MRV Implementation Framework

Health Sector

Initiative for Climate Action Transparency - ICAT

Deliverable title: MRV Implementation Framework, Health Sector

Deliverable: D

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Date: 15 Oct 2024

DISCLAIMER

PREPARED UNDER

The Initiative for Climate Action Transparency (ICAT), supported by Austria, Canada, Germany, Italy, the Children's Investment Fund Foundation and the ClimateWorks Foundation.

The ICAT Secretariat is managed and supported by the United Nations Office for Project Services (UNOPS)

Executive Summary

The Kingdom of Eswatini ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1996 and the Kyoto Protocol in 2002, to contribute to the global fight against climate change. Eswatini has achieved several reporting obligations which include National Communications (NCs), Nationally Determined Contributions (NDCs) and recently the Adaptation Communication (ADCOM), to name a few. All the reporting achievements by the Eswatini Government have been project-based and heavily reliant on consultants. There has been a lack of sustainable institutional arrangements, and there has also been poor documentation and archiving of the information generated.

Adaptation reporting is now part of the reporting requirements under the Enhanced Transparency Framework (ETF), specifically in the Biennial Transparency Report (BTR). The BTRs help facilitate mutual trust and confidence between countries and allow Parties and non-Party stakeholders to understand the state of climate action in each country. It allows comparability, consistency, and completeness of information provided while avoiding duplication of work and undue burden.

The Health, and Water, Sanitation and Hygiene (WASH) sectors are some of the key adaptation sectors prioritised in Eswatini. These sectors were part of the Intended Nationally Determined Contributions (INDC) and the revised Nationally Determined Contributions (NDC) where several adaptation actions were identified for implementation in these sectors. Alongside identifying adaptation actions, it is also important to have enabling mechanisms such as institutional arrangements, to track adaptation actions and ensure transparency. Institutional arrangements detail the governance, expertise, data flows, systems and tools as well as stakeholder engagement processes that will enable measurement, reporting and verification of the adaptation actions.

In the Health and WASH sectors, there are several legal instruments that are in place, however, most of these instruments have not mainstreamed climate change, let alone include climate reporting as an obligation. It is, therefore, paramount that a Memorandum of Understanding (MOU) be drafted and agreed between the MTEA and MOH to enable the MOH to share some data that can be utilised to facilitate climate change adaptation reporting and monitoring as data collection is critical for preparing Eswatini's BTR.

For climate change reporting, including adaptation tracking, it is also necessary to ensure that personnel are trained on climate reporting requirements. This expertise is currently not available for the health and WASH sectors, even though there are enough qualified personnel in these sectors who possess skills required for their health-related responsibilities. It is, therefore, recommended that training on climate reporting, especially adaptation tracking, be undertaken, to ensure that data collection also covers collection of data that can be used for climate monitoring and reporting.

In the Health and WASH sectors, data collection is done through the Client Management Information System (CMIS) and the Health Management Information System (HMIS). This information flows from health facilities and other health programmes and is used for report writing. The MOH's Monitoring and Evaluation (M&E) Department is responsible for collecting the data and using these data for different reporting requirements. Even though these sectors have a formal system of collecting data, as well as functional tools, there is a need to ensure that data harvesting also includes data that are essential for climate reporting. The data can be incorporated in the proposed templates (ICAT Phase II Deliverable E), which will ensure that report writers at MTEA have all the necessary data for tracking adaptation in the Health and WASH sectors.

A proposed structure for data flows has also been proposed which is built on the current system with the addition of a task team which can review data before it is shared with the MTEA.

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Abbreviations

ACMS	Aid Coordination Management Section
ADCOM	Adaptation Communication
AFOLU	Agriculture, Forestry and Other Land Use
BTR	Biannual Transparency Report
BUR	Biannual Update Report
CBIT	Capacity-building Initiative for Transparency
CMIS	Client Management Information System
CSO	Central Statistics Office
EMA	Environment Management Act
ETF	Enhanced Transparency Framework
GHG	Greenhouse Gas
GST	Global Stocktake
HMIS	Health Management Information System
HR	Human Resource
ICAT	Initiative for Climate Action Transparency
IDNS	Immediate Disease Notification System
INDC	Intended Nationally Determined Contributions
IPPU	Industrial Processes and Product Use
M&E	Monitoring and Evaluation
MEPD	Ministry of Economic Planning and Development
MOH	Ministry of Health
MOU	Memorandum of Understanding
MPGs	Modalities, Procedures, and Guidelines
MRV	Measurement, Reporting and Verification
MTEA	Ministry of Tourism and Environmental Affairs
NC	National Communication
NDC	Nationally Determined Contributions
NDMA	National Disaster Management Agency
QA	Quality Assurance
QC	Quality Control
REHO	Regional Environmental Health Office
REHP	Regional Environmental Health Programme

REPS	Royal Eswatini Police Services
RHMT	Regional Health Management Team
SID	Strategic Information Department
SMT	Senior Management Team
SNAP	National AIDS Program
TORs	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change
VAC	Vulnerability Assessment Committee
WASH	Water, Sanitation and Hygiene

1. Background

The Kingdom of Eswatini ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1996 and the Kyoto Protocol in 2002 to contribute to the global fight against climate change. As part of the obligations under the UNFCCC, Eswatini submitted its First National Communication (NC1) in May 2002, the Second National Communication (NC2) in March 2012 and the Third National Communication (NC3) in October 2016. The country is also in the process of compiling its Fourth National Communication (NC4) and its first BTR. This is because the Government of Eswatini considers the elaboration of National Communications (NCs) as a national priority. NCs not only fulfil Eswatini's UNFCCC commitments, but also serve as key instruments to gauge implementation of national policies and strategies related to climate change within the context of Eswatini's development agenda.

Through the different reports and the proposed actions, several new policy documents and instruments have been developed. These include the National Development Plan (2014), the National Emergency Response Mitigation and Adaptation Plan (2015) and the National Climate Change Policy (2016). Eswatini also made several key mitigation and adaptation-related commitments in its Intended Nationally Determined Contributions (INDC) developed in 2015. The INDC supported the achievement of the country's developmental objectives of sustainable development, poverty eradication and enhanced adaptive capacity.

