Government of Zimbabwe
Ministry of Environment, Climate and Wildlife

with support from
ICAT, UNOPS and UNEP-CCC

Initiative for Climate Action Transparency Project in Zimbabwe

Phase II

Output 1.2: Adaptation Experts and Data Providers Trained on The NAP-MEF and Use of The Digital Tool

Activity 1.2.2: Development of NAP-MEF Digital Tool and Training Material

Deliverable 11: NAP-MEF Digital Tool and Training Material

27 September 2025

Initiative for Climate Action Transparency - ICAT

Deliverable Title

11: NAP-MEF Digital Tool and Training Material

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Date

27 September 2025

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PREPARED UNDER

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

Supported by: Federal Foreign Office on the basis of a decision by the German Bundestag
IKI International Climate Initiative
CIFF Children's Investment Fund Foundation
Ministero dell'Ambiente e della Sicurezza Energetica
Federal Ministry Republic of Austria Climate Action, Environment, Energy, Mobility, Innovation and Technology
Environment and Climate Change Canada / Environnement et Changement climatique Canada
UNOPS

The ICAT project is hosted by the United Nations Office for Project Services (UNOPS)

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Acronyms and Abbreviations

AFS	Adaptation Finance Strategy
BTR	Biennial Transparency Report
CBA	Cost Benefits Analysis
CCMD	Climate Change Management Department
CSV	Comma-Separated Values
ETF	Enhanced Transparency Framework
GESI	Gender Equality and Social Inclusion
ICAT	Initiative for Climate Action Transparency
IPCC	Intergovernmental Panel on Climate Change
LFA	Logical Framework Analysis
MCA	Multi-Criteria Analysis
MDAMDAs	Ministries, Departments and Agencies
M&E	Monitoring and Evaluation
MPGs	Modalities, Procedures and Guidelines
NAP	National Adaptation Plan
NAP-MEF	National Adaptation Plan-Monitoring and Evaluation Framework
NC	National Communications
UNDP	United Nations Development Programme
UNEP-CCC	United Nations Environment Programme - Copenhagen Climate Centre
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services
URL	Uniform Resource Locator
USD	United States Dollars
ZIMSTAT	Zimbabwe National Statistics Agency (ZIMSTAT)

1. Introduction and Purpose of the Manual

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) is the global platform for intergovernmental actions aimed at "stabilisation of greenhouse gas concentrations in the atmosphere to a level that would prevent dangerous anthropogenic interference with the climate system". It also aims to reduce the impacts of climate change on humanity and ecosystems as well as foster sustainable economic development. The Paris Agreement of 2015 builds on the UNFCCC and highlights the importance of climate change adaptation and resilience building. As a Party to the UNFCCC and Paris Agreement, Zimbabwe is fully committed to the implementation of the provisions under these two frameworks.

In Zimbabwe, the 2017 National Climate Policy provides an overarching framework for climate governance which is spearheaded by the Ministry responsible for climate change. It recognises that climate change impacts are felt the most at the local level and local governance structures offer an entry point for mainstreaming climate change adaptation into the broader development processes. To support the implementation of the National Climate Policy with regards to climate change adaptation, the Government of Zimbabwe developed the National Adaptation Plan (NAP) in 2024. NAP aims to build resilience against climate change impacts by integrating adaptation strategies into national and local development planning[1]..

Parties to the UNFCCC and Paris Agreement are required to put in place mechanisms for reporting mitigation and adaptation actions. Zimbabwe intends to use the National Adaptation Plan Monitoring and Evaluation Framework (NAP-MEF) for systematically reporting its adaptation actions including progress made in implementing these actions.

The purpose of this manual is to provide practical guidelines to climate change adaptation practitioners on the application of the NAP-MEF Digital Tool and the consideration of gender and social inclusivity whilst implementing and reporting adaptation actions.

This manual should be used in conjunction with the NAP document.

[1] The NAP document is publicly available at: https://unfccc.int/documents/641981

2. Climate Change Adaptation and Reporting Under the Paris Agreement

2.1. Defining Climate Change and Climate Change Adaptation

"Climate change" means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods[2].

"Climate change adaptation" refers to adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change[3]. In simple terms, countries and communities need to develop adaptation solutions and implement actions to respond to current and future climate change impacts .

2.2. Rationale for strengthening Adaptation Transparency Reporting in Zimbabwe

The Enhanced Transparency Framework (ETF) established under Article 13 of the Paris Agreement provides guidelines on how Parties should report progress on their climate commitments and actions including climate change adaptation. The ETF aims to "build mutual trust, confidence and promote effective implementation of the Paris Agreement". Under the ETF, Parties are mandated to submit Biennial Transparency Reports (BTRs) every two years, starting from December 2024 and National Communication Reports after every four years. However, small island developing states and least developed countries have flexibility in reporting[4]. The BTRs are very important in tracking progress towards implementation of the country's national climate policies and plans. Zimbabwe, as a Party to the Convention and the Paris Agreement, is guided by ETF arrangements.

The Modalities, Procedures and Guidelines (MPGs) provided for under the ETF mandate Parties to report on the following Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement:

i. National circumstances, institutional arrangements and legal frameworks
ii. Impacts, risks and vulnerabilities, as appropriate
iii. Adaptation priorities and barriers
iv. Adaptation strategies, policies, plans, goals and actions to integrate adaptation into national policies and strategies
v. Progress on implementation of adaptation
vi. Monitoring and evaluation of adaptation
vii. Information related to averting, minimising and addressing loss and damage associated with climate change impacts
viii. Cooperation, good practices, experience and lessons learned

[2] Pielke Jr, R. A. (2004). What is climate change? Energy & environment, 15(3), 515-520.
[3] https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction
[4] https://unfccc.int/sites/default/files/resource/l23_0.pdf

ix. Any other information related to climate change impacts and adaptation under Article 7 of the Paris Agreement

2.3. Current gaps in Adaptation Reporting

Current adaptation reporting practices in Zimbabwe face various challenges. These include:

1) Lack of a unified adaptation reporting framework for monitoring adaptation progress which makes it difficult to compare progress. This is attributed tothe use of different metrics and indicators, project-specific reporting requirements and absence of clear reporting obligations for some projects.
2) Limited stakeholder capacity and inclusivity emanating from limited technical capacity. Many institutions lack the training, resources, or tools needed to produce robust and consistent reports. In addition, the adaptation reporting often pays limited attention to gender equity and social inclusivity thereby failingto reflect the full range of social impacts and adaptation needs.

3) Currently, the data relied upon in reporting adaptation in National Communications and Biennial Transparency Reports, is largely secondary data gleaned from publications, grey literature and primary data. Such data are often limited to a single focal district for any given report and may not be representative of adaptation at the national scale.The highly qualitative nature of the data makes it difficult to quantitatively assess adaptation progress in the country.

Overall, the current adaptation reporting does not capture a significant proportion of adaptation needs and initiatives, making it difficult to inform adaptation programming, decision-making and the implementation of additional adaptation actions. Zimbabwe will leverage on the NAP, the most comprehensive national document on climate change adaptation to address the above challenges and to conform to the requirements of adaptation reporting in its BTR and NCs.

2.4. Rationale for developing the NAP

Zimbabwe acknowledges that the impacts of climate change are intricately linked with the local context, including the local climate, culture, tradition, governance structures, level of affluence and other socioeconomic attributes. Thus, to be effective and robust, adaptation strategies need to be planned and implemented at the local level. The Zimbabwe NAP was developed to mainstream climate change into developmental planning considering the limited integration of climate change in most sectoral plans. The country's economic blue-print, the National Development Strategy 1 (2021-2025) clearly acknowledges the importance of adaptation as a critical enabler across all sectors of the economy to achieve the country's development aspirations. Zimbabwe submitted its NAP to the UNFCCC on 25 October 2024[5]
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[5] https://unfccc.int/documents/641981

2.1.1. Vision and Goal of the NAP

The Vision of NAP is *"A climate resilient Zimbabwe"* while the goal is *"Climate change adaptation integrated in development policies, strategies, plans, programmes and activities"*.

2.1.2. NAP Strategic Priorities

The NAP is informed by strategic priorities, outcomes, priority adaptation actions (outputs), milestones and timeframes which are guided by its Vision and Goal. The NAP's two strategic priorities are:

Strategic Priority 1: Climate Change Adaptation Mainstreamed and Sustained
The sustainability of the outcomes of the adaptation interventions outlined in the NAP is critical hence one of the Strategic Priorities of the NAP is to ensure that adaptation performance is sustained. This will be achieved through mainstreaming of climate change adaptation into development planning. In addition, climate financing resources should be identified and accessed, complemented by creation of sustainable long-term investment pathways. The outcomes, targets, output indicators and assumptions are illustrated in the NAP Document[6] .

Strategic Priority 2: Effective and Efficient Climate Risk Management
Limited capacity to respond to climate change risks has adversely affected the development and wellbeing of Zimbabwean communities. Building the adaptive capacity and resilience of communities requires efficient and effective management of climate risk. Therefore, the second Strategic Priority of the NAP ensures that climate risk is efficiently and effectively managed. This strategic priority will be realized through enhancing institutional arrangements and capacities, information management, effective disaster preparedness and response, and climate related insurance.

2.1.3. NAP Priority Sectors

Whilst climate change impacts cut across all socio-economic sectors, the sectors covered by the NAP are not exhaustive. Prioritisation was done using the National Climate Policy (2017) and vulnerability assessments which identified climate hazards, vulnerabilities and impacts in seven sectors; agriculture, water, forestry and biodiversity, health, human settlements, infrastructure and tourism.

2.2. Roles and Responsibilities of Key Stakeholders

To be able to effectively report on progress on adaptation, it is critical to have institutional arrangements with clear roles and responsibilities of key stakeholders (Table 1). This will ensure that stakeholders understand what is expected of them for; a) clarity and accountability purposes, b) strengthening collaboration between different stakeholders, c)

[6] https://unfccc.int/documents/641981

improving monitoring and reporting of adaptation progress, and d) ensuring availability of robust data for each sector and peer to peer learning as well as identifying and addressing gaps.

Table 1: Roles and Responsibilities of Key Stakeholders

Institution(s)	Role/Responsibility
Cabinet Committee responsible for climate change management, chaired by OPC.	● Provides oversight on adaptation activities and processes. ● Enhances cross ministerial coordination on adaptation activities and processes
Ministry responsible for climate change	● Oversees the collection, analysis, and reporting of data on climate adaptation efforts. ● Coordinates MDAs and stakeholders to facilitate transparency reporting ● Ensures that adaptation transparency reporting complies with national policies and the Enhanced Transparency Framework (ETF) under the Paris Agreement.
Ministries responsible for the seven adaptation sectors in the NAP	● Direct implementers of adaptation actions. ● Report progress of implementation of sector-specific adaptation actions
Ministries responsible for women affairs and social welfare and other related statutory bodies, including Gender Commission	● provide feedback on GESI in the NAP-MEF
District Development Coordinators	● Coordinate and provide oversight, including convening powers to call for meetings of all government programmes. ● Critical to get comprehensive climate adaptation data
Provincial officers, including the Zimbabwe National Statistics Agency (ZIMSTAT)	● Shall work together with CCMD to ensure data quality. ● Shall check consistency of data compared to the national database.
Data Providers	● Shall collect and record data on the Digital platform in line with data collection procedures provided by the CCMD. ● Shall ensure the quality of data and information provided ● Shall endeavour to respond to inquiries from the CCMD. ● Shall provide the data for district and provincial level planning.
Communities, including women, youths, children	● Provide insights on local climate, impacts and Provide insights on local climate, impacts and adaptation options and progress on implementation of adaptation

and other vulnerable groups	● provide feedback on GESI in the NAP-MEF ● Provide feedback on effectiveness of the adaptation actions ● Critical in decision making regarding adoption of adaptation strategies
Media	● Informs the public about climate change, its risk as well as how to reduce the risk. ● Important in engagement of the public on climate change and need for adaptation, including transparency reporting. ● Contribute to policy discussion on climate change adaptation. ● Enhance collaborative adaptation actions across the various sectors of the economy.
Development partners and private sector	● Resource mobilization, technology development and transfer, human capital development. ● provide feedback on GESI in the NAP-MEF ● Monitoring and evaluation of adaptation finance
Academia and researchers	● Provide training and skills on identifying, promoting, Provide training and skills on identifying, promoting, implementing and monitoring sound adaptation strategies. ● Support innovations. ● Provide input on selection of suitable indicators .

2.3. Adaptation Finance Strategy

The adaptation costing done for the identified adaptation options across the seven sectors show that Zimbabwe requires about USD 10.310 billion to implement adaptation activities between 2023 and 2030 (about USD 1.288 billion per year). Although Article 9 of the Paris Agreement obliges developed country parties to provide financial support to developing country parties for implementing adaptation actions, the current level of support is inadequate to meet this requirement. Consequently, Zimbabwe has to mobilise resources from alternative sources to implement climate adaptation actions identified in the NAP. The NAP proposed an Adaptation Finance Strategy (AFS) to address the climate change adaptation funding gap. The AFS does this through exploring other innovative funding mechanisms and sources to support the adaptation options identified in the NAP.

