African Union

International High-Level Panel (HLP) on Water Investments for Africa of the Continental Africa Water Investment Programme (AIP)

Guideline for the Development of National Climate-Resilient Water Investment Programmes (WIP)

'The Guideline'

Acknowledgements

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The AIP Steering Group, Expert Advisory Core Group, Technical Working Group is made up of the following organisations: African Union Commission; African Union Development Agency-NEPAD; African Ministers' Council on Water; World Bank Group; African Development Bank; United Nations Development Programme; United Nations Children's Fund – UNICEF; Development Bank Southern Africa; the Sherpas for the High-Level Panel Co-Chairs from the Governments of the Republic of Senegal, the Republic of Namibia, and the Kingdom of the Netherlands; Organisation for Economic Cooperation and Development; Global Water Partnership Africa Coordination Unit; World Health Organization; United Nations Industrial Development Organization; Food and Agriculture Organisation; International Water Management Institute; United Nations Environment Programme; International Union for Conservation of Nature; Stockholm International Water Institute; UNDP Cap-Net; C40 Cities Climate Leadership Group; Global Centre for Adaptation; AUDA-NEPAD Centre of Excellence on Science, Technology and Innovation; Sanitation and Water for All; Alliance for Global Water Adaptation; CARE International; ANEW, Africa Investor, WaterAid and the United Nations Convention to Combat Desertification (UNCCD)

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What is considered Water throughout this document

Water sources

- Surface water (perennial, reservoirs, non-perennial)
- Groundwater
- Ecological System Services and Nature-based contributions

Water quantity available

- Water storage (volume per person)
- Water supplied for agricultural uses, food and beverage, economic sectors, mining, industry, services, recreation, etc.
- Water for energy generation
- Water for ecosystems services
- Water quantity supplied for drinking purposes (institutions, household use)
- Water losses

Water quality

- Water quality of all water (surface, reservoirs, aquifers, rivers, estuaries, ocean)
- Water quality for recreational water uses
- Water quality for different economic sector uses
- Water quality for drinking (e.g. percent of water free from E Coli, fluoride and arsenic)
- Nature-based Solutions in support of water quality
- Wastewater treatment (domestic and industrial); re-use; grey water use

Water efficiencies (reduce, reuse, recycle)

- Wastewater recycling (e.g. % wastewater recycled, % industrial water use from recycled)
- Grey water systems or combinations/ hybrid systems
- Groundwater and conjunctive use replenishment

Sanitation and hygiene

- Institutional coverage of sanitation and hygiene facilities
- Domestic coverage of sanitation and hygiene facilities
- Sanitation facilities and processes that enable resource reuse or conservation

Resilience and disaster risk reduction

- Early warning systems
- Stormwater drainage and the built environment to reduce flooding
- Resilience of water infrastructure to flooding events
- Sedimentation, erosion control and slope management

Contents

Acronyms

AIP	Continental Africa Water Investment Programme
AMCOW	African Ministers' Council on Water
AU	African Union
AUDA	African Union Development Agency
BRICS	Brazil, Russia, India, China, and South Africa (first five member states)
DFI	Development Finance Institution
ECOWAS	Economic Community of West African States
ESG	Environmental, Social and Governance
GDP	Gross Domestic Product
GLAAS	UN-Water Global Analysis and Assessment of Sanitation and Drinking Water
GWP	Global Water Partnership
HLP	High-Level Panel of the Continental Africa Water Investment Programme (AIP)
IWRM	Integrated Water Resources Management
MDB	Multilateral Development Bank
MFI	Microfinance Institution
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NEPAD	New Partnership for Africa's Development
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
PFM	Public Financial Management
PIDA	Programme for Infrastructure Development in Africa
PPP	Public-Private Partnership
SADC	Southern African Development Community
SDG	Sustainable Development Goal
SWA	Sanitation and Water for All
UN	United Nations
WASH	Water, Sanitation and Hygiene
WASSMO	Water and Sanitation Sector Monitoring and Reporting System
WIP	Water Investment Programme
WHO	World Health Organization

About the Continental Africa Water Investment Programme (AIP)

On 6 September 2023, African Heads of State and Government committed to support the implementation of the Continental Africa Water Investment Programme (AIP) as part of the Nairobi Declaration on climate change.

On 7 February 2021, during the 34th ordinary session of African Union Summit, the Assembly of the African Union Heads of State and Government adopted the AIP transboundary projects as part of the Programme for Infrastructure Development in Africa – Priority Action Plan 2 under the Continental Africa Water Investment Programme. The AU Climate Change and Resilient Development Strategy (2022-2032) recognises the AIP as a flagship initiative for transforming water systems.

The AIP is implemented through five interrelated programmes and initiatives:

AU-AIP International High-Level Panel on Water Investments for Africa - The International High-Level Panel on Water Investments for Africa was established in 2022, comprising current and former Heads of State and global leaders. During 2023, the Panel supported the AU to develop and launch a report, Africa's Rising Investment Tide, and an Africa Water Investment Action Plan with actionable pathways for countries to mobilise at least an additional US$30bn annually by 2030 for implementing the AIP.

AIP-PIDA Water Investment Scorecard – The AIP-PIDA Water Investment Scorecard enhances mutual accountability, transparency and efficiency of water finance and investments. The Scorecard supports countries to track progress, set benchmarks, identify bottlenecks, and take action to meet Africa's water investment needs.

Regional and national climate-resilient water investment programmes – The AIP supports AU Member States to develop national water investment programmes to close the water investment gap. The climate-resilient national water investment programmes do so by directly addressing gaps outlined through the AIP-PIDA Water Investment Scorecard, and additionally, being informed by a systems level climate change vulnerability and risk assessment during project prioritisation. This present Guideline forms part of this initiative.

AIP International Blended Investment Facility – The AIP will establish an International Blended Investment Facility to support countries to leverage Official Development Assistance and grant finance to de-risk priority water investments using a variety of innovative financial instruments and sources. These include sovereign wealth funds, guarantees, commercial finance, institutional investors and private equity investors, foundations, value-based impact investment, and climate finance.

Gender equality and empowerment of women and girls in water investment – The AIP Gender Transformative Water Climate Development Program (AIP WACDEP-G) develops tools to assist governments in addressing systemic inequalities in decision-making, planning, and implementation of investments, by fostering a transformative approach in agencies, structures, and social relations.

Executive Summary

This Guideline has been written to **support government agencies** in preparing documentation and developing processes to mobilise investment into the water sector. It recognises that governments will typically have some of these documents and processes already in place. The Guideline is designed to help strengthen what currently exists, and to provide a structured approach to closing any gaps that it helps to identify.

It sets out **seven connected steps** to developing and implementing a Climate-Resilient Water Investment Programme (WIP). It provides a rationale for doing so ('Why a WIP?'); the key content elements ('What's in a WIP?') and the modalities for execution ('How to do a WIP?'). Importantly, the Guideline distinguishes between the two major pillars of a WIP: i) an investment plan, and ii) a finance strategy.

A key consideration for any WIP is identifying how the plan contributes to achieving water security and increasing resilience in a **transformative, efficient, realistic, and equitable** manner. This requires coordination between multiple government agencies across different but connected thematic areas and their key development partners, including the private sector and civil society, particularly to avoid unnecessary fragmentation in the implementation of policy.

The Guideline recognises that every sovereign government operates within its own unique enabling environment. A core tenet of the approach proposed is that by identifying the **common key elements in every successful WIP**, a stepwise process can be developed and applied to the design, development and implementation of each country's water investment programme that is consistent with its own national planning.

This Guideline has not been prepared in isolation but instead **builds on frameworks and transboundary programmes** proposed in two previous reports by the AU-AIP High-level Panel on Water Investments for Africa. This includes the "Pyramid of Transformation" published in the first High-level Panel report. Users of the Guideline are encouraged to refer to the various materials cited in this document for more details on how the seven steps can be applied and implemented.

The focus of this Guideline is on **implementation and execution**. Chapter 3 presents the stepwise approach to developing a WIP, outlined in Box A. Chapter 4 describes the key content elements in preparing an investment plan. Chapter 5 describes the core components of a finance strategy, including pathways to close finance gaps and the actions that are needed to access and mobilise finance in the water sector. The Annexes include stakeholder narratives to help mobilise policy support; the contents of an exemplar WIP; and some examples of the actions that are typically needed to access finance.

Box A. Stages in the development of a Climate Resilient Water Investment Programme

Step 1: Initiation

Activity 1.1: High-level supporters drive the WIP initiation

Activity 1.2: Establish governance framework

Step 2: Planning

Activity 2.1: Develop roadmap and execution plan

Activity 2.2: Identify stakeholders to engage

Activity 2.3: Mobilise technical and financial resources

Activity 2.4: Launch the WIP development process

Step 3: Assessment and preliminary development

Activity 3.1: Analyse context and progress towards water security and resilience goals

Activity 3.2: Identify untapped or underexploited financial sources and instruments

Activity 3.3: Identify opportunities for strengthening the enabling environment and increasing the efficiency of water management and water services

Activity 3.4: Draft key elements of the WIP to consult with stakeholders

Step 4: Stakeholder engagement

Activity 4.1: Engage stakeholders

Activity 4.2: Further leverage technical and financial resources

Step 5: Programme development

Activity 5.1: Define clear goals and objectives

Activity 5.2: Develop the Water Investment Plan

Activity 5.3: Develop the Water Finance Strategy

Activity 5.4: Feedback of the Finance Strategy into the Investment Plan

Activity 5.5: Develop the Implementation Strategy

Activity 5.6: Consultation on the full WIP

Step 6: Approval, pledges, launch and dissemination

Activity 6.1: Obtain official approval

Activity 6.2: Pledge of partner support

Activity 6.3: Publish the WIP

Activity 6.4: Official launch

Activity 6.5: Disseminate the WIP

Step 7: Initiate implementation

Activity 7.1: Establish long-term implementation structures of the WIP

Activity 7.2: Implement measures to unlock different finance sources

Activity 7.3: Strengthen project preparation

Activity 7.4: Update sector M&E frameworks

How to use The Guideline

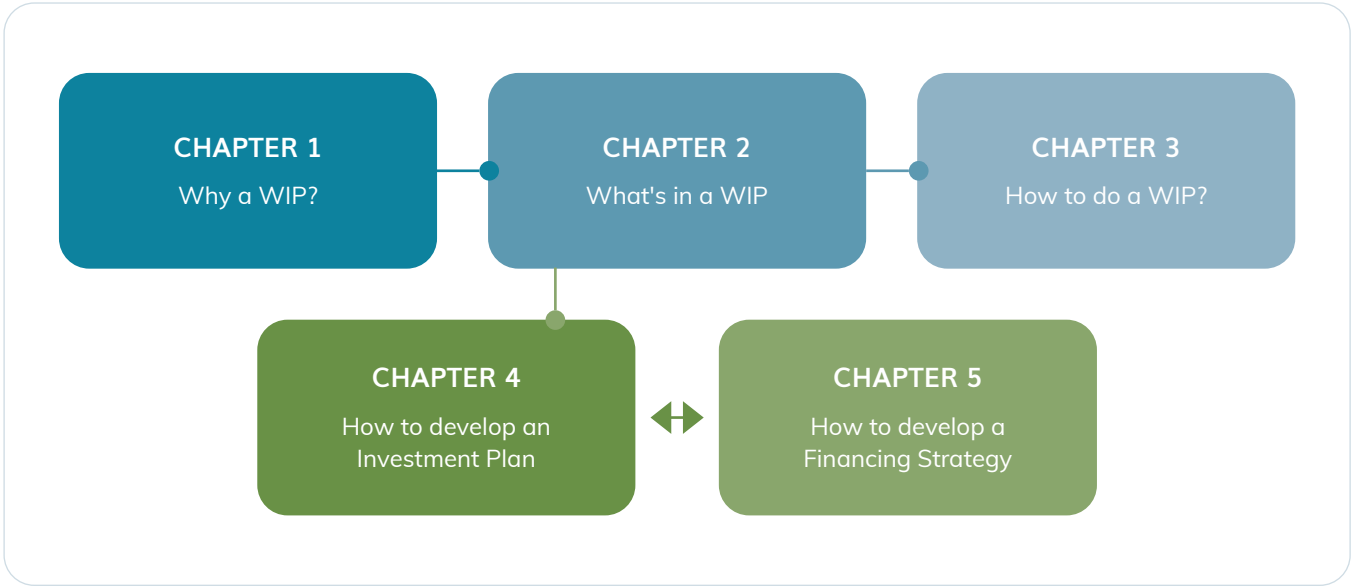
The primary aim of The Guideline is to assist countries to raise the political profile of, and mobilise resources to achieve, their national water security and resilience goals.

The Guideline serves as a framework to guide key government agencies responsible for the planning of water investments to ensure that water investments are transformative, sustainable, economically viable, socially inclusive, and environmentally sound. The Guideline should unite these agencies and key development partners behind a common purpose and thereby strengthen coordination, efficiencies, capacity, and flow of information.

The full implementation of The Guideline may take from 6 to 12 months of concentrated processes to develop, consult and approve the Climate-Resilient Water Investment Programme (WIP), through seven identified stages: initiation, planning, assessment, stakeholder engagement, programme development, approval and launch, and implementation. National ownership, proper evidence collation and analysis, and broad consultation are key aspects where short-cuts should not be taken to speed up development.

As shown in Figure A, The Guideline starts with three overview chapters which justify the development of a WIP (Chapter 1), describe what are the main elements of a WIP (Chapter 2), and detail the seven steps of developing a WIP (Chapter 3). Chapters 4 and 5 further elaborate the two key, linked pillars of a WIP: how to develop an investment plan and how to develop a finance strategy. These two chapters each describe a step-by-step process which needs to be adapted to the country situation.

FIGURE A: GUIDELINE OVERVIEW



Annex 1 provides arguments for why water security and resilience are important and needs increased investment, arguments which can be adapted for a country context. Annex 2 provides a suggested Table of Contents of a WIP document. Annex 3 provides example actions to access finance sources from each layer of the Pyramid of Transformation. The Key References section includes several other useful resources for developing climate-resilient Water Investment Programmes.

1. Introduction

1.1 Why develop a Water Investment Programme?

Recent statistics on financing of the water sector in Africa indicate that major changes are needed in the way water is financed, including reversing current downward trends in government[1] and donor funding[2], better targeting of external funding to the lowest income countries[3], and using public or concessionary finance in a catalytic manner to improve investment bankability and crowding-in private financing.

Since 2018, ODA loans have exceeded ODA grants for the water sector in Africa, while ODA equity investments have remained relatively marginal. Private sector finance also remains limited, where water supply and sanitation accounted for just 2% of private finance flows to Africa over the period 2012-2020[4]. In Africa, as high as 80% of infrastructure projects fail at the feasibility and business planning stage, and half the remaining projects do not achieve financial close[5]. In many contexts, water service tariffs are inadequate to cover even operating costs[6],[7].

The enormous gap in adaptation finance – which provides catalytic funding for countries to address climate change impacts and strengthen their resilience – further drives the motivation to adopt a paradigm shift to translate climate-resilient water investment priorities to actual projects on the ground. According to the UNEP Adaptation Gap Report (2024)[8], international public adaptation finance flows to developing countries have increased but remain vastly inadequate to meet needs, which are estimated at US$215–387 billion per year by 2030. Even doubling current adaptation finance flows would reduce this gap by only 5%, underscoring the urgent need for innovative financing approaches and strategic investments in climate resilience, particularly in critical sectors like water.

Hence, business-as-usual for water financing will not lead Africa to achieving its water security and water resilience goals. Africa's least-developed countries (LDCs) and small island developing states (SIDS) not surprisingly face the greatest constraints to accessing finance.

The main purpose of a Climate-Resilient Water Investment Programme (WIP), therefore, is to provide a process around which to rally and engage a diverse range of stakeholders, identify shared goals and opportunities, mobilise political support, and coordinate funding and financing to achieve water security and resilience goals in the most efficient and equitable manner.

The output report – the Climate-Resilient Water Investment Programme document – succinctly summarises the key findings and recommendations of the process and charts an ambitious but realistic pathway for the financing of the climate-resilient water programme over a medium-term development period and beyond.

The Climate-Resilient Water Investment Programme is also expected to:

- Sensitise stakeholders on the water security and resilience financing challenges and opportunities across sectors and across spheres of government.
- Establish (or re-establish) and support leadership role(s) of mandated institutions.
- Bring together diverse sectors that use or impact water resources to agree how water should be used and managed to meet different – but often closely linked – development targets.
- Recognise that deep uncertainties related to climate change can render past water investments obsolete, and require decision-makers to re-evaluate the range of appropriate methodologies and technologies given locally assessed benefit-cost-risk trade-offs.
- Advance the nexus approach: water, energy, food, climate and ecosystems
- Provide a forum to identify and resolve potentially incompatible goals.

- Seek entry points and alignment with existing processes and initiatives to enhance water financing, including regional protocols, policies and processes.
- Support strategies to access non-traditional sources of finance.
- Identify capacity-building needs and mobilise resources to support capacity-building efforts.
- Compile and leverage relevant data and information from a range of sources, including indigenous knowledge.
- Propose a monitoring and evaluation framework, including the documentation and dissemination of best practices and lessons learned.
- Help engage technical assistance and financial support from global, continental or regional organisations, including transboundary and cross-sectoral institutions.

1.2 Purpose and users of The Guideline

The primary aim of The Guideline is to assist countries to raise the political profile of, and mobilise resources and stakeholders to achieve their national water security and resilience goals.

The Guideline serves as a framework to guide key government agencies responsible for the planning of water investments to ensure that water investments are sustainable, economically viable, socially inclusive, and environmentally sound.

Key users of The Guideline include Ministries responsible for water, sanitation, the environment, agriculture, land management and spatial planning, and Ministries responsible for development planning, finance, investment, and infrastructure. The Guideline should unite these Ministries[9] behind a common purpose and thereby strengthen coordination, efficiencies, capacity, and flow of information.

Beyond national Ministries, the other primary audience is the family of institutions who may provide capacity, funding or financing for their own project and programme pipelines and/or contribute to priority-setting of national pipelines. This includes not only development finance institutions, bilateral and multilateral agencies, but also transboundary and regional organisations and the private sector. As well as their central roles in finance, these organisations also bring important perspectives, data, and knowledge which will be vital to the success of the WIP.

Finance sources are expected to include national, regional and international sources, and public and private finance, as covered in the three Pathways and the nine finance sources contained in the "Pyramid of Transformation"[10]. Special attention is given in The Guideline to the integration of climate finance with water finance, so that climate finance is integrated into the very fabric of the water sector and sectors linked directly to the water sector[11]. Indeed, water security has such high strategic importance to African Union Member States' futures that water security should in turn become integral to resilience planning, development, spatial planning and financing.

The Guideline recognises the importance of national ownership and linkages with existing national processes, and includes catchment or regional approaches, where applicable. The Guideline strongly encourages a reduction in the fragmentation of how water policy is implemented across all its uses and applications, fragmentation which results from responsibilities and budgets being divided across multiple ministries or sectors.

The Guideline identifies key elements and provides a step-by-step process which can be adapted for the design, development and financing of national climate-resilient water investment programmes, and suggests key resources to mobilise and draw on, and initiatives to link with. The Guideline is intended to be applicable across spheres and therefore could be adapted to also provide guidance to catchment-based or regional programmes, as applicable.

The Guideline supports the application of a uniform approach that remains flexible and adaptable to local conditions, to deliver high quality, sustainable water investment programmes. Key elements of national water investment programmes include justifying investment in water resource management, infrastructure and services, and water quality, security and resilience (Annex 1); conducting situation analysis in which the investment context is fully understood (e.g. gaps in water infrastructure and service coverage, investment status, enabling factors, capacity, resource options, and bottlenecks); and providing a comprehensive understanding of the investment needs and financing sources.

The sequential process enables identification of costed interventions and responsible stakeholders.

The stakeholder engagement approach should include a robust consultation process to define the optimal investment programme(s) or suite of programmes or finance mobilisation alternatives. Practical actions to access major funding sources and reduce the cost of capital are proposed.

The Guideline provides a basis on which to estimate workload and information needs for embarking on the development of a WIP. It provides clear options and examples of the WIP development process, including structural presentation and contents, which can be contextualised by countries. Best practices, experiences and lessons learnt from countries that have already developed a Water Investment Programme have been used to inform The Guideline.

This Guideline draws on frameworks and proposals made in two previous AIP High-Level Panel reports. The first HLP report emphasised the importance of broader agendas for achieving water security: the fundamental importance of political support for raising public and private finance; the two-way relationship of water security and peace and stability; the readiness of the financial sector to attract and mobilise finance for water; and the centrality of good governance in achieving any lasting change. These themes, and the recommendations and action plans proposed in the High-Level Panel reports, are strengthened in this Guideline[12].

Through promoting the adoption of a uniform approach (with adaptation as appropriate), The Guideline provides the potential for continent-wide benchmarking and monitoring.

The Key References section includes several other useful resources for developing climate-resilient Water Investment Programmes.

2. What is a Climate-Resilient Water Investment Programme?

2.1 Contents of a WIP

A climate-resilient water investment programme (WIP) is a time-bound and concrete proposal for how a country will achieve its water security and climate resilience goals.

A WIP identifies what is needed in terms of infrastructure and hardware, programme support and sector governance, how much these will cost to implement, and how it will be (or can be) financed. As well as investment costs, it also considers recurrent costs – including rehabilitation and capital maintenance – as vital to the sustainability of water services.

A WIP should also prioritise projects and programmes in the case where the entire programme cannot be financed. It is important that the WIP document makes a strong rationale for increased investments in water (see Annex 1) and explains how it aligns with and extends national, regional and transboundary documents and processes.

The WIP might contain some or all of the following parts, shown in Box 1. A detailed document outline is provided in Annex 2.

Box 1. Proposed outline of a national WIP document

Front matter contains the political and senior leadership endorsement.

Executive summary provides an overview of the WIP contents, including key recommendations.

Introduction outlines the contextual background, the role of water in national vision and development goals, and justification for the WIP.

Situation analysis provides an overview of the sector governance, current status by sub-sector, current and projected climate change impacts – including risk and vulnerability assessment – and the service gap to be closed with reference to coverage targets.