In 2021, Eswatini submitted its revised and more ambitious NDC as well as its initial Adaptation Communication (ADCOM). The ADCOM is meant to be a periodical update of the country's adaptation priorities, implementation progress, and support needs and actions plans with a purpose to increase the visibility and profile of adaptation.

Although adaptation plans are being developed and documented, there is still limited evidence of actual adaptation implementation. Implementation remains challenging because, in the transition from planning to implementation, countries must overcome resource, institutional, and capacity barriers.[1] All the achievements by the Eswatini Government to meet its reporting obligations have been project-based and heavily reliant on consultants. There has been a lack of sustainable institutional arrangements. Additionally, at the same time, documentation and archiving of the information generated has been poor. A technology needs assessment report identified the following challenges related to climate reporting:[2]

- Insufficient capacity within the coordinating institution;
- Lack of institutional and technical capacity for the thematic areas of the NC;
- Unavailability of national experts especially for mitigation assessment, vulnerability and adaptation assessment and greenhouse gas (GHG) inventory;
- Lack of technical capacity and unavailability of personnel from collaborating institutions due to their already overloaded schedules; and,

[1] Mimura, N., R.S. Pulwarty, D.M. Duc, I. Elshinnawy, M.H. Redsteer, H.Q. Huang, J.N. Nkem, and R.A. Sanchez Rodriguez, 2014:Adaptation planning and implementation. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L.White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 869-898

[2] Eswatini Government, Technology needs assessment, 2016

- Lack of incentives and adequate funds to maintain a permanent team that will continuously work and improve reporting under the NC.

There remains a need to build capacity and establish systems and frameworks in the health sector to ensure that the ambitions and reporting obligations are institutionalized. Moreover, there must be continuity and proper documentation of achievements in the health sector's climate change agenda in order to build identified capacity and establish systems and frameworks.

The Ministry of Tourism and Environmental Affairs (MTEA) has received support from the United Nations Office for Project Services (UNOPS) and the Initiative for Climate Action Transparency (ICAT) to support the implementation and advancement of the Enhanced Transparency Framework (ETF) agreement in the country. One of the objectives of the project is to build capacity of technicians in the MTEA, line ministries and/or departments, and national experts and institutions, as well as other stakeholders, to develop a robust Measurement, Reporting, and Verification (MRV) Implementation Framework in the health sector.

During the development of the ICAT Phase I Project (2021-22), the MTEA identified the health sector as one which plays an important role in climate change adaptation as it is featured in both the initial and updated NDC. In addition, it was noted that the health sector requires significant support to mainstream climate change adaptation. In ICAT Phase I, a health adaptation status-quo and a gap analysis report (including institutional arrangements, resources and capacities) were compiled. Based on this information, the ICAT Phase I project culminated with the preparation of a 'Health Adaptation Roadmap' which focused on what would be required to achieve the updated NDC Heath sector ambitions and what would be required to monitor progress towards achieving the goals set out in the Roadmap.

The current ICAT Phase II Project builds upon this roadmap and aims to move towards implementation of the recommendations set out in the ICAT Phase I Health Sector Roadmap. The specific objectives of the ICAT Phase II project for the health sector are to:

- Develop a Measurement, Reporting and Verification (MRV) Implementation Framework (including data collection templates, guidance documents, roles and responsibilities) to track adaptation actions in the health sector. These elements are essential to provide information necessary to compile the health sector components of the Adaptation Biennial Transparency Report (BTR);
- Build capacity within Eswatini to conduct policy impact assessments (particularly Sustainable Development impacts) and understand the adaptation reporting requirements for the BTR;
- Support the implementation of Eswatini's NDC; and,
- Both the ICAT Phase II project and the Capacity-building Initiative for Transparency (CBIT) project, which is currently running in the country, aim to enhance the reporting and tracking of the NDC implementation. This will be achieved by building capacity for reporting and by developing health sector institutional arrangements.

1.1. Reporting under The Paris Agreement

In 2015, the Paris Agreement established a series of long-term goals across climate change mitigation, adaptation, and the provision of support. Under the Paris Agreement, each country's contribution towards achieving the Paris Agreement's goals is self-determined. This means that, countries decide how, and to what extent, they can reduce their national GHG emissions,

implement adaptation measures, and provide support to achieve those objectives.[3]

Additionally, the Paris Agreement introduced a new reporting framework, the Enhanced Transparency Framework (ETF), which established the BTR. The BTR is intended to facilitate country reporting on mitigation and adaptation activities, and financial, technical, and capacity-building support provided and received. This reporting framework will come into force in 2024 and will replace the "Biennial Update Report" which was set out under the Paris Agreement.[4] The main addition in the BTR, relative to the BUR, is the need to report on adaptation measures.

1.1.1. Enhanced Transparency Framework (ETF)

The ETF is a universal, robust framework for all Parties to report on progress and support received, and for this information to undergo technical expert review.[5] It supersedes a portion of the previous reporting requirements of the UNFCCC and provides a more comprehensive reporting and review system for mitigation, adaptation, and means of implementation and support. Paragraph 1 of Article 13 reads:

> *"In order to build mutual trust and confidence and to promote effective implementation, an enhanced transparency framework for action and support, with built-in flexibility which takes into account Parties' different capacities and builds upon collective experience is hereby established".*[6]

Following the adoption of the Paris Agreement, Parties negotiated and adopted Decision 18/CMA.1 in 2018. This decision contains the modalities, procedures, and guidelines (MPGs) for the ETF, including the mandatory and optional elements the Parties would report in their BTRs. In 2021, Parties adopted Decision 5/CMA.3, which contains the outline for the BTR. The ETF was designed to be non-intrusive, non-punitive, and flexible, while facilitating improved reporting and transparency over time.

The ETF will help to provide clarity on support provided and received by relevant individual Parties in the context of actions to achieve the NDCs (Article 4), adaptation actions (Article 7), financial support (Article 9), technology development and transfer (Article 10), and capacity-building (Article 11). It will also support the provision of a full overview of aggregate financial support provided to inform the "global stocktake" (Article 14).

1.1.2. Biennial Transparency Report (BTR)

The BTR is a report prepared and submitted by Parties to the Paris Agreement that captures information on their progress in implementing the different aspects of the Agreement. The different aspects are covered in the five separate chapters of the BTR, some of which are mandatory and some of which are optional, as shown in **Table 1**.