ACTIVITY 1

In small groups, identify some of the climate change impacts affecting your, local authority, district or province.

Identify and list some of the climate change adaptation measures being implemented including the funding source or partner.

3. The NAP-Monitoring and Evaluation Framework (NAP-MEF)

The NAP process is a strategic and ongoing process aimed at assisting countries identify, plan, and address their medium- and long-term adaptation priorities. This section introduces the NAP-MEF for Zimbabwe.

3.1. Key Elements of Monitoring and Evaluation

Article 7, paragraph 9 of the Paris Agreement underscores the importance of M&E, emphasizing that "*Each party shall, as appropriate, engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions, which may include… Monitoring and evaluating and learning from adaptation plans, policies, programmes and actions"*. In addition, the Intergovernmental Panel on Climate Change (IPCC) (2022) places a strong emphasis on the importance of M&E, noting that it "*is a key prerequisite for successful iterative risk management and achieving effective and just adaptation outcomes at local to global levels"*. The basic components of an M&E system are illustrated in figure 1. Key terms defined within the context of monitoring and evaluation are listed in Figure 2.

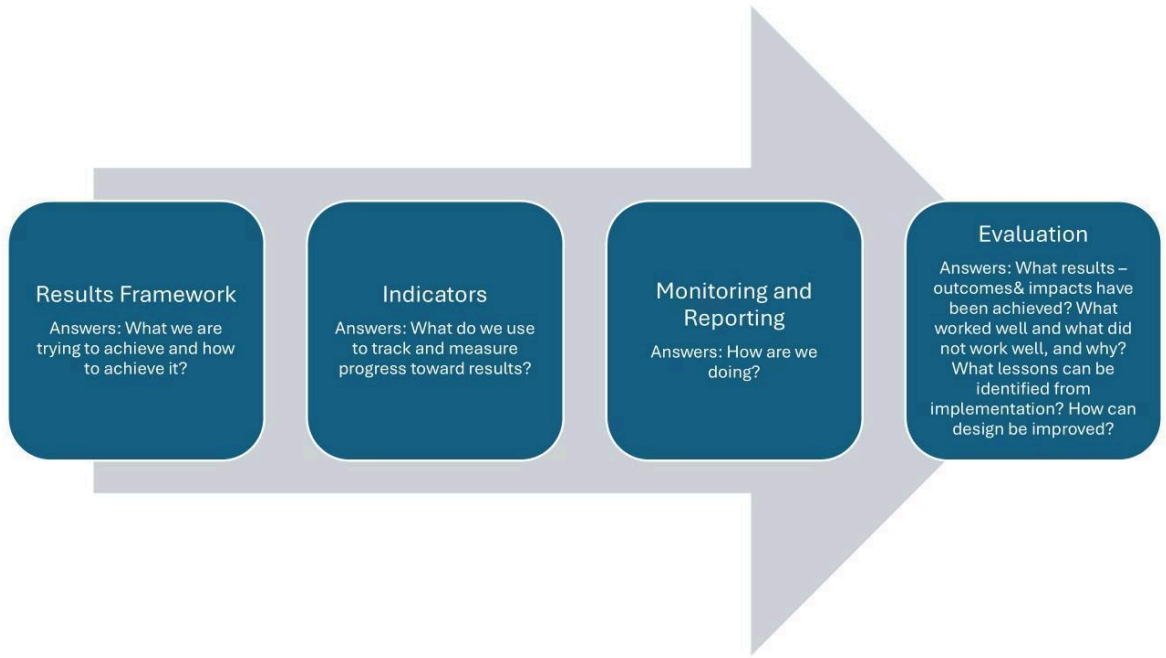

Figure 1: Basic components of an M&E system (Source: Williams 2016)

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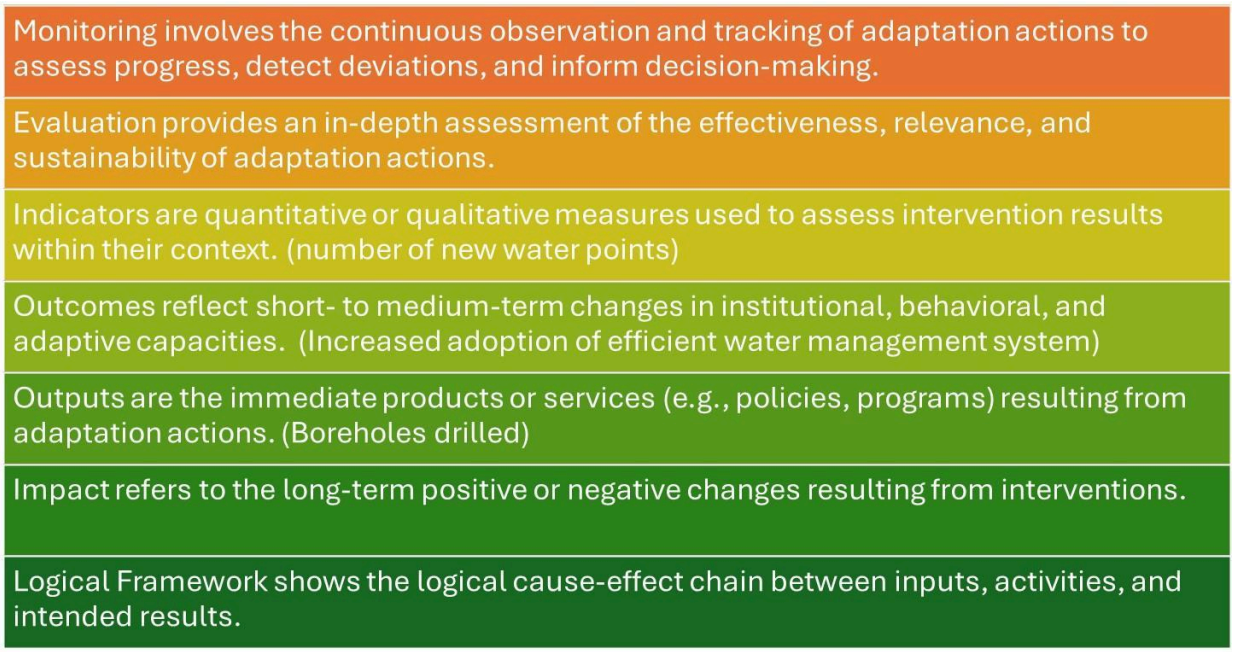

Figure 2: Selected terms used in monitoring and evaluation

3.2.The NAP-MEF

The NAP process in Zimbabwe aims to reduce climate vulnerability by enhancing resilience and integrating adaptation into national planning. It outlines adaptation needs, strategies, and an implementation plan across seven priority sectors: agriculture, water, forestry and biodiversity, tourism, health, human settlements, and infrastructure (Figure 3). Adaptation efforts are underway through government, private sector, local authorities, development partners, and communities. Adaptation progress in these sectors will be tracked, measured and evaluated through indicators in the NAP-MEF (Figure 3).

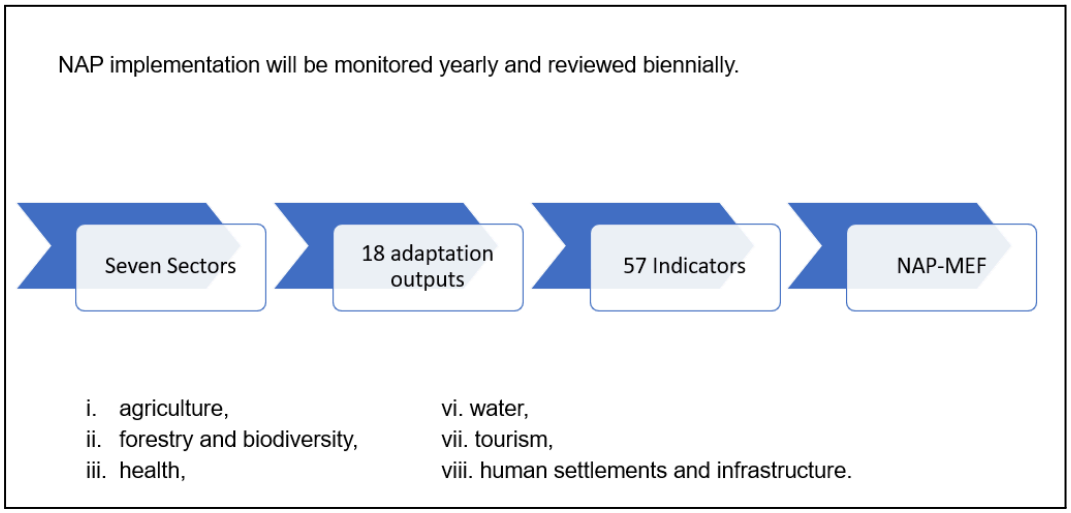

Figure 3: An overview of the NAP-MEF Framework

The National Adaptation Planning process should be a continuous, progressive and iterative process considering gender-sensitivity and must be country-driven and participatory in addition to showing transparency. The NAP process is composed of four steps in an iterative adaptation cycle in which monitoring, and evaluation are embedded as illustrated in Figure 4. NAP implementation will be monitored yearly and reviewed biennially.

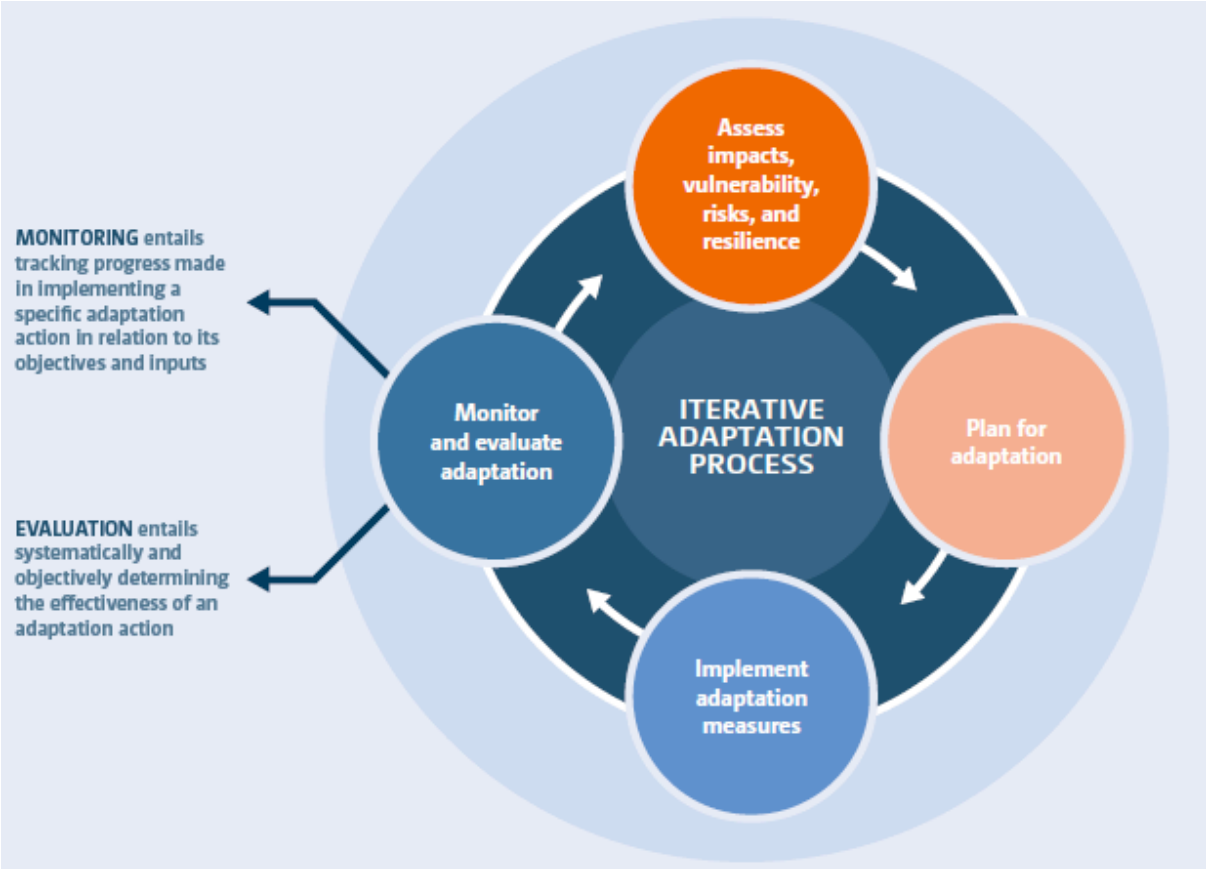

Figure 4: Monitoring and Evaluation in the Iterative Adaptation Process (Source: Adaptation Committee, 2021)

3.2.1. Objectives of the NAP-MEF

The objectives of the Zimbabwe NAP-MEF are to:

- track progress through monitoring the implementation of adaptation measures across key sectors;
- assess effectiveness by evaluating whether adaptation efforts are reducing climate vulnerability;
- inform decision-making through providing evidence-based data to guide policy and strategy adjustments; and
- enhance Transparency and Accountability through ensuring stakeholders at national and international levels are informed about adaptation progress.

