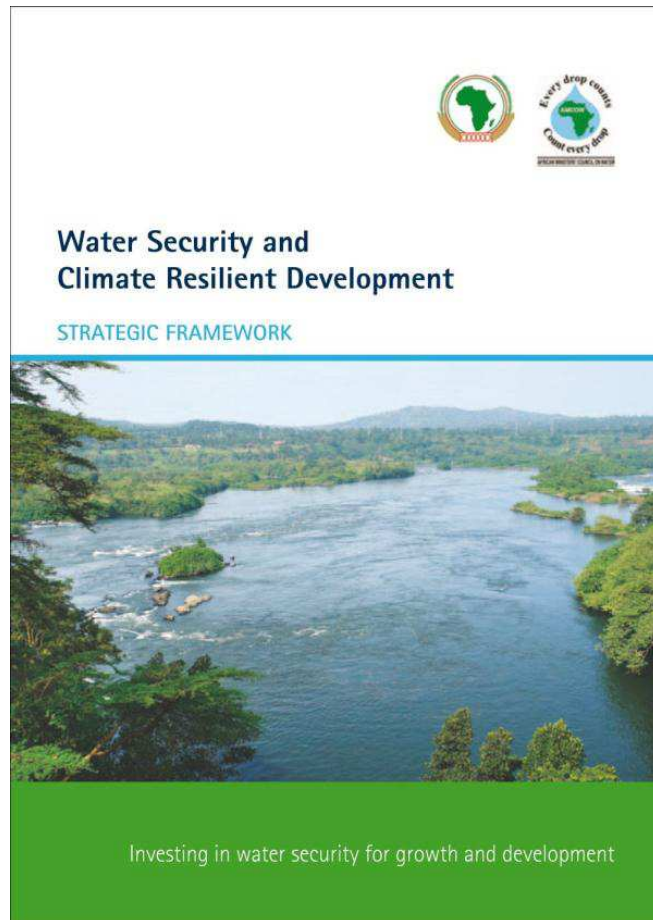


**Workshop on “Meta-Guidelines” for Climate Change  
Adaptation  
1-2 October, University of Tokyo**



**Water, Climate and Development  
Programme for Africa - WACDEP**

**Framework for Water Security  
and Climate Resilient  
Development  
- *an IWRM approach*-**

**Prof. Torkil Jønch Clausen  
DHI Group**

**Chair of GWP WACDEP Expert Panel**

## An African dilemma...



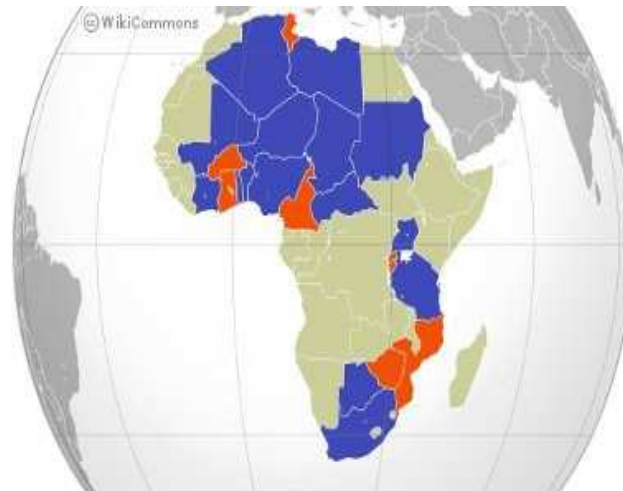
# THE WACDEP

# The Water, Climate and Development Programme for Africa - WACDEP

A collaborative effort by the

- African Ministers' Council on Water – AMCOW
- The Global Water Partnership – GWP

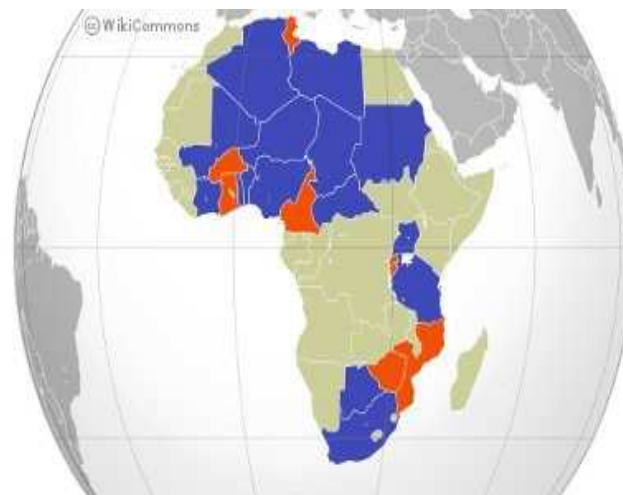
**Initial estimated cost : 12 mill. Euro**