Methods and approach cover stakeholder engagement, Gender Equality and Social Inclusion (GESI), safeguarding information, categorisation of water service outcomes, analytical methods and tools to assess climate impacts, and other considerations for water investment planning.

Investment plan identifies the objectives, projects and programmes that will close the service coverage gaps, estimates associated costs of each, and identifies roles and responsibilities, schedule/time frames, and priorities.

Financing strategy considers the options for closing the finance gap and proposes actions to access funding and financing sources.

Implementation measures include the planning and execution of actions for management, coordination, monitoring, evaluation and learning for constant and continuous improvement.

Risk analysis identifies the threats to the success of the programme and proposes measures to mitigate them.

References and Endnotes reflect the sources and references used in the document.

Annexes include additional details from prior chapters, stakeholder lists, key engagement agendas and records of decisions, logical framework, implementation templates, and a glossary.

It is important to justify the time period covered by the WIP, which should be as aligned as possible with the national water sector goals and targets set in national planning documents. There is no fixed or optimal length to a WIP, but to implement a long-term vision, the WIP should cover at least 3 years, while to be practical and concrete, it should span no more than 10 years.

The document should be as succinct as possible, with the aim of informing a wide range of stakeholders of the Government's intention to raise financing for water security and resilience, and the means by which it is expected to accomplish it. The main sections should be less than 50 pages.

Referencing is done via footnotes or endnotes, or listed in a separate section before the annexes. References should be clear and conform to international best practice, citing original sources. All documented or internet sources should have the appropriate information listed[13].

2.2 What is a climate-resilient water investment plan?

A climate-resilient water investment plan is a time-bound, costed formulation of programmes and projects needed to achieve the goals and targets of water security and resilience across all water uses and users. Recognising that many guidelines employed in traditional water resources management and development planning relied on assumptions of climate and hydrologic stationarity and of well-characterised uncertainty, they are unsuitable today in the light of the increasing unpredictability and uncertainty introduced by climate change.

A climate-resilient water investment plan includes the following elements:

1. It identifies the needs for water infrastructure and services across all water uses and users, and considers growth in demand and expected changes in supply (according to climate forecasts and other determinants of supply).
2. It identifies vulnerabilities and gaps in water infrastructure and services across all water demand, supply, uses/needs and users, i.e. the gap between the status quo and the stated national goals and targets on water security and resilience (in terms of quantity as well as quality).
3. It draws on and/or further develops a project pipeline, in alignment with other relevant national plans and strategies. For projects seeking climate finance, it describes the "climate change additionality" of each pipeline project.
4. It structures the interventions into focus areas, packages or components that facilitate budgeting, financing, ownership, efficient implementation, monitoring, and reporting.
5. It estimates what it will cost to implement the stated interventions over the planning period, broken down into different cost categories and considering lifecycle costs, and it summarises costs at an aggregate level.
6. It assigns roles and responsibilities in relation to programme leadership, support roles, financing and effective dissemination of the WIP to integrate it effectively across government, investment platforms, development partners and society (see "RACI" matrix in Chapter 4.6).

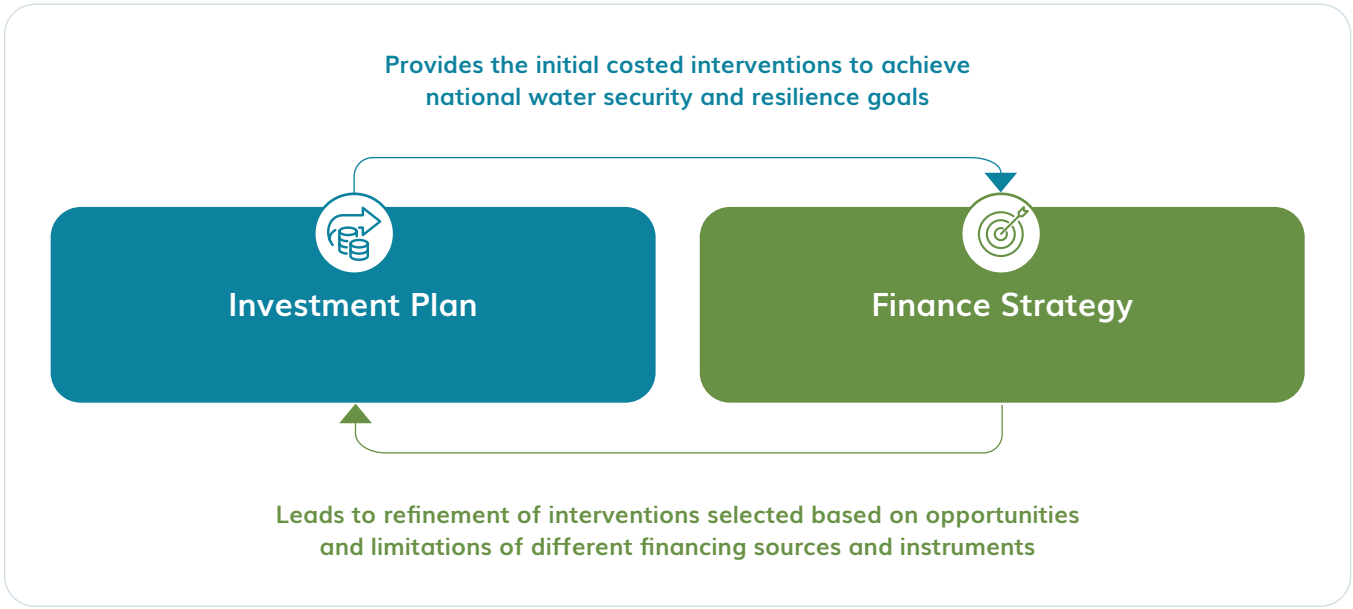
2.3 What is a water finance strategy?

Given that financing is limited to achieve all the national goals and targets on water security and resilience, it is crucial to explore different financing sources and mechanisms to close the finance gap. A water finance strategy includes the following elements:

1. It assesses the finance gap to comprehensively implement the investment plan.
2. It explores existing and new financing sources as well as increasing efficiency or redistribution of funds to close the financial gap for underfinanced interventions or activities. Given the unexploited potential of climate finance and private sector sources, these are areas that require considerable reflection and exploration.
3. It identifies pre-conditions to access the financing sources and proposes actions to address bottlenecks.
4. It determines the appropriate financing mechanisms or instruments.
5. It estimates the costs of these actions and assigns roles and responsibilities.
6. It integrates findings back to into the water investment plan to update it, prioritise actions and make it more realistic.

The investment plan and the finance strategy are interwoven, and they are developed iteratively to ensure that the final WIP is realistic, that it considers all financing sources, and that it identifies the key actions to unlock these sources (see Figure 1). Furthermore, in relation to achieving national targets, key constraints and risks need to be mapped out, alongside the appropriate mitigating measures.

FIGURE 1. RELATIONSHIP BETWEEN THE INVESTMENT PLAN AND FINANCE STRATEGY



2.4 Key principles to integrate into the WIP

Several principles should be followed in the formulation of water investment programmes. These principles guide decision-makers and developers of the programme in making sustainable, inclusive, effective, and efficient investments. These principles contribute to improved water security, environmental sustainability, and socioeconomic development.

Integrated Water Resource Management: Water investment programmes should adhere to the principles of Integrated Water Resource Management (IWRM)[14]. This approach considers the entire water cycle and includes water supply for various purposes and water quality and conservation needs. It recognises the interconnectedness of water and land resources, ecosystems, and socioeconomic factors, and it considers vulnerabilities, alternative developmental trajectories, and cross-sectoral initiatives[15].

Good Governance, Integrity and Accountability: Water investment programmes should promote good governance, integrity and accountability. This includes provision for accurate and effective data management and reporting, transparent decision-making processes, and effective institutional frameworks. All relevant stakeholders[16] should have the opportunity to contribute to decision-making processes, supported by multi-stakeholder platforms and coordination mechanisms[17]. Stakeholder participation mechanisms should facilitate the recording of all processes, actions and decisions toward building investor trust and confidence, exchange of best practices, technical knowledge, and lessons learned among stakeholders. Accountability ensures that investments are implemented efficiently, funds are used appropriately, and project outcomes are monitored and evaluated.

Gender Equity and Social Inclusion: Water investment programmes should promote gender equity and social inclusion (GESI)[18]. They should ensure that women, marginalised groups, and vulnerable populations have access to water resources, decision-making processes, and benefits. Gender-responsive and socially inclusive approaches contribute to more sustainable and equitable water management.

Environmental and Social Safeguards: Water investment programmes should incorporate environmental and social safeguards to minimise adverse environmental and social impacts, protect ecosystems and biodiversity, and respect the rights and wellbeing of local communities and marginalised populations. A long-term planning vision should encompass climate change mitigation and adaptation, investing in energy efficiency,

alternative energy, climate-resilient water systems and infrastructure, non-revenue water reduction, faecal sludge management and water reuse. The critical role of land management in water and flood management systems should be recognised.

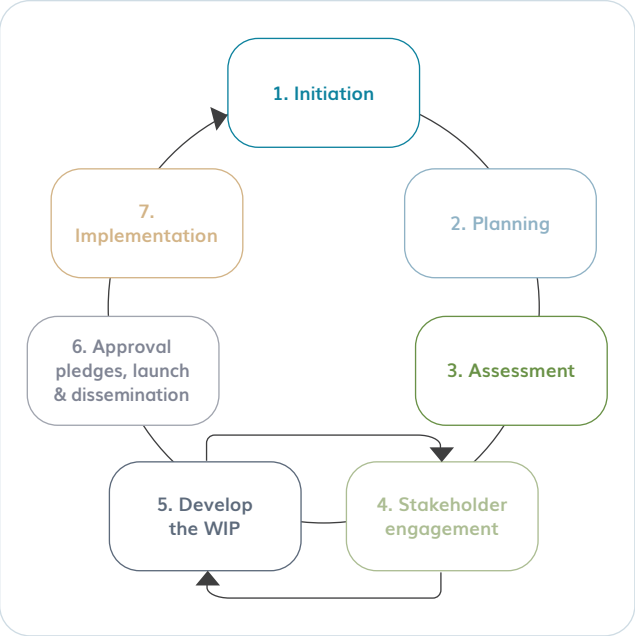
Climate Resilience: Water investment programmes should clearly outline experienced and anticipated climate change impacts faced via water. The investments prioritised within the WIP should build on sound, proactive, and integrated adaptation measures required to address these climate change impacts. This requires integrating investment needs across the 3 'I's – shared, trusted Information systems; robust, flexible Institutions; and sustainable, resilient Infrastructure (green and grey) – to allow a country's economy, its people's livelihoods, and its ecosystems to cope with, and to thrive in spite of, water-related climate change impacts. Examples of water investments in the 3 'I's are available[19], as are examples of transformational adaptation through the water sector[20].

More broadly, Water Investment Programmes should not just be resilient to climate change, but also to conflicts, acts of terrorism, and other natural events and disasters. The IPCC AR5 defines resilience as "the capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation"[21]. Concretely, appropriate physical and environmental assets, social capital, economic resources, and political support can assist communities or groups to absorb shocks, overcome vulnerabilities, and increase their resilience. Water investment programmes should consider these multi-dimensional aspects of resilience in an integrated manner throughout the WIP development process[22].

3. How to develop a Water Investment Programme

Developing a country water investment programme involves a systematic and comprehensive approach that is consultative. It is not entirely linear and the specific process will need to be adapted to a country's unique circumstances, building in feedback loops and iterations as appropriate. It can be undertaken following seven main stages of (i) initiation; (ii) planning; (iii) assessment; (iv) stakeholder engagement; (v) programme development; (vi) launch and dissemination; and (vii) implementation (see Figure 2).

FIGURE 2. SEVEN MAIN STEPS IN DEVELOPING COUNTRY WATER INVESTMENT PROGRAMMES



The full implementation of The Guideline may take from 6 to 12 months of concentrated processes to develop, consult and approve the WIP. National ownership, proper evidence collation and analysis, and broad consultation are key aspects where short-cuts should not be taken to speed up development.

3.1 Step 1: Initiation

Activity 1.1: High-level supporters drive the WIP initiation

High-level commitment – from the highest levels of government – is critical for supporting the development of the WIP and its implementation. Ideally, issues of water security and resilience are coordinated by the Prime Minister's or President's office, or if not, a senior Cabinet member or Minister on behalf of the Head of State.

If the Prime Minister or the President[23] could explicitly commit to being a water champion, it potentially increases their commitment and brings greater influence than if it is their office or a representative. Cultural or religious leaders might also be persuaded to become a water or sanitation champion.

An advisory Board or Committee should comprise all water-related Ministries of the government, including the Ministry of Finance, Ministries in charge of productive and social sectors, and Commissions or Committees that encompass water. The Board, Commission or Committee could be existing ones provided with added authority, or they could be new ones.

At the supra-national level, water security is promoted at the AU Heads of State level, and by the African Ministers' Council on Water (AMCOW), among others.

To create high-level commitment, responsible water ministry (-ies) will identify the political and cultural leaders who might champion water and identify the specific issues within the water and related sectors that could be emphasised. Robust arguments will be needed to persuade high-level champions to engage. These include the human rights arguments for water and sanitation, the common good and collective action arguments, national pride, national development, and the costs of inaction. Specific topics for championing might include governance and transparency, public finance, private finance, regional cooperation, or raising the voice of the poor and vulnerable.

The WIP document should include a foreword written by the Head of State that justifies the development of the WIP (see Box 2).

Box 2. Examples of Heads of State support for the development of WIPs

The Tanzania Water Investment Programme's (TanWIP) Foreword was written by the President, H.E. Dr. Samia Suluhu Hassan, showing her commitment to meeting Tanzania's water goals and supporting the National Development Vision. As she states, "The integrated and cross-sectoral nature of TanWIP means that the available opportunities for economic growth, job creation and investment will be well coordinated, using water as a common denominator to enhance the economic, human capital, infrastructure and governance dimensions of human development."

Similarly, the President of the Republic of Zambia, H.E. Hakainde Hichilema, "pledge(s) the full commitment of the Government of the Republic of Zambia in ensuring that the goals and objectives of this programme (the Zambia Water Investment Programme (ZIP) are realised. This is because I see this programme as one of the vehicles through which to achieve economic growth and create jobs and investment opportunities for the people of Zambia."

Activity 1.2: Establish governance framework

A governance framework should be established which is responsible and accountable for undertaking the development of the WIP. The governance framework should consist of (a) a strategic team (a Taskforce, Board or Steering Committee), which is primarily responsible for providing oversight and policy guidance, and (b) a technical team, which is responsible for the formulation of the WIP.

The choice of institution to lead the strategic and technical teams should consider who has the mandate, capacity, power, and influence to convene stakeholders. The lead institution may be the Ministry responsible for water or the one responsible for national planning, or a joint lead might be agreed. Members include the main water-related Ministries and other key stakeholders (see Chapter 1.2). The team members should be officially appointed. Given the complexity and cross-cutting nature of water, the strategic and technical teams should have experts from various disciplines and stakeholders to constitute a team that is gender-balanced and inclusive. Depending on the need, the technical team may be supported by external technical expertise (e.g. consultants).

The roles and responsibilities of the strategic team and the technical team should be clearly outlined and communicated. These should be developed in the form of Terms of Reference. Specific tasks should be assigned to team members, such as drafting, data collection and analysis, stakeholder consultations, gender analysis, and reviewing and proof-reading draft reports.

3.2 Step 2: Planning

Activity 2.1: Develop roadmap and execution plan

The roadmap will provide the strategic overview of the major actions of the process of developing the WIP and will include the objectives, milestones, deliverables, resources, and planned timeline. The roadmap should be kept up to date and used to communicate the WIP development process to stakeholders and track the overall progress against the set milestones.

From the roadmap, the detailed execution plan outlines the detailed tasks, outputs, specific deliverables, timelines, resources, and responsibilities. It includes assessing the timing and sequencing of each piece of work, how they will fit together, what resources are needed, and how much they will cost (as an input to Activity 2.3). The execution plan should review the need for data and evidence and how they are to be collected. Where required, new studies may be conducted to inform the WIP. The execution plan will primarily be used by the technical team to guide the day-to-day implementation process and monitor progress.

The roadmap and execution plan should clearly delineate different aspects of water as they are currently grouped in the country (see Chapter 3.1), and linkages between them, identifying the lead and supporting agencies for each one. The way the elements of water security and resilience are mapped out will have implications for how they are later costed and financed.

The WIP is likely to encompass aspects of water investment and financing that have not yet been fully addressed or brought into a single document and programme, thus justifying the development of a comprehensive WIP. However, it is vital to utilise and build on elements of the WIP that have already been prepared or endorsed, not only to align with these efforts but also to reduce the level of effort and not duplicate other work (see Box 3). A list of example initiatives is provided in Figure 3. It also includes Nationally Determined Contributions (NDCs)[24], National Adaptation Plans (NAPs)[25], World Bank Climate Risk Country Profiles[26], Technology Needs Assessments[27], National Communications[28], Long-Term Low Emission Development Strategies (LT-LEDS)[29], national development and basin plans and strategies aiming to achieve food security, energy production, urban development, rural prosperity, biodiversity conservation and economic growth, among others.

It is important, therefore, in the initial planning period, to identify all the processes, committees, databases/data collation and reporting processes, policies, strategies and plans that touch on water security and resilience. It will help identify which agencies and focal points should be engaged in the WIP and in what capacity. Information should be extracted from existing policies and plans that may be utilised, to avoid duplication and to provide entry points. When relevant national climate data are unavailable or contain gaps, global analyses may be drawn upon[30].

FIGURE 3. ELEMENTS THAT MIGHT HAVE BEEN PREPARED UNDER DIFFERENT STAGES

Situation analysis or diagnostic

1. Situation assessment
2. Climate vulnerability and risk assessment
3. Climate risk country profile
4. Water resource assessment
5. Sector review
6. Assessment of water footprint of priority mitigation options
7. Public expenditure review
8. Assessments of the enabling environment
9. AIP Water Investment Scorecard
10. Triennial SDG 6.5.1 country monitoring report
11. Cost-benefit or cost-efficiency analysis

Investment plan

1. National water and sanitation development plan
2. A 3-5 year budgeted plan (e.g., MTEF)
3. Annual budgeted plan
4. National (priority) action plan
5. National adaptation plan
6. NDC investment plan
7. Strategic investment plan
8. National Masterplan
9. City or district Masterplan
10. SDG 6 WASH costing tool

Financing strategy

Includes some of the previous, plus:

1. WASH Finance Strategy
2. IWRM or WRM finance strategy
3. Finance plan

Implementation measures

1. Project preparation facilities
2. Progress reporting
3. SDG and sector monitoring

Box 3. Linking the WIP development with other ongoing initiatives

The Tanzania Water Investment Programme document explains the linkages between the TanWIP and other ongoing sectoral initiatives which include agricultural, health, energy, mining, education, forestry, construction, industrial, and tourism sectors. The investment gap in water supply and sanitation access, water storage, irrigation, and hydropower are highlighted as a basis for development of the TanWIP.

The WIP process should complement and support existing climate change policy and planning processes, linking to these processes as appropriate to the specific country context. This will help increase the effectiveness and impact of the WIP process by enabling prioritised water-related adaptation or mitigation actions to be fully designed, funded, and implemented as part the country's climate action priorities. National strategic frameworks at country level include National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs) from UNFCCC-instigated processes, as well as country-specific climate change-related policies or regulations.

In general, water investment planning that is related to either increasing resilience or reducing emissions must consider how: i) an IWRM-related action contributes to the conditional and unconditional targets set in the NDCs; ii) is aligned with the country National Adaptation Planning framework; and iii) advances, considers or contributes towards existing country-specific climate policies and regulations.

At the national level, the WIP must seek appropriate linkages to the country's NAP formulation or implementation process and to the five-yearly updating and implementation of the country's NDCs to the Paris Agreement. Particularly if climate finance is being sought to implement actions under the WIP process, then the consideration of UNFCCC and country-specific processes is critical.

Activity 2.2: Identify stakeholders to engage

Given the nature of water security and resilience, there are multiple stakeholders with an interest in the WIP. An initial list can be drawn from the government and development partner coordination meetings, and participants in annual review processes of various sector groups related to water and climate. These may include line Ministries, cooperating partners, development banks, national focal points to the UNFCCC[31] and to the multilateral funds that comprise the Financing Mechanism of the UNFCCC (Green Climate Fund[32], Global Environment Facility[33], Adaptation Fund[34]), the private sector, NGOs and civil society, youth and women's associations, civic and traditional leaders, trade unions, academia, media, and various water users.

These stakeholders should be mapped considering their interest and influence, and their potential contributions to the development and implementation of the WIP. They should be grouped into categories based on when and how they will be engaged, and a focal point with contact details provided.

Activity 2.3: Mobilise technical and financial resources

The development of a WIP should not be very costly in terms of additional resources beyond staff salaries that are already paid, though it depends on how many consultations and workshops are held and how many additional studies are commissioned. Initially, focus should be on assembling the right technical resources and adjusting them according to the additional financial resources available. Where the technical capacity of Ministries or national agencies needs to be supplemented, funds should be sought to hire additional capacity as well as to cover the costs of events and other studies.

Activity 2.4: Launch the WIP development process

It is recommended that an official event be organised to launch the WIP development process. The main objectives of the meeting are to introduce the purpose of the WIP and the envisaged process of its development. The meeting can be hybrid with both in-person and remote attendance to engage

as many participants as possible and to reduce cost. Key stakeholders to attend will be drawn from the stakeholders identified under Activity 2.2.

3.3 Step 3: Assessment and preliminary development

Steps 3, 4 and 5 are iterative. Step 3 is distinct from Step 5 due to the importance of having in-depth consultations early in the process to ensure stakeholders are on-board and feel some ownership of the WIP, prior to full WIP development. In Step 3, the technical team essentially assembles the framework of the WIP and the key issues and questions to be consulted with stakeholders in Step 4 (see Activity 3.4).