[3] Dale, T., Christiansen, L., & Neufeldt, H. (2020). Reporting adaptation through the biennial transparency report: A practical explanation of the guidance. Copenhagen, Denmark: UNEP DTU Partnership, and Initiative for Climate Action Transparency (ICAT).
[4] https://ndcpartnership.org/toolbox/biennial-transparency-report-btr-guidance-and-roadmap-tool
[5] Reporting and Review | UNFCCC
[6] https://napglobalnetwork.org/2023/09/faq-adaptation-in-biennial-transparency-reports/ (Accessed 11/11/2023)

Table 1: Reporting requirements for both developed and developing countries[7]

BTR Element	Mandatory (M) or Optional (O)	
	Developed countries	**Developing countries**
National inventory report of GHG emissions	M	M
Progress made in implementing and achieving the NDC	M	M
Climate change impacts and adaptation	O	O
Financial, technology transfer and capacity building support provided	M	O
Financial, technology transfer and capacity building support needed and received	M	O

The BTR is the reporting vehicle for the ETF, complementing other communications and reporting vehicles under the UNFCCC and the Paris Agreement. These include the National Communications (NCs) and the ADCOM. A common reporting format, like the BTR, allows comparability, consistency, and completeness of information provided while avoiding duplication of work and undue burden. All Parties to the Paris Agreement are required to submit a BTR to report on their national climate information and their progress in climate action. A chapter on climate change impacts and adaptation in BTRs is optional.

BTRs help facilitate mutual trust and confidence between countries and allow Parties and non-Party stakeholders to understand the state of climate action in each country. Regular and quality reporting of each country's climate action and the progress they are making toward their commitments help demonstrate that countries are not tackling the climate crisis on their own. It also allows countries to exchange information and share lessons learned from their domestic climate actions.[8] Information from the BTRs also feeds the Global Stocktake (GST) process which assesses the overall collective progress made in achieving the long-term goals of the Paris Agreement.

1.2. Tracking adaptation reporting – Nationally Determined Contributions

[7] https://unfccc.int/biennial-transparency-reports (Accessed 08 October 2024)
[8] https://unfccc.int/process-and-meetings/the-paris-agreement (Accessed 09 September 2024)

The ETF represents an important component of the ambition cycle in the global climate regime established by the Paris Agreement.[9] Countries set their ambitious targets through NDCs. The ETF requires reporting on progress towards achieving the national climate change targets. This progress reporting creates an environment of trust and confidence in the work countries are making towards meeting their climate change goals.

The Kingdom of Eswatini submitted her INDC in 2015 and revised NDC in 2021 where the health sector was among some of the prioritised sectors for adaptation (**Table 2**).

Table 2: Sectors prioritise under Adaptation and Mitigation in the First and Revised NDC

	Adaptation	**Mitigation**
First NDC	Agriculture, Biodiversity & Ecosystems, Health and Water	Energy, Transport, Substitutes for ozone depleting substances
Revised NDC	Agriculture, Biodiversity & Ecosystems, Health, Water, WASH, Infrastructure, Disaster risk reduction, Youth, Gender	Energy, Transport, Waste, Industrial Processes and Product Use (IPPU), Agriculture, Forestry and Other Land Use (AFOLU)

The key adaptation actions for the health sector elaborated in the NDC and ADCOM include:

i. Mainstreaming climate change into the national health policy and other strategic documents;
ii. Strengthening climate-informed disease control programs and surveillance systems using climate services to target vector control;
iii. Improving and integrating the health management information system with other systems from relevant sectors to achieve a centralized Monitoring Review and Verification (MRV) system;
iv. Strengthening the preparedness and resilience of the health sector to respond to climate related emergencies and illnesses through preparedness plans and programs;
v. Strengthening capacity of healthcare workers on the adverse impacts of climate change;
vi. Educating and informing the public of the measures needed to protect health from the adverse impacts of climate change;
vii. Adopting sustainable climate smart technologies to enhance the resilience of health care facilities to the adverse effects of climate change;
viii. Establishing a multi-hazard early warning system to trigger prompt public health intervention when certain variables exceed a defined threshold;
ix. Financing health actions to address inequities and climate related vulnerabilities;

[9] Reporting and Review | UNFCCC

x. Promoting capacity building through research and development, education and awareness, and training in climate change related issues;

xi. 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;

xii. Secure climate proof WASH infrastructure to increase community resilience and boost adaptative capacity; and,

xiii. Using co-benefits from mitigation measures e.g., clean technologies in waste and wastewater management, energy, among other co-benefits.

For Eswatini to be able to report in the BTR, as well as track adaptation actions proposed in the country's NDC's, it is crucial to develop and strengthen existing data collection systems. Hence, this report aims to establish an Implementation Framework that will enable climate reporting and tracking for the health sector that meet UNFCCC adaptation reporting guidelines.

2. IMPLEMENTATION FRAMEWORK FOR THE DEVELOPMENT OF A HEALTH SECTOR ADAPTATION MRV SYSTEM

2.1. Developing a MRV system

When setting up a domestic MRV framework, it is important to determine the key processes, systems and arrangements, including institutional structures, relevant information, methodologies and experts to be engaged.[10] It is also important for the domestic MRV system to meet the current and future requirements for reporting (national and international), and as much as possible, build on existing structures and processes. This will enhance the process of reporting and allow for it to be feasible and not add more burden on the reporting personnel.[11] As the MRV framework also tracks implementation of the NDC, it is important that the NDC targets are broken down to define concrete implementation needs and actions and also detail steps required for achieving the NDC targets. This should be done in close interaction with key stakeholders. It is also important to establish institutional arrangements for implementing the domestic MRV system and for coordinating MRV related aspects. Further, it is important to define roles and responsibilities, provide guidance and standard procedures, as well as templates for the MRV, and provide a data management system, where these are not available.