# Objectives of WACDEP

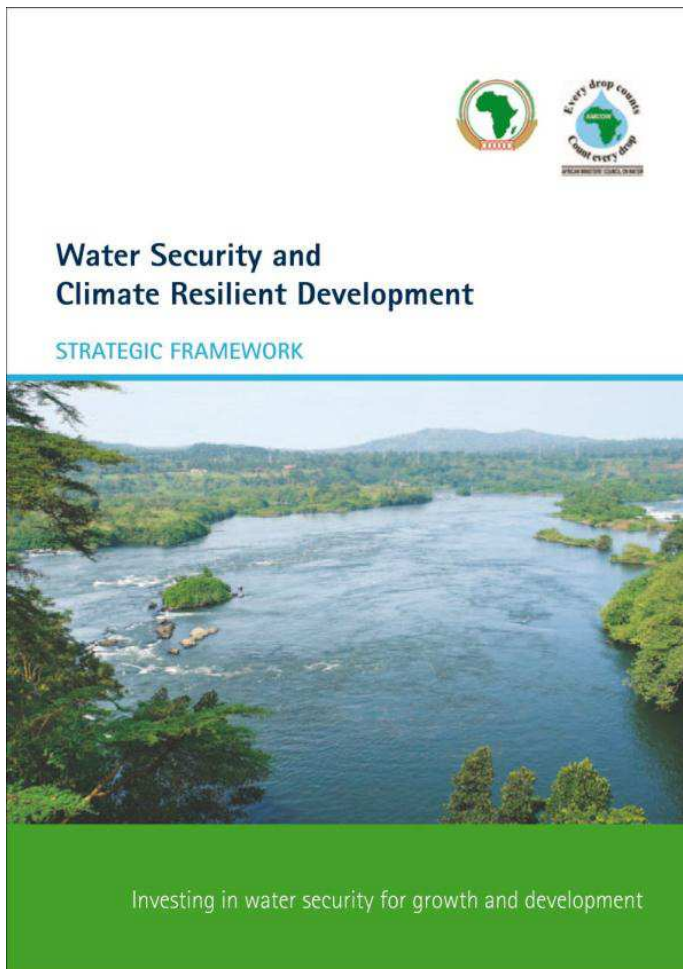
## WACDEP to support countries in

- Integration of water security and climate resilience in development planning
- Development of partnerships and capacity of institutions and stakeholders
- Development of “no/low regret” financing and investment strategies



# THE STRATEGIC FRAMEWORK

# **The Strategic Framework for Water Security and Climate Resilient Development**



**The Framework is key for  
Climate Resilient growth and  
development**

**Helps to identify and put  
in place investments that  
can withstand multiple  
climate scenarios  
- no/low regret investments**

# The overall goal of the Framework

Guidance on the development of no/low regrets investments and financing strategies for water security and climate resilient development and integration into development planning processes

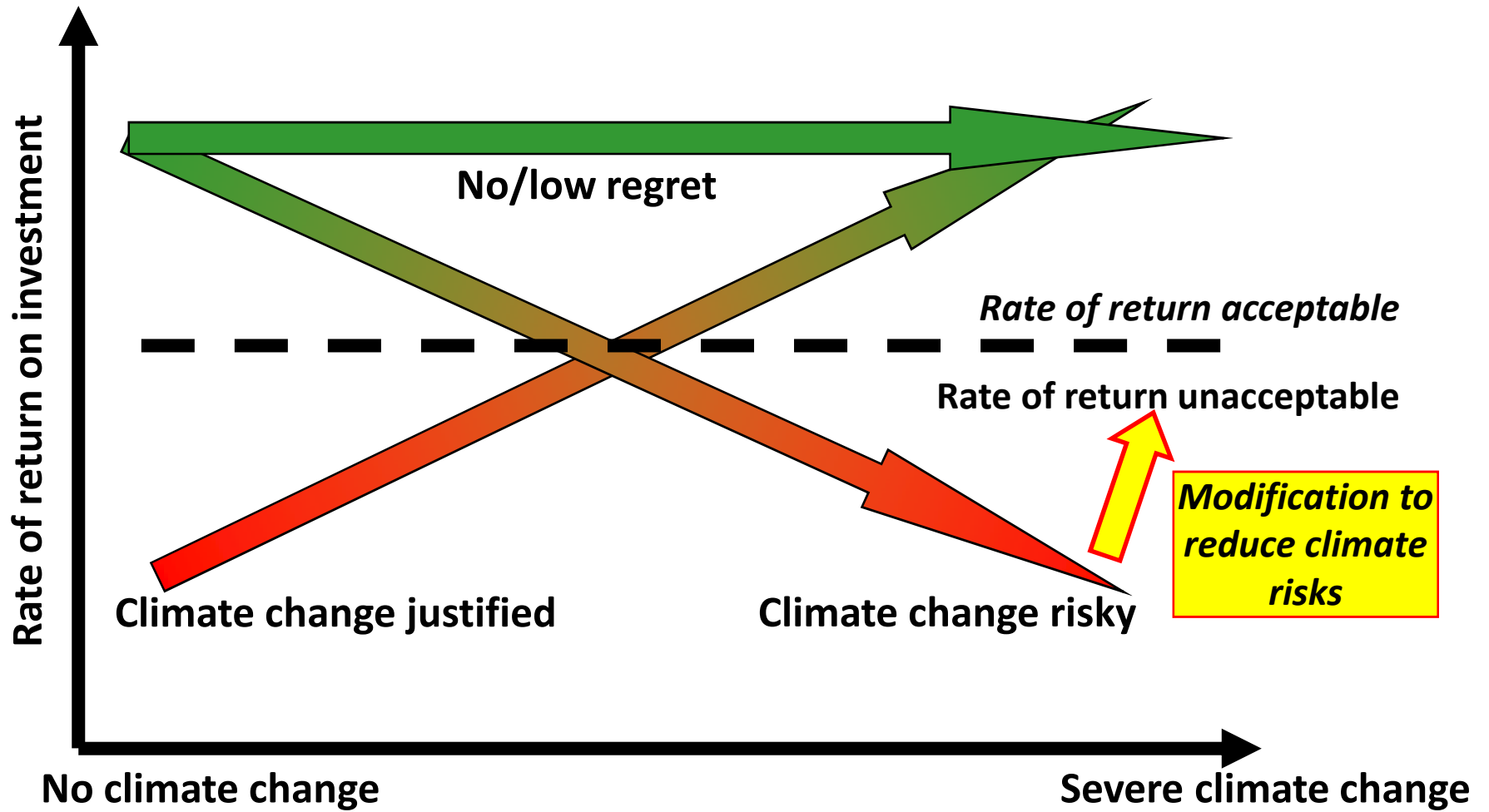
Making best use of existing and emerging climate funds for climate resilient development priorities