The Monitoring and Evaluation (M&E) Framework is designed to systematically track adaptation efforts, evaluate their effectiveness, and support informed decision-making. It follows a Logical Framework Analysis (LFA) approach, outlining strategic activities with defined objectives, indicators, data sources, and responsible institutions. Data from ministries and agencies will feed into the system. Central to the framework is the results-based structure, linking activities to outputs, outcomes, and long-term impacts (Figure 5).

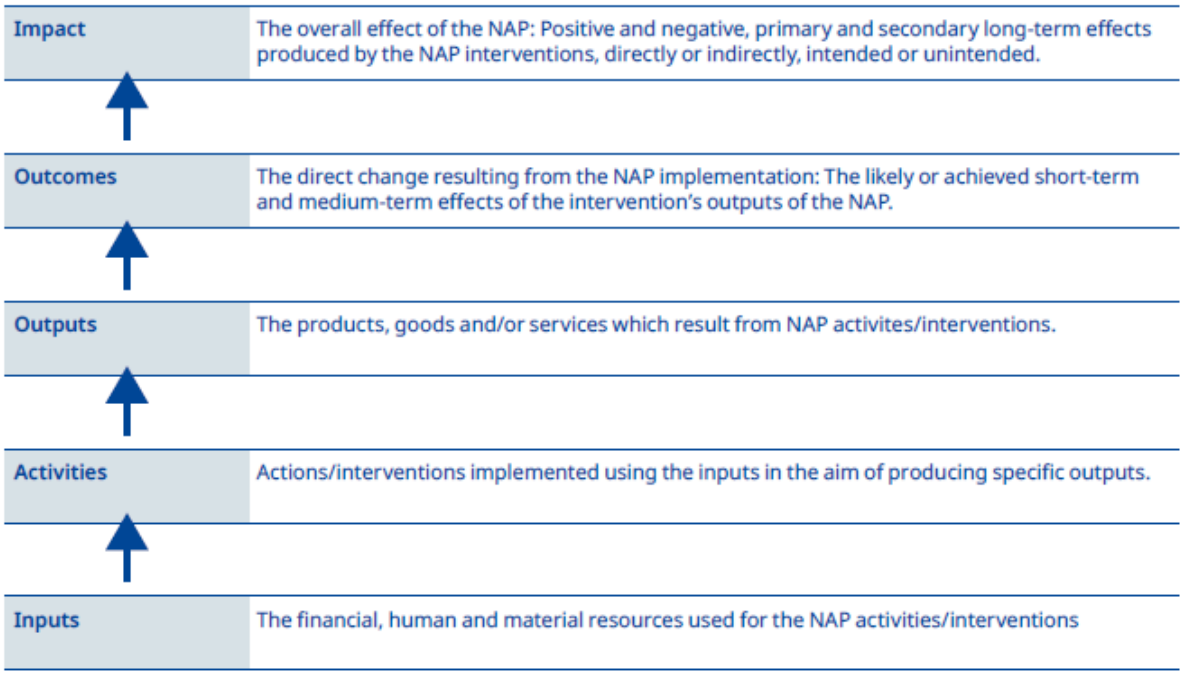

Figure 5: Flow of Activities in the Implementation of Adaptation Activities

Figure 6 illustrates the benefits of the NAP-MEF which include:

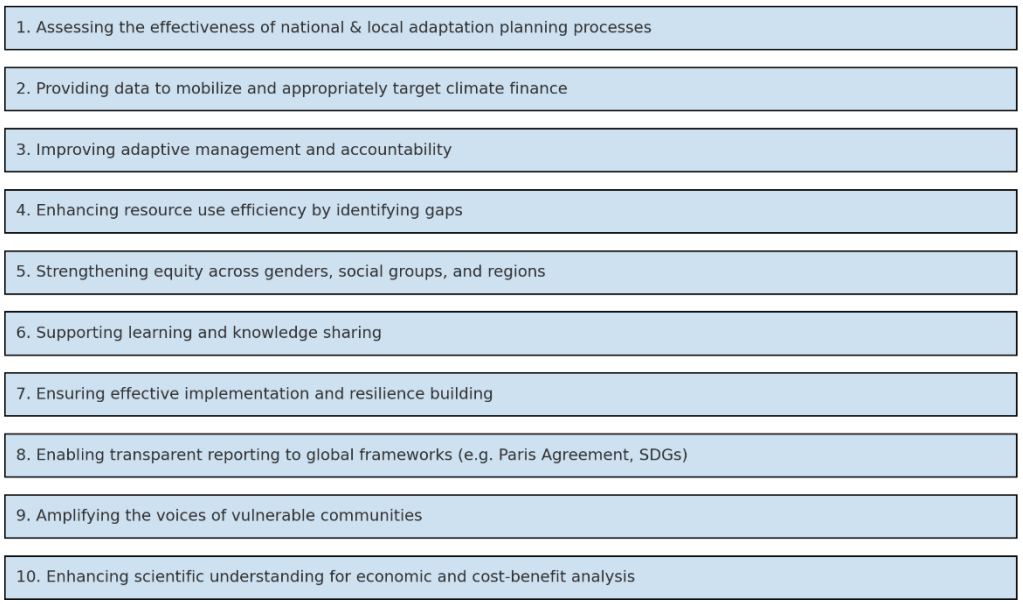

Figure 6: Benefits of the NAP-MEF

3.3. Priority Sectorial Adaptation Actions and Core Indicators

The NAP-MEF identified a total of 18 expected adaptation outputs and 57 indicators across the seven sectors based on the proposed national climate change adaptation strategic priorities through Multi-Criteria Analysis (MCA) and Cost Benefit Analysis (CBA). Building on this, the ICAT project through stakeholder consultations, further expanded the indicator list to 82 indicators for rural authorities and 90 indicators for the municipalities covering the seven priority sectors. This expanded set of indicators reflects the diverse adaptation gaps and needs faced by districts and provides a stronger basis for monitoring and evaluating the local adaption progress. It has therefore been integrated into the digital tool application. These indicators exclude the 4 generic questions under each sector, categorised as *Other questions*. The sector priority actions, their related outputs and core indicators chosen for this work are summarised in Table 2.

Table 2: Outcomes, Outputs and Indicators Across The Seven-Climate Change Adaptation Priority Sectors

Sector	Outcome	Output	Indicator (s) and Questions
Agriculture	Strengthened resilience of the agricultural and food systems to climate change	Weather and climate information services accessed	1. Total number of households in the district 2. Number of women headed households. 3. Number of child-headed households practising farming in the district 4. Number of People With Disabilities (PWDs) in the district practising farming 5. Number of farmers accessing weather and climate information services 6. Number of functional hydrological stations 7. Number of functional meteorological stations 8. Commonly used channels for accessing climate and weather services in the district: o Radio/TV o Mobile platform o Extension officers o Community meetings/Local information centers o Other (Specify) 9. Frequently used and preferred channels by a) women and b) persons with disabilities and c) children to access climate and weather information services in the district. 10. List commonly used indigenous Knowledge Systems used for climate weather information.
		Climate Smart Agriculture (CSA) practices adopted	11. Number of households practising CSA o CA Conservation agriculture: Pfumvunza/Intwasa o Minimum or no tillage o Mulching (use of crop residues or cover crops) o Permanent soil cover o Crop residue retention o Drought-tolerant and early maturing food and feed crop varieties o Crop rotation and diversification (e.g., cereals with legumes) o Intercropping (e.g., maize with cowpeas) o Agroforestry (e.g., integrating fruit or nitrogen-fixing trees which can be utilized by livestock in farms) o Precision agriculture (use of data and technology for input efficiency) o Other (Specify) 12. Number of households practicing Water Management o Rainwater harvesting? (e.g., roof catchments, runoff collection) o Drip and sprinkler irrigation systems

Sector	Outcome	Output	Indicator (s) and Questions
			○ Water conservation techniques including Tied ridges and infiltration pits for moisture retention ○ Use of water-efficient irrigation scheduling and technologies ○ Recycling and reuse of wastewater for irrigation ○ Other (Specify) 13. Number of households practicing Livestock Management ○ Improved livestock breeds that are heat-tolerant or disease-tolerant ○ Improved animal feed and nutrition (e.g., fodder crops, feed blocks, feed banks) ○ Rotational and controlled grazing systems ○ Manure management (composting and biogas generation) ○ Livestock health improvement through vaccinations and veterinary services: Disease management ○ Drought tolerant livestock (goats, poultry, donkeys) ○ Adoption of drought tolerant feed crops ○ Farmer field schools for climate smart livestock practices ○ Water conservation and management ○ Integrated farming systems ○ Other (Specify) --- 14. Number of households practicing Soil Fertility Management ○ Integrated soil fertility management (ISFM): ○ Organic manure + inorganic fertilizers ○ Composting and vermicomposting ○ Biochar application ○ Green manuring and cover crops ○ Use of legumes for biological nitrogen fixation ○ Other (Specify) --- 15. Institutional and Farm-Level Strategies ○ Crop/livestock insurance schemes ○ Digital agriculture tools (e.g., mobile-based advisory services) ○ Community-based seed banks and local seed systems

Sector	Outcome	Output	Indicator (s) and Questions
			o Access to markets for climate-resilient value chains o Other (Specify) 16. CSA practices most preferred and adopted by a) women, b) youth and c) persons with disabilities in the district. (drop down) 17. Estimated annual yield of dominant crops for the previous year (tonnes / Ha) o Maize o Sorghum o Finger millet o Rapoko o Etc 18. Total area under each of the dominant crops o Maize o Sorghum o Finger millet o Rapoko o Other (Specify) 19. Number of climate-induced cattle deaths e.g. resulting from drought or disease outbreaks
		Agricultural technologies promoted	20. Area of land under irrigation systems (Ha) o Flood o Sprinkler o Drip o Other (Specify)
		Efficient value chains and markets for crop and livestock established (including drought tolerant crops)	21. Number of farming households with access to agricultural markets 22. Number of value addition centres/enterprises established 23. Number of business units established 24. Post-harvest losses (Tonnes) for key crops 25. Number of training sessions on climate change education held with farmers 26. Number of farmers trained on climate change.

Sector	Outcome	Output	Indicator (s) and Questions
			27. Number of a) women, b) children and b) persons with disabilities actively earning income from established climate-resilient crop and livestock value chains.
		Other questions	28. List the challenges being faced in implementing climate change adaptation strategies 29. List the main sources of funding for current adaptation programmes and activities e.g., government, UN, Church/NGOs. 30. List the challenges you have in the collection of climate change and adaptation data. 31. Are the adaptation programmes and activities in the agricultural sector informed by climate experienced in the area?
Water	Improved availability of water resources	Water resources developed and sustainably managed	1. Ratio of developed storage to potential 2. Storage capacity developed (Billion Cubic meters) 3. Number of new dams constructed and commissioned 4. Number of new weirs established. 5. Number of dams/weirs rehabilitated. 6. Number of boreholes 7. Number of boreholes drilled per year 8. Number of functional boreholes 9. Number of houses connected to piped water 10. Other new water sources 11. Other rehabilitated water source as applicable
		Water use efficient systems adopted	12. Number of houses with prepaid water meters 13. Percentage of agricultural land with improved irrigation
		Portable water infrastructure developed and maintained	14. Number of households with access to basic water services/improved water services. o Located within premises o Less than 500m o More than 500m but less than 1 km o 1km and above 15. Number of households with access to basic water/improved water services. o Piped into dwelling o Piped into yard or plot o Piped into public tap or standpipe

Sector	Outcome	Output	Indicator (s) and Questions
			○ Piped into neighbour's yard ○ Borehole /Tube well ○ Protected well ○ Unprotected ○ Protected spring ○ Unprotected spring ○ Surface water ○ Tanker- truck ○ Cart with small tank ○ Water Kiosk ○ Bottled/ sachet water ○ Other
		Other questions	16. List the challenges being faced in implementing climate change adaptation strategies 17. List the main sources of funding for current adaptation programmes and activities e.g., government, UN, Church/NGOs. 18. List the challenges you have in the collection of climate change and adaptation data. 19. Are the adaptation programmes and activities in the water sector informed by climate experienced in the area?
Forest and Biodiversity	Strengthened natural resource-based conservation and sustainable livelihood initiatives	Enhanced alternative natural resource-based livelihoods options	1. None-timber Forest resources in the district. ○ Bee keeping, ○ Worms (e.g., Mopane) ○ Wild fruits ○ Medicinal plants ○ Thatch grass ○ Other (specify) 2. Number of households benefiting from natural resource based alternative livelihoods 3. Number of wards in the district with functional natural resource management committees and plans.

