions

For the water sector, the developed roadmap has 7 themes that can be implemented in four stages. The first theme involves funding that can be used to realise the other six themes. Resource mobilisation and research and development are spread out throughout the roadmap duration since they are ongoing while monitoring and evaluation needs to be completed after every phase, i.e., after a monitoring and evaluation section/ department is set up in phase one. Institutional set up should mainly be covered in phase three while capacity building should also be an ongoing project beyond the roadmap duration. The improvement and conversion of current infrastructure can be done in the short term or long-term basis depending on the successful implementation of theme one.

For the health sector and WASH, a roadmap for each NDC adaptation measure has been proposed. This is based on the different actions identified with stakeholders in the health sector. Some of these actions can occur during the same timeframe for the different adaptation measures. It must be noted that some key actions, such as the passing of legislation, it may not be possible to fix time as they are on-going activities which should always consider climate change whenever the legislation is being reviewed as well as being proposed. Such activities also rely a lot on political buy-in and experience suggests that it is very difficult to fix time for them. Other activities such as capacity building as well as gender mainstreaming are also ongoing activities. The institutional arrangement for the health sector has also been presented which shows how information can eventually reach MTEA, for reporting purposes under the Paris agreement.

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