Activity 3.1: Analyse context and progress towards water security and resilience goals

Prior to being able to develop details of the investments needed and the ways to finance them, it is vital to conduct a robust situation analysis. It will cover general country context, coverage and quality of infrastructure and services, water policies, regulations, standards, existing water programmes, current and planned investments, overall spending on water, and past and projected climate change impacts on and via water (see Annex 2 and Chapter 4.1). It may include a problem identification, bottleneck analysis or a SWOT analysis.

Activity 3.2: Identify untapped or underexploited financial sources

Given the criticality of increasing finance for water, it will be important to identify potential new or increased sources early on, as it will have major implications for the focus of the finance strategy of the WIP. All potential financing sources need to be examined, with a focus on efficiency gains from services, earmarked pollution taxes, institutional investors, development banks, national banks and innovative sources such as payment for ecosystem services (see Chapter 5.2 and Figure 10). Some may not provide immediate finance, so the WIP has to adopt a long-term vision, given it is a long-term endeavour to provide progressively higher service levels to all water users.

Activity 3.3: Identify opportunities for strengthening the enabling environment and increasing the efficiency of water services and water management

As important as tapping new sources of finance are ways to reduce costs and wastage through efficiency gains and appropriate selection of technologies and financing models. By reducing service costs, tariffs can be brought more into line with consumers' willingness to pay for water services and water management. As this becomes reality, it is probable that further sources of financing can be tapped, especially from private investors.Realistic ways of achieving efficiency gains and cost savings need to be proposed.

Activity 3.4: Draft key elements of the WIP to consult with stakeholders

A document or presentation needs to be developed that contains, in concise form, the outcomes of activities conducted so far. As well as the contextual information and sector status, it might include the vision, objectives, proposed focus areas, and components for the WIP, and barebones proposals for the finance strategy.

3.4 Step 4: Stakeholder engagement

Activity 4.1: Engage stakeholders

Multi-stakeholder engagement is important in order to obtain the views and inputs of stakeholders and to understand their needs and priorities (see Activity 2.2 for an indicative list of stakeholder groups). This enables ownership of the planning process and the ensuing investment programme. Ongoing stakeholder engagement will be achieved using various means such as workshops, focused individual and group meetings, the use of questionnaires and online consultations, and periodic email updates. Targeted consultations will help engage stakeholders often left out of national processes, such as marginalised water user groups and impacted communities. Stakeholder engagement should be structured and sustained throughout the WIP development cycle.

Activity 4.2: Further leverage technical and financial resources for WIP development

Once a greater number of stakeholders are sensitszed and perceive the benefits of the WIP, there will be an opportunity to explore how increased technical and financial resources, expertise, and knowledge can be leveraged to develop the WIP.

3.5 Step 5: Programme development

Activity 5.1: Define clear goals and objectives

Core goals of the WIP should be defined, ensuring they align with international, national, regional, and local water management strategies and policies and the overall development agenda. In doing so, sustainable development principles need to be considered, including social, environmental, and economic dimensions, and key principles for WIP development (including principles of transboundary water management where relevant) (see Activity 2.4).

Activity 5.2: Develop the Water Investment Plan

The development of the Investment Plan and Finance strategy may be conducted in parallel, or sequentially and iteratively. It should be made clear in the roadmap how they will interface.

The proposed contents of the investment plan are provided in Chapter 4, and the steps are provided in Figure 4. The appropriate level of project definition must be practical so as to achieve a comprehensive but realistic investment plan. For example, if city or district masterplans are not already available, it will be unrealistic to request these to be conducted within the timeframe of the WIP development. Also, the programme and project pipeline should include key characteristics of programmes and projects to enable prioritisation (see Chapter 4.3). It is important at this stage to identify realistic revenues from customer tariffs.

Activity 5.3: Develop the Water Finance strategy

The proposed contents of the finance strategy are provided in Chapter 5, and the steps are provided in Figure 5. It will be important to ensure a balanced assessment of what savings can be made from efficiency gains (and how these will be achieved) and the identification of potential increases in funding sources and debt and equity finance. For pipeline projects that outline clear “climate change additionality”, the need for concessional finance should be assessed and potential sources of international climate finance evaluated. The key output of the financing assessment is a strategy and an action plan that provide concrete steps for financing the WIP.

Activity 5.4: Feedback of the Finance Strategy into the Investment Plan

As stated earlier, the development of the investment plan and finance strategy will be an iterative process, given the need to focus on the most realistic financing sources (which may lead to a shortfall in finance for the full investment plan). Prioritisation of projects will therefore be needed, taking into account the uncertainty of obtaining funding or financing from different sources.

Activity 5.5: Develop the Implementation Strategy

The outputs of the previous assessment might still be vague and speculative in parts. It is therefore important to develop implementation plans that provide concrete actions, outline timelines, provide resource allocations, and identify stakeholder responsibilities. The Monitoring and Evaluation (M&E) framework is an essential component in the implementation of national water investment programmes, providing systematic tracking of progress, managing risks, and ensuring accountability for results (see ‘RACI’ matrix in Chapter 4.6, and see the commitment to using the AIP Water Investment Scorecard in Box 4). It includes defining the key performance indicators (KPIs) to measure individual initiatives and the programmes outcomes and to track programme effectiveness. Programme or project concept notes should be developed for selected priority initiatives within the water investment programme.

The full WIP draft document should be prepared based on all the inputs listed above.

Box 4. The AIP Water Investment Scorecard as a key monitoring tool

Water Investment Programmes in Tanzania, Zambia and Zanzibar have all included the AIP Water Investment Scorecard as a vital tool for periodically monitoring and evaluating the pace of implementation of planned activities and developing response strategies with partners. The scorecard methodology facilitates the alignment of an institution's mission, outcome, output, and activities. In Zambia, for example, the Scorecard will be rolled out across the country to mobilise and sustain mutual accountability, leadership commitment from relevant stakeholders at all levels, and support the government to track progress; it will also set benchmarks, identify bottlenecks, and take action to meet investment needs, while measuring progress towards achievement of SDG 6 on water and sanitation.

Activity 5.6: Consultation on the full WIP

The full WIP should be shared with stakeholders identified in Activity 2.2, with an invitation to a feedback meeting and a deadline for written comments. Where there is conflicting feedback or disagreement with the drafting team on the WIP contents, a consensus-building approach should be adopted to find solutions. The meeting should end with a summary of the main revisions to be made, and these captured in meeting minutes.

3.6 Step 6: Approval, pledges, launch and dissemination

The following activities should be informed by a dissemination plan prepared by the Technical team and supporting stakeholders.

Activity 6.1: Obtain official approval

The final draft should be submitted for approval to the relevant Ministers and to Cabinet.

Activity 6.2: Pledge of partner support

National budget commitments to implement the WIP should be made in alignment with national investment plans. Support from development partners, including global and regional platforms (e.g. AMCOW, SWA, SADC, ECOWAS) should be invited. In addition, international finance institutions and investors should review how they plan to increase the quality and quantity of finance to the country to achieve water security and resilience, as well as sustainable sanitation.

Activity 6.3: Publish the WIP

The WIP should be publicly available and accessible in print and online form to reach different audiences. The printed investment plan document should be well presented and of high quality. The draft WIP that has been updated from stakeholder engagements and approved by the governance structures should then be produced as the final document.

Activity 6.4: Official launch

A national launch event with high-level political attendance should be conducted and covered by the media, including social media. Where appropriate, a launch event should be replicated at sub-national level, where it may be decided to develop sub-national WIPs.

Activity 6.5: Disseminate the WIP

The WIP should be disseminated through conventional media and social media campaigns. Water and civil society organisations, including youth groups, should be used to publicise and discuss the WIP.

3.7 Step 7: Initiate implementation

Activity 7.1: Establish long-term implementation structures of the WIP

The strategic and technical teams should be transitioned to long-term implementation structures, and a separate, linked body will be needed to focus on finance.

The strategic team – the Taskforce, Board or Steering Committee which was primarily responsible for providing oversight and policy guidance – should be adapted with the appropriate membership for providing steering to the implementation of the WIP. It should meet periodically (e.g. quarterly) to provide oversight to the technical team.

The technical team which was responsible for the formulation of the WIP should be adapted with the appropriate membership to ensure the day-to-day implementation of the WIP. The team may be renamed to better reflect their new purpose.

A new financing group should be established which consists of public and private financiers, financing experts and other key stakeholders. The purpose of this team is to guide the technical team on implementing the actions identified to unlock finance sources in the WIP, and identify adapted or new actions in an evolving landscape. The team should also improve the coordination of funding, explore partnerships, exchange information on other finance initiatives outside water, and inform each other of good practices.

Sub-national structures should be defined to support WIP implementation.

Activity 7.2: Implement measures to unlock different finance sources

The finance strategy contains a large number of actions which are necessary for accessing the range of financing sources covered in the Pyramid of Transformation, as well as achieving cost savings through improving sector and service provider efficiency. These should be reconsidered in the light of the evolving priorities and the available funds and resources to successfully implement the actions, since the previous step (Step 6) will have confirmed the resources available for these activities. Unlocking finance sources will require capacity development of relevant stakeholders.

Activity 7.3: Strengthen project preparation

The WIP process might have revealed the inadequate quality of project preparation facilities, which are most likely under-resourced. To attract different financiers, a state-of-the-art national project preparation facility is required, which either means strengthening what is already in place (most likely cross-sectoral) or establishing a new facility focused on the water sector. Regional or multi-country facilities may also be supported by international agencies. Government and development partners will need to work together to avoid duplication, to resource, and to build capacities of the project preparation facilities.

Activity 7.4: Update sector M&E frameworks

To achieve water security and increase resilience, an efficient and right-sized M&E framework is needed at sector level that is government-led and owned by key stakeholders. The quality, regularity and timeliness of key sector information needs to be established, and the structures and processes for collecting and reporting the information determined. This includes mandating and resourcing regional, national and sub-national institutions, while ensuring strong coordination and information sharing across all levels. In addition, provision should be made for documenting lessons learned and best practices to inform investment programmes in other sectors or WIP updates, and facilitate replication in other countries.

4. Elements of the Investment Plan

There is no blueprint for a water investment programme. Examples of national water investment programmes exhibit a range of structures and contents. This Guideline draws on recent WIPs such as the Zambia Water Investment Programme and the Zanzibar Water Investment Programme as well as other guidelines and materials. The intention is that the Guidelines stimulate reflection on what is appropriate to include in a country's WIP and provide options for its content, but by no means constitutes the Guideline directive. The sequence of developing the investment plan component is provided in Figure 4.

FIGURE 4. ELEMENTS OF A WATER INVESTMENT PLAN

4.1 Estimating future water needs and availability

The basis of the WIP is the identification of the gaps in water security and resilience, including the water service gap and water-related risks (e.g. too little water, too much water). To do so, it is necessary first to assess the needs for water infrastructure and services across water uses and users, and to forecast the expected changes in supply, considering the future climate (including climate change, climate variation and extreme weather events, and increased uncertainties) and other determinants of demand and supply. Therefore, projections of climate change impacts need to be improved and integrated to ensure that interventions are not only responsive to current gaps but are also adaptable to, and robust in, future climate scenarios (see Box 5). The role of ecosystem services in enhancing water resource availability and water quality also needs to be recognised, as well as the role of water demand management and water reuse taking into account the practicality and economic feasibility in specific cases.

Box 5. Definition of climate-resilient water supply, sanitation and hygiene services (source: Sanitation and Water for All[35])

Climate-Resilient Water, Sanitation and Hygiene (WASH) services anticipate, respond to, cope with, recover from, adapt to or transform based on climate-related events, trends and disturbances, while striving to achieve and maintain universal and equitable access to safely managed services, even in the face of an unstable and uncertain climate, where possible and appropriate, minimising emissions, and paying special attention to the most exposed vulnerable groups.

The 'needs and demands for water services' in relation to the quantity and quality of supply is a term that must be analysed. A water service can be defined based on its quantity, quality, location, price, and purpose. Initially, it is important to assess the different purposes – or users – of water services and ensure an appropriate distribution between them.

As shown in Box 6, the water quantity and quality supplied – or made available – to agriculture, mining, industry, services, and household uses, and what is needed and available for ecosystem services, will need to be determined under different climate situations (e.g. droughts, floods) or scenarios (different climate model projections). The availability and demand from different users – and water quality needs – will vary by location, and demand has to be managed depending on the situations or scenarios. In water scarce regions or situations this will involve an agreement or trade-off that reflects demand management between different uses and users, as well as water resources development or associated land management options in support of water resources.

Box 6. Categories of water sources and water services

Water sources

- Surface water (perennial, reservoirs, non-perennial)
- Groundwater
- Rainfall
- Ecological System Services and Nature-based contributions

Water quantity available

- Water storage (volume per person)
- Water supplied for agricultural uses, food and beverage, economic sectors, mining, industry, services, recreation, etc.
- Water for energy generation
- Soil and water conservation
- Water for ecosystems services
- Water quantity supplied for drinking purposes (institutions, household use)
- Water losses

Water quality

- Water quality of all water (surface, reservoirs, aquifers, rivers, estuaries, ocean)
- Water quality for recreational water uses
- Water quality for different economic sector uses
- Water quality for drinking (e.g. percent of water free from E Coli, fluoride and arsenic)
- Nature-based Solutions in support of water quality
- Wastewater treatment (domestic and industrial); re-use; grey water use

Water efficiencies (reduce, reuse, recycle)

- Wastewater recycling (e.g. % wastewater recycled, % industrial water use from recycled)
- Grey water systems or combinations/ hybrid systems
- Groundwater and conjunctive use replenishment

Sanitation and hygiene

- Institutional coverage of sanitation and hygiene facilities
- Domestic coverage of sanitation and hygiene facilities
- Sanitation facilities and processes that enable resource reuse or conservation

Resilience and disaster risk reduction

- Early warning systems
- Stormwater drainage and the built environment to reduce flooding
- Resilience of water infrastructure to flooding events
- Sedimentation, erosion control and slope management

To enable the WIP to meaningfully strengthen the climate resilience of a country's water management systems and services, the WIP should be informed by a systems-level climate change risk analysis for the water sector, which considers a range of possible emissions scenarios (as the projected impacts can be quite different). It will be helpful for this systems-level sectoral climate change risk analysis to consider the management and use of the resource across all water-related sectors, and include water source protection, treatment, transmission, supply-to-end user, sanitation, and waste management.

Importantly, to be able to identify relevant interventions in a manner that standardises risk management, it will be helpful if the climate change risk assessment includes, or is accompanied by, an analysis of the level of social acceptability of the different climate change risks faced via water[36]. The goal would be to eliminate risk, or more realistically, reduce it to a socially acceptable level. Such an analysis would need to be a combination of technical assessments and thorough stakeholder engagement.

This comprehensive whole-of-sector stocktaking of water dependency and the resulting climate change risk assessment may need to be undertaken as part of the WIP development, or a synthesis could be prepared if adequate piecemeal climate vulnerability analyses are available. The climate change risk assessment framework presented by the IPCC AR6 – comprised of an analysis of hazards, exposures, vulnerabilities, risks, and responses (and residual risks) – provides a useful structure for this assessment. This comprehensive climate vulnerability assessment will later inform identification of key transformative interventions that are needed to strengthen climate resilience via strengthened integrated water resources management in the country.

Furthermore, while many developing countries will put heavy emphasis on the necessity of water investments for adaptation, it is important for the WIP to consider the water aspect of the country's mitigation strategies. Many mitigation strategies prioritised by countries in their NDCs – through clean energy transition, removal of carbon dioxide from the atmosphere, and reducing greenhouse gas emissions from water and sanitation systems – are water-intensive[37]. Their water footprints, however, may not always have been assessed and accounted for in water resources development planning. A WIP will benefit from being informed by such an assessment, so that water-related trade-offs can be effectively considered at the investment planning stage to avoid maladaptive impacts of otherwise well-intentioned mitigation efforts.

Different users have different requirements for quality of water. Improving water quality from its raw or adulterated state is a service that is needed for some uses, but also involves investment. To address water scarcity, some wastewater can be recycled – depending on the costs and the value of uses to which the recycled wastewater is put. Central to water security is also the availability of sanitation facilities and sound hygiene practices to ensure health and also to reduce pollution of water sources and the land environment. Water infrastructure can provide other services, such as flood protection, water quality improvement, and renewable power generation.

All of the above dimensions need to be considered under different potential climate change scenarios, as informed by the comprehensive climate change and vulnerability risk analysis. A holistic approach to estimating the water service gap should also take into account estimated water availability in light of explicit and hidden water requirements of mitigation actions prioritised by countries.

Data and evidence gaps should be highlighted for further investment in M&E systems and research, including climate modelling.

Thinking ahead to the structuring of the Water Investment Programme (in Chapter 4.4), water services and management might fall under major categories such as water for productive uses (typically requiring larger quantity but lower quality), water for socio-economic uses (typically requiring lower quantity but higher quality), water for ecological needs in support of nature-based resilience, and disaster risk reduction.

4.2 Identifying gaps in water infrastructure and services

The water service gap is the difference between the current status of water services (quantity and quality) and the coverage envisaged in the national goals and targets. The water service gap assessment draws on the previous analysis, but it is bounded by what is feasible or realistic, and what are the stated national targets (if they exist). The investment plan is essentially a time-bound plan on how to move from the current status to the targeted service coverage.

Once the water service categories have been identified, the current service coverage should be estimated. Where the service coverage category is the same as the global[38] and continental[39] monitoring of SDG indicators, the value for a country may be found from these records. However, the focal point that reports these data to international agencies should be involved to gather more information and to ensure alignment of WIP and SDG reporting.

A next step is to identify the target for each of these water service categories. Target values should be extracted from official national policies, strategies and plans across sectors. It includes identifying water-related climate resilience, mitigation and adaptation targets in the Nationally Determined Contributions. Most targets will be stated at national level, some of which will be overall values while some may be disaggregated by urban and rural areas or geographical areas. Targets may be explicit – i.e. a stated target in an official document – or implicit – i.e. a value used for planning purposes or a text referring to a target, but without clear official endorsement. Some targets might have been adopted from the SDG6 targets, which are global targets, while some may have been localised. If there are no targets for any of the water service categories that can be applied, either the categories need to be changed to match the indicators with targets or a target value will need to be set.

The target year needs to be clearly agreed and specified. If a target value is beyond the target year, the target value should be prorated back to the target year, assuming a realistic trajectory of progress.

Separate assessments are needed across all types of water infrastructure (including nature-based infrastructure or green-grey infrastructure) and services, noting the overlaps between them. For example, a community borehole might be considered in conjunctive use for household use as well as agricultural use; a dam might provide water for multiple water uses as well as power; and rainwater harvesting alternatives should be considered to supplement other water sources. Gains in water availability through effective rangeland management, regenerative grazing, or implementation of nature-based solutions (NbS) should be assessed.

4.3 Developing the project/programme pipeline

It is important to first develop a register (if not already in existence) of what initiatives are in progress/being planned, and what project preparation facilities exist. This scope includes those embedded in a government agency, international agency, non-profit/non-governmental organisation, tertiary/academic institution, or independent / private sector. It is likely that water is included in some of these projects, even if it is not the central focus. It is also important to identify what master plans or catchment-based initiatives already exist or are envisaged/in the pipeline, and at what level(s). The project pipeline and master plans (or similar other plans) need to be obtained and assessed for their relevance to the WIP and their extent of implementation or achievement. Also, in a later step, there will be recommendations for how to work with these project preparation facilities and master plans, to coordinate with and/or strengthen them as part of WIP implementation (see Chapter 3.7).

The project/programme pipeline builds directly on the water service gap that has been identified in the previous step. Existing project pipelines and programmes need to be reassessed in the light of the water service gap, and their original justification revisited. The development of the Water Investment Programme provides a key opportunity to rationalise and prioritise existing pipelines and add new projects and programmes where gaps have been identified. Importantly, projects and programmes should be defined that are not just focused on infrastructure, but also cover updates to regulations, capacity building, research and M&E systems. Note, however, that pipeline development is an ongoing process and it should not be the cause of any major delays for the WIP moving forward.

A gender analysis should be done at the programme level (the WIP development) and project level to identify water-related gender inequalities at structural, relational, and agency levels, and create opportunities for strengthening gender equality through gender-responsive programme development, project design, and budgeting.

Investments in the WIP should consider the potential for building resilience at two different levels: i) resilience within water management systems, i.e. ensuring the system's capacity to recover from climate change-related shock, stress, or change[40];

and ii) systemic resilience related to broader development outcomes that are enabled by, but go beyond, adequately functioning and performing water management systems. The cross-cutting nature of water across numerous economic and livelihood sectors makes it a critical ingredient for this broader systemic resilience.

When developing the climate-resilient water investment pipeline, it is essential to evaluate different methodologies for both prioritising and designing investments, especially given the deep uncertainty introduced by climate change. For prioritising investments, methodologies like *cost-benefit analysis under uncertainty* or *scenario analysis* can help assess how different water management options perform across a range of future climate scenarios. These approaches allow decision-makers to prioritise investments that project the greatest resilience under a variety of potential climate futures. On the design side, approaches such as *robust decision making* (RDM) or *flexible adaptation pathways* are crucial. RDM helps identify policies and infrastructure that perform well across a wide range of uncertain future conditions, while *flexible adaptation pathways* allow investments to be adjusted over time as new information emerges or as conditions change. These methodologies together ensure that water investments are not only cost-effective but also adaptable and resilient in the face of evolving climate challenges[41].

It is crucial to avoid locking into water investment options that may become unfeasible or ineffective under future climate conditions. As climate change introduces uncertainty in terms of shifting precipitation patterns, rising temperatures, and increased frequency of extreme weather events, investments that appear viable under current conditions may fail to deliver long-term benefits. For example, building infrastructure based on outdated assumptions about water availability or flood risk could lead to wasted resources or even increased vulnerability. By using flexible, adaptive approaches such as adaptive management or no-regret strategies, planners can avoid making irreversible commitments to options that do not remain feasible as climate conditions change. This requires continuous monitoring and the flexibility to revise plans as new climate data and modelling improve our understanding of future risks, ensuring that investments remain relevant and sustainable over time.

For projects expected to seek climate finance, the "climate change additionality" of each pipeline project should be described, i.e. how the project would be designed or implemented differently due to climate change, both in terms of mitigation (i.e. reducing carbon emissions) and adaptation (i.e. addressing climate change impacts, and strengthening resilience to such impacts). Costs associated with these differences should be estimated, and available sources of concessional climate finance should be explored to meet these specific costs (as part of the WIP's finance strategy – see Chapter 5).