Sector	Outcome	Output	Indicator (s) and Questions
			4. Number of people trained on ecosystem-based climate adaptation
		Improved biodiversity and reduced habitat loss	5. Percentage change in forest cover 6. Area of forest under management (Ha) 7. Area of climate sensitive ecosystems under management (Ha) 8. Forest area affected by fire per annum (Ha) 9. Wetland area protected (Ha) 10. Number of trees planted
	Other questions		11. List the challenges being faced in implementing climate change adaptation strategies 12. List the main sources of funding for current adaptation programmes and activities e.g., government, UN, Church/NGOs. 13. List the challenges you have in the collection of climate change and adaptation data. 14. Are the adaptation programmes and activities in the water sector informed by climate experienced in the areas?
Tourism	Tourism, infrastructure, products and facilities climate proofed	Circular economy practices adopted by hospitality industry Climate smart infrastructure products and facilities promoted	1. Number of tourism facilities in the local authority 2. Number of facilities using climate smart technologies 3. Number of new enterprises 4. Number of new green jobs (e.g. recycling) 5. Number of tourism facilities retrofitted or constructed using climate-resilient designs 6. Number of training sessions conducted on climate smart management for tourism operators 7. Were these training sessions sensitive to a) gender b) PWD and c) Children 8. Number of tourism facilities adopting green certification or environmental standards
	Eco-tourism enterprises established/supported	Eco tourism enterprises established/supported	9. Number of ecotourism enterprises established
	Other questions		10. List the challenges being faced in implementing climate change adaptation strategies 11. List the main sources of funding for current adaptation programmes and activities e.g., government, UN, Church/NGOs. 12. List the challenges you have in the collection of climate change and adaptation data. 13. Are programmes and activities in the tourism sector informed by climate experienced in the area?
Health	Strengthened responsiveness of the	Integrate climate change, weather and	1. Number of health centres/facilities in the district 2. Presence of District health and climate hazard preparedness plans

Sector	Outcome	Output	Indicator (s) and Questions
	health system to climate change	climate information into the health surveillance and information system	3. Number of health centres using climate forecast information for planning 4. Presence of a functional health surveillance system in place that integrates climate change-related risks (e.g. heat stress, vector-borne diseases, waterborne illnesses) a. Yes – fully integrated and operational b. Partially – some climate risks are considered c. No – not integrated d. Other (explain) 5. % of clinics reporting water- and sanitation-related illnesses monthly ● Cholera ● Diarrhoea ● Dysentery ● Typhoid ● Other (Specify) 6. % of waterborne disease cases linked to climate events ● Cholera ● Diarrhoea, ● Dysentery, ● Typhoid ● Other (Specify) 7. Number of people in communities trained on WASH ● Male ● Female 8. Presence of real-time WASH-health surveillance dashboards 9. Number of health workers trained on climate and WASH interlinkages ● Male ● Female
		Improved research and response to climate related diseases	10. Number of formal research projects on climate related diseases
	Other questions		11. List the challenges being faced in implementing climate change adaptation strategies 12. List the main sources of funding for current adaptation programmes and activities e.g., government, UN, Church/NGOs. 13. List the challenges you have in the collection of climate change and adaptation data.

Sector	Outcome	Output	Indicator (s) and Questions
			14. Are programmes and activities in the health sector informed by climate experienced in the area?
Human settlements	Human settlements improved capacity to withstand and recover from climate-related hazards	Increased integration of climate in spatial planning	1. Existence of by-laws on human settlements which support the construction of climate proofed/ resilient buildings 2. Number of residential stands regularised 3. Current programs being implemented in the district to ensure that settlements are climate change resilient: ● relocation (Specify) ● flood-proof housing (Specify) ● improved infrastructure (Specify) ● building codes (Specify)
		Population at risk from climate related hazards relocated	4. Number of households vulnerable to climate hazards: ● Floods ● Landslides, ● Mudslides ● Other (Specify) 5. Number of households vulnerable to climate hazards (floods, landslides, mudslides) relocated. ● Floods ● Landslides ● Mudslides Other (Specify)
	Other questions		6. List the challenges being faced in implementing climate change adaptation strategies 7. List the main sources of funding for current adaptation programmes and activities e.g., government, UN, Church/NGOs. 8. List the challenges you have in the collection of climate change and adaptation data. 9. Are programmes and activities in the human settlements sector informed by climate experienced in the area?
Infrastructure	Enhanced infrastructure resilience to climate change	Climate resilient infrastructure standards developed and adopted	***Climate proofing*** *means making sure that buildings and infrastructure can keep working well even when the weather becomes harsher because of climate change.* ***Schools****: A climate-proofed school is built outside flood-prone areas, has and strong walls and roofs to withstand heavy storm, good ventilation to keep classrooms cool during heatwaves, safe water supply even in droughts, and drainage so floods don't disrupt learning.*

Sector	Outcome	Output	Indicator (s) and Questions
			***Clinics**: A climate-proofed clinic is built outside flood-prone areas, has backup solar power when electricity fails, reliable water and sanitation, and strong walls and roofs to withstand heavy storms—so health services continue during disasters.* ***Roads**: A climate-proofed road has proper drainage so it is not washed away in floods, durable surfacing that can handle heavy rain and high heat, and raised bridges so communities stay connected even in extreme weather.* 1. Number of capacity building events conducted on design and development of climate resilient infrastructure 2. Number of schools located in high climate hazard areas ● Flood ● Landslide 3. Number of schools with wind-resistant roofing. 4. Number of schools with energy back-up or renewable energy. 5. Number of health facilities located in high climate hazard areas ● Flood ● Landslide 6. Number of health facilities with wind-resistant roofing. 7. Number of sanitation facilities (*building toilets, latrines, and sewer systems*) sited outside flood-prone areas and away from high water tables 8. Number of health facilities with backup or renewable energy 9. Number of health facilities with access to water throughout the year 10. Kilometres of roads that remain accessible year-round under climate shocks 11. Number of bridges that remain accessible throughout the year. 12. Do local authority have by-laws that promote climate-resilient houses? 13. Are there any strategies to capacitate communities to build climate smart houses?
		Other questions	14. List the challenges being faced in implementing climate change adaptation strategies 15. List the main sources of funding for current adaptation programmes and activities e.g., government, UN, Church/NGOs. 16. List the challenges you have in the collection of climate change and adaptation data. 17. Are programmes and activities in the infrastructure sector informed by climate experienced in the area?

Modified from the Logical Framework Analysis in the NAP (https://unfccc.int/documents/641981) for seven priority sectors and is meant to monitor and evaluate the implementation of the Priority Actions of the NAP.

ACTIVITY 2

Outline the Monitoring and Evaluation mechanism you have in your own sector including parameters, timelines and processes.

4. Digital Tool for Data Collecting, Analysing and Reporting

To effectively track the progress of adaptation actions across the seven priority sectors, continuous data collection using various indicators is essential. For this purpose, this ICAT project developed a digital tool, the KoboToolbox to facilitate the systematic gathering of necessary data, enabling comprehensive monitoring and evaluation of adaptation efforts.

Activity 3: Individual exercise

4.1.Account setup

For effective engagement, it is crucial that all participants possess a comprehensive understanding of the design and implementation lifecycle of the National Adaptation Plan (NAP) Monitoring and Evaluation (M&E) digital tool. This includes familiarity with the entire process, from account creation to report generation and data export for subsequent analysis.

The digital tool account provides access (depending with privileges) to various components of the digital toolbox, such as the data collection tool builder (for deployment on Android devices), data storage functionalities, data reporting features, and the capability to export collected data into excel/CSV format for in-depth analysis.

To access KoboToolbox the user begins by opening a web browser and navigating to the KoboToolbox website[7], where one can find more information about the tool, including the features of the tool, and the background of the same.

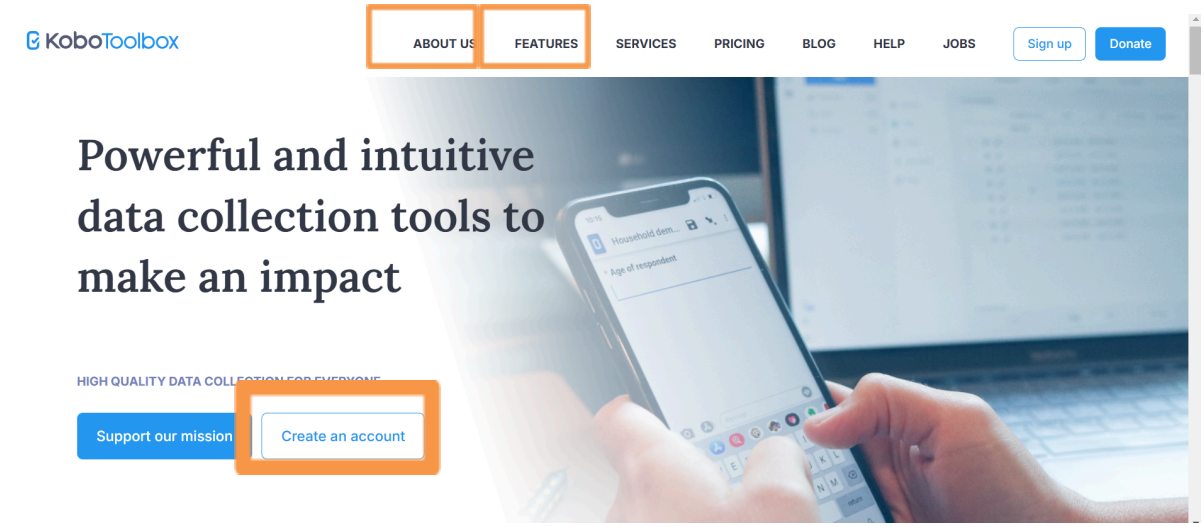

Figure 7: KoboToolbox Homepage

[7] https://www.kobotoolbox.org/

4.1.1. Account creation

The initial step in utilising KoboToolbox is account creation, which is initiated by clicking the '***Create an account'*** button. During this process, a crucial decision involves selecting a server. KoboToolbox primarily offers two public server options:

a) The Global KoboToolbox Server: This is the most widely adopted server.
b) The European Union KoboToolbox Server: This server is specifically designed for organisations with data hosting requirements within the European Union.

It is imperative to understand that projects and associated data cannot be shared or transferred between these two distinct servers. Consequently, all collaborators involved in a project must utilise the same server to ensure seamless data management and collaboration.

In our case, we selected the Global KoboToolbox Server and created the account by clicking the '***Create account'*** button. Following this, users will be prompted to complete the required fields to finalise account creation. An **active email** address is a prerequisite for successful registration.

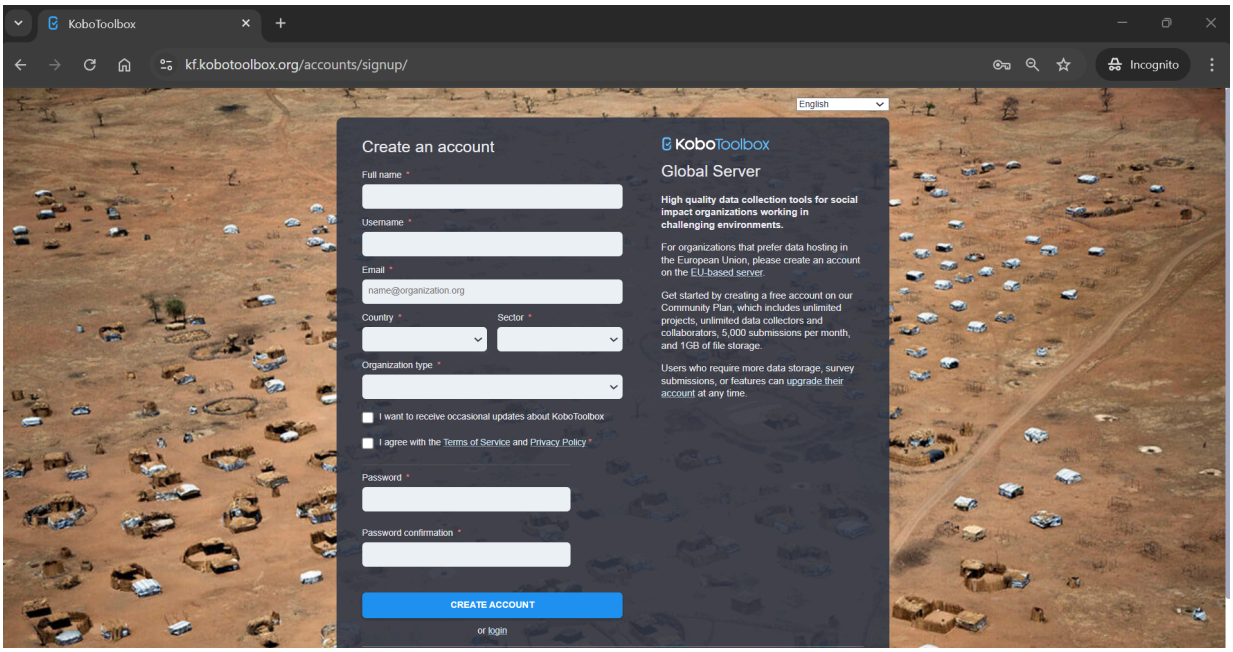

Figure 8: KoboToolbox account creation form

4.1.2. Logging in

Upon successful account activation, users can proceed to log in to the KoboToolbox platform via the provided link: (https://kf.kobotoolbox.org/accounts/login/). **It is crucial to retain the chosen password and username,** as these credentials will be essential for configuring the KoboCollect application on Android devices for data collection. The username must be shared with the administrator for one to access forms relevant to the sector expert.