Short-term integration and longer term mainstreaming of climate resilience into development planning

No / low regrets investments give benefits under a range of climate scenarios



# 3 types of investments



# The Framework Cycle

## Understand the problem

Make the case for climate resilience (4.1)

Gain stakeholder perspectives (4.2)

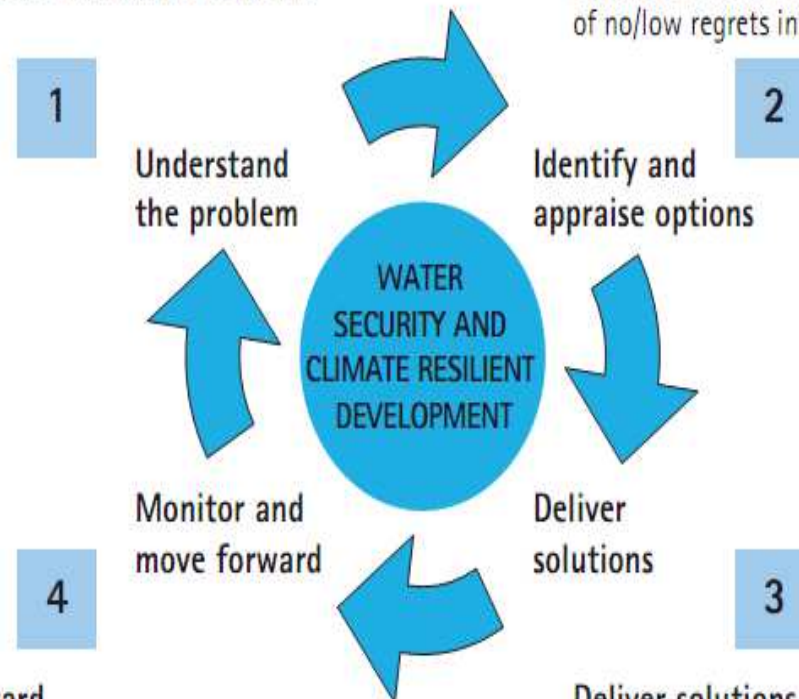
Climate vulnerability and impact assessments to inform decision makers (4.3)

## Identify and appraise options

Identify opportunities for building resilience in ongoing development activities (5.1)

Identify new and innovative investment opportunities (5.2)

Sift ideas, assess robustness and make the economic case for a balanced portfolio of no/low regrets investments (5.3, 5.4, 5.5)



## Monitor and move forward

Learn lessons from application of the Framework (7.1)

Set a monitoring and review process (7.2)

## Deliver solutions

Integrate no/low regrets investment strategies in development planning (6.1)

Develop financing and investment strategies (6.2)

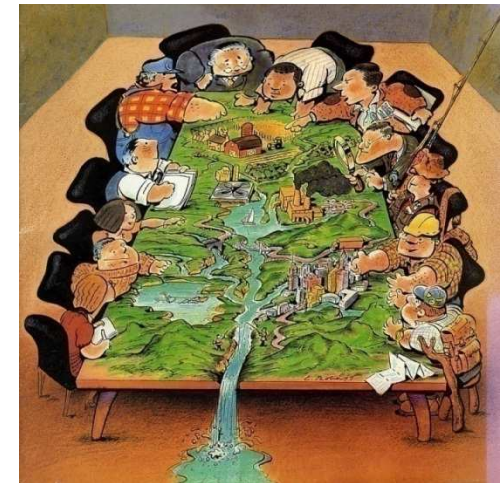
Mainstream climate resilience in development planning (6.3)

**ADAPTATION  
AND  
IWRM**

# Adaptation and IWRM