Box 7 provides a list of details to be provided for the projects and programmes. To enable some prioritisation, they should be linked to national development goals and their contribution to resilience building. Given the greater focus of many donors and financiers on non-financial performance – including requirements for improved environmental, social and governance (ESG) outcomes – these aspects should be detailed and well-articulated at the pre-feasibility stage, where possible. Furthermore, agreed upon transboundary projects/programmes should be tagged, and special note made of funding or financing provided by regional bodies or other partner countries.

A full range of costs need to be included to achieve project or programme goals – either within the project budget or included in broader programmes – including physical water infrastructure, water resource management, institutional and governance, and related research and development. Given that many water projects fail to receive funding, or full funding, it is important to include details on the potential to recover costs from users and to raise financing (see Chapter 4). Also, as different investors/funders/financiers can cover different types of project and costs within projects, there should be a clear break-down of costs between different phases and between different types of cost (e.g. software, TA, overheads, infrastructure).

It is noted that the timeline of many projects may be beyond the target year for the WIP. A decision therefore needs to be taken whether the full budget or a pro-rated budget for these projects or programmes is included.

Some financing sources will have specific informational needs and criteria for making investment decisions. For example, the Green Climate Fund identifies six investment criteria that provide guidance in the development, assessment and approval of GCF projects[42]: (1) impact potential (GCF's objectives and result areas); (2) paradigm

shift potential (replicability and scalability); (3) sustainable development potential (SDG priorities); (4) needs of the recipient (vulnerability and financing needs of the country and population); (5) country ownership and capacity to implement; (6) efficiency and effectiveness, including financial soundness and private sector funding mobilisation. Importantly, any pipeline project seeking GCF finance should be adequately aligned with the country's GCF Country Programme.

Additionally, the project components need to properly consider longer term climate change impacts including some flexibility and promotion of low-regret options, given the uncertainties involved, as well as consideration of local and indigenous knowledge. Others, for instance, require the rationale to include significant safeguarding considerations.

Box 7. List of minimum information to be gathered for project/programme pipeline

Overall project/programme details

- Project name
- Project location (GIS coordinates) / involvement of other country(-ies) (regional cooperation)
- Year of project preparation, estimated start date/end date
- Current project status
- Project sub-sector
- Project components (parts of the project requiring budget)
- Project rationale / main project contribution to national development goals / role in enhancing climate resilience or mitigation / source in the National Master Plan or NAP / numbers reached
- Project targeting (population groups benefitting, by income status, gender, ethnicity and/or other status, and numbers of each)
- Paradigm shift potential for climate change adaptation and mitigation (scalability, replicability, or potential for long-term change through enhanced policy frameworks; economic, technological, and infrastructure shifts; or behaviour change)
- Project lead institution(s)
- Implementing agents (if different from project institution)

Project/programme financing

- Total cost, cost per component and cost by timeline
- Percent of funding / financing already raised and from which source
- Project/programme submitted for consideration to a Fund / MDB / DB, and status
- Proposed commercial model
- Maximum percentage of the project value that can be taken as a loan
- Expected sources of payment for loan
- Opportunity for project bundling with other unfunded projects
- Constraints or bottlenecks in project finance

Project/programme performance

- Number of beneficiaries gaining access to improved water services or increased resilience to climate impacts
- Financial performance (Net Present Value, Internal Rate of Return)
- Economic performance (Net Present Value, Internal Rate of Return, Benefit-Cost Ratio)
- Environmental analysis
- Social analysis, including gender equity and social inclusion
- ESG performance

Source: based on criteria used for the AU Africa Water Investment Platform and Blended Facility Projects https://aipwater.org/blended-investment-facility/projects/

Box 8 provides examples of countries' commitment to project development as part of their WIP.

Box 8. Examples of water project pipelines

The development of a national water programme/project pipeline is recognised as essential by countries that have already developed a WIP. In Tanzania, for example, three major projects were submitted to the AIP covering a National Water Grid project, town sanitation and wellfield development costing over US$ 3 billion. Zambia has committed to developing bankable water security and sanitation projects and de-risking priority water investments using grant finance combined with a variety of innovative financial instruments to remove the constraints that make projects unattractive for private sector investment.

4.4 Structuring the programme

The projects and programmes identified will provide a patchwork of investments, but not a cohesive programme. Indeed, there are likely to be many gaps, in terms of geographical coverage, targeting of vulnerable groups, as well as non-infrastructure investments which may not have yet received the full attention they deserve. Consequently, a rational structure that has been adapted to the national context is of vital importance for the success of the WIP. Based on prior experience of AIP, the structure may have 5 different levels that cascade into each other (see Figure 5).

The investment focus area provides the overarching structure of the WIP and optimally all investments should be grouped in 3 to 5 investment focus areas. Criteria for selecting focus areas and components might be (a) by major water user category, such as energy, agriculture, industry and municipal/households; (b) by social versus productive uses of water; (c) by hard infrastructure versus software. In addition, (d) it may be important to separate disaster risk reduction and management, and even climate resilience aspects – although these may instead be embedded within each water user category. Table 1 shows how several country WIPs have already defined investment focus areas, using criteria (b), (c) and (d) to give four focus areas.

The component. The way components are defined will in part depend on how the investment focus areas are defined. If they are defined by (a) water user or (b) social/productive uses, then components might distinguish infrastructure and software interventions. If the investment focus areas already distinguish infrastructure versus software, the components might then distinguish by water user or type of service (e.g. distinguishing water and sanitation). Within an investment focus area on the enabling environment, specific aspects will become components, such as capacity, financing, or monitoring. Table 1 shows how several country WIPs have already defined components. Optimally, there should be around 2–4 components per focus area.

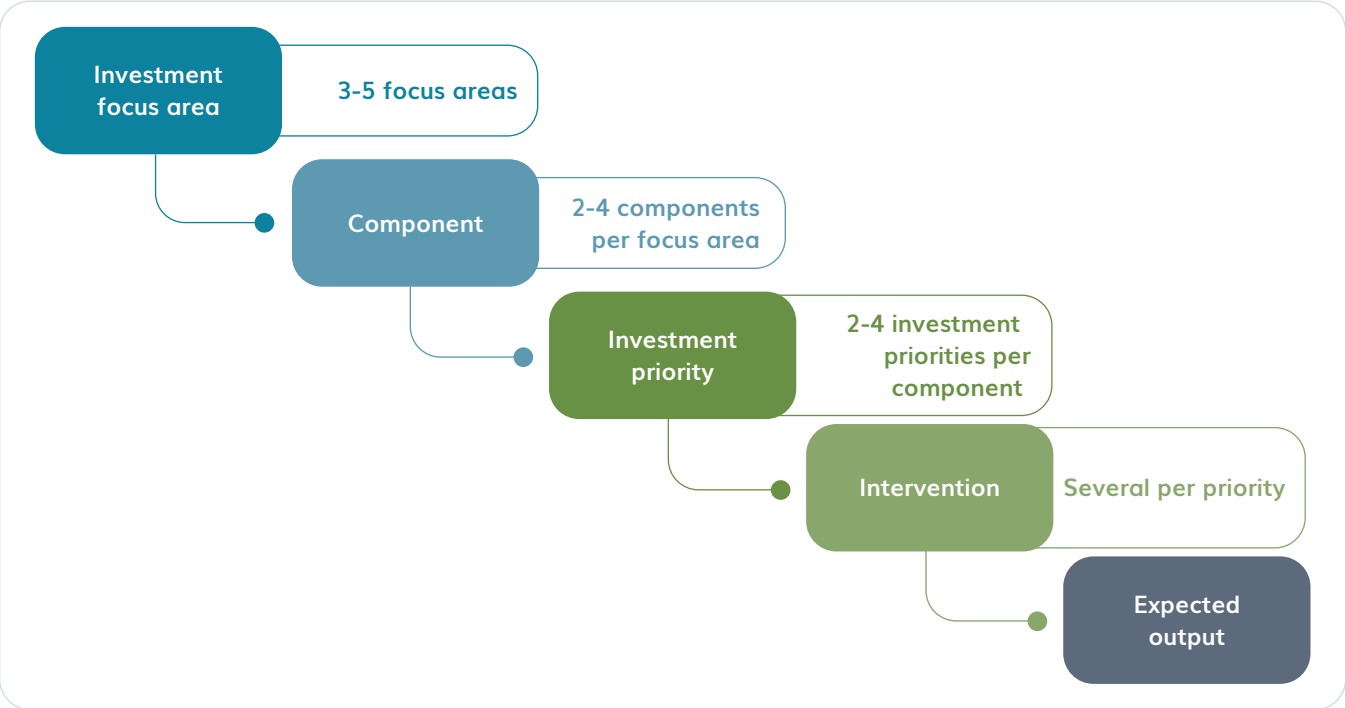
Investment priority breaks the component into further packages, but which are not yet defined to the level of detail required for the costing exercise. If a component includes 'Gender equality and social inclusion', there may be different investment priorities focusing on gender, youth, people with disabilities, and ethnic minorities. Several criteria or indicators should be selected to summarise projects and programmes which can be used to help rank and prioritise projects and programmes. Criteria might include the number of people impacted, equity dimensions (e.g. gender and social inclusion), environmental impact, climate resilience, return on investment (cost-benefit analysis), risk assessment, and ability to finance investment costs and recurrent costs. Optimally, there should be around 2–4 investment priorities per component. Further priority setting is conducted after the costing and during the finance strategy deliberations.

Interventions are time-bound activities that can range from conducting a study to implementing a major infrastructure project. An indicative number of people reached with different services should be provided, where relevant. An intervention can have 1 or more **expected outputs,** each which can be

separately costed. Optimally, there should be around 2-4 interventions per intervention priority.

The number at each level should be appropriately defined so that there are no more than approximately 100 interventions. For example, if there are 4 investment focus areas, with 3 components each, and the components have 3 investment priorities each and there are 3 interventions per investment priority, this amounts to 108 interventions. However, if there are many more interventions in the first iteration (e.g. over 200 interventions), they will need to be rationalised and grouped to reduce the number.

FIGURE 5. GENERAL STRUCTURE OF A WATER INVESTMENT PROGRAMME



Four possible focus areas and related components are shown in Table 1, drawing on previous country WIPs (see Box 9). It distinguishes social and productive uses of water and separates out the additional needs for climate resilience and disaster preparedness. These represent investments in water services – both infrastructural and non-infrastructural components. It is vital to ensure that governance and institutions receive special attention for the achievement of sustainable water services that are fully financed. This includes investment in data and evidence generation. Also, some aspects such as demand management cut across all the focus areas, and needs to be reflected within each. Additionally, transboundary or regional projects need to be highlighted as deserving explicit representation in the WIP structure, such as at Component level.

Table 1. Proposed focus areas and components to structure the WIP

Focus areas	Components
Water investment for social wellbeing	Water investment for improved water supply Water investment for improved sanitation services Gender equality and social inclusion Livelihood improvement
Water investment for sustainable economic development	Water resources management and development Water investments for productive use and economic growth
Investments for strengthening water governance and institutions	Strengthening institutional arrangements and enabling environment Human resource development Financing water investments and resources mobilisation Strengthening public-private partnerships and international cooperation in water investments Data and information management, water sector monitoring, and AIP Water Investment Scorecard
Water investment for climate resilience and disaster management*	Improving climate-resilient water infrastructure development Enhancing environmental integrity and sustainability Sustainable land management

*Includes aspects cutting across and supporting other focus areas, or separate elements

Box 9. Focus areas chosen by recent country WIPs

Countries that have developed their WIP to date have experienced both similarities and differences in the focus areas and components they selected. Countries have typically separated social and productive uses of water, and provided separate focus areas for governance strengthening and climate resilience. The latter may include specific reference to disaster risk management, the 'blue economy' or 'community resilience'. Resource mobilisation, strengthening PPPs, monitoring and human resource development typically appear within the governance focus area.

4.5 Costing interventions

The investment plan needs to include approximate costs at the intervention level. Costs should be realistic, but do not need to be overly detailed for the purposes of the WIP. However, to receive budget approval by government or other funding or financing agencies, costs may need to be more precise and detailed. Some general principles for the costing include:

1. Break down by investment and recurrent expenditure, with time profile.
2. Break down by hardware, software and management costs. This includes being inclusive of expenditures that are required to ensure the sustainability of programmes, including enabling environment, support costs, contingency, and capital maintenance expenditures.
3. Identify how much of the investment is targeted at the most excluded populations and areas.
4. Avoid duplication (double counting) of costs. For example, if governance strengthening is part of a specific project, then the same actions should not be separately costed (and duplicated) as part of another project or programme.
5. Incorporate inflation and exchange rate risks. To ensure the budget remains realistic and robust against economic uncertainties, cost estimates should be adjusted to account for potential inflation over the timeline of the intervention.

Inflation forecasts are provided by national banks. For projects that will benefit from foreign currency, upper and lower values as well as mean values need to be provided for possible fluctuations in currency exchange rates. While the WIP might state costs in an international currency for interpretation by an international audience, the exchange rate used needs to be clearly stated.

To improve transparency and facilitate review, explanations for estimates and assumptions applied in deriving the budget should be provided. For example, clearly document the basis of the cost estimates, including unit costs, quantities, and assumptions. Box 10 provides an example of a country that has developed a national water master plan.

Box 10. Example of a national water master plan development

The Government of the Republic of Rwanda, with financial support from the African Development Bank, recently completed the development of 25-year Master Plans and detailed costed 10-year investment plans for water supply and sanitation for the entire country. The project allows the Water and Sanitation Corporation (WASAC) to prioritise investments in water supply and sanitation to maximise impact and efficiency. It included preparation of feasibility and detailed designs for small selected prioritised projects, as well as capacity building, stakeholder consultation and community participation. The Master Plans were the foundation for the development of the Rwanda finance strategy for water.

4.6 Assigning roles and responsibilities

The WIP will only be impactful if there is accountability for the many actions that are listed, and for the budgets and finance allocated to the programme. This includes clear responsibilities for monitoring and evaluation to ensure effective tracking of progress and results.

Ideally, one government Ministry should have the overall responsibility for the Water Investment Programme. The Ministry will coordinate with other Ministries responsible for specific components within the Programme. The 'RACI' approach may be used, which describes the participation by various stakeholders in completing tasks or deliverables for the WIP development and implementation. Key responsibilities typically include being Responsible to complete the task, being Accountable (or answerable) for the completion of the task, being Consulted on the task, or being Informed on progress or completion of the task[43]. Playing a Supportive role may also be included, recognising the key role of some partners in supporting the WIP process.

Ideally, there will be one institution which is primarily responsible for leading a specific intervention, and that the responsibility is assigned to a specific post or function with that agency. For transboundary projects, responsible focal points in other countries and in regional organisations need to be identified. Other key agencies that will be necessary to support an intervention – technically or financially – should also be listed in the WIP. Box 11 provides a country example.

A system of monitoring will be important to support accountability, which is covered in Chapter 3.7 (step 7). Monitoring responsibilities should be defined for the programme implementation or coordination unit, the implementing agencies, and supporting agencies.

The main presentation of the investment plan will use a standardised table format (see Table 2). Additional tables will provide further breakdown in costs and supporting information. A summary of the project/programme pipeline will appear in an Annex.

Table 2. Indicative template for the investment plan

Focus area	Component	Investment priority	Intervention	Expected outputs	Cost	Role assignment					
						Responsible	Accountable	Support	Consulted	Informed	M&E

Box 11. Assigning responsibilities for WIP implementation

The Zanzibar Water Investment Programme states that the overall responsibility for implementing the ZanWIP will lie with the Ministry of Water, Energy and Minerals. However, implementation will require participation and collaboration between various government institutions. The lead and collaborating institutions are listed for each focus area and component of both the ZanWIP and the Zambia WIP.

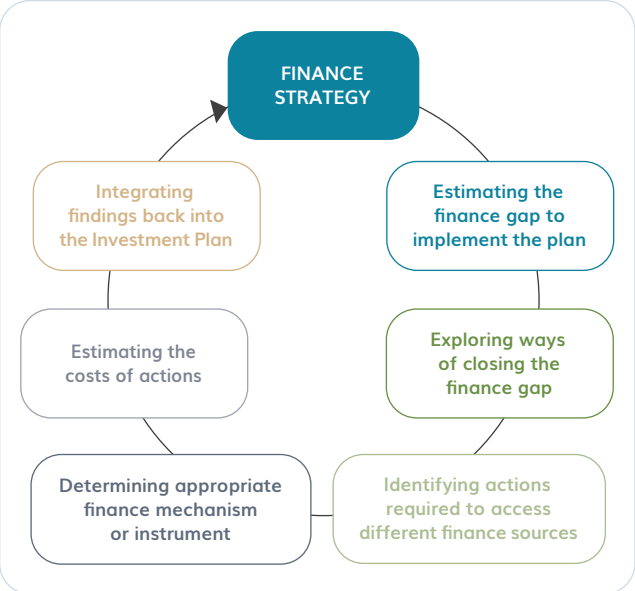
5. Elements of the Finance strategy

The finance strategy is a vital step to take after the investment plan has been drafted (in Chapter 3), because often investment plans are made but they do not succeed in mobilising all the resources needed to implement it. Alternatively, a separate working group might be set up to work on the finance strategy in parallel to drafting of the investment plan to save time, and to provide more timely feedback to ensure the investment plan is practical and realistic.

A water finance strategy essentially sets out the pathway to close the water finance gap. It explores the different funding sources and financing mechanisms, examines how they can be tapped, and proposes concrete actions to mobilise resources from each. It also investigates how to increase efficiency, reduce costs, and improve harmonisation and coordination of different sources to close the financing gap and ensure the financial sustainability of water services.

Once the funding and financing sources have been assessed and a strategy formulated, it may lead to changes in the contents of the investment plan, as it provides stronger realism. The iteration also ensures the costs of actions to access funding and financing sources are included in the final cost numbers of the investment plan. The steps in developing a finance strategy are provided in Figure 6.

FIGURE 6. STEPS IN DEVELOPING A WATER FINANCE STRATEGY (FOLLOWING THE DEVELOPMENT OF THE INVESTMENT PLAN)



5.1 Estimating the finance gap to implement the plan

There are three main steps to estimate the finance gap:

1. Identify and value the current sources of finance. These are historical records based on public accounts (PFM – public financial management), public expenditure review (PER) or similar exercises, and regulatory/utility information on water services. To build a picture of financing trends, the time period can include the previous 3 completed years of financial accounts, with current year budgets also included.

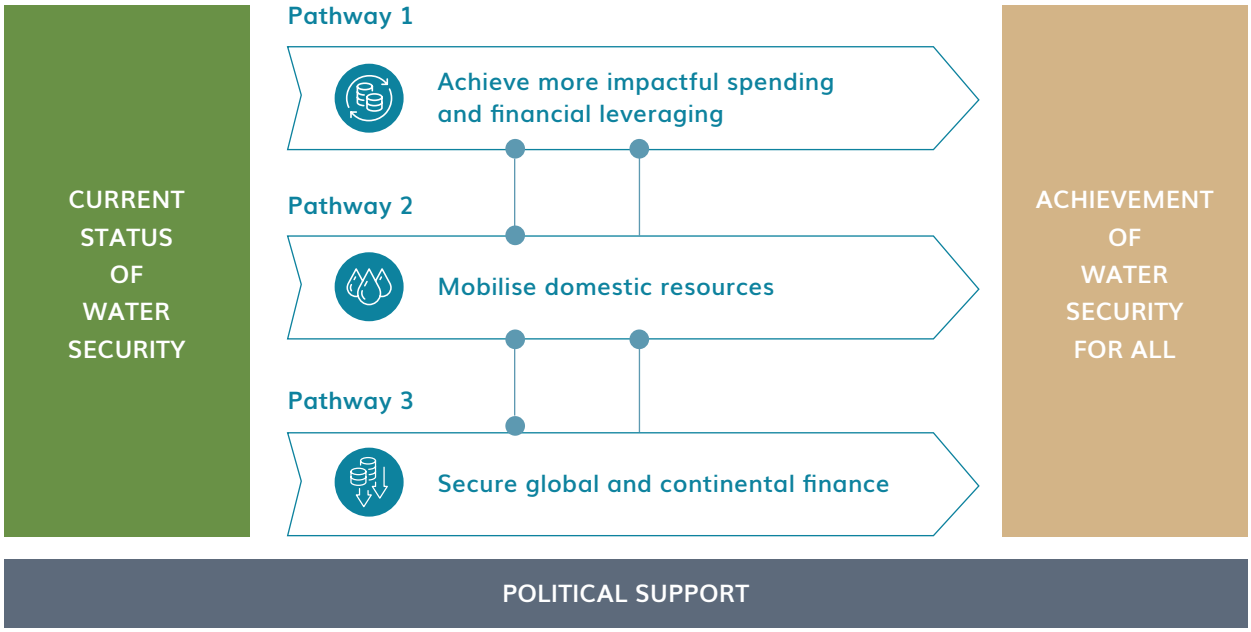
2. Estimate the financial value of these same sources over the investment plan period. This is based on projections of government funding, donor finance and water service revenues. It is a business-as-usual scenario drawing on budget projections, but incorporating any expected changes that are likely to happen with a high degree of confidence. Any finance sources with lower certainty can be listed as such.

3. Combine these values with the investment plan requirements to estimate the projected financial gap. This may include upper and lower values based on uncertainties in finance sources, and based on inclusion of projects and programmes with different priority levels.

5.2 Exploring ways of closing the finance gap

As outlined in the High-Level Panel reports, the finance gap will not be closed through augmenting traditional sources of finance alone. The first HLP report outlined three pathways (see Figure 7) which give rise to nine finance sources in the Pyramid of Transformation, where at least US$ 30 billion has been identified as being mobilised in Africa (see Figure 8).

FIGURE 7. THREE ACTIONABLE PATHWAYS TO ACHIEVE WATER SECURITY IN AFRICA



Pathway 1: Strengthening the Enabling Environment for Water Investments and Achieving More Impactful Spending.