There are many different methods and ways to develop domestic MRV systems. Countries can develop their MRV systems with a focus on the NDCs (referred to as the top-down approach) or they can focus on the mitigation actions (bottom-up approach).[12] In Eswatini, the Top-down approach has been used in developing the Health sector MRV system (**Figure 1**), wherein the NDC Implementation Framework was developed building on the ICAT Phase I project which developed the Health Sector Adaptation Action Plan and Roadmap. These documents defined the key performance indicators per NDC target and further defined the implementors. The Eswatini Health Sector MRV implementation framework builds on the existing structures and proposes institutional arrangements, roles and responsibilities and reporting templates that will enhance the collection of the relevant data for measurement, reporting and verification.

[10] non-annex_i_mrv_handbook.pdf (unfccc.int)
[11] non-annex_i_mrv_handbook.pdf (unfccc.int)

[12] Wohlgemuth, N. (2018). "MRV IN PRACTICE" – CONNECTING BOTTOM-UP AND TOP-DOWN APPROACHES FOR DEVELOPING NATIONAL MRV SYSTEMS FOR NDCS.

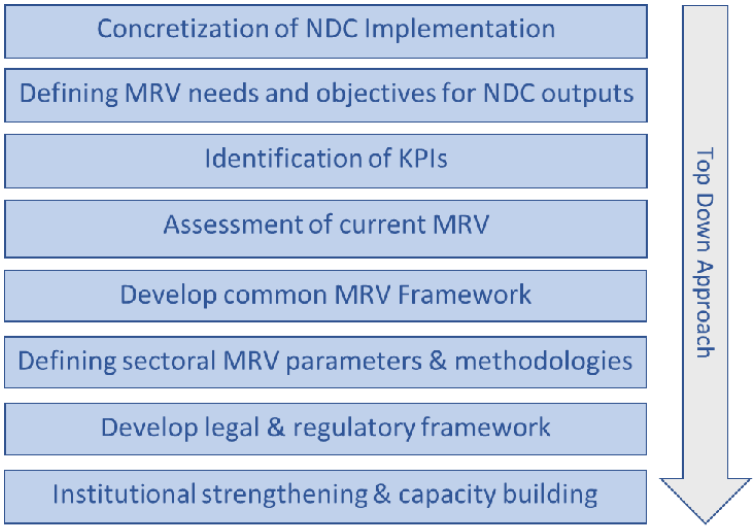

Figure 1: Top-down approach in developing a MRV system.[13]

2.2. Institutional arrangements

Suitable institutional arrangements are one of the key factors determining a country's ability to measure, report and verify its emissions. Additionally, the actions to mitigate and adapt to climate change and reporting on the support needed and received, and subsequently to deliver a BTR every two years, is of key importance to ensuring these institutional arrangements achieve their objectives. This may involve, if appropriate, building on existing institutions and/or establishing new arrangements, and may also require a transition from temporary operations to more permanent institutional arrangements to facilitate a sustained process involving permanent national teams.[14] Sustainable institutional arrangements for MRV include the following key elements:

- Establishing national legal/formal arrangements;
- Choosing and maintaining an appropriate coordination body;
- In-country institutional and technical capacity building; and,
- Mechanism for stakeholder involvement.

2.2.1. Components of institutional arrangements

Institutional arrangements include organisational mandates/governance, expertise, data flows, systems and tools and stakeholder engagement (**Figure 2)**. It must be noted that developing these components for any MRV system is a process of continual, gradual improvement tracked through a well-designed and -developed improvement plan. The sustainable institutional arrangements include:

[13] Wohlgemuth, N. (2018). "MRV IN PRACTICE" – CONNECTING BOTTOM-UP AND TOP-DOWN APPROACHES FOR DEVELOPING NATIONAL MRV SYSTEMS FOR NDCS.
[14] Handbook on MRV for Developing Country Parties

- **Organisational mandates/governance –** this includes the roles and responsibilities of all relevant stakeholders such as the national single entity, management roles within the MRV system including QA/QC, technical sectoral experts, data providers, technical working groups and steering committees.
- **Expertise** – whether personnel have expertise to meet the expectations of their individual roles and the training needs for each including data management, managing and maintaining the MRV system.
- **Data flows** – relevant to the MRV system considering the synergies with other data flows, the completeness, timeliness and quality of the data (and data delivery), and the tools used to report and support the data.
- **Systems and tools** – used for the MRV system considering their applicability, practicality, transparency and licensing terms.
- **Stakeholder engagement** – with the data and information produced through the MRV system, discussing its scope in terms of audiences and its effectiveness in terms of communicating clear and agreed messaging.

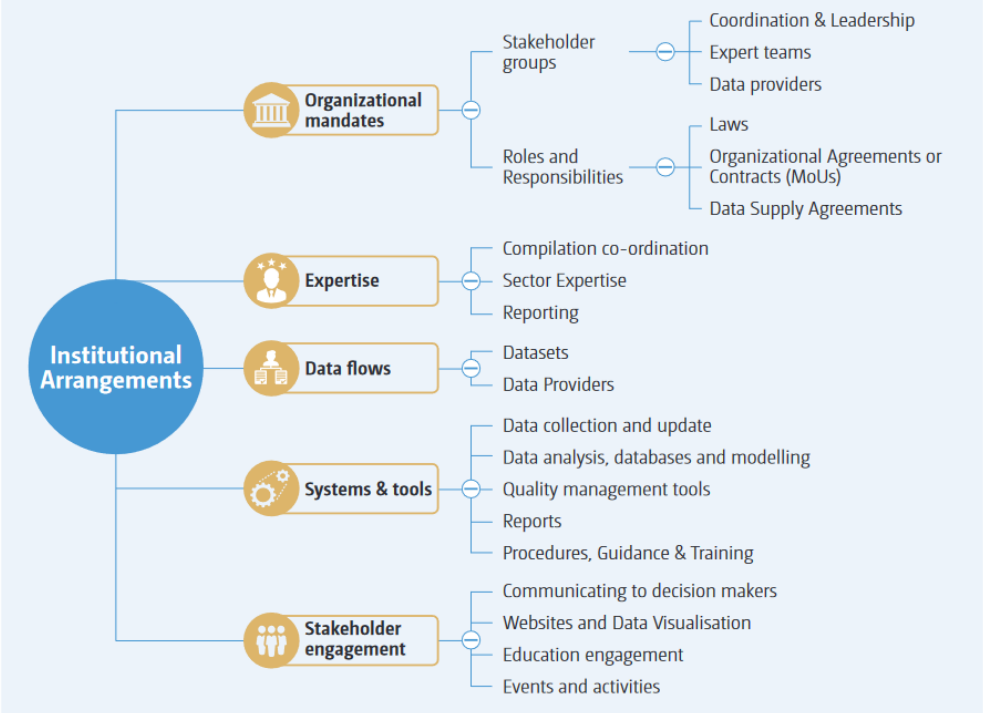

Figure 2: Key components/pillars of institutional arrangement[15]