Once successfully logged in, the user will be directed to the KoboToolbox dashboard. This central interface displays a comprehensive list of all the user projects. If this is the initial login, the project list will naturally be empty.

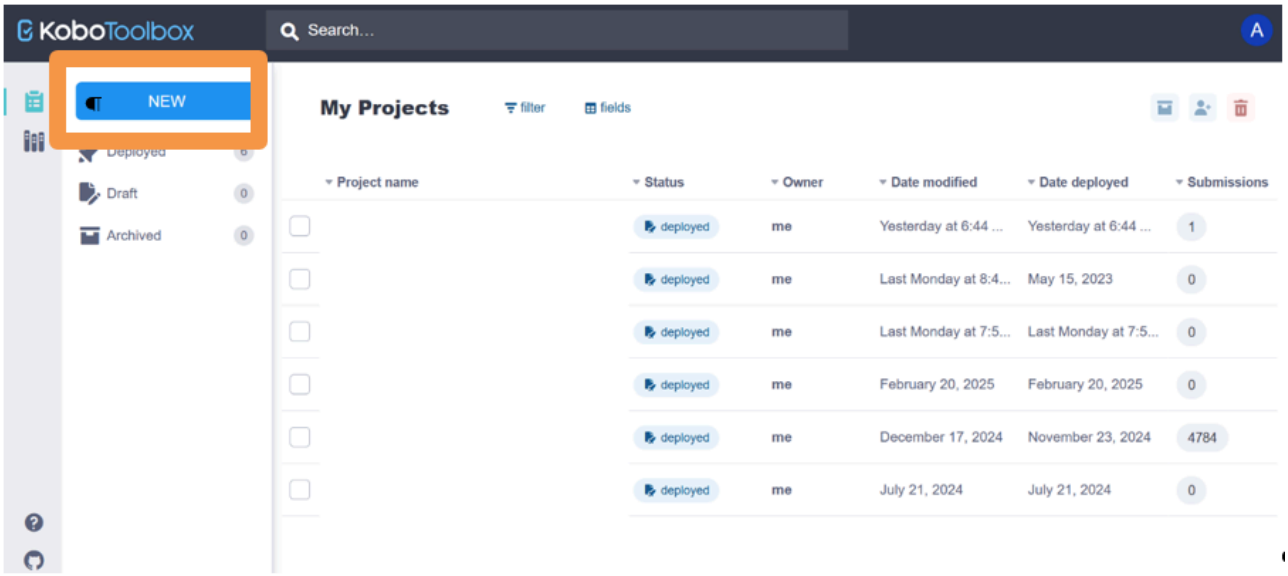

Figure 9: KoboToolbox Dashboard

Activity 4: Individual exercise

4.2. Form design

To initiate the creation of a new data collection form, a user should navigate to the '***New'*** option within the digital tool's interface. This action will enable the design of a form from scratch. For this exercise, the name of the form is ***'Survey Form'.***

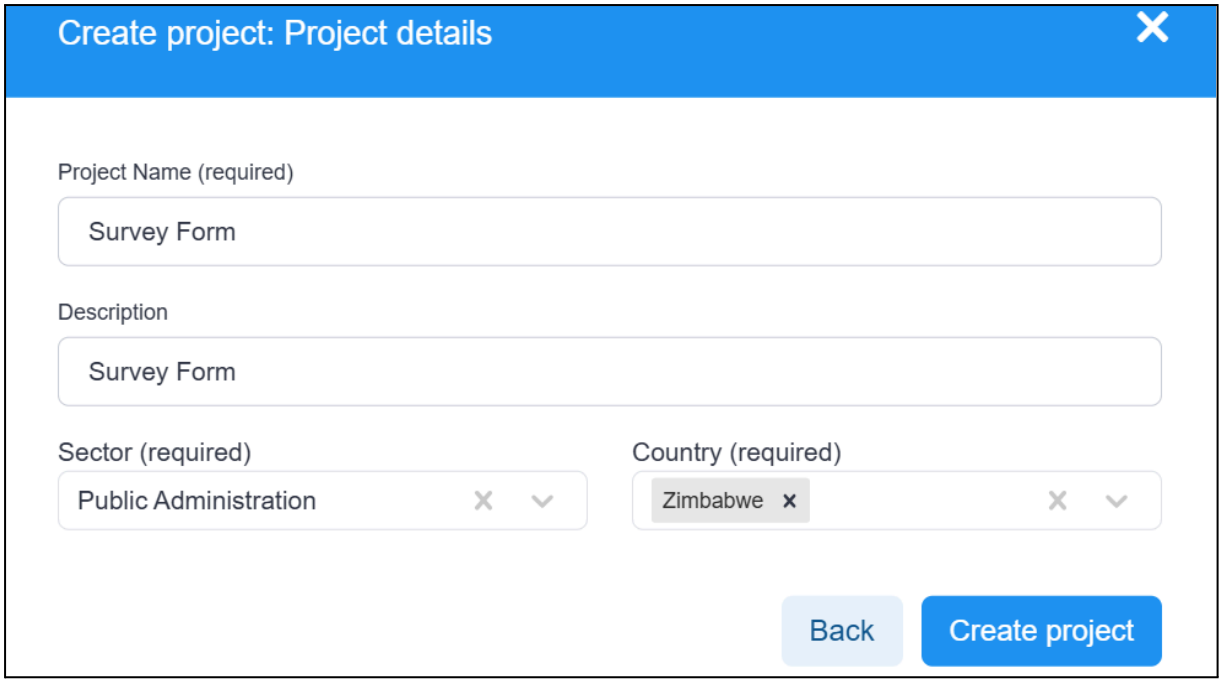

Figure 10: Adding the new form details

One can then proceed and create a project. This will be a blank form, and one can start building the form.

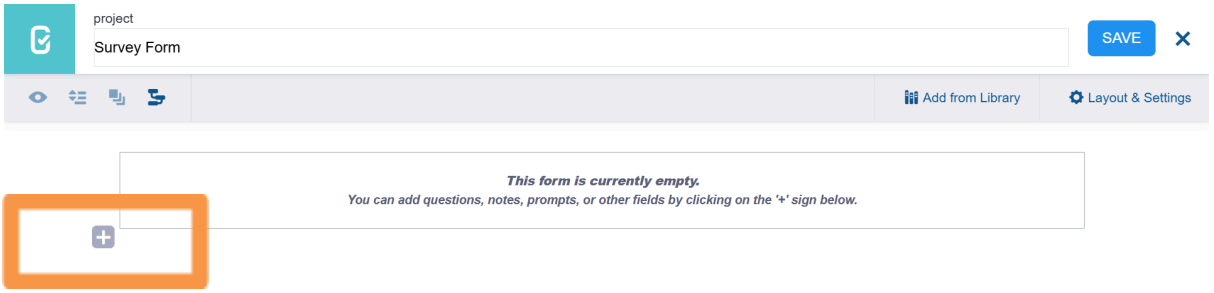

Figure 11: Blank form

To add the first question to the form, the user needs to click on the plus sign icon within the form builder interface. After clicking the plus sign, the user proceeds to ***'add question'*** to select the desired data type for the 'respondent's input. In this specific instance, the objective

is to enable respondents to select both a date and a time when completing the questionnaire.

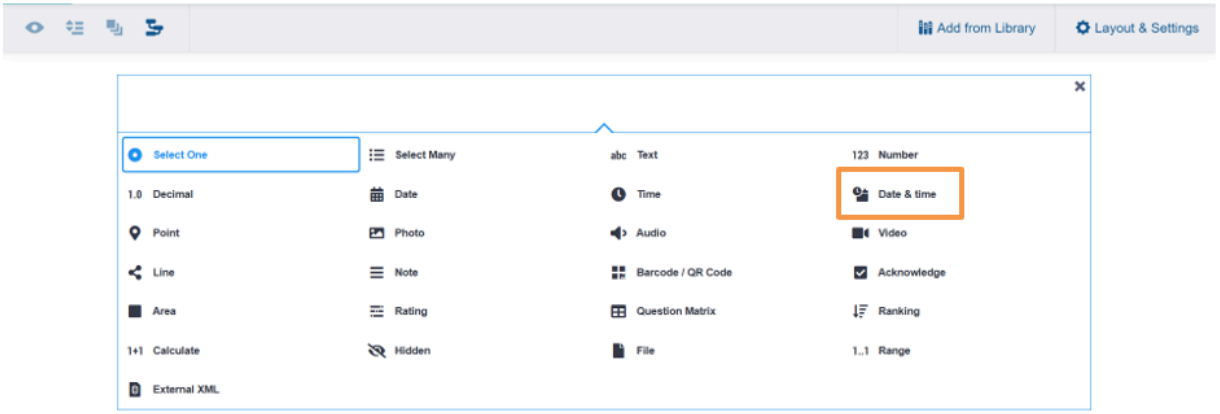

Figure 12: Adding a question

Activity 5 (In groups – 7 groups each working on one of the priority areas)
Since each group is assigned a specific sector, there is need to identify the form that corresponds to the respective sector. Once identified, the next step is to continue building the form by adding the remaining questions and data types required to fully address all the indicators and information needs for the assigned priority area. The user is reminded to use the form builder's functionalities to accurately capture all necessary data points.

4.2.1. Deploying the form

Once the design of the form is complete, the user should navigate to the '***Return to List'*** button. This will take the user to a list of all the created forms including those shared with the user.

From this list, the user selects the specific form to be deployed by choosing the '***Form***' option from the menu. Once selected the form is deployed through selecting the '***Deploy'*** option (Figure 13).

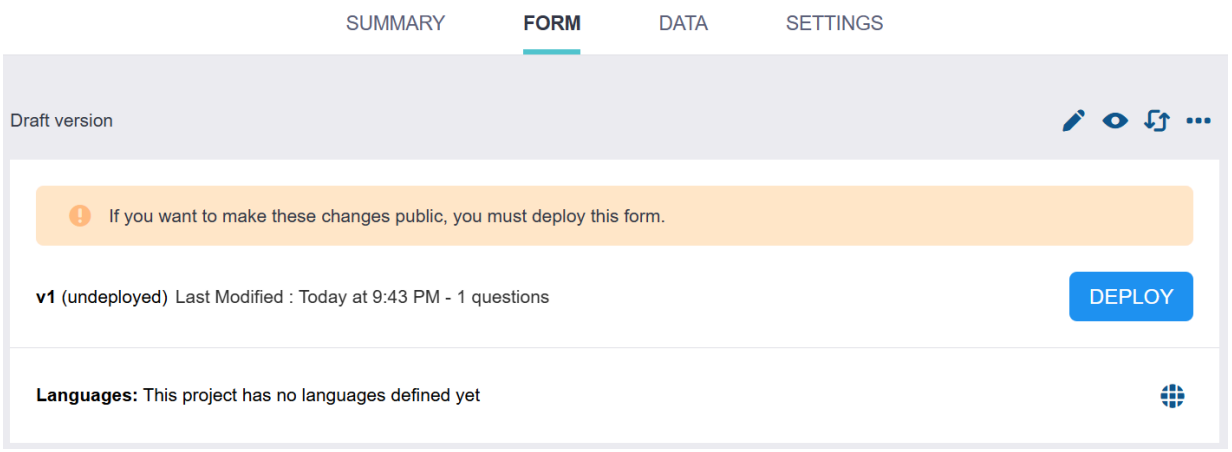

Figure 13: Undeployed form

This action will make the form active and ready for data collection (Figure 14).

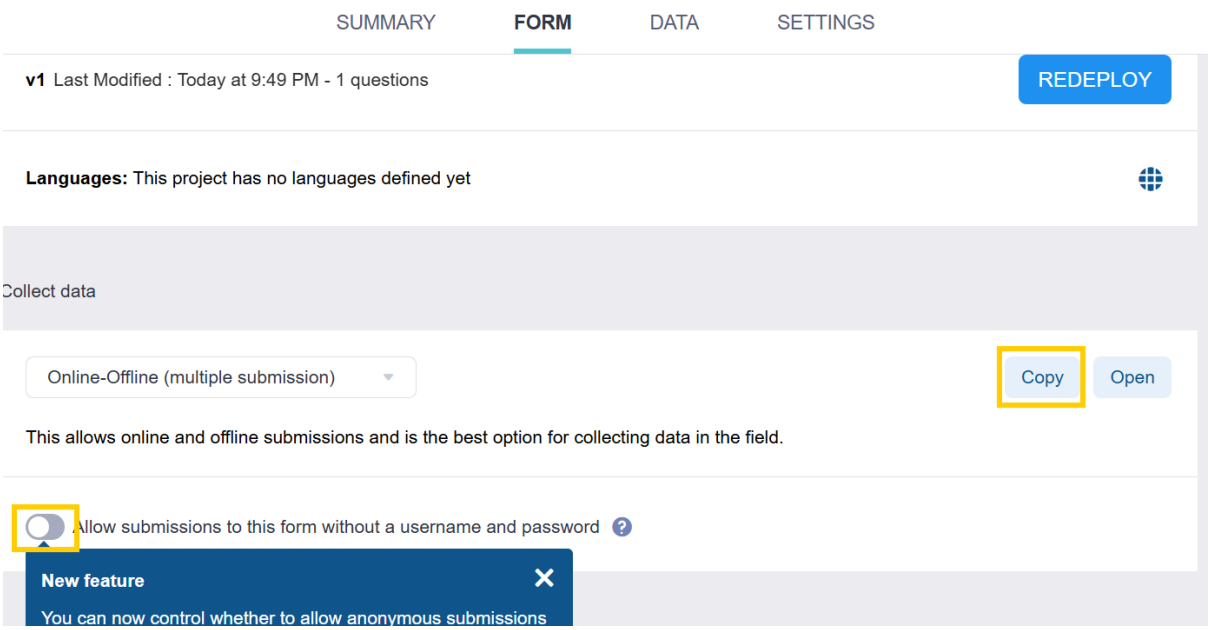

Figure 14: Deployed form

Upon successful deployment of the form, the user will need to adjust the submission settings (Figure 14). Locate the option to '***Allow submissions to this form without requiring a username and password'***, and then redeploy the form to apply this change. This step makes the form publicly accessible for data collection without individual user authentication.