The main purpose of this Pathway is to make water security a more attractive investment by facilitating transactions and increasing the impact of resources spent on water security, to be more efficient, equitable, and sustainable. When major inefficiencies exist in a delivery system, it is necessary to fix those rather than to pour additional resources into it which would lead to further waste. Strategies to strengthen the enabling environment depend on the local context and include policy and regulatory support, institutional strengthening and capacity development, public finance management, monitoring and evaluation, and partnerships, among others (see below and Annex 3 for a more complete listing).

Pathway 2: Domestic Resource Mobilisation.

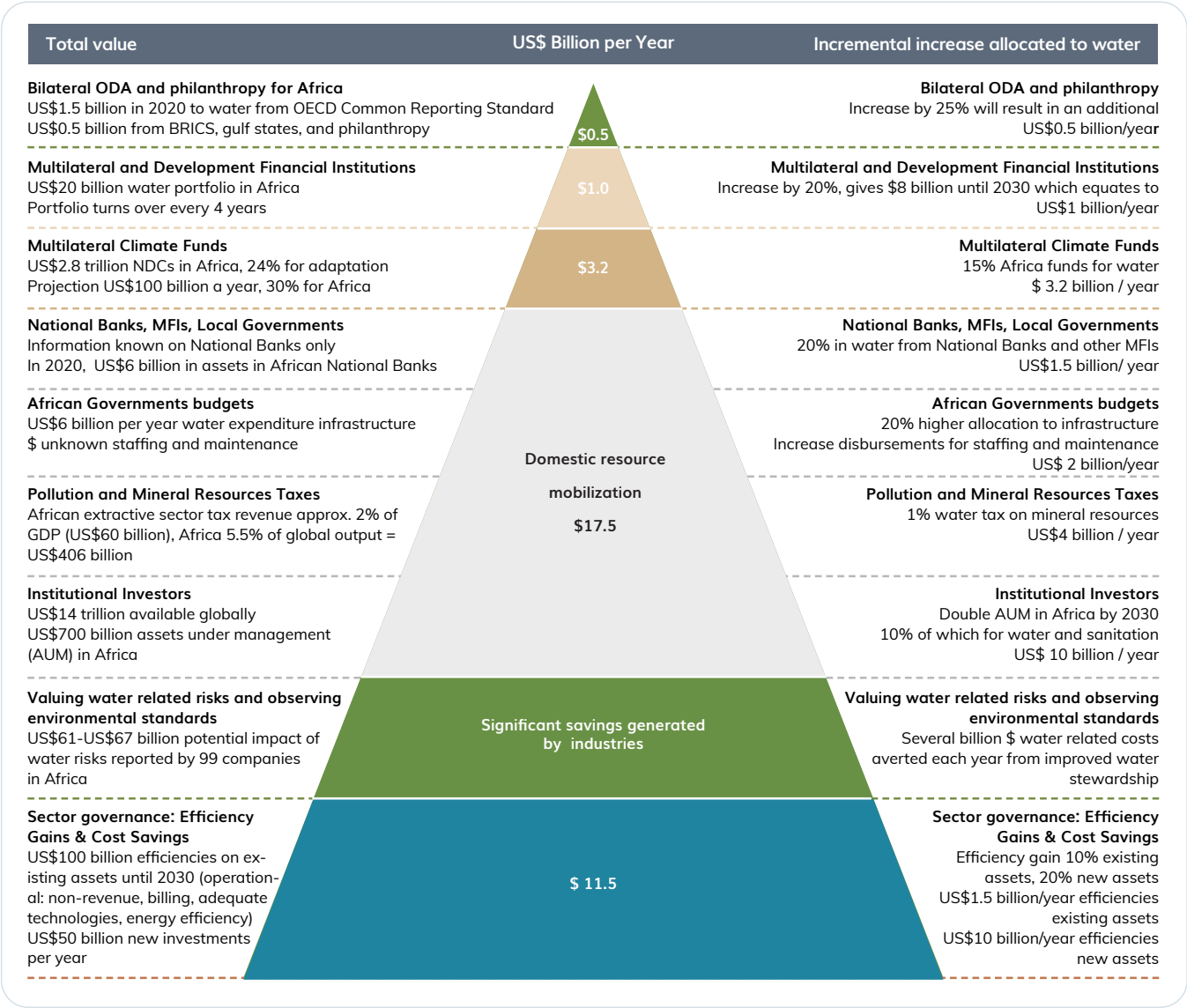
The main purpose of this pathway is to identify significant national and sub-national finance sources that could be allocated to water security in African countries and take measures to access those funds. Given the many national priorities being considered in the budget setting process, it is vital that Heads of State and other senior influencers are ready to champion water security as one of the top national priorities.

Pathway 3: Mobilise Global and Continental Finance.

The main purpose of this pathway is to identify significant international finance sources that could be allocated to water security in Africa and to take measures to access those funds. To be successful, Heads of African States should combine forces to lobby and advocate for greater funding and financing to be directed to Africa, and to water security specifically.

Furthermore, for Pathways 2 and 3, options outside of traditional mechanisms (grants, debt, loans or institutional investments) towards innovative or less used mechanisms (public equity or securities, external private equity, internal equity, credit lines, trade credit, leasing, and crowd funding) need to be considered.

FIGURE 8. THE PYRAMID OF TRANSFORMATION AND NINE FINANCE SOURCES



Pathway 1 finance options (Strengthening the Enabling Environment for Water Investments and Achieving More Impactful Spendings)

Inefficiencies are categorised into system-level and service provider-level inefficiencies. This section focuses on identifying where cost savings can be achieved with a view to valuing the potential savings. The next section (Chapter 5.3) identifies what actions are needed to make these savings.

System-level savings

At the system level, investments are made in improved sectoral and cross-sectoral policies, strategies, procurement, coordination, regulation, financial management, monitoring, promotion of best practice, and capacity-building. These are variously called governance, enabling environment or systemic issues. These improvements enhance the way programmes are defined, implemented and monitored, thus leading to reduced duplication and improved allocative efficiency. Project units should be consolidated, where possible, into programme, to reduce duplication and fragmentation and save costs. System changes also support the realisation of efficiency gains at service provider level and the efficiency and volume of finance raised though pathways 2 and 3, assessed below.

Recommended actions to identify value of this finance source include:

- Evaluate the gaps in governance and enabling environment which might lead to some savings.
- Assess how duplication and fragmentation across sector institutions, agencies and project management units can be reduced.

- Estimate the potential savings over a long-term timescale (e.g. 10 years). The estimates should be as realistic as possible, taking into consideration how long it will take to implement reforms and with what effectiveness they are likely to be delivered.

Service provider-level savings

At the service provider level, an important distinction must be made between investment in new assets and improvement in the operation of existing assets. For new assets, it is key that the infrastructure selected is cost-effective and sustainable, procured through competitive processes and operated efficiently. Choosing the most appropriate 'right-sized' infrastructure or hardware and prioritising quality solutions can save significant costs later and increase value-for-money. In addition, population growth has to be allowed for in urban areas, thus avoiding costly retrofitting to augment capacity within a few years of the facility becoming functional.

For existing assets, efficiency savings can be achieved through investment in capital maintenance to extend asset lifespan and through cost reductions such as reducing non-revenue water, implementing staffing efficiencies as well as through energy efficiency measures. Improved billing and bill collection can also boost revenues, and avoid unpopular service delivery tariff increases. Economies of scope can also be achieved through considering the multiple uses of water in a project's conceptual and planning phases.

Recommended actions to identify value of this finance source include:

- Identify the different sources of potential efficiency gains by existing water service providers, through reducing costs or losses (e.g. capital maintenance, non-revenue water) or increasing revenue (e.g. improved bill collection).
- Identify the potential reduction in unit/total costs of water service extensions and new projects through the adoption of alternative technologies, delivery mechanism (e.g. delegated model), procurement approaches and/or financial instrument.
- Estimate the potential savings over a long-term timescale (e.g. 10 years). The estimates should be as realistic as possible, taking into account how long it will take to implement reforms and how effectivenely they are likely to be delivered.

Pathway 2 finance options for Domestic Resource Mobilisation

A diverse range of domestic investment sources exist, including previously untapped ones. To successfully unlock these, high-level political support and improved governance are needed, which require sustained commitment over several years to be fully realised. This section focuses on identifying where finance can be raised with a view to valuing the potential finance. The next section (Chapter 5.3) identifies what actions are needed to raise finance.

Valuing water-related risks and internalising the environmental costs

'Double materiality' recognises the deep interconnectedness of different stakeholders through a vital resource like water: not only how water availability and quality impact the operations and profitability of a business, but also how business operations themselves impact the availability and quality of water for others uses.

The implications of unabated water pollution and unlimited water abstraction are that stricter regulation is needed. Incentives to treat water before discharge and reduce pollution would be one way to 'internalise the externalities' associated with production decisions. Many multinational companies are driven by regulations of their headquarters/base operations, hence implementing stricter standards than the countries where they are operating[44]. Regulations should include charging users for their use of water in line with the true value of water, as well as the imposition of fines for the pollution of water resources ('polluter pays principle').

As well as risks, water is also an opportunity increasingly recognised by the financial sector. This is evident with innovative financial instruments such as blue bonds and 'water footprint' loans now being initiated.

Recommended actions to identify value of this finance source include:

- Estimate revenue increases from charging users for their use of water in ways more in line with the true value of water.
- Estimate revenue increases from imposing fines for the pollution of water resources.
- Estimate the potential value of water-related financial instruments.

Institutional investors

Institutional investors are companies that buy, sell, and manage stocks, bonds, and other investment securities on behalf of their clients or shareholders. Examples of institutional investors are mutual funds, hedge funds, pension funds, sovereign wealth funds, insurance companies, commercial banks, and endowments. African countries have considerable value locked up in pension funds and savings, which are seeking long-term, low-risk returns on investment. A portion of these funds may be attracted to investments which support socio-economic development and can provide ESG value. The 5% Agenda, led by NEPAD, is targeted at institutional investors with the aim of increasing the allocations of African asset owners to African infrastructure from 1.5% to 5% of Assets Under Management, of which Africa has US$ 700 billion. African governments can unlock and scale an unprecedented pipeline of investable water by forging closer institutional investor-public partnerships and implement greater risk sharing between public and private finance. By championing Institutional Investor-Public Partnerships (IIPPs) as the primary mechanism for engaging long-term institutional investors, governments can mobilise private capital at scale and position African water as a globally competitive investable asset class[45].

Recommended actions to identify the value of this finance source include:

- Estimate the overall value of the country's institutional investments, by investor and investment category.
- Assess what proportion of these could be attracted to portfolios containing water investments.

Mineral resources tax

This investment source covers a form of additional tax imposed on mineral extraction[46]. Tax regimes vary widely across Africa[47]. Because countries already tax mineral extraction, what is required is either a small increase in the mineral tax rate to enable more tax revenues to be allocated to water security, or instead the redistribution of existing mineral tax revenues to provide an earmarked tax for water security. It could also arise from tightening the rules on profit shifting which leads to massive tax avoidance in the mineral mining industry. Naturally, any change in mineral taxation is politically sensitive and needs high-level support.

Available tax options are numerous. These include a range of direct and indirect tax instruments such as corporate income tax, progressive profit tax, resource rent tax, royalties, import duties, and value-added tax. There are also various non-tax instruments such as fixed fees, bonus payments, production sharing, and state equity that could be adopted[48].

Recommended actions to identify the value of this finance source include:

- Assess the current mineral tax regime, revenue, and uses.
- Examine alternative ways of reforming or tweaking the mineral tax regime and profit-shifting regulations, and the increased revenues they (might) generate.
- Assess the time required to raise additional taxes and the possible responses of companies faced with an additional tax burden.

African government budgets

Achieving national water security requires significant and continued contributions from the public budget, not only to cover part of the substantial upfront costs of infrastructure development but also to help subsidise water and sanitation services that are unaffordable to some user segments. Therefore, significant demands need to be made on the Ministry of Finance to help achieve water security and thereby secure a range of national development goals. These demands can be on both budgets funded from tax and on debt finance, depending on the level of debt-carrying capacity. Strong justifications are needed as well as championing water security as a top national priority by Heads of State and other senior policy influencers. As well as national budgets, sub-national budgets can also be very important, especially in federal states.

Recommended actions to identify value of this finance source include:

- Assess fiscal space for water: the amount of additional budget that could be raised from taxes or debt.
- Explore the scope for additional debt potential based on level of debt carrying capacity and sovereign risk rating (at both national and sub-national level), as well as the bankability of specific projects.

- Assess the scope for additional allocations of existing budgets from national Ministries and local departments that fund water, based on the investment plans and project pipeline.

National development banks, commercial banks and microfinance institutions

National institutions include national banks, public development banks, central banks, commercial banks, and microfinance institutions (MFIs). They all have a significant role to play in increasing water investment, not least because they promote the financial viability of water service providers. Also, the terms and conditions provided by national or central banks are aligned with the needs of the water sector (i.e. large loan size, below-commercial interest rates, and long repayment periods). The cost of capital is an important inhibitor on water sector development; hence these banks are a major vehicle for augmenting water investments. In some cases, there may be an option to introduce blended finance to meet social or equity objectives, thus reducing the need for achieving full financial viability. Sovereign bond issuance may be possible for water projects that are able to pay commercial rates.

Recommended actions to identify the value of this finance source include:

- Identify which major banks and MFIs are able to shift some of their portfolio to water projects, the cost of capital likely to be charged, and estimate the potential value per institution.
- Summarise the existing water project pipeline and identify which projects might be financeable by these banks.
- Assess options for using government or donor funding to blend with bank and MFI finance.

Pathway 3 finance options for Global and Continental Finance

At least 20 funds or finance facilities exist that provide, or could provide, significant finance for water in Africa (see Web Annex 1). This section focuses on identifying **where** finance can be raised with a view to valuing the potential finance. The next section (Chapter 5.3) identifies **what** actions are needed to raise finance.

Multilateral climate funds

The water sector needs to transition towards the climate resilience narrative, not only because water security is at the centre of climate change, but also because a significantly greater share of official development assistance (ODA) is now channelled through climate funds or green funds, or through projects which require climate resilience. Nationally Determined Contributions (NDCs) include adaptation aspects that focus on or include water security. Lead water institutions need to work with National Designated Authorities (NDAs) – the focal points for climate funds – to augment the water projects. All water projects should in some way demonstrate how they help achieve climate resilience. Countries will need to work with international climate funds.

Recommended actions to identify the value of this finance source include:

- Estimate the value of current climate funds allocated to the water sector (past spending, current budgets, future allocations).
- Identify national plans aside from the above which identify financial needs of the water sector.
- Identify which global and regional climate funds are operating (or able to operate) in the country, and assess the financial values that could be obtained by the country for the water sector. The Climate Policy Initiative's 'Landscape of Climate Finance Initiative' gives a comprehensive overview of fund flows for climate adaptation and mitigation in Africa[49].

Multilateral development banks (MDBs) and development finance institutions (DFIs)

DFIs are financial institutions that provide risk capital for economic development projects on a non-commercial basis. They are often established and owned by governments or nonprofit organisations to finance projects that would otherwise not be able to get financing from commercial lenders[50].

DFIs operating in several countries within Africa include, in descending order of capitalisation: the Africa Finance Corporation, Trade and Development Bank, Development Bank of Southern African, West African Development Bank, Development Bank of Central African States, Ecowas Bank for Investment, and Development and the East African Development Bank.

Multilateral DFIs or MDBs are supranational institutions set up by sovereign states, which are their shareholders. The major MDBs currently in Africa include the World Bank Group and the African Development Bank (African Water Facility), with

increasing investments expected from the Islamic Development Bank, the New Development Bank, the Asia Infrastructure Investment Bank and the European Investment Bank. Their remit reflects the development aid and cooperation policies established by these states. These institutions have arms or departments that finance projects in support of the private sector, mainly through equity investments, long-term loans, and guarantees (e.g. the World Bank Group's International Finance Corporation). MDBs usually have a greater financing capacity than bilateral development banks. However, when sovereign risk reaches a critical threshold, either MDBs stop lending or the interest rates offered become unaffordable.

Recommended actions to identify the value of this finance source include:

- Estimate recent spending and existing budgets of MDBs and DFIs – overall and water sector specifically.
- Identify the cost of capital from different sources, and potential reductions in the cost of capital.
- Assess potential increases in water investment, based on the investment plans and project pipeline, project bankability, user affordability, and willingness to pay.
- Assess potential for MDB and DFI finance to be used in blended finance mechanisms.

Bilateral official development assistance and philanthropy

Bilateral development cooperation provides grants and technical assistance, and in some instances loan guarantees for blended financing. While ODA for water and sanitation has declined since 2020, the rise of BRICS countries and Arab states of the Persian Gulf over the past 20 years could counter-balance the decline or even lead to increased ODA in the sector.

Recommended actions to identify the value of this finance source include:

- Estimate recent spending and existing budgets of bilateral agencies – overall and water sector specifically, and by grants and loans.
- Assess potential future aid (grants and loans) from all bilateral donors, including those not yet operating in the country.
- Assess potential for bilateral aid to be used in blended finance mechanisms.

5.3 Identifying actions required to access finance

The actions needed to access additional finance will be specific to each country. This section therefore provides examples of actions that can be adapted and extended (also see Annex 3). It will be important that roles and responsibilities are assigned for each action, both in terms of leading and supporting institutions.

Pathway 1 finance options (Strengthening the Enabling Environment for Water Investments and Achieving More Impactful Spendings)

System level savings

Water security is underpinned by strong water governance, comprehensive national water policies, robust institutions, integrity mechanisms, integrated approaches to management, effective regulations, and water allocation, as well as strategies that are multi-sectoral and gender transformative. Properly recognising the true value of water, i.e. to reflect its value as an input to economic growth, should lead to improved water stewardship in major productive sectors with high water use (e.g. agriculture, energy, manufacturing, and mining).

African countries are encouraged to review the status of their water sector. An analysis is needed in terms of achievements and bottlenecks to progress with a view to identifying what actions are needed to meet national goals. Example of key actions are listed in Annex 3 Table A3.1.

Some countries will need to prioritise strengthening systems that are government-wide and necessary for the operation of the water sector e.g. public financial management (PFM), auditing or procurement services. Water ministries cannot work in isolation on these aspects, otherwise their efforts will not be effective or sustained.

It is vital to strengthen data and evidence to inform advocacy and sector performance review, support investment decision-making, foster mutual accountability for results, and prepare well-sequenced, prioritised bankable investment projects. Innovative practices and technologies can further improve efficiencies. To incentivise personnel and attract new talent to the water sector, salaries, benefits, and working conditions need to be enhanced.

It is in Pathway 1 that the overall finance picture

should be assessed, and opportunities considered for redistributing the main finance sources (taxes, tariffs and transfers) for specific projects, target locations or populations to optimise water security outcomes. Note that strengthening the enabling environment will be largely paid for from public funds, i.e. from government tax, donors and policy lending from DFIs.

Service provider level savings

At the service provider level, several measures to improve efficiency and increase revenues should be sequenced and synergistic (build on each other). Understanding of utility performance and comparison with benchmarks helps identify the areas for improvement[51]. Improved business plans with a medium to long-term financial perspective are a foundation for greater efficiency and resource mobilisation.

Prior to any changes in service delivery tariffs, efficiency, cost saving, and revenue enhancement measures should be implemented. These include reducing non-revenue water, improving energy efficiency, enhancing staffing capacities and efficiencies, improved bill collection as well as asset management practices for preventive maintenance and major repairs (capital maintenance) to extend the working life of assets. Where service providers are under contract, service contracts need to be revised that include performance standards and benchmarking and include fines for non-compliance.

Once efficiency has been improved, the appropriate service delivery tariff levels need to be reviewed for achieving cost recovery while maintaining the affordability of the service for poor and marginalised populations. However, adjusting service delivery tariffs can be a long and complex process involving many stakeholders. Different objectives and voices need to be balanced to simultaneously achieve commercial viability alongside equity and sustainability goals. As financial viability and creditworthiness improve, options open up for engaging the private sector, such as PPPs, blended finance models, and risk-sharing mechanisms[52].

A key area of water governance is the establishment and strengthening of water boards and councils as well as independent regulators and water user associations to engage beneficiaries and improve inclusivity. Example of key actions are listed in Annex 3 Table A3.2.

The actions needed to achieve service provider savings will be paid for from a mix of public and private funds, depending on the context. Service providers that are able to take on affordable debt should invest in efficiency measures that will improve their viability in the longer term. Service providers that are already indebted or not creditworthy will require public support until they are in a better financial position.

Pathway 2 finance options for Domestic Resource Mobilisation

Valuing water-related risks and internalising the environmental costs

When water services are valued at their economic value, it is possible to manage demand more effectively, reduce wastage and take measures to reduce pollution of this scarce resource. At the national level, the demand for or use of water can be controlled or guided by a mix of different mechanisms, including the allocation of water and implementation of nature-based interventions. The legal framework should maintain public ownership of water resources, irrespective of how water services are delivered. A more consistent and stringent regulatory system is needed to provide stronger incentives for polluting industries not to pollute or reduce pollution through making affordable technologies available.

The foundation for avoiding water wastage and reducing pollution is better monitoring so that the sources, consumption patterns and types of pollution are known, and so that the overall impact on water body health is understood. At the national level, options for allocation of water rights should be compared, and research is needed to explore the costs and benefits of different ways of managing water resources and reducing pollution. Studies are also needed to better understand the overall size of the pollution problem, along the lines of recent studies by the Carbon Disclosure Project[53].

National regulatory regimes need to be revisited in terms of how water rights are allocated, how regulations deal with polluters and consumers, and the authority and capacity of regulators to impose fines for over-abstraction or for pollution. It is important to make information publicly available on the revenue generated by the fines, from which industries this revenue is received, and how the funds are used.

A crucial action is to develop the investment environment for the reduction and treatment of wastewater. This includes the transfer of affordable

technologies, promotion of technology adoption, market development and procurement processes that achieve value-for-money. Water due diligence needs to be mainstreamed in all loans so that when a programme affects water resources, conditionalities are set to ensure the resource is not negatively impacted. Example of key actions are listed in Annex 3 Table A3.3.