2.3. Institutional arrangements in the Eswatini health sector

[15] *Source: CGE handbook on institutional arrangements*, https://unfccc.int/sites/default/files/resource/Hand%20book_EN.pdf

2.3.1. Organisational mandates/governance in Eswatini's health sector

Eswatini's health service delivery system is structured around a four-tiered system of service provision, comprising:

- National Referral Hospital;
- Regional Hospitals;
- Primary Health Care facilities including Health Centres, Public Health Units, Rural Clinics and a network of outreach sites; and
- Community-Based Care where Rural Health Motivators, Faith-based Health Care Providers, Volunteers and Traditional Practitioners providing care, support and treatment.

Leadership and governance of the health system of Eswatini are led by the MOH, which ensures that strategic policy frameworks exist. The sector consists of public health programmes which are all governed by the MOH.[16] Among these are the:

- National Tuberculosis Control Programme;
- Sexual and Reproductive Health Programme;
- Non-Communicable Diseases Programme;
- National AIDS Program (SNAP);
- National Nutrition Programme;
- National Malaria Control Programme;
- Neglected Tropical Disease Programme;
- Epidemiology and Disease Control Unit;
- Integrated Management of Neonatal and Childhood illnesses Programme;
- School Health Programme;
- Environmental Health Programme;
- Infection Prevention & Control Programme;
- Emergency, Preparedness and Response Unit;
- Quality Assurance Programme;
- Strategic Information Department;
- Expanded Programme on Immunisation; and,
- Rural Health Motivators.

These government departments and programmes also work or collaborate with private sector entities and NGOs that work in any of the health themes/programmes, as set out above. The programmes are responsible for collecting and analysing data in their themes to generate either quarterly and/or annual reports for each programme as a requirement under the MOH. The MOH gathers data and develops monthly reports from all health care facilities. Unfortunately, there are often data gaps when it comes to data from private health facilities, as reporting obligations need to be strengthened.

The health sector has several legal instruments that are meant to create an enabling environment to achieve national health goals. These include:

[16] National TB Control programme (NTCP), Annual Report 2020.

- Swaziland National Malaria Elimination Policy 2010;
- National Health Policy 2016;
- National Health Sector Strategic Plan 2019-2023;
- National Neglected Tropical Disease Masterplan;
- Integrated Vector Management (IVM);
- National Sanitation and Hygiene Policy 2019;
- National Sanitation and Hygiene Strategy (NSHS) 2019-2023;
- National Environmental Health Policy, 2002;
- Water and Sanitation Drought Mitigation and Response Plan 2016-2017;
- Municipal Integrated Development Plan;
- Open Defecation Free Protocol 2019;
- National Water Policy 2018;
- Sanitation & Hygiene Regulations;
- Sanitation and Hygiene Manual (under development);
- Public Health Bill 2012; and,
- Environmental Management Act 2002.

All these legal instruments do not give any background on climate reporting. In fact, climate change is currently not mainstreamed in the health sector legal and policy documents. The Climate Change Bill, which is still under development, may set out many key reporting requirements once it is enacted. Currently the health sector functions within its health mandate which does not include climate action.

2.3.2. Expertise

The MOH has the requisite personnel in the different departments and units to deliver on the mandate of the ministry. However, climate change is only beginning to be a focus in the health and WASH sectors. This is also spelt out in the MOH's draft strategy. The ICAT Phase I project played a significant role in raising awareness about climate change and health in Eswatini. Since then, there have been other climate change-health capacity building exercises such as during the NC4 and BUR1 Update project; where an entire morning was dedicated to raising awareness about climate change and health. Further awareness raising was between the MTEA and MOH Senior Management Team.

Even so, climate change reporting is still not part of the staff's current responsibilities as climate change is not incorporated into the MOH's mandates or strategies. The expertise to contribute to climate reporting still needs to be developed. This includes ensuring that personnel understand the climate change reporting requirements for the health and WASH sectors to be able to collect health-specific data that are essential for climate reporting and tracking adaptation. Capacity building, therefore, is needed to capacitate the health sector on climate reporting and data requirements.

It must be noted that there is also limited expertise for risks, vulnerabilities and climatic event tracking for the health sector, hence capacity building is essential. The Annual Vulnerability Assessment and Analysis Report provides some insights into some of the risks and vulnerabilities in selected sectors that are of importance to human health. The Vulnerability Assessment Committee (VAC) has thus established some technical expertise in vulnerability assessment. This can be harnessed to provide training and capacity building in the health sector.

2.3.3. Data flows

Data requirements for adaptation tracking in the health sector includes:

- Incidence and mortalities relating to specific climate related/sensitive health effects e.g. heat strokes, snake bites, malnutrition, malaria, injuries, etc.
- Statistics of households without proper sanitation – VAC Report/Environmental Health department.
- Number of climate-proofed health facilities – facilities with back up water & power or climate smart infrastructure.
- Capacity building and awareness raising on climate change – the growing frequency and severity of climate events and the need to improve awareness and organisation to anticipate, prepare for and cope with this increase.
- Predictions on future incidences.

Disease incidence and mortality information flows from facilities through the Client Management Information System (CMIS). Facilities without CMIS capture their data on paper and this is transmitted monthly to the Health Management Information System (HMIS). Information on clients is captured at facility level and these include:[17]

- Government owned facilities;
- Facilities privately owned by doctors;
- Non-government owned facilities;
- Private owned by nurses;
- Mission facilities; and,
- Industrial facilities.

Other health adaption data comes from other MOH departments, including the programmes and the Environmental Health Programme which has specific information relevant for the WASH sector. The proposed data flow is shown in **Figure 3** which essentially shows the current status quo with the addition of the Climate Change Task Team. Contributions from other institutions outside MOH such as NDMA and MEPD, as well as data sharing with MTEA, are as outlined in the proposed data flow diagram.