Next, the user needs to copy the link to the form (Figure 14). This link is shared with the respondents to the survey. For immediate testing, user needs to paste this link into a different web browser and proceed to fill in the form as a respondent would. This step allows one to verify the form's functionality and user experience.

4.3.Form submission (online)

Once the link has been opened in a browser, the user proceeds to complete the form before submitting(Figure 15).

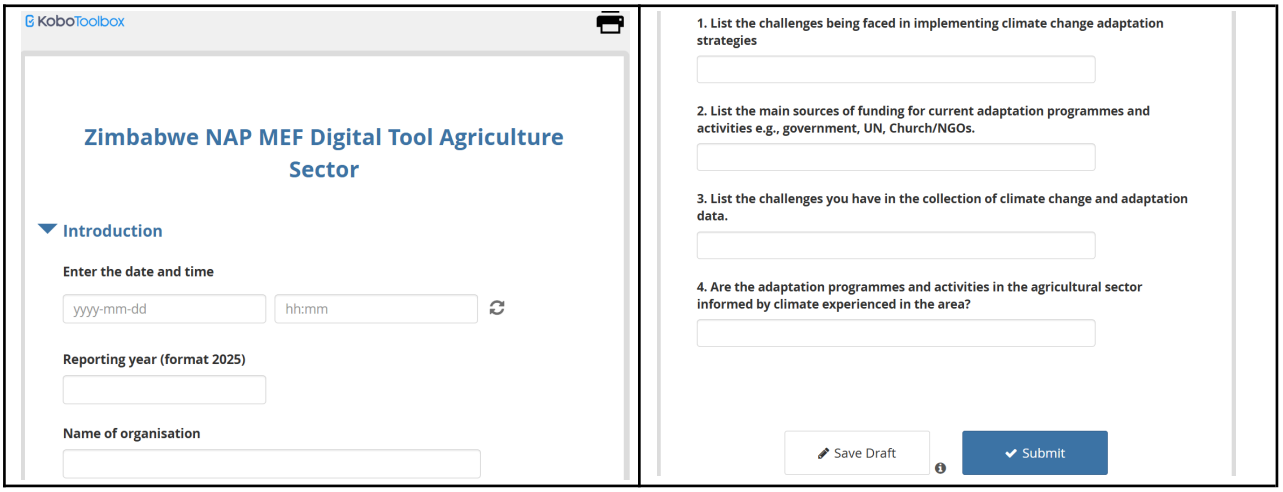

Figure 15: Unsubmitted form

4.4. Device configuration

The designed form also supports offline data collection through the KoboCollect Android application. By using KoboCollect, users can collect data in areas without internet connectivity, ensuring continuity of monitoring and evaluation activities.

4.4.1. KoboCollect installation

This application is readily available for download and installation on Android devices via the Google Play Store. To access the application, the user needs to visit the Google Play Store and install the KoboCollect application.

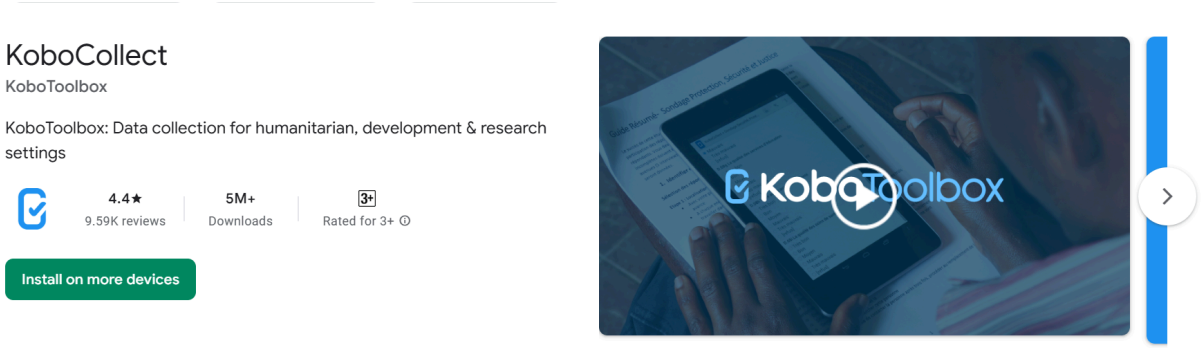

Figure 16: KoboCollect installation

4.4.2. Server settings on application

Once the KoboCollect application has been successfully installed on the Android device, the user needs to open the application and proceed with the manual configuration of the application connection to the server. This process requires one to input specific credentials: the username, the password, and the server URL (https://kc.kobotoolbox.org). The user must ensure that the correct username and password are entered in the designated fields. Accurate entry of these credentials is a prerequisite for establishing a successful connection between the KoboCollect application and the KoboToolbox server, enabling you to download and submit forms.

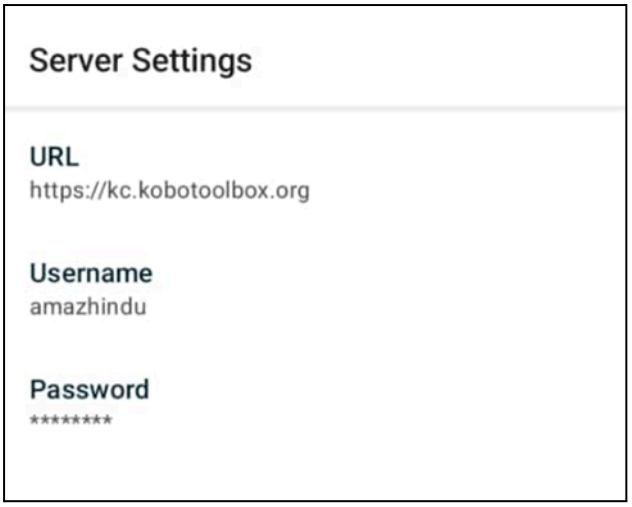

Figure 17: Server configuration

4.4.3. Downloading the form

To download a form in the KoboCollect application the user should click on '***Download form', select*** '***Get selected',*** then choose, '***Start a new form'*** and pick the desired form (Figure 1818).

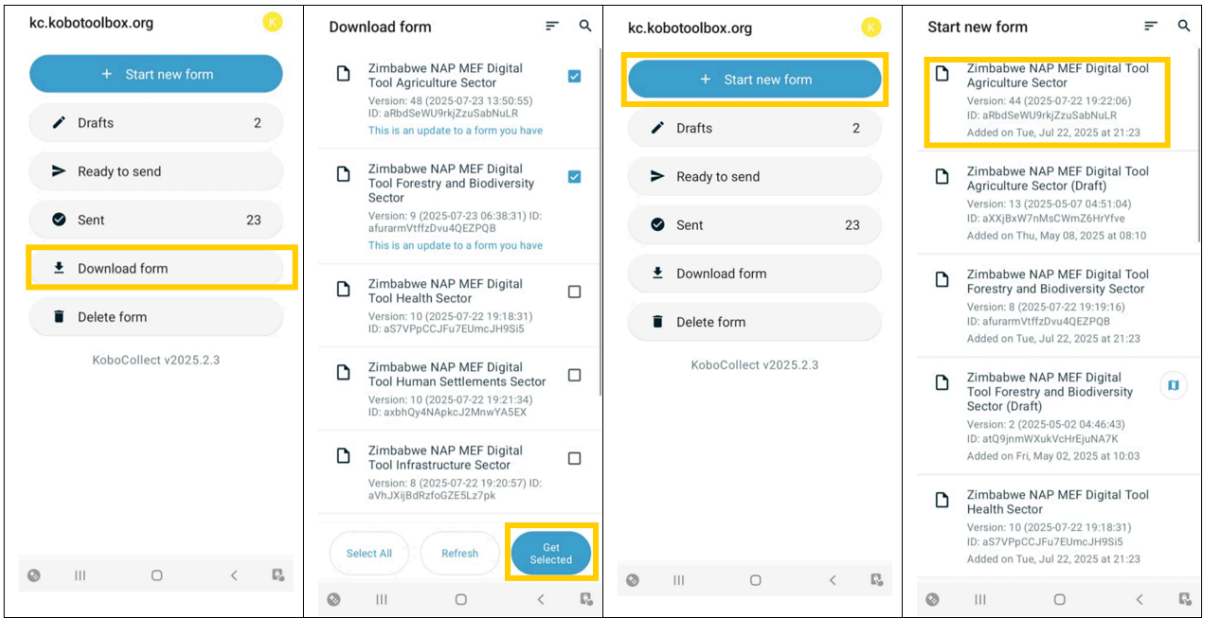

Figure 18: Steps to adding a form on KoboCollect

4.4.4. Form submission (offline)

The user needs to complete the survey within the KoboCollect application as shown in the steps in Figure 19 Once the form is completed, and as soon as internet access becomes available, the user should immediately send the collected form to the server.

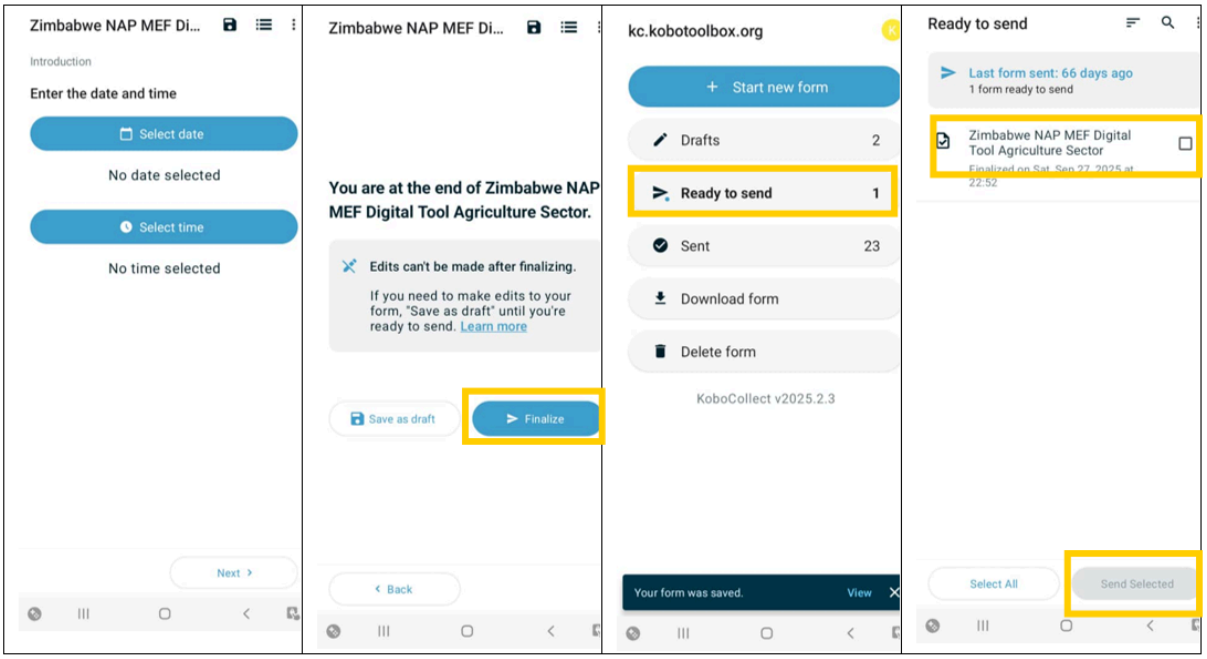

Figure 19: Sending a form that was collected offline

This action will transmit the survey data from the KoboCollect application to the server. The process is completed by clicking on the form and selecting '***send selected'***.

4.5. Validation

To view the submitted data, the user clicks on the '***Data***' tab within the KoboToolbox dashboard. Under the tab, one can inspect all the records that have been submitted (Figure 20).

To inspect and, if applicable, validate a specific record, the user first selects the record to be reviewed. The user then selects '***Change Status'*** option before clicking on the '***Approved***' button to confirm validation.