Institutional investors

Steps need to be taken to attract the very significant investment funds available both globally and regionally. The water sector needs to strengthen the packaging of water investment opportunities in ways that speak to investors, and create an enabling environment for private sector investment. This enabling environment includes the laws, policies, regulations, and flow of information that support private finance. Transparent and quality information management systems that reinforce integrity are crucial for boosting investor confidence. Considerable learning can be taken from other sectors that have made the shift, such as information technology, energy and infrastructure. Examples of key actions are listed in Annex 3 Table A3.4.

A first set of measures includes ensuring the legal and regulatory environment is conducive for private investment, not only in the country generally, but also in the water sector specifically. This is a foundational issue. Without tackling this, there will be little progress in countries where the role of the private sector is unclear. Institutional Investor-Public Partnerships (IIPPs) and model laws will be the key mechanisms to engage and mobilise institutional investors[54]. In addition, there is a wealth of experience available from regulatory frameworks and the ways regulators have worked in the water sector across the world, including Africa. There are also good examples from telecommunications and energy sectors in Africa.

Once the legal and regulatory aspects have been addressed, a next set of actions is needed. These include advocacy and relationship building with investors, and the development of a project pipeline of bankable investments using industry standard investment appraisal procedures. To access the very significant private capital, governments and private capital should work together to identify existing opportunities, and structure projects and financing in such a way that money goes to where it is needed at a return acceptable to private capital[55].

Building trust and fostering collaboration with institutional investors is paramount. Governments must adopt a proactive approach that includes hosting strategic dialogues to explore mutual priorities, address concerns, showcase success stories (from water as well as other sectors), and identify investment opportunities. Investment platforms must be strengthened to channel institutional capital into water infrastructure projects.

Projects should have a clear rationale in terms of their contribution to peace-building, national security, economic and social development objectives, value for money (comparison of different options based on life cycle costs, benefits over time), bankability, future sustainability, and information related to environmental and social safeguards. A clear management model and revenue stream needs to be shown. Issues in water service tariff reform are covered above in Pathway 1.

When projects adopt new approaches or technologies,similar examples that have demonstrated success should be made available where possible. Projects may be bundled to attract large scale financiers, reduce the risk associated with individual projects and to gain from economies of scale. Financial instruments and templates should be used to reduce transaction time and cost (see Chapter 4.4). Existing model laws for PPP contracts can be tailored to the country context,[56] and financiers matched with projects. A gender transformative approach should be adopted as part of the eligibility criteria for funding and included in project safeguards and procurement. For some investors, and in some countries, the above may be insufficient. It may therefore be necessary to revisit the risk environment for investors in the water sector. Accommodations may be needed for risks such as exchange rate risk through engaging central banks or donors. Weaknesses in sovereign ratings need to be known so that mitigative measures can be taken. To know where to act, investors need to be engaged to understand their perspectives and concerns, and to understand where there are innovative structuring opportunities[57]. Funds and platforms targeting institutional investors should be strengthened (see Web Annex 1).

Other types of investors are national or multinational companies that are interested in operating water and wastewater services through a build-operate-transfer model or operator license[58]. With their water sector technical expertise, these investors play a major role in increasing the service efficiencies needed for the sector to become financially attractive.

Mineral resources tax

Stronger fiscal regimes are needed in Africa for the capture and fair distribution of wealth created by hydrocarbons and rare earth minerals, thereby creating social justice. Countries are guided by Agenda 2063, which states, "The strategy aims to transform Africa from simply being a raw materials supplier for the rest of the world to a continent that actively uses its own resources to ensure the economic development of Africans" and this incudes "extracting higher rents from their commodities"[59].

Changing tax regimes needs strong political commitment and it takes some years for new tax rates to be reflected and revenues to be collected. Opportunities and barriers for higher taxes need to be understood. Before imposing additional taxes on the mining of mineral resources, careful thought is needed on how investors are likely to respond to incentives, and whether unintended revenue losses and economic impacts may ensue. There will be trade-offs between securing revenues for public spending and a competitive tax regime for mining investors[60].

Governments should initiate a process to relook at the tax regimes, a process that involves public consultation and consensus building. The alternative ways of raising revenues from mining companies through different tax and non-tax instruments need to be compared in the context of current tax structures and a political economy analysis.

Given the high levels of tax avoidance reported in the mining industry in Africa[61], it will be important to examine tax loopholes and other ways that companies are avoiding tax, given that new taxes will themselves provide greater incentives for avoidance. The more efficient collection of existing taxes will require strengthening of national and subnational tax collection departments, reinforcing financial accounting and auditing procedures, closing tax avoidance loopholes, and imposing greater fines on fraud and tax evasion.

Alongside changes in tax regimes, positive incentives for industries to protect water resources should be in place. This may lead to lower taxes on compliant companies. Incentives might include the chance to voluntarily contribute to a water innovation fund, implementation of water conservation measures (e.g. through rebates, certification, reuse), water offsetting mechanisms that allow companies to promote water stewardship, water tax credits, incentives for disclosure, water infrastructure bonds, PPPs, and water innovation hubs to attract stakeholders to participate. Examples of key actions are listed in Annex 3 Table A3.5.

African government budgets

African governments are the centrepiece – the lynchpin – for all investment sources. They are vital to the success of raising the required finance for water in terms of providing political leadership, strengthening governance, setting the legal and regulatory frameworks, providing coordination, incentivising different stakeholders, and leading on water sector strategies, planning, monitoring, review, and learning (see Pathway 1). The roles of various parts of government should be reflected in their assigned responsibility for implementing actions across all finance sources.

Apart from this lynchpin role, African governments have a responsibility to raise additional finance from tax revenues, at both national and decentralised levels. To achieve this, the ministries responsible for water will need to work with higher echelons of government to build political will and champion water during the budget setting process. Indeed, many African governments need to honour commitments already made in terms of water expenditure[62].

When advocating for greater water budgets, the finance or planning ministry will ask what the disbursement and impact of current water spending is. If they are below expectation, it is unlikely that budgets will be increased until bottlenecks have been resolved (as per Pathway 1). Additional enablers for unlocking government and other finance are a robust economic case for investment, including the costs of inaction, and the development of the WIP itself.

National finance strategies need to consider how budget allocations and/or service delivery tariffs can be raised in the productive, service, and social sectors that use (or pollute) water resources. In the first HLP report, these sources were described as the fourth 'T': Transformation, thus adding to the traditional Taxes, Tariffs and Transfers[63]. Therefore, service delivery tariff and subsidy regimes across all water users need to be examined for how they can be better defined to raise revenue, while protecting the poor and vulnerable. National service-delivery tariff policies should guide water utilities and service providers.

Fiscal space could also be created. Fiscal space is defined as, "room in a government's budget that allows it to provide resources for a desired purpose

without jeopardising the sustainability of its financial position or the stability of the economy"[64]. There are several ways to create fiscal space, but several conditions need to be met[65].

Finally, African governments will play a central role in the establishment and strengthening of project development facilities for water, and should seek input from investors, donors, and banks to ensure the project proposals meet their standards and generate genuine interest for financing. Projects should be assessed for their inclusivity and gender transformative potential, among other sustainability criteria that potential financiers would consider. Examples of key actions are listed in Annex 3 Table A3.6.

National development banks, commercial banks and microfinance institutions

Increasing loan capital in the water sector requires the development of solid projects and the nurturing of a customer base. Different project profiles will appeal to different types of lending institutions. Consequently, some tailoring and matchmaking will be required. Lending institutions will need to become more familiar with the water sector, its opportunities, and its constraints. Likewise, those wishing to borrow money – whether a public or private entity – will need to understand the conditions of the lending institution and what they must do to meet their borrowing conditions.

To bring about the change, lending institutions will need to gain the buy-in of senior management who will publicly commit to including water as a key sector. Quotas and other incentives may be introduced to overcome initial bottlenecks in increasing lending for water, including the use of de-risking instruments. This will require training and additional capacity to develop expertise in water projects, covering potentially higher transaction costs in the initial phases.

Given that lending conditions will vary across national or public banks, commercial banks, and microfinance institutions (MFIs), it will be important to match projects with the right lender. A foundational requirement is that robust business cases be developed. A financially viable project with creditworthy borrowers should be subject to market discipline and attract commercial finance, and not crowd out less financially viable projects by taking concessional finance. Smaller projects should be channelled to MFIs who have a comparative strength in dealing with small loans and less solvent borrowers.

Banks also have an opportunity to impact water, not just through water loans, but through all their lending. For example, a loan for a new production facility or agricultural project should identify how water is used and how it is returned to the environment (as noted when discussing valuing water-related risks above). Environmental safeguards need to be introduced or updated and conditions created that incentivise water stewardship.

As key borrowers, municipalities and utilities should explore borrowing options for water projects, as well as the banks or MFIs that are willing to lend to water projects. To support them - as has been successfully done in the energy sector - DFIs should seek to support sub-sovereign lending and thereby support local credit services. Examples of key actions are listed in Annex 3 Table A3.7.

Pathway 3 finance options for Global and Continental Finance

Multilateral climate funds

Access to climate finance can contribute to increased finance to the water sector while contributing to adaptation and mitigation agendas. A key step to facilitate access to climate finance is the integration of water into national adaptation plans (NAPs) and nationally determined contributions (NDCs). The water sector has enormous potential for attracting climate finance from global funds such as the Green Climate Fund, the Adaptation Fund, and the Global Environmental Facility. To do this, strong engagement is needed between political champions, heads of DFIs and heads of climate funds, and water investment programmes need to be aligned with climate finance eligibility criteria.

Political engagement and support will pave the way for the submission of robust project proposals that have a strong climate-water linkage, evidence of downstream impacts, and strong links with other sectors and development outcomes. Designs should be developed and tested for resilient water management and water reuse. Given future uncertainties, projects should be designed as 'safe-to-fail' rather than 'fail-safe'. Additionality[66] and co-financing are typically conditions of climate funds andneed to be negotiated to ensure project success. However, these conditions are difficult to meet because governments and DFIs are reluctant to commit and set aside funds for something that might not happen. This requires innovative solutions. At the same time, there is a need to increase spending efficiency by blending

climate finance with programmes that address the baseline challenges of the water sector.

Project identification is vital for increasing climate finance for water (see Box 12). Under the AAAP, a dedicated upstream financing facility supports adaptation mainstreaming in large-scale DFI projects across the continent. Projects that have successfully obtained climate funds need to be replicated based on lessons learned – for example, the US$ 1.5 billion South African national water reuse project recently signed between the Green Climate Fund and the Development Bank of Southern Africa (DBSA), of which US$ 235 million is from climate finance[67].

Box 12. Funding mechanisms for climate resilience measures in the water sector

Accessing climate finance for climate-resilient water investments requires navigating various funding mechanisms. Concessional climate finance is provided by multilateral sources like the Green Climate Fund (GCF), the Global Environment Facility (GEF), and the Adaptation Fund. Each of these institutions offers specific pathways for securing funding, with a focus on supporting developing countries in addressing climate change impacts.

Green Climate Fund (GCF): The GCF supports large-scale projects aimed at climate mitigation and adaptation, with an emphasis on innovative, transformative approaches and targeting paradigm shift towards low-carbon, climate-resilient pathways through scalability, replicability, or long-term change via policy reform; economic, technological, or infrastructure shifts; or through behaviour change. Projects seeking GCF financing must submit applications through implementing entities accredited to the GCF (international, regional, or national), with no objection provided by the country's GCF National Designated Authority (NDA). The GCF uses a proposal process that includes a rigorous review of project design, environmental and social safeguards, and alignment with national climate priorities. Funding is available through a range of instruments including grants, loans, equity, and guarantees aiming to de-risk investments to crowd in public and private investment, with GCF finance effectively leveraging additional funds to catalyse transformative results. The choice of the most appropriate financial instruments, the level of concessionality, and the terms and conditions of GCF financing are determined on a case-by-case basis.

Those investments in the WIP that may be well suited to seek GCF finance should be find their way to be included in the country's GCF Country Programme, which further outlines their alignment with the GCF investment criteria, and facilitates access to funding within a specific GCF strategic programming period.

Global Environment Facility (GEF): The GEF finances projects that address global environmental challenges, including water resilience under climate change, importantly including in transboundary surface and groundwater. Its funding streams are delivered through accredited implementing agencies such as the UNDP, World Bank, or UNEP. The projects must align with the priorities of the GEF's multi-focal area strategy, which includes climate change adaptation. The GEF often supports capacity-building and institutional strengthening alongside direct infrastructure investments.

Adaptation Fund: The Adaptation Fund provides financing for concrete adaptation projects and programs in developing countries, with a focus on addressing the most vulnerable sectors such as water resources. Accessing the Fund generally involves submission of a project proposal through an accredited national implementing entity (NIE) or regional implementing entity (RIE). The projects must directly contribute to enhancing resilience and adaptive capacity, and funding is typically provided as grants.

In addition to the need to adapt, the role of water and sanitation in climate mitigation measures needs to be recognised and evidenced. Wastewater accounts for approximately 1.3% of global greenhouse gas emissions, compared to 1.9% for the airline industry[68]. Therefore, smart investment opportunities should be promoted that address climate adaptation and mitigation simultaneously (e.g. renewable energy to reduce dependency on diesel generators, and national water re-use programmes). Examples of key actions are listed in Annex 3 Table A3.8.

Multilateral development banks and development finance institutions

While financing provided by DFIs reflect only a small share of water sector financing in Africa, DFIs play a unique influencing role in the sector. DFIs are central to making the system work: supporting policy and institutional reforms to reduce absolute risk, strengthening the supply of investible projects, developing and executing new risk-mitigating instruments, and shifting investors' risk perceptions[69]. MDB and DFI lending injects credibility for governments to leverage other financing sources, and their loans are often accompanied by policy and capacity-building support on water sector reform. While recent analyses have pointed to the inefficiency of the global financial architecture and the need for MDB reform[70], the pivotal role MDBs can play in the future financial architecture[71] is still acknowledged.

Actions focusing on how the unique strengths of MDBs and DFIs can be further harnessed for the achievement of overall sector goals through greater volume and efficiency of financing are summarised in Annex 3 Table A3.9. This will require DFIs to strategise how they will have the greatest impact, measuring themselves not by the size of their lending portfolio, but instead by what influence and leverage can be achieved with their engagement. Importantly, this includes the de-risking and leveraging of private financing and providing best practices and templates which reduce transaction costs and time (as per the discussion on institutional investors under Pathway 2). DFIs also play a role in testing and promoting innovative technologies. And they support the types of regional institutions that play a key role in Africa by strengthening national capacities on project development.

DFIs play a critical role in promoting some key principles of aid effectiveness, which include ownership by developing countries, donor alignment behind national policies and programmes, aid harmonisation, managing for results, mutual accountability, inclusive partnerships, and capacity development (as per the Paris Declaration and the Accra Agenda for Action[72]). Further principles for sustainable WASH finance are proposed by the Sanitation and Water for All partnership and include prioritisation for the poor and marginalised groups and individuals and support for domestic resource mobilisation, underpinned by strong public finance management and rigorous sector planning.

Bilateral official development assistance and philanthropy

Bilateral aid agencies (and their host governments) are the principal funders of MDBs and the UN, and they exert influence through relevant boards and committees. Bilateral agencies therefore hold the purse strings for the majority of ODA[73]. It is therefore a key responsibility of the governments of more developed nations, such as OECD members, to continue to provide political prioritisation and leadership at a global level and internally strive to meet their aid commitments. The increasingly important role and membership of BRICS countries is also noted as vital for Africa's future development pathway.

Despite the commitment by bilateral agencies to the principles of aid effectiveness outlined by the Paris Declaration and the Accra Agenda for Action[74], the aid landscape is highly fragmented in Africa. There is insufficient joint planning and coordination of activities across donors and between donors and African governments. To address this, a number of proposed actions are summarised in Annex 3 Table A3.10.

Collectively, bilateral donors and philanthropic funds need to critically explore how their finance can be better used to leverage the greatest value for water, and act accordingly. For example, support to sector-wide approaches and pooled funding mechanisms in water are the exception rather than the norm. However, they do offer significant opportunities for aid harmonisation, efficiencies, and supporting government leadership. This lack of pooling of development funds might be due to perverse incentives operating within aid agencies and African governments, such as the need to demonstrate attributable impact of donor funds. Donors should also aim to finance critical infrastructure projects which might unlock the development potential of a country (including agreed upon and well-coordinated transboundary water projects) and use their funds to leverage private financing while achieving equity goals.

Sector governance (Pathway 1) requires more strategic funding allocations from ODA and philanthropic organisations and a much stronger focus on system strengthening initiatives. ODA could therefore be used to support governments more strategically in strengthening the enabling environment for investment, establishing nationally led project development facilities, and advocacy for urgent topics such as climate resilience. Frameworks and tools for assessing and monitoring the enabling environment need to be consolidated to avoid confusion and duplication.

There needs to be a greater community of practice among aid agencies. Donors should work together at both headquarter and country levels to advance the goals of specific countries and coordinate their aid to ensure the majority of grant finance is targeted at low-income countries. In many countries, the practice of assigning a 'lead development partner' enables one donor to represent the donor community. Despite this practice, government ministries are still overburdened with separate meetings and reporting to individual donors on multi-partner projects.

Philanthropic funds that focus their support on the service level should target their support to more catalytic funding initiatives such as systems strengthening or bringing innovations to scale. They can provide value-added support through improved monitoring and evaluation of projects to develop good or best practices and should share their knowledge both at sector level and internationally. Local or multinational businesses wishing to make corporate social responsibility contributions to local communities can bring innovation and dynamism and should do so in close collaboration with local governments.

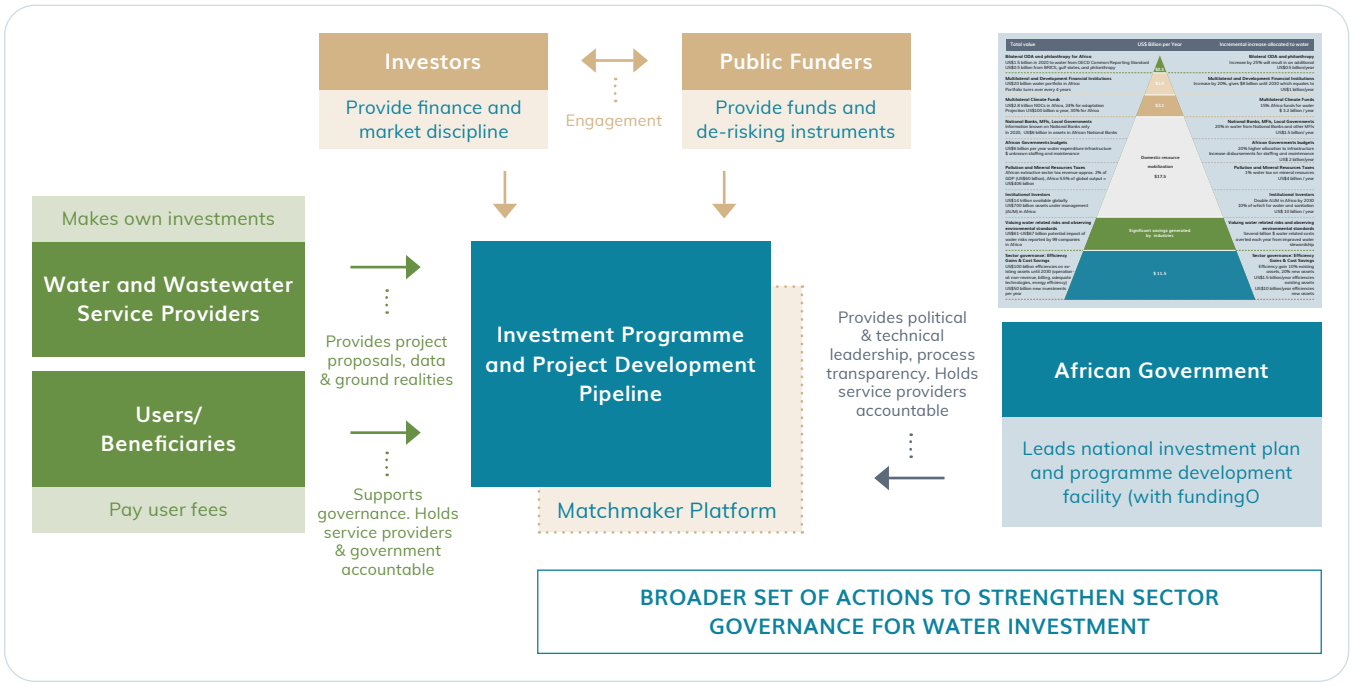
Conclusion

While there is potential for fully commercial water schemes to be developed, especially in energy and food production, as well as in some urban settings, it is expected that many water schemes will not attract private capital on their own. Private capital will be attracted through blended finance models. This will require government budgets and development finance to be repurposed to provide significantly greater leverage for private capital. It also requires freeing public funds from the more 'bankable' projects for reallocation to projects that may be less bankable but support equity and environmental goals. Furthermore, publicly owned national banks are well positioned to provide patient capital for long-term investments in water using blended finance instruments.

As stated in the AIP High-Level Panel's Investment Action Plan, central to increasing water investments is the development of a robust programme and project pipeline (see Figure 9). The lack of national water investment programmes containing projects that are distinctly attractive to a range of investor profiles (both private and public) is *the* major bottleneck for water investments in Africa[75]. It is at project development phase that the value of water in different uses and locations is assessed and where regulations, tariffs, and accompanying policies are proposed that support the twin goals of cost-recovery and equity. Therefore, state-of-the-art project development facilities are vital for identifying a project pipeline and conducting feasibility studies. While several project development facilities exist at the continental level, and are contained within international organisations, such facilities should also exist at the national level and be led by governments.

A platform is needed that brings together ('matchmakes') the stakeholders that are vital for funding and financing with the entities seeking finance. Project development should be coordinated among key ministries and across different financial organisations to avoid duplication. They should reflect each country's climate adaptation targets and financing options. Furthermore, they should engage existing water and sanitation service providers to enable opportunities for service expansion. Chapter 5.4 outlines different financial instruments and mechanisms that can be selected to optimise the use of both public funds and private finance.