Other health-related adaptation data that needs to be reported in the NDC implementation tacking framework includes information on multi-hazard early warning systems, use of climate-smart technologies in health facilities, capacity building initiatives, awareness raising and climate finance for the health sector.

2.3.4. Systems and tools

A sound adaptation strategy requires robust health information systems to support a range of functions, such as provision of an effective early warning system for extreme events.[18] The HMIS is the main repository of data for all health sector reports. This is managed by the HMIS

[17] Manzini 2016 Health Performance Report
[18] https://www.england.nhs.uk/wp-content/uploads/2021/12/NHS-third-health-and-care-adaptation-report-2021.pdf

department.

Each region of the country also collects non-client data from all health facilities, and this is reported routinely through monthly reports submitted to the regional Strategic Information Department (SID) offices and captured into the HMIS database.

Other databases include the immediate disease notification system (IDNS) which captures data on notifiable diseases, such as malaria, cholera, bilharzia. The Environmental Health Programme also submits monthly reports, whose data is also transmitted to the HIMIS. While there is a health information system within MOH, there is need to strengthen it to create a robust system that can also be integrated with other information systems such as the multi-hazard early warning system in order to cope better with the health effects of increased severity of climatic events.

2.3.5. Stakeholder engagement

Engaging a broad range of stakeholders is important for adaptation reporting. There is need to ensure that the data collection processes are inclusive of all the relevant stakeholders in the sector to ensure reporting of comprehensive and representative data.[19] The greater the engagement, the better and more useful the transparency system will be for evidence-based decision-making and the production of reports.[20] It is important that clear roles and responsibilities are also defined throughout the engagement, in order to ensure multi-stakeholder processes, produce effective results and provide useful knowledge. The Eswatini health sector has many partners who are directly assisting the MOH in delivering its core mandate. Others play different roles in supporting health in the country. These must be engaged so that data collected provides a comprehensive picture of the status quo.

2.4. Proposed institutional arrangement for data sharing

Based on the assessment of the health sector and available governance, expertise, data flows and systems available, the proposed institutional arrangement is shown in **Figure 3.** This proposed structure is meant to facilitate climate reporting for both the health and WASH sectors (for actions under the MOH). The arrangement proposes the establishment of a Climate Change Task Team for the health sector that will coordinate data collection and further transmit it to the Department of Meteorology through the Director of Health Services.

[19] unfccc.int/sites/default/files/unfccc_mda-toolkit_131108_ly.pdf
[20] unfccc.int/sites/default/files/resource/Hand%20book_EN.pdf

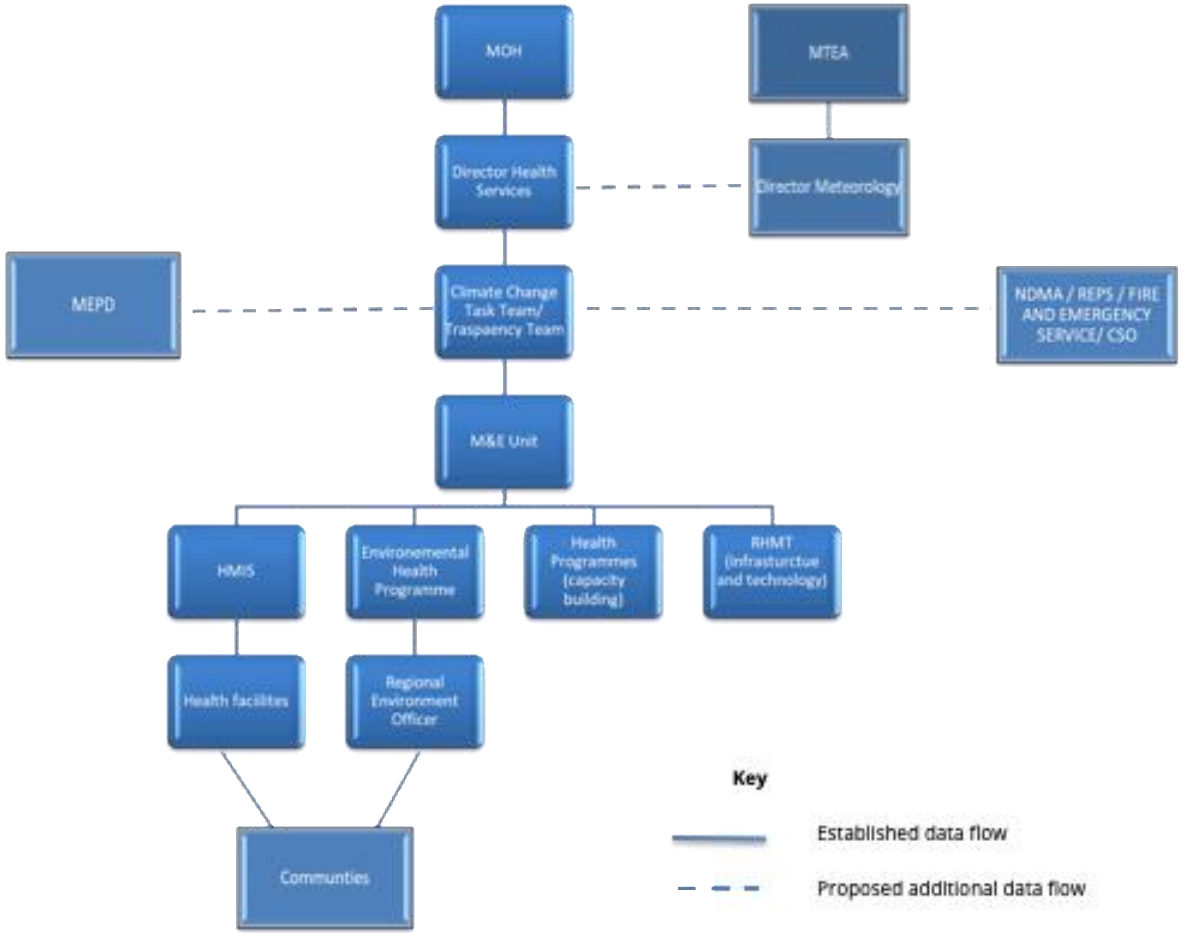

Figure 3: Proposed data flow arrangement for the health sector

This task team can have representatives from all the programmes as well as one from MTEA. The TORs for the task team should include ensuring that data collection/harvesting is done for climate reporting as well as ensuring quality control for the data, before it is transmitted to the MTEA. Setting up the task team can be initiated by MTEA in collaboration with MOH. Although the current structure is proposed, it is worth noting that there are presently no data sharing requirements and/or agreements between the MOH and MTEA and to facilitate climate reporting. It is recommended that data sharing MOUs be established between the two ministries, as well as between MTEA and the other players/stakeholders, to facilitate the transfer and sharing of data and information that will enable tracking of adaptation actions in health.