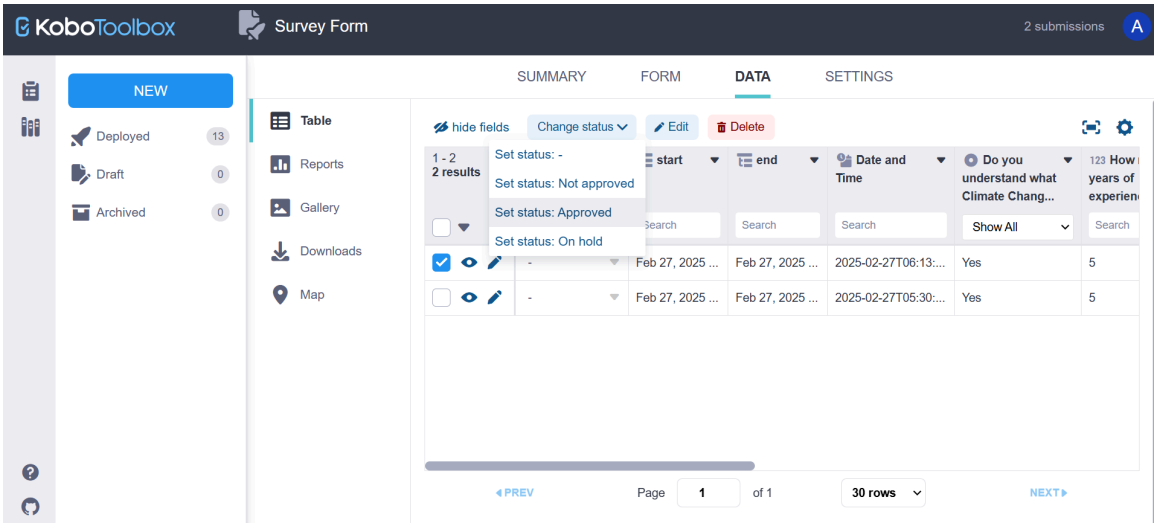

Figure 20: Data validation

The user will be prompted if they wish to validate the record.

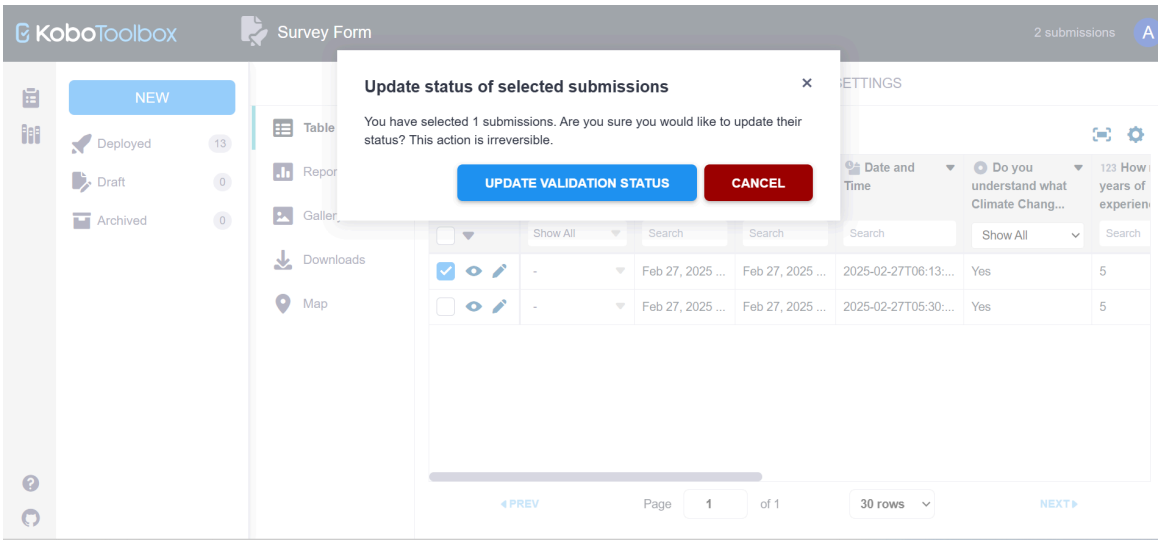

Figure 21: Validation prompt

4.5.1. Report generation, data aggregation, filtering and visualisation

While still within the '***Data***' tab of the KoboToolbox dashboard, the user should navigate to and select the '***Report***' section. This will enable one to generate a comprehensive report based on the submitted data.

Still under the data tab, select on the report section to generate a report.

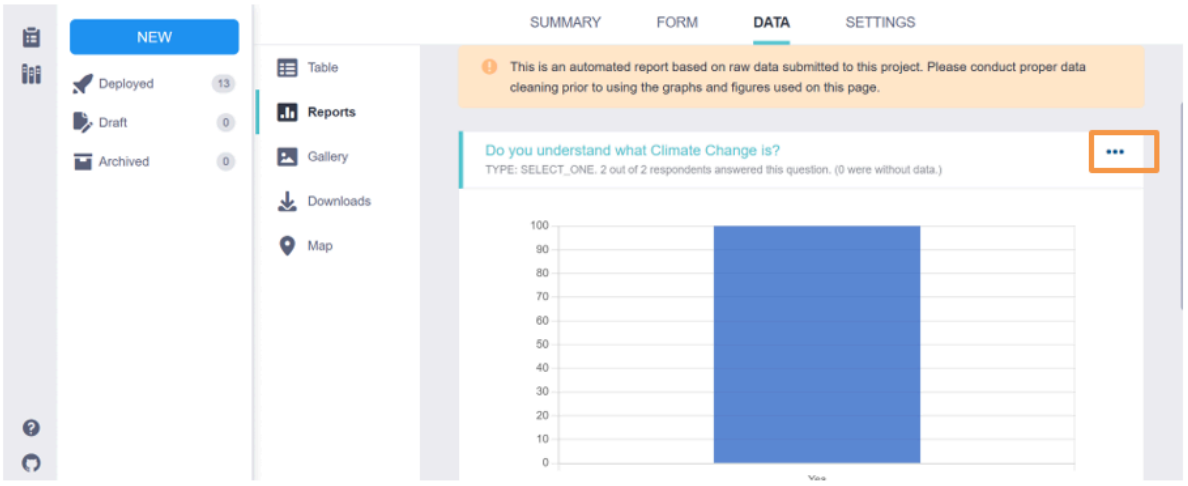

Figure 22: Sample report

The report type can be changed to suit the user preference by clicking on the 3 dots and choosing a new report style.

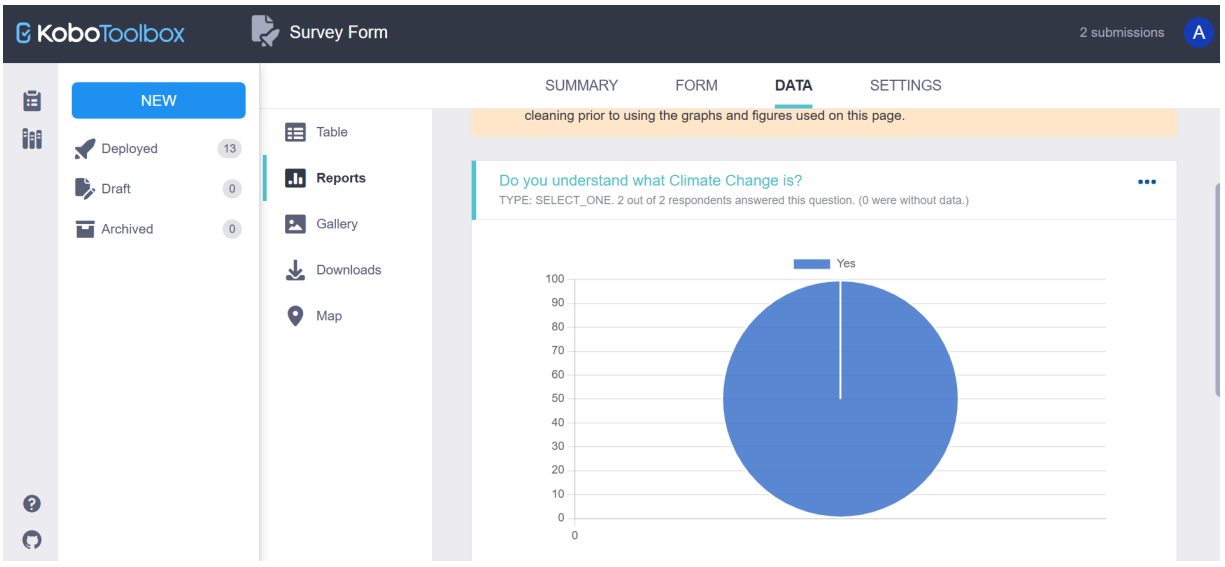

Figure 23: Sample report

4.6.Data export

The submitted data can be exported into various formats via the '***Download tab'*** as shown in Figure 24.

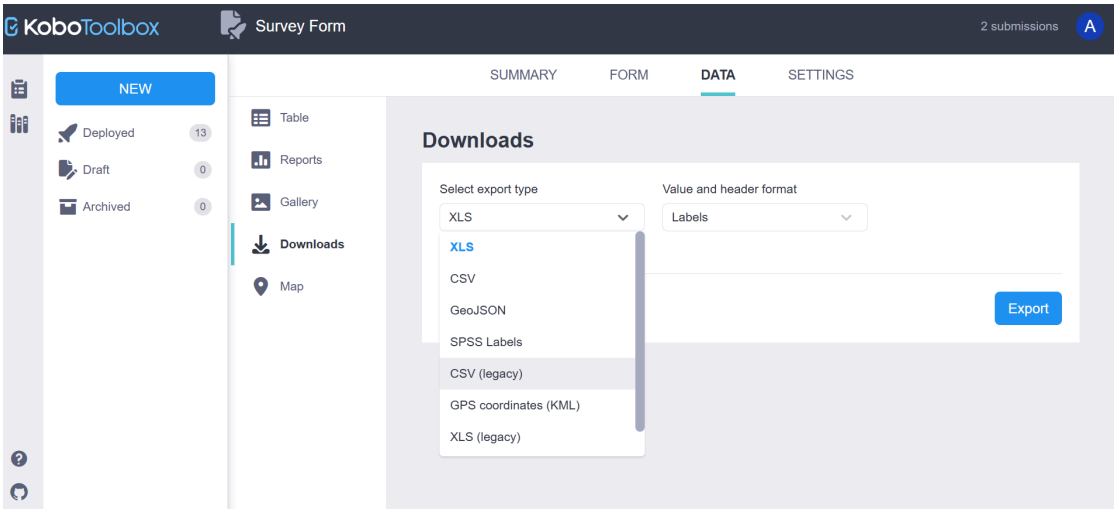

Figure 24: Data export

4.7.Management of user accounts

To manage the user account, one needs to navigate to the '***Settings***' section on the form and select '***Sharing***' as shown in Figure 25.

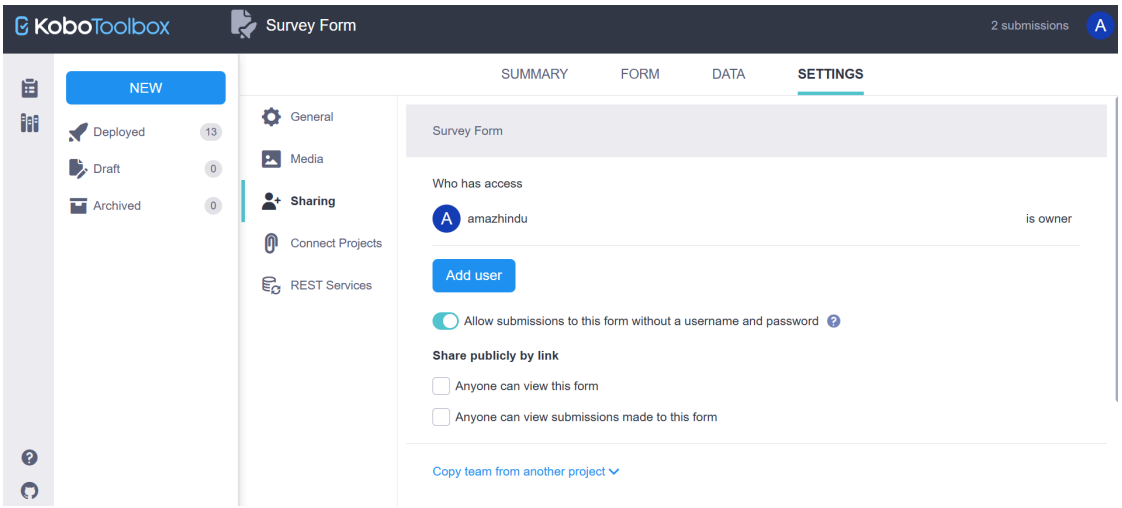

Figure 25: Managing users

By choosing the '***add user'*** function, one can add other users specifying the different user roles and privileges.