FIGURE 9. PRIORITY ACTIONS FOR MATCHING SUPPLY AND DEMAND FOR FINANCE



5.4 Determining appropriate financial instruments and mechanisms

In mobilising financing for water investment programmes, a diverse range of financial instruments is available, each tailored to address specific project needs and contextual realities. These instruments range from loans and bonds to grants, equity, and guarantees, and each has varying concessional terms. Each instrument provides distinct advantages, enabling governments and project developers to leverage resources effectively.

The selection of an appropriate financial instrument depends on the unique characteristics of each intervention, including its scale, risk profile, expected returns, and the socio-economic context. For instance, concessional loans may be suitable for large-scale infrastructure projects with long payback periods. At the same time, grants may be more appropriate for capacity-building, technical assistance, start-up costs, or community-based initiatives, while blended finance mechanisms can bridge gaps by combining public and private resources to de-risk investments.

Consequently, to design a robust finance strategy that maximises impact, aligns with national priorities, and attracts diverse funding sources, it is important to understand the features, benefits, and trade-offs of each instrument, shown in Table 3.

1. Grants, subsidies and non-reimbursable instruments
2. Debt instruments
3. Equity instruments
4. Guarantees and risk-sharing mechanisms
5. Blended finance mechanisms
6. Payment for Ecosystem Services (PES)
7. Revenue-based financing
8. Other innovative instruments such as results-based financing

Table 3. Key features, advantages, disadvantages and examples of different financial instruments and mechanisms

Instrument Type	Description/ Key Features	Advantages	Disadvantages	Examples of Practical Use Applications	Risk Level/ Considerations
1. Grants & Subsidies	• Non-reimbursable funds • Direct financial support • No repayment required • Performance conditions may apply	• Reduces project costs • Enables non-revenue generating projects • Supports capacity building and technical assistance	• Limited availability • High competition • May create dependency	• Funding for WASH programs • Pilot projects • Community initiatives • Technical assistance • Feasibility studies	• Low Risk • Performance delivery risk • Political interference • Sustainability risk
2. Debt Instruments	• Loans, bonds, credit lines • Requires repayment • Fixed/variable interest rates • Defined repayment schedule • Collateral requirement	• Large capital availability • Predictable costs • Tax-deductible interest	• Regular repayment burden • Collateral requirements • Interest costs • Burden on national budgets	• Financing large water treatment plants • Dam constructions • Infrastructure projects • Large-scale facilities	• Medium-High Risk • Default risk • Interest rate risk • Refinancing risk • Exchange rate risk
3. Equity Instruments	• Ownership stakes • Ownership rights • Profit sharing • Voting rights	• No fixed repayment obligation • Shared risk • Attracts private capital	• Dilution of control • Higher cost of capital • Complex governance	• PPPs for desalination plants or innovative water technologies • Utility companies • Water treatment plants	• Medium-High Risk • Market risk • Liquidity risk • Governance risk
4. Guarantees & Risk Sharing Mechanisms	• Instruments to reduce risks for lenders or investors, such as credit guarantees or political risk insurance.	• Reduces borrowing costs • Attracts investors • Improves project bankability	• Guarantee fees • Complex documentation • Contingent liability	• Funding for high-risk projects in politically unstable regions • Project finance • PPP projects	• Low-Medium Counterparty risk • Coverage limitations • Call-on-guarantee risk
5. Blended Finance	• Mixed funding sources • Combines concessional with commercial financing to de-risk projects & attract private investment • Multiple instruments	• Leverages resources from diverse funding sources • Risk mitigation • Market development	• Complex structuring • Multiple stakeholders • Coordination challenges	• PPP for urban water distribution systems or wastewater treatment • Large infrastructure • Innovation projects	• Medium-High Stakeholder alignment risk • Structural complexity risk • Implementation risk
6. Payment for Ecosystem Services (PES)	• Payments for protecting or restoring ecosystem services like watersheds or reducing flood risk • Performance-based • Direct beneficiary payments	• Encourages sustainable practices • Sustainable funding • Environmental benefits • Community involvement	• Complex monitoring and performance verification • Variable income • Stakeholder coordination	• Payments to upstream communities for watershed restoration • Conservation projects • Ecosystem services	• Medium Performance verification risk • Environmental compliance risk • Payment sustainability risk
7. Revenue-based Financing	• Funding sourced from user fees, tariffs, or levies collected from beneficiaries of water services. • Revenue sharing	• Aligns with cash flow • Risk sharing • Encourages accountability in service delivery	• Variable returns • Revenue verification • Requires robust metering and billing infrastructure	• Utility operations • Service providers • Water enterprises	• Medium-High Revenue volatility risk • Operating performance risk • Market demand risk
8. Results-based Financing	• Outcome-linked funding • Performance payments • Pre-agreed targets • Verification system • Payment on results	• Performance incentive • Clear objectives • Accountability	• Upfront funding needs • Complex verification • Risk of non-payment	• Results-based financing for achieving specific SDG 6 targets or crowdfunding for community boreholes. • Innovative pilot projects	• High Riskperformance risk • Verification risk • Pre-financing risk

5.5 Estimating the costs of actions

The costs of the actions covered in this chapter need to be known so that financing can be sought accordingly. It is important to note that this costing exercise is different from the costing of the investment plan in Chapter 3. The current exercise is to estimate the costs of implementing actions to access the finance sources to implement the action plan. Many of these actions will require inputs from key water stakeholders. Some of these will involve an additional financial cost, while many will involve the deployment of staff time, and will therefore not involve a direct additional financial expense. Therefore, costs need to be recorded in terms of time (if they do not involve an additional cost) or financial values (if they involve an additional cost).

In the detailed action plans developed by countries, alongside each activity identified there should be:

1. Cost value (in currency or hours of person time)
2. Agency, position and/or specialist skill required
3. Timing: immediate, within 1 year or beyond 1 year
4. Frequency: regular, infrequent or one-off

Also, for financial costs, if these cannot be covered by the agency responsible for the action, it needs to be highlighted that the expense needs to be covered, and proposed finance sources should be listed.

5.6 Integrating findings back into the Investment Plan

Many investment plans are very ambitious and involve expenditures that are unlikely to be covered from the proposed finance sources within the planning period. The financing analysis will therefore bring some realism to the investment plans and lead to their adjustment.

The process of both the investment plan and finance strategy needs to be clearly delineated and coordinated, so that there is time for feedback loops and revision of plans.

Annex 1. Justifying investment in water security and climate resilience

In developing Water Investment Programmes, countries must build a strong investment case for water security and climate resilience.

Water security and resilience is vital for the future of the African continent, being central to economic and social development, political stability as well as peacebuilding. There are many reasons to substantially increase investments in water security and resilience, as well as in sustainable sanitation. Most importantly, we cannot live safely without water security and resilient systems. Water is life, and therefore threats to water are threats to the lives of over 1.5 billion Africans.

The first AIP High-Level Panel report outlined how water security and sustainable sanitation will provide the basis for stability and growth on the African continent, and help adapt to increased climate risks and other disasters. Water security is a central part of the African continent's overall development pathway and is key for the attainment of almost all other development goals: health, education, dignity, gender equality, livelihoods, food security, energy production, and resilience[76],[77]. However, there remains an investment gap of approximately US$ 30 billion per year to achieve water security and realise the human rights to water and sanitation.

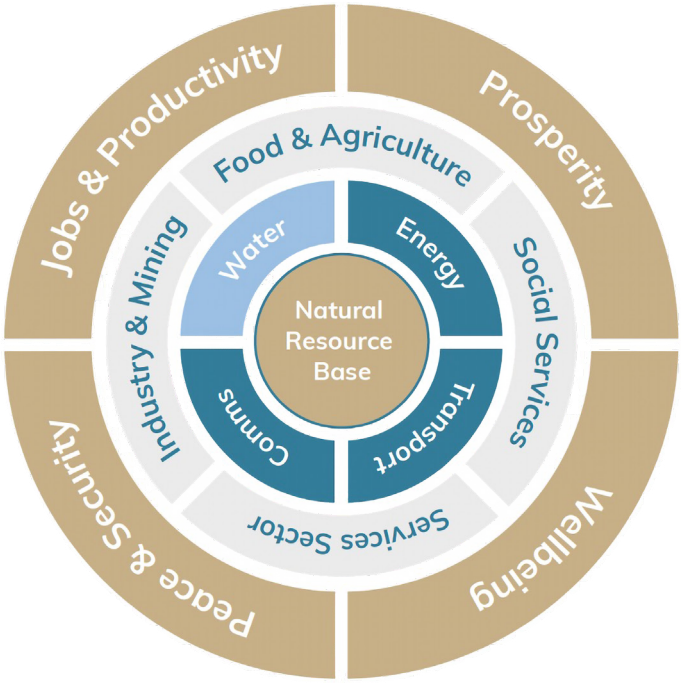
As recognised in Goal 6 of the Sustainable Development Goals (SDGs), integral to water security are water resources management, efficient water use, protection and restoration of water-related eco-systems, wastewater management, and access to safe and affordable drinking-water, sanitation, and hygiene (WASH).

Water security is the reliable availability of an acceptable quantity and quality of water for drinking purposes, health, livelihoods, and production, coupled with an acceptable level of water-related risks. Water security is framed as a situation where water-related risks are managed, and water-related opportunities are captured[78].

Sustainable sanitation is a sanitation system designed to be economically and socially acceptable, technically and institutionally appropriate, protective of the environment and natural resources, and be durable (i.e. work well over the long term). Sustainable sanitation systems meet the 'safely managed' sanitation standard by considering the entire sanitation value chain, from the experience of the user, excreta and wastewater collection methods, transportation or conveyance of waste, treatment, and reuse or disposal[79].

Water plays a central role in economic development, being a factor of production in all sectors of the economy. Figure A1.1 represents the economy as a set of concentric circles, with water as part of the natural resource base and providing the basis for productive sectors and revenue generation[80]. As acknowledged by Goldman Sachs, water could be a constraint on growth, and HSBC recognises that GDP could be severely hampered by water scarcity.[81]

FIGURE A1.1. INTERCONNECTEDNESS OF WATER AS A FOUNDATION OF PEACE, HUMAN SECURITY, WELLBEING, PROSPERITY, JOBS, AND PRODUCTIVITY



Source: GWP 2018[82]

Investment in water security and resilience is widely known to have positive socio-economic returns. The benefits in terms of productivity, health, environmental and food security far outweigh the costs. For example, the benefit-cost ratio for climate-resilient water and sanitation is estimated at 7:1 for Africa[83].

Inadequate drinking-water, sanitation and hygiene also have major adverse health consequences and are responsible for as much as 10% of the global disease burden, contributing to 1.6 million preventable deaths each year[84].

Water security and resilience helps guarantee the national interest. For example, only 31% of Africa's arable land is under irrigation. More efficient use of water in agriculture would reduce Africa's dependence on food imports, thus protecting it from the adverse effects of global food price fluctuations and safeguarding scarce international currency reserves[85]. If more food were produced in Africa instead of imported, it would lead to 239 million equivalent livelihoods in 2030 instead of 76 million today[86].

Water management plays a central role in climate resilience and prevents large expenditures on responding to disasters such as floods and coping with the impacts of drought and failed harvests at large scale, and thereby saves many tens of thousands of lives a year[87].

While water can be the basis of conflict or a weapon of war, water diplomacy can be instrumental in peace-building initiatives[88].

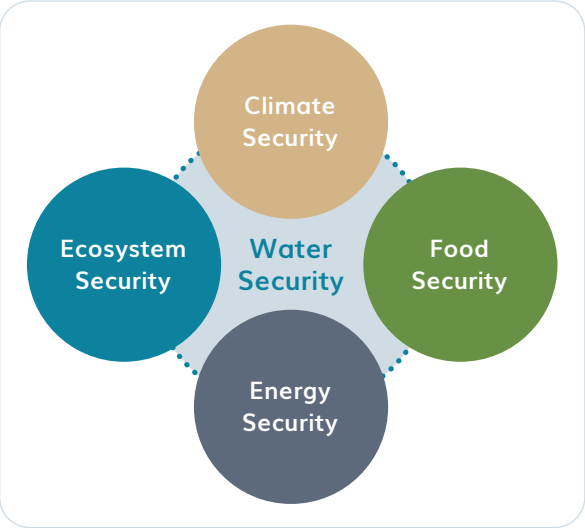
While water is a factor of production in the economy, its availability and quality are significantly affected by the ways in which it is used. Water use has an opportunity cost, especially when it is in short supply. Even when in plentiful supply, the return of degraded water to a water system can render the entire water supply polluted and unusable – or less usable – for downstream users.

A fair system of financing for water security and resilience, as well as sustainable sanitation, will introduce appropriate penalties to correct for these market failures, hence internalising the externalities in the pricing of water delivery services.

Furthermore, sustainable sanitation critically links with water security by protecting water resources from pollution and averting negative externalities and consequences for downstream users. Untreated release of septage and municipal wastewater through piped systems into rivers, lakes, and groundwater, and emptying on land, leads to major pollution, rendering water unusable for domestic and productive uses, impacting ecosystems and wildlife. Options for wastewater reuse and recycling introduce additional revenue streams and investment opportunities[89].

Water security is central to achieving climate resilience. According to the Green Climate Fund, the water system is the connector to other sectors. Water security is achieved with climate, energy, food and ecosystem securities (see Annex Figure A1.2). GCF outlines two paradigm-shifting pathways: (1) enhancing water conservation, efficiency and water re-use; and (2) strengthening IWRM – protection from water-related disasters, preserving water resources, and enabling enhanced resilience of water supply and sanitation systems.

FIGURE A1.2. WATER SECURITY AS CONNECTOR TO OTHER SECTORS



Source: Elmahdi (2022)[90]

Water is the first target of the recently adopted Paris Agreement Global Goal on Adaptation and the United Arab Emirates Framework for Global Climate Resilience. The UAE Framework for Global Climate Resilience sets out seven thematic targets to strengthen global efforts in adapting to climate change impacts by 2030: the first thematic target is specifically focused on water and sanitation whereas attaining the others requires proper water management within and between countries. These targets encompass four complementary policy targets that consist of: comprehensive risk assessments to understand climate hazards, exposure and vulnerabilities; the development of gender-responsive and transparent NAPs; the mainstreaming of adaptation strategies into all relevant policies and planning processes; and the establishment of robust systems for monitoring, evaluation and learning to enhance continuous improvement in adaptation efforts.

The Framework recognises that "climate change impacts are often transboundary in nature and may involve complex, cascading risks that can benefit from collective consideration and knowledge-sharing, climate-informed transboundary management and cooperation on global adaptation solutions." The seven thematic targets to be achieved by 2030 and progressively beyond are:

a. Water sanitation: Significantly reducing climate-induced water scarcity and enhancing climate resilience to water-related hazards towards a climate-resilient water supply, climate-resilient sanitation, and towards access to safe and affordable potable water for all;

b. Food agriculture: Attaining climate-resilient food and agricultural production and supply and distribution of food, as well as increasing sustainable and regenerative production and equitable access to adequate food and nutrition for all;

c. Health: Attaining resilience against climate change-related health impacts, promoting climate-resilient health services, and significantly reducing climate-related morbidity and mortality, particularly in the most vulnerable communities;

d. Ecosystems: Reducing climate impacts on ecosystems and biodiversity, and accelerating the use of ecosystem-based adaptation and nature-based solutions, including through their management, enhancement, restoration and conservation and the protection of terrestrial, inland water, mountain, marine and coastal ecosystems;

e. Infrastructure and human settlements: Increasing the resilience of infrastructure and human settlements to climate change impacts to ensure basic and continuous essential services for all, and minimising climate-related impacts on infrastructure and human settlements;

f. Poverty eradication: Substantially reducing the adverse effects of climate change on poverty eradication and livelihoods, in particular by promoting the use of adaptive social protection measures for all;

g. Cultural heritage: Protecting cultural heritage from the impacts of climate-related risks by developing adaptive strategies for preserving cultural practices and heritage sites and by designing climate-resilient infrastructure, guided by traditional knowledge, Indigenous Peoples' knowledge, and local knowledge systems.

Annex 2. Detailed contents of the WIP

1 **Front matter** contains the political and senior leadership endorsement and other elements.

- 1.1 Foreword
- 1.2 Preface
- 1.3 Acknowledgements
- 1.4 Acronyms
- 1.5 Table of contents

2 **Executive summary** is a brief summary of the contents of the WIP, including key recommendations.

3 **Introduction** containing:

- 3.1 Contextual background
- 3.2 The role of water in the national vision and development goals
- 3.3 Justifying investment in water security and resilience
- 3.4 Justification for the WIP and key sources

4 **Situation analysis** providing the current status of different sub-sectors covered, in the context of overall water security and water resilience, as well as an overview of the sector governance:

- 4.1 Status of water resources and future projections
- 4.2 Coverage and quality of infrastructure and services, including ecosystem services
- 4.3 Water needs and availability
- 4.4 Systems-level analysis of climate change risks via water
  - i. Past and projected climate change impacts (suitable emissions scenarios and time periods)
  - ii. Associated climate change risks based on hazard, exposure, vulnerability, responses
  - iii. Assessment of types of risk and levels of acceptability
  - iv. Potential adaptation and resilience response options, including "climate change additionality" analysis
  - v. Prioritised response options for investment
  - vi. Considerations for climate stress testing prioritised response options at project development stage
- 4.5 Gaps in water infrastructure and services
- 4.6 Current policies, plans, budgets/spending, ongoing initiatives, projects and programmes completed, current ongoing, and projects in pipeline
- 4.7 Stakeholder mapping/roles and responsibilities associated with the water sector in the country and with this Plan
- 4.8 Status of water and climate change governance and the enabling environment including problem identification, bottleneck analysis, or a SWOT analysis
- 4.9 Recent actions towards support of the sector and integration or alignment with projects or programmes across sectors
- 4.10 The WIP's relation to national strategies, plans, regulations and SDG goal reporting
- 4.11 Gender analysis of the overall context for the WIP

5 **Methods and approach** cover the stakeholder engagement, Gender Equality and Social Inclusion (GESI) considerations, safeguarding information, and categorisation of water service options and outcomes.

- 5.1 Stakeholder engagement plans and processes, Gender Equality and Social Inclusion (GESI) considerations, and safeguarding information. This sub-section would support partnership, ownership, collaborative action, co-creation, and sustainable local implementation. This should also identify co-funding options associated with local capacity enhancement, integration of local knowledge and climate-smart/resilient practices, as well as PPP opportunities and especially MSMEs.
- 5.2 A WIP responsive to climate change will include analytical methods and tools to firstly, inform project prioritisation based on experienced and projected climate change impacts in the context of existing vulnerabilities, adaptive capacities, and risks, and secondly, manage and communicate

uncertainty due to climate change.

5.3 Categorisation of water service options and outcomes would distinguish between different types of investments that may be intended or required. This should cover a wide range of options and should be customised to the national conditions and national requirements. Water services options may be classified based on a wide variety of implementation scenarios, and would be categorised based on the scale and level of authority, e.g.:

- 5.3.1 Statutory water services and Government-owned Corporations, or para-statals
- 5.3.2 Water management bodies such as catchment management agencies, inclusive river basin authorities, water authorities, water boards, and bulk water providers
- 5.3.3 Water retailers, Utilities, Water services associations, local or applicable councils

Within each of the above water service options, there are different targets and modes of service delivery, each with a range of finance options and blends of financing of associated water services (see Chapter 4.4). Each category could cover one or more water services impacts and outcomes. The impacts should fill the gaps identified (in the 'Situation Analysis' above), while the outcomes would be tracked through the monitoring and reporting process defined later (see 'Implementation measures' below). A 'logframe' or similar tool may be used to support ease of categorisation, planning and implementation.

6 **Investment plan** identifies the objectives, projects and programmes that will close the service coverage gaps, estimates associated costs of each and assigns roles and responsibilities (who is accountable; who is responsible for what; who should be communicated with; and who should be informed of what), schedule/ time frames, and priorities. Investment planning should enable across the spectrum of climate scenarios and conditions, and where possible allow for flexibility so that investment may be able to shift between climate conditions (e.g. when medium term forecasts indicate drought, investment should be able to respond; or in the aftermath of floods, investments should allow flexibility to support flood response as well as at the same time 'build back better').

- 6.1. Focus area 1
- 6.2. Focus area 2
- 6.3. Focus area 3
- 6.4. Focus area 4

7 **Finance strategy** considers the options for closing the finance gap and proposes actions to access funding and financing sources. This would include cost estimation, cost-benefit, or cost-efficiency analysis (allocative efficiencies) and may provide scenario-based or estimates that could enable fluctuating strategies that can respond to seasonality or dry vs wet conditions. This means that during dry conditions, financing may pivot towards operations and maintenance that focuses on dry-condition needs and responses (e.g. focused water demand management, flow regulation, water savings, implementation of dry sanitation options etc.), whilst during wet conditions, the finance strategy may pivot towards response associated with appropriate needs and response (e.g. water quality and treatment, WASH projects associated with waterborne disease).

- 7.1 Estimation of existing finance sources to implement the plan, and the finance gap (with level of likelihood)
- 7.2 Mapping of options to close the finance gap, and selection of realistic finance sources (per investment plan item) and appropriate financing mechanism or instrument. This includes identifying sources of current and immediate investments and opportunities to capitalise on those and/or learnings from implementation that may support improvements in future investment and financing. A climate change rationale, including loss and damage estimates, would support access to finance streams associated with these.
- 7.3 Identifying actions required to access different finance sources, costs of actions and assigned responsibilities

8 **Implementation measures** include planning and execution of actions, management, coordination, identification of parameters to measure ongoing (to enable cross-project/cross-programme monitoring and reporting), monitoring, evaluation and learning for constant and continuous improvement.