To strengthen the reporting requirements, it is also important that capacity building on climate reporting is also planned and maintained to ensure consistent and accurate reporting. This can be tailored for staff responsible for data harvesting as well as report writing, mainly in the M&E department. This can also help in mainstreaming climate change in the data collection process, as this is a process that can be improved over time.

Data collection templates also need to be developed for health sector reporting, to ensure that data used for climate reporting contains the relevant data. These data collection templates will be developed in consultation with MOH as part of the next deliverable (Deliverable E) of this ICAT project.

2.4.1. Reporting roles and responsibilities

Based on the proposed data flow structure, the roles and responsibilities of the all the stakeholders highlighted in **Figure 3** are summarised **Table 3**.

Table 3: Stakeholders' roles, responsibilities, strengths and weaknesses

Stakeholder	Roles & responsibilities	Strengths	Weaknesses	Recommendations
MTEA	• Oversees all reporting requirements for environmental/climate change conventions	• The country has developed a National Climate Change Policy (2016) as well as EMA (2002), which are overarching environmental legal instruments.	National Climate Change Bill has still not been finalised	• Finalise the National Climate Change Bill. • Initiate the establishment of an MOU with the MOH for data sharing purposes. • Establish data sharing agreements with other institutions that are custodians of data such as NDMA, REPS, Fire and Emergency Services and CSO. • Propose the establishment of the Heath sector Climate Change Task Team which should have representatives from MTEA and key stakeholders from the MOH
MTEA – Department of Meteorology	• Support mainstreaming of Climate Action reporting in the country for all sectors including health and WASH • Assist in the development of reporting templates.	• The department has been responsible for coordinating climate reporting for years and thus possesses the relevant experience for the function.	• Climate change reporting is ad hoc, and done using project funds • Reports are prepared using consultants due to lack of capacity/personnel • Most personnel are also project staff and are not employed fully by the Department	• Formally establish an institution for climate change, with permanent staff. • Increase capacity of staff in the Department to better coordinate climate change reporting.

Stakeholder	Roles & responsibilities	Strengths	Weaknesses	Recommendations
	• Organise and facilitate capacity building to improve climate reporting		• The Climate Change Unit is an internal arrangement by the Meteorology Department and does not appear in relevant Government documents such as the scheme of service	• Schedule periodic trainings for the stakeholders necessary for adaptation tracking reporting requirements to ensure buy in and collection of relevant data, as well as use of the developed templates. • Ensure periodic review of templates to ensure data collection is consistent and in line with reporting requirements and are subject to continual improvement;
Climate change task team	• Reviews data submitted by the various units from MOH and other partners • Acts as the repository for reports submitted to MTEA	• It is a proposed team and therefore there is an opportunity to draft its role in response to the existing structures and intended outputs. • Will be an essential tool to create communication between MOH, MTEA and other relevant stakeholders	• The task team still needs to be established	• Identify members to be part of the task team • Develop TORs for the task team
Ministry of Economic Planning and	• Responsible for budgeting and monitoring all government projects, including those funded	• Mandates are in place that obligate ministries to report funding received	• There is limited climate finance expertise in Eswatini • Some projects are not captured	• Develop national climate finance expertise in collaboration with MTEA

Stakeholder	Roles & responsibilities	Strengths	Weaknesses	Recommendations
Development (MEPD)	internally or by international funds. • International funds are monitored specifically by the Aid Coordination Management Section (ACMS)	from international donors to the MEPD. • There is budgeting and broader finance expertise throughout all ministries with allocated planners and economists. • There is MRV/M&E expertise throughout all ministries, for example the M&E officer at the ACMS.	• There is no specific method in place for tagging and categorising climate finance	• Improve enforcement on reporting requirements by all ministries • Implement the conceptual design proposed from a climate finance project
National Disaster Management Agency (NDMA)	• Provide data on injuries and deaths associated with extreme weather events and any climate related injuries and deaths	• NDMA has the mandate for disaster management in the country •	• No data sharing requirements between NDMA and MOH as well as MTEA	• Establish MOUs for data sharing
Royal Eswatini Police Services (REPS)	• Provide data on injuries and deaths associated with extreme weather events and any climate related injuries and deaths	• REPS are first responders	• No data sharing requirements between REPS and MOH as well as MTEA	• Establish MOUs for data sharing
Fire and Emergency Service	• Provide data on injuries and deaths associated with extreme weather events and any climate related injuries and deaths	• Fire and Emergency Service are first responders	• No data sharing requirements between Fire and Emergency Service and MOH as well as MTEA	• Establish MOUs for data sharing

Stakeholder	Roles & responsibilities	Strengths	Weaknesses	Recommendations
Central Statistics Office (CSO)	• Provide data on injuries and deaths associated with extreme weather events and any climate related injuries and deaths	• CSO is the repository of all national data	• No data sharing requirements between CSO and MOH as well as MTEA	• Establish MOUs for data sharing

Ministry of Health (Senior Management Team, SMT)	• Responsible for the legislative framework and administration of the health sector in the country.
	• Responsible for health in the country including:
	  ○ Healthcare waste management
	  ○ Adaptation in the health sector
	  ○ WASH activities
	• Responsible for a political buy in, and promotion of climate change activities and mobilize resources.
		• Has different strategic departments focussing delivery on health outcomes
		• Have an information system for capturing health information for all their clients (HMIS).
		• SMT has standing meetings.
			• No climate change topics as yet in the SMT agenda
			• Not all facilities have access to CMIS, therefore data capture is paper based in some facilities.
				• Climate change should be a standing agenda item and have a climate change champion within the SMT.
				• MOH should appoint climate change champions for the different programmes and departments/units