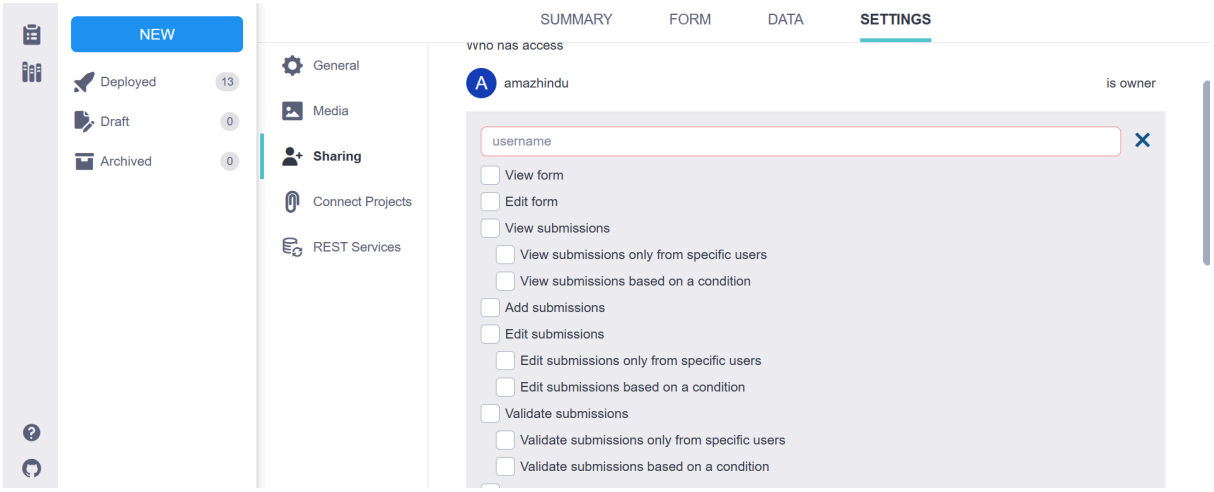

Figure 26: Different roles for the added users

4.8.Installation of the NAP M&E Forms into participants' devices

Repeat the instructions of 4.4.1 to 4.4.2 and install the form for the different sectors.

4.9.Populating the NAP M&E Forms

The forms are composed of 3 sections, 1) the *Introduction-General Information Section*, 2) the *Indicator Assessment Section* and then 3) the *Other Information Section*.

4.9.1. Introduction - General Information Section

This section prompts the user to input general information such as the date, time, district and the ward (Figure 28).

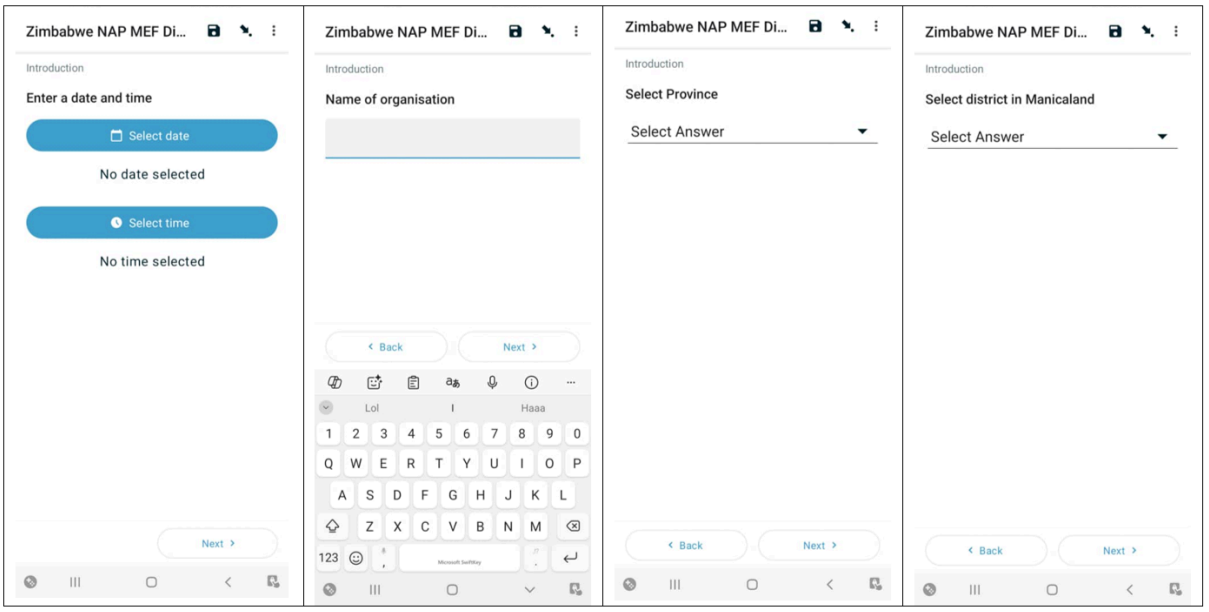

Figure 27: General Information section of the data collection tool

4.9.2. Indicator Assessment Section

The digital form incorporates various question types to facilitate diverse data input. For example, some questions, are designed as multiple-choice questions (Figure 29).

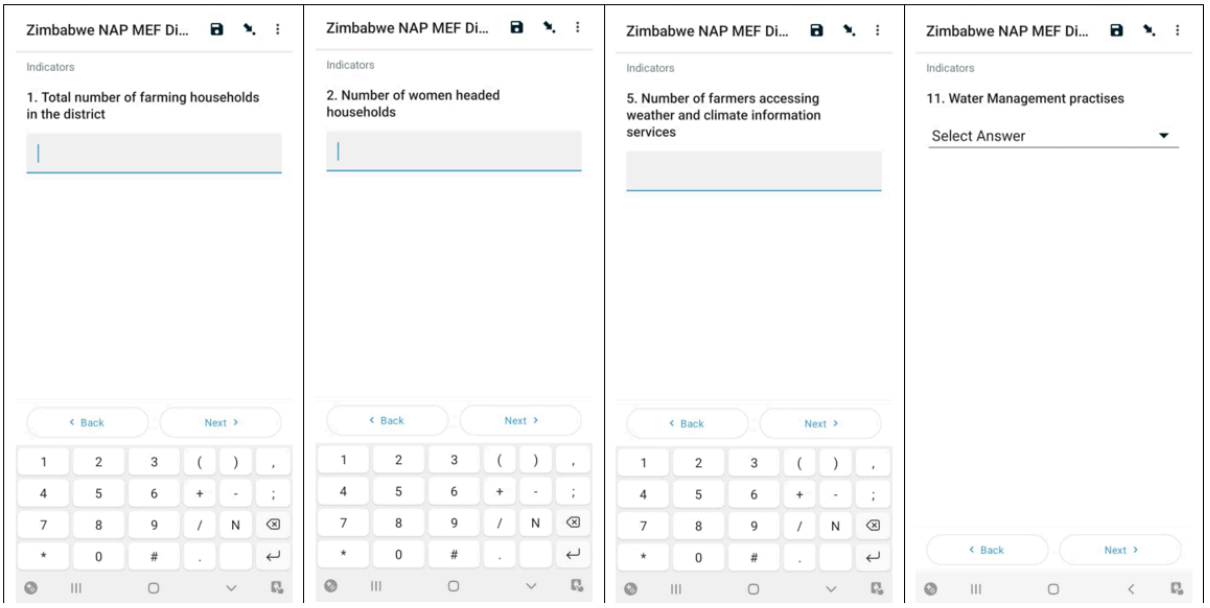

Figure 28: Indicator Assessment Section

Other questions might require the respondent to select a single option from a predefined set, for instance, a ‘Yes’ or ‘No’ response. Furthermore, other questions are configured with a numeric data type. When interacting with these questions, the digital keyboard will automatically switch to a numeric layout, streamlining the input of numerical values by the user.

4.9.3. Other Information Section

This section contains other metrics being assessed (Figure 29).

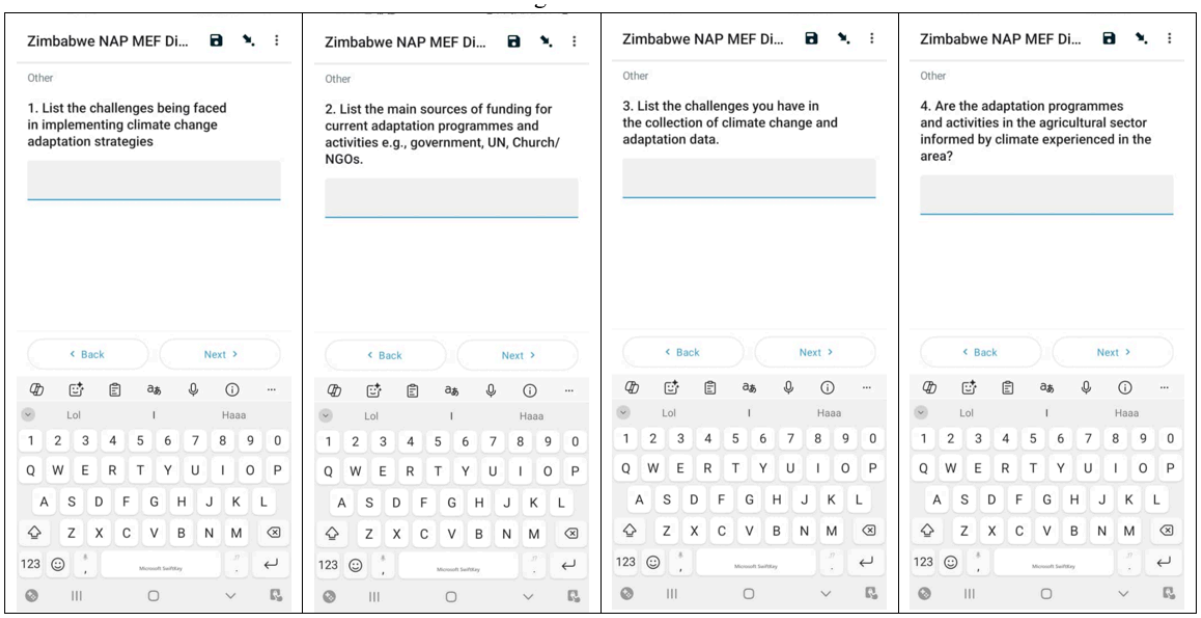

Figure 29: Other Information Section

4.10. Assessment of Adaptation Progress

An excel-based analysis dashboard (Figure 30) will be employed to facilitate the comprehensive analysis of performance across various indicators. This dashboard will serve as the primary tool for evaluating the effectiveness and progress of relevant initiatives.

Input on the various indicators will be put under the '***Inputs***' tab. This will automatically generate reports under the '***Tracking***' tab. For each indicator, adaptation progress will be summarised using a traffic light system (green, amber, red and grey) where:

a) Green – On-track (≥ 80 % of target)
b) Amber - average (>70% but < 80% of target)
c) Red – off-track (< 70% of target)
d) Grey – limited information to assess the progress

For tracking to be effective, there is need for baseline data and targets for each indicator.

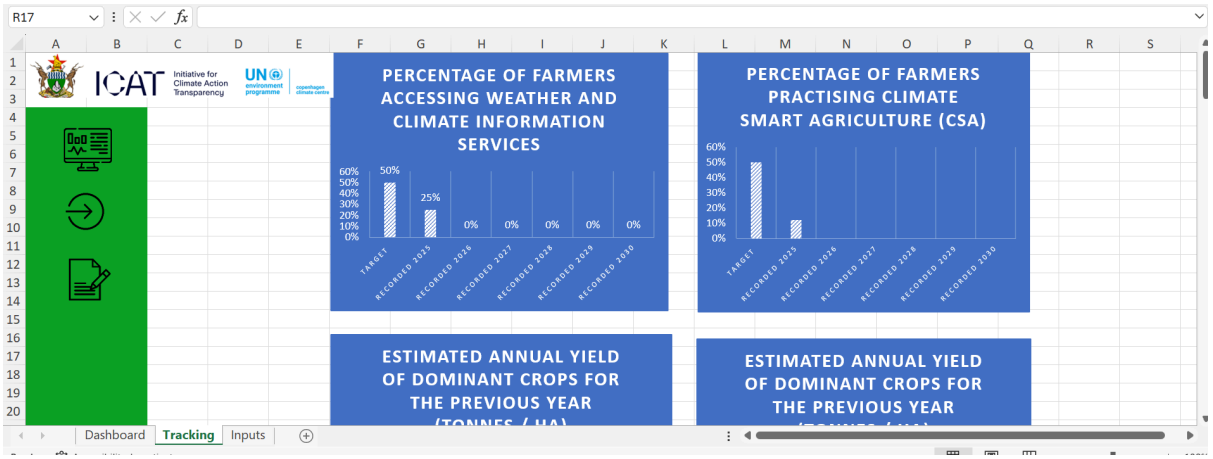

Figure 30: Other Information Section

5. Inclusion of the gender considerations into the NAP-MEF Digital Tool and NC5/BTR1

Refer to deliverable 19 of this assignment. Though this component was included in the tool training manual and pilot, the material is reported under Deliverable 19, a detailed GESI stand-alone report in which all the GESI activities, which were carried during the assignment are reported.