8.1 Implementation structures of the WIP
8.2 Measures to unlock different finance sources
8.3 Project preparation
8.4 Update sector M&E frameworks

9 Monitoring and evaluation framework

9.1 Strategic level Indicators
9.2 Program implementation Indicators
9.3 Process indicators

10 **Risk analysis** identifies the threats to the success of the programme and proposes measures to mitigate them

11 **References and Endnotes** or bibliography section if references are included in the document

12 **Annexes** – options:
Additional details from prior chapters, such as stakeholder lists, key engagement agendas, and records of decision, logical framework or implementation templates

Annex 3. Examples of actions to access finance sources

Table A3.1. Example actions for strengthening the broader enabling environment

Action	Outcome sought	Responsible
Conduct a formal assessment of the enabling environment strengths and weaknesses[91], to prepare a costed reform plan	Actions resolve foundational sector constraints and leverage existing strengths and opportunities	
Secure financial commitment by key stakeholders to strengthen institutional capacity and the broader enabling environment	A higher proportion of the water budget (>5%) is spent on the enabling environment	
Strengthen national policies and strategies to make the country attractive for investment	Policy provides vision and strong basis for implementation; water sector is coordinated	
Develop a comprehensive, multi-sectoral, costed water investment programme	Realistic proposals for filling financing gap	
Implement comprehensive and regular reporting, review and analysis of progress on water security through the AIP Scorecard, the AMCOW WASSMO, the UN-Water GLAAS and national joint sector review processes	Better defined and targeted investments, better results measurement, enhanced mutual accountability	
Initiate institutional reform that clarifies mandates and the degree of decentralisation, together with a plan to build capacity at all levels	Clarity in responsibilities strengthens leadership, budget advocacy and coordination	
Strengthen PFM systems and capacity to improve reporting and accountability on water, including financial auditing	Improved transparency, accountability, and disbursement, budget advocacy and equity	
Promote gender equality and empowerment of women and girls in water investments	Systemic inequalities in decision-making, planning and implementation addressed	
Define and implement an appropriate legal and regulatory environment for water and sanitation, including PPP legal frameworks (links to ither pathways)	Solid legal and regulatory basis for engagement of all water stakeholders	
Establish realistic national coverage targets for water and sanitation services, or review/update targets where they already exist	Ambitious but achievable targets provide vision for political leaders, financing and planning	
Enhance existing systems to improve evidence-based budgeting and planning	Plans reflect good practices and ensure maximum value-for-money is obtained from budgets	
Strengthen procurement systems	Efficient contracting, faster implementation, cost savings, value-for-money and competitive pricing	
Improve pay and conditions in water and sanitation, and attract more women into the water workforce	Attract skilled personnel, reduced corruption and staff turnover, improved gender balance	

Table A3.2. Example actions for strengthening water service providers

Action	Outcome sought	Responsible
Improve business plans and financial planning for existing service providers	Service providers better understand cost structures and cost saving measures, SPs avoid going into arrears	
Financiers and implementers of new infrastructure compare lifecycle costs and performance of alternative design options	The optimal design is chosen for new infrastructure that consider lifecycle costs, impacts, viability and sustainability	
Operational improvements to increase efficiency, reduce costs and boost service provider revenues, including adoption of new technologies	Operators more financially viable, improved service provision	
Service delivery tariff schedules are revised nationwide (after efficiency measures implemented) and tailored to the cost structure and the type of water user	Utilities achieve financial sustainability and manage demand while maintaining affordability	
Strengthen benchmarking of service providers through key performance indicators and reporting to regulators, national and local authorities	Improve transparency and improve performance related to service goals	
Launch schemes to support service providers to understand and improve their creditworthiness	Increased access to finance, SPs invest in expansion and efficiency improvements	
Establish and/or strengthen water boards, water councils, water user associations	Beneficiaries are engaged, women's voices enhanced	
Develop and fund training institutions focusing on key skill gaps in the water sector, and attract women into the workforce	Increased quality of services, service expansion enabled, empowerment of women	
Consolidate service providers within and between service areas	More efficient design and management	
Include performance standards, benchmarking and fines for non-compliance in provider contracts	SPs incentivised to improve efficiency and service marginalised populations, performance of water managers improved	

Table A3.3. Example actions for valuing water risks and internalising environmental costs

Action	Outcome sought or bottleneck resolved	Responsible
Strengthen institutional regulation and update compliance mechanisms to incentivise water investments across multiple industries, and mandate corporate and financial reporting	Laws indicate clear intent to regulate environmental impacts, tax revenue is generated	
Adjust water service delivery tariffs for commercial and agricultural users to reflect the economic value of water services	Demand is managed and water is conserved	
Advocate for voluntary disclosures by large companies and financial institutions and celebrate those that are achieving results	Companies incentivised to take bold action to champion water, publicized business benefits, sharing of experiences and best practice	
Create a pipeline of investment proposals for private sector investment to reduce their water footprint	Wastewater formalised as a new asset class	
Conduct a transfer of innovative and affordable technologies to reduce water usage and to treat wastewater, promote identified technologies	Means of reducing and treating wastewater are identified, technology transfer	
Conduct national studies to estimate the cost of investments to reduce wastewater pollution	Knowledge on which industries need to invest and where they are located	
Showcase the costs/risks of inaction, the value of water and the benefits of improving water use efficiencies and reducing wastewater pollution	Governments see value of strengthening regulation, DFIs grasp costs of not correctly valuing water in financial decisions	
Strengthen water and wastewater monitoring, including with technologies to track water usage	Water extraction, consumption and pollution are known and publicised, monitoring systems pinpoint water inefficiencies	
Strengthen CSOs' capacity to hold private companies accountable	Accountability is strengthened	
Introduce water due diligence in all loans that affect water, including conditionalities	Enabling environment created to incentivise and hold companies to account	

Table A3.4. Example actions to engage institutional investors

Action	Outcome sought or bottleneck resolved	Responsible
Political and industry leadership commit to implement measures required to engage institutional investors (conducive laws, policies, regulations, financial instruments)	Institutional investors contribute to meeting water goals	
Gain understanding of institutional investors, and initiate dialogue to develop relationships and trust	Targeted improvements in the investment-enabling environment	
Strengthen overall financial sector regulation	Conducive financial environment for institutional investors	
Develop project pipeline that meets industry standards and includes bundling options for scale	Investors see potential in investing in the water sector	
Adopt good practice on Institutional Investor Public Private Partnerships (IIPPPs) legal framework in the first tranche of PPP deals	Clarity on expectations of stakeholders contributes to better blended finance approach	
Strengthen data and information management to inform investments and investors	Improve investor confidence and integrity	
Sensitise users on the value of water and the need to adjust service delivery tariffs to better reflect costs	A full society approach adopted for addressing water challenges	
Support matchmaking platforms and investment forums to bring together the supply and demand for water finance with a special focus on climate-resilient, blended finance, inclusive and gender transformative approaches	The right project opportunities identified for investors	
Evaluate de-risking needs of different borrowers (e.g. SMEs, utilities and households), the volume of de-risking and existing institutions that provide de-risking	Investment opportunities increased	
Engage local entrepreneurs to participate in priority projects and tap opportunity in the diaspora to invest	Legacy systems limiting engagement are dismantled	
Identify the weaknesses in sovereign ratings and implement measures to improve sovereign ratings	Country investment risk reduced	

Table A3.5. Example actions for pollution and mineral resources tax

Action	Outcome sought or bottleneck resolved	Responsible
Develop communication strategy for different target audiences on purpose and use of the tax	Concerns (of companies and the public) about the proposed tax are addressed	
Build political commitment to relook at tax regimes on mineral companies	Support is provided from the top levels of government for subsequent reforms	
Develop and enact policy and legislation for water tax, including a public consultation process	Policy and legislation set the framework for tax	
Establish regulatory framework for monitoring and enforcing water tax	Legal foundation established to increase compliance	
Develop incentives for industry to protect water resources (alongside any change in tax)	Incentives favour active water stewardship	
Strengthen capacity of local institutions to manage and use the funds from the water tax	Institutional capacity is developed	
Develop and implement an efficient and transparent system for collecting and distributing tax revenue	Solid foundation to establish public trust and ensure compliance	
Develop pipeline of water projects to be funded from mining tax, oversee implementation and monitor and evaluate the impact of projects	The effectiveness of the water tax is demonstrated and strengthens compliance	
Explore the political economy of taxes on polluters and mineral companies and the current scale of tax avoidance in industry	Reality of raising new taxes, or collecting existing taxes, informs decision to proceed	
Build alliance of progressive companies willing to support new tax and incentive regimes for water	Benefits of tax are amplified and create buy-in across industry	

Table A3.6. Example actions for African government budgets

Action	Outcome sought	Responsible
Elevate the position of water security within the political leadership and establish a high-level cross-sectoral inter-ministerial 'whole government' forum mandated by the President, Prime Minister or Cabinet*	Water is championed by head of state, budgets are increased, carbon tax/climate funding earmarked for water, stakeholders mobilised for water	
Review fiscal space and the role of water security in economic growth	Additional public funds	
Implement financial tracking, conduct water expenditure and project portfolio reviews, develop a comprehensive water finance strategy and capital expenditure planning	Greater transparency, accountability and strategic focus, increased coordination among stakeholders	
Governments coordinate ODA and domestic funding through sector-wide approach, pooled funds, inter-sectoral coordination, and a single project management unit	Improved efficiency and leveraging of funds from government, ODA and private sector	
Strengthen or set up project development facilities meeting standards of institutional investors, and develop a pipeline of bankable water projects	Government leads on robust project development, coordinating inputs from major stakeholders	
Conduct review to inform water service delivery tariff reforms that reflect the economic value of water services and affordability	Increased revenues (while protecting the poor and vulnerable)	
Recommit to allocate >5% of national budgets for water and sanitation and 0.5% of GDP for sanitation and hygiene	Accountability for international agreements	
Use public funds (including ODA) as a catalyst to leverage commercial finance through institutional investor PPPs	Overall increase in investments to water	
Campaign to increase payment of water bills by government water users	Government water users lead by example, increased viability of SPs	
Explore 'debt for water' swaps	Reduce debt burden while meeting water targets	

Table A3.7. Example actions for national development banks, commercial banks, and microfinance institutions

Action	Outcome sought or bottleneck resolved	Responsible
Tailor project pipeline for different lending opportunities with public and commercial banks	Lending institutions and project managers engage with actual water projects	
Create conducive, enabling environment to reduce bottlenecks with water lending by banks and MFIs, including changing legal framework and providing de-risking instruments	Project proposals address risks comprehensively, lending instruments are adapted to encompass lending for water	
Increase water sector focus of banks and MFIs, including target setting	Water sector is explicitly named as an investment opportunity by banks, increased borrowing	
Develop the business case for water including national strategies to address actual or perceived risks of investing in water	Increase banks and MFIs knowledge of investment opportunities in water	
Promote water projects with learning from countries where NDBs are active in water	Foundation is laid for NDBs and commercial banks to increase water lending	
Political support to make water investment a priority in the lending portfolios of NDBs	Political buy-in is achieved, water lending increases	
Include the investment potential of banks and MFIs within the national water finance strategy	Greater awareness and expectation of the potential financial contribution of banks	
De-risk or subsidise interest rates of banks and MFIs to attract them into, and develop expertise in, the water sector	Interest rates are affordable for borrowers	
Water utilities and municipalities explore borrowing options for water and PPPs	Project pipelines developed, increased borrowing	

Table A3.8. Example actions for multilateral climate funds

Action	Outcome sought	Responsible
Develop and communicate evidence on the water-climate linkages and water's contribution to (co-benefits) and synergies with other sectors (e.g. the water-energy-food nexus)	All sectors are aware of the key role of water in all development goals, decisions based on evidence lead to gains for multiple sectors and development goals	
Assess the water footprint of nationally prioritiszed mitigation options (e.g. in the NDCs) such as for clean energy transition and for removal of carbon dioxide from the atmosphere, and an analysis of trade-offs with water-related adaptation and development priorities	Water impact of climate change mitigation efforts are transparently analysed, clearly understood, and considered in the planning of water investments	
Integration of water into NAPs and NDCs	Water is central within NAPs and NDCs	
Strengthen inter-ministerial and government-donor coordination of water and climate investments, including prioritisation of water	More efficient implementation and reduced duplication	
Develop country-wide programmatic approaches on water with standardised methods and innovative technologies to attract climate finance (e.g. wastewater as a new asset class)	Clear financial and economic rationale for water projects	
Advocate for global climate funds and MDBs to allocate more funds to Africa	Higher allocations are targeted for water in Africa	
Strengthen capacity of national actors to access climate funds (e.g. stronger project proposals)	Greater success in accessing climate funds for water	
Explore financing through carbon credits	Non-traditional forms of financing unlocked; environmental sustainability promoted	
Develop and test designs for resilient water management, including incentives for efficient water use under climate change	Future uncertainty addressed through blended design approaches to enhance flexibility and robustness, reduced wastewater, lower energy use	
Promote smart investment opportunities that address both climate adaptation and mitigation	Transition to low-carbon power supply for water initiated, supply of water secured	

Table A3.9. Example actions for multilateral development banks and development finance institutions

Action	Outcome sought or bottleneck resolved	Responsible
Influence the reform of the global financial architecture, including greater investment in global resources (such as water)	Greater investment under favourable conditions for water projects in Africa (especially low-income and fragile countries)	
Support national institutions to develop projects for the water sector that attract the private sector, while guaranteeing affordability	Industry standards are adopted in project development, capacity is built, strong pipeline of projects developed and maintained	
De-risk and leverage private financing based on higher leveraging targets using ODA	Private financing increases	
Facilitate water and sanitation finance dialogues with a focus on blended finance and options for de-risking	Increased leverage of private investment	
Explore how DFI funding can be used to leverage the greatest value for water ('crowding-in' instruments), including de-risking, fixing market failures, developing new markets for water services, and exploring debt-for-water swaps	MFI and DFI funding increase total water investments with emphasis on sustainability and equity, ODA is better aligned with national strategies and plans	
Introduce water due diligence in all loans that affect water, including conditionalities	Mainstreaming of the value of water in all development activities	
Explore mechanism to ensure that the concessional terms on loans benefit the end borrower and not the intermediary	Increased affordability of loans	
Consider exploring Special Drawing Rights allocations towards water, insurance and debt-for-nature swaps.	Additional resources mobilised	

Table A3.10. Action plan for bilateral overseas development assistance and philanthropy

Action	Outcome sought	Responsible
Increase high-level political commitments including arranging high-level meetings to advocate for water	Bilateral donors increase ODA towards 0.7% of GDP and increase water funding	
Use bilateral ODA to de-risk water investments and leverage larger funding streams, and align technical and financial support with national and agreed upon and well-coordinated regional and transboundary water investment programmes, strategies and plans	ODA is better aligned with national strategies and strengthens national systems, generating value for money	
Commit to principles of aid effectiveness and sustainable finance, thereby utilising and strengthening government systems and capacities in financing, procurement and monitoring	ODA is better aligned with national strategies and strengthens national systems, generating value for money	
Support a national institution on project development and support feasibility studies to improve implementation capacity and quality of bankable projects	Industry standards are adopted in project development, capacity is built, project planning mobilises investment	
Coordinate and align donors and ODA for sector-wide and pooled funding mechanisms for receiving grants from multiple financiers that prioritise poor and vulnerable groups	Greater efficiency, reduced duplication and increased leveraging of private sector finance	
Conduct a collective assessment of how and where development finance for water is spent, with what impact, and how greater impact can be achieved	Solid evidence produced on how to improve development impact of existing ODA allocations	
Consolidate existing tools for analysing the enabling environment and assessing water investment readiness	Single set of sector performance data/indicators aligns stakeholder actions	
Coordinate donors to focus grant ODA on low-income countries and populations	ODA allocated to populations in greatest need	
Simplify proposal format for accessing funding and facilitate language diversity (French and Portuguese)	Equal access to grant funds	
Explore options for supporting funds earmarked for water and sanitation, with support for project preparation	Increased funding and finance, and larger scale achieved	

Key references

Climate Investment Planning and Mobilization Framework. NDC Partnership and Green Climate Fund. Draft 30 November 2023.
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By engaging with the Water Tracker, countries can ensure that their climate planning instruments take a water-sensitive approach to climate adaptation and resilience. The Water Tracker builds a strong foundation for a more systematic, transformative approach to climate planning which places water management at the centre of mitigation and adaptation activities. Country reports are available for Egypt and Malawi.

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Part I: Emerging insights from GWP's analysis of 80 NDCs from a water perspective, in conjunction with the UN's 2018 progress report on implementing the Sustainable Development Goal on Water (SDG 6)
Part II: 15 Countries Speak. How countries actually manage their commitments and where policies, institutions, management tools, and finance in water resources governance can help.

Endnotes

1 For example, national budgets of African governments for water have fallen from US$6.1 billion in 2016 to US$4.3 billion in 2020, representing a drop from 20% to 13% of their total budgets. Source: OECD (2024). Diversifying sources of finance for water in Africa. Aude Farnault and Khalifa Sarr. OECD Environment Working Papers No. 248. https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/08/diversifying-sources-of-finance-for-water-in-africa_2b308e53/114791fd-en.pdf

2 According to OECD, Official Development Assistance (ODA) for water in Africa has declined in recent years from US$3.34 billion in 2019 to US$2.7 billion in 2023. https://data-explorer.oecd.org/vis?df[ds]=DisseminateFinalBoost&df[id]=DSD_CRS%40DF_CRS&df[ag]=OECD.DCD.FSD&dq=DAC..1000.100._T._T.D.Q._T..&lom=LASTNPERIODS&lo=5&to[TIME_PERIOD]=false

3 According to OECD, ODA for water is concentrated on a limited number of African countries and fails to reach the countries that need it most. ODA to lower-middle income countries exceeds ODA to low-income countries in Africa. Source: OECD CRS database https://data-explorer.oecd.org/vis?df[ds]=DisseminateFinalBoost&df[id]=DSD_CRS%40DF_CRS&df[ag]=OECD.DCD.FSD&dq=DAC..1000.100._T._T.D.Q._T..&lom=LASTNPERIODS&lo=5&to[TIME_PERIOD]=false

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9 In some devolved countries The Guideline may also be implemented at the first sub-national administrative level.

10 Published in the first report of the International High-Level Panel (HLP) on Water Investments for Africa of the Continental Africa Water Investment Programme (AIP), and covered in Chapter 5.2 of this Guideline.

11 Justified by the change and variability in probability, severity and frequency of occurrence of extreme weather events, as well as the opportunities provided by climate finance mobilisation.

12 Merged recommendations from the two AIP High-Level Panel reports are as follows:

- Establish cross-sectoral political leadership at the highest level.
- Commit to long-term strengthening of the enabling environment.
- Mobilise new sources of funding and promote innovative and non-traditional financing mechanisms.
- Strengthen data and information systems so that progress can be monitored and evaluated, and mutual accountability enhanced.

13 Authors (if provided) and/or Agency (as applicable), year of publication, and Publication/Document title. In the case of Journal articles the relevant Journal, Volume/Edition and page numbers where the article/paper may be found should be provided. In the case of Online source, the webpage address (URL) and date of access should be provided.

14 IWRM is a process which promotes the co-ordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. https://iwrmactionhub.org/about/iwrm-explained

15 In addition: IWRM promotes the coordination of land and water management activities across sectors, institutions, and scales to achieve sustainable and equitable water outcomes. Integrated planning and management help optimise water demand and supply, water needs and water use, minimize conflicts, and maximize benefits across sectors. Recognising the uncertainty and dynamic nature of water systems and the integrated manner of land systems with water resources, projects should incorporate flexibility and the capacity to adjust to changing conditions and new information. Regular monitoring, evaluation, and feedback mechanisms should be in place to inform adaptive management.

16 Including government agencies, development partners, local communities, civil society organisations, private sector entities and water user groups

17 Further details found on Water Integrity Network https://www.waterintegritynetwork.net/

18 Equality means each individual or group of people is given the same resources or opportunities. Equity recognises that each person has different circumstances and allocates the exact resources and opportunities needed to reach an equal outcome.

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20 UNFCCC. 2024. TP/2024/8 Defining and understanding transformational adaptation at different spatial scales and sectors, and assessing progress in planning and implementing transformational adaptation approaches at the global level https://unfccc.int/sites/default/files/resource/tp2024_08.pdf

21 IPCC 2014a. Summary for Policymakers. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report https://www.ipcc.ch/report/ar5/wg2/

22 The IPCC AR5 recognises the distinction between incremental adaptation – achieved through investments in strengthening resilience within water management systems – and transformational adaptation – which involves a change in the fundamental attributes of natural and human systems, and reflect strengthened, altered, or aligned paradigms in the economic, social, technical, and political spheres. This Paradigm Shift Potential is a key investment criteria for the Green Climate Fund.

23 Or persons of the highest status

24 https://unfccc.int/NDCREG

25 https://napcentral.org/submitted-NAPs

26 https://climateknowledgeportal.worldbank.org/country-profiles

27 https://unfccc.int/ttclear/tna/reports.html

28 https://unfccc.int/non-annex-I-NCs

29 https://unfccc.int/process/the-paris-agreement/long-term-strategies

30 For example, the Aqueduct Water Risk Atlas Global Maps "provides GIS-based mapping tools to assess different indicators such as baseline water stress, inter-annual variability, seasonal variability, flood, and drought occurrence" . The UN Food and Agriculture Organization's Global Information System on Water and Agriculture, AQUASTAT, may also inform analyses. The IPCC Working Group I has an Interactive Atlas containing "flexible spatial and temporal analyses of much of the observed and projected climate change information underpinning the Working Group I contribution to the Sixth Assessment Report, including regional synthesis for Climatic Impact-Drivers". Additional resources include the World Bank Climate Change Knowledge Portal (https://climateknowledgeportal.worldbank.org/), which acts as a repository of readily accessible data from climate projections from the Coupled Model Intercomparison Project phase 6 (CMIP 6), as well as a repository of other climate change-related data and information for each country. The World Bank also publishes Climate Risk Country Profiles that are produced on a rolling basis and present a snapshot of expected climate change impacts on countries that are under assessment. These profiles are available here: https://climateknowledgeportal.worldbank.org/country-profiles. For specific climate forecasts considering hydrology, https://climateinformation.org provides site-specific climate projections using the Swedish Institute of Meteorology and Hydrology's (SMHI) World-wide HYPE model, alongside other projected climate change parameters.

31 https://unfccc.int/process/parties-non-party-stakeholders/parties/national-focal-point

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Contact:

International High-Level Panel on Water Investments for Africa

African Union Commission Department of Agriculture,
Rural Development, Blue Economy and Environment

Addis Ababa, Ethiopia

NyambeH@africa-union.org
info@aipwater.org
www.aipwater.org

African Union