M&E Unit	• Collate data received from the various MOH data sources • Analyse data received according to the Climate Change Reporting Framework	• Data analysis skills are available	• Limited resources (HR contract based, laptops are old)	• Strengthen resource provision to fully optimize benefits

Stakeholder	Roles & responsibilities	Strengths	Weaknesses	Recommendations
	• Compile report according to the Climate Change Reporting Framework • Verify data with programmes • Validate data with task team • Sign off the report by the Director of Health Services			
HMIS	• Store data received from health facilities • Extract data from MOH data system (according to the climate change reporting framework) • Transmit extracted data into M&E Unit server	• Existing data collection systems	• Some health facilities are yet to fully implement CMIS • Information from private facilities is not captured efficiently • Climate data is not captured • Data collection tools need to be reviewed to capture some of the required information • Challenge of recording climate change related deaths as some do not go via healthcare services • Not all facilities have access to CMIS, therefore data capture is paper based in some facilities.	• Train personnel to ensure accurate data capturing and timely reporting • Transition from paper-based client data capture to CMIS in all facilities. • Using the knowledge gained from the COVID-19 disease surveillance to improve data capturing and use of technology for other notifiable diseases • Disaggregate patient information in the CMIS to capture defined climate change variables/indicators • Relate health data to weather events • Link HMIS with the births and deaths register to ensure that non-hospital deaths are

Stakeholder	Roles & responsibilities	Strengths	Weaknesses	Recommendations
				synchronised in health reporting •
Health Programmes	• Report specific data related to their programmes and transmission of data to SID. • Mainstreaming climate change into all guidelines, and strategic plan. • Responsible for training on Climate Change at facility level.	• Programs are already established under MOH • Skilled personnel for the different programme themes • Has constant engagement with health facilities and partners. • Has human resource to train facilities.	• They work in silos and there is weak integration	• Include climate change in pre-service curriculum • Strengthen collaborations between programmes
National Environmental Health Programme	• Responsible for reporting all WASH related indicators and transmitting data to SID • Compile all Regional reports • Verify and analyse those reports • Submit report to stakeholders	• Environmental data is captured and available • Officers available at communities and facilities	• Data sitting in different databases • Current arrangements hinder efficient data flow to SID	• Connect all environmental data to CMIS and link to all national data bases • Improve data capture and transmission to SID
Regional Health Management Team (RHMT)	• Provide information on health infrastructure, i.e., numbers of hospitals with sustainable power/water supply, have climate smart buildings., etc.	• Keeps data on healthcare infrastructure	• Fiscal challenges to support the integration of smart technologies in health facilities • Capacity – insufficient numbers and skills to adequately service the sector	• Strengthen resource provision to fully optimize benefits

Stakeholder	Roles & responsibilities	Strengths	Weaknesses	Recommendations
Health Facilities	• Responsible for attending to patients presenting with different illnesses • Responsible for capturing patient data into MOH data systems (coordinated by HMIS unit in SID)	• Availability CMIS • Capture patient data on CMIS • Data can be Routinely available	• Some facilities do not have CMIS and capture client information on hard copies	• CMIS must be rolled out to all health facilities
Regional Environmental Health Programme (REHP)	• Compile all reports from communities • Verify and analyse all reports • Action where required at regional capacity • Forward report to Chief Environmental Officer	• All regions have Regional Environmental Health Offices (REHO) officers who are responsible for capturing the reporting data	• Shortage of transport for field activities • Shortage of working tools e.g. laptop computers	• Strengthen resource provision to fully optimize benefits
Communities (Environmental Health Programme and Rural Health Motivators)	• Sensitize the community on climate-related health issues • Identify Climate-related health issues • Report to Regional Environmental Health Office (REHO)	• Systems are in place for the provision of the roles and responsibilities • Availability of human resource at ground level	• Shortage of transport for field activities • Shortage of working tools e.g. laptop computers	• Strengthen resource provision to fully optimize benefits

2.4.2. Quality assurance/quality control

Quality assurance/quality control (QA/QC) procedures are an integral part of the MRV framework and ensures accuracy, consistency, comparability, transparency and completeness of the data reported. Each reporting unit must assign the responsibility of quality control, whose function may, among others, be to provide routine and consistent checks to ensure data integrity, correctness, and completeness; identify and address errors and omissions; document and archive data; check data acquisition, calculations, and procedures, etc. The M&E Unit will be responsible for QA of data that emanates within the MOH. Further QA of data from other sources such as the REPS, NDMA, CSO and Fire and Emergency Service will be responsibility of the proposed Climate Change Task Team. This will help ensure that there are no double counts, and that data is complete. It may be necessary that, if there is not quality control/assurance plan within the MOH, one is developed to ensure that quality control/assurance roles and responsibilities are assigned to individuals.

3. CONCLUSION AND WAY FORWARD

3.1. Conclusion

The health sector is one of the prioritised adaptation sectors under the NDC hence an MRV system is essential to ensure that climate reporting is precise and well coordinated. The MOH is the key ministry responsible for human health in Eswatini and has different programmes which have different specific mandates. The M&E Unit is responsible for data harvesting in the ministry and produces specific reports at specified periods (monthly, quarterly and annually).

The expertise in the MOH needs to be strengthened for climate reporting. The available data collection tools such as the HMIS and CMIS need to be strengthened to include the collection of climate information. The proposed MRV system establishes data flow arrangements that will ensure that the needed data is captured and transmitted to MTEA. Together with climate data, it will be used to track the impacts of climate change on health and most importantly, track the implementation adaptation actions as elaborated in the NDCs. The proposed system, including data flow arrangements and the roles and responsibilities of the different stakeholders, was developed in consultation within the health stakeholders.

3.2. Way forward

Building from this framework, data collection templates will be developed. These will specify the data that needs to be collected in order to track the implementation of the NDC targets. The templates will use the specific indicators elaborated in the NDC implementation plan framework and Health Sector Adaptation Action Plan and Roadmap. Other data that is useful for monitoring the impacts of climate change on health will also be included in the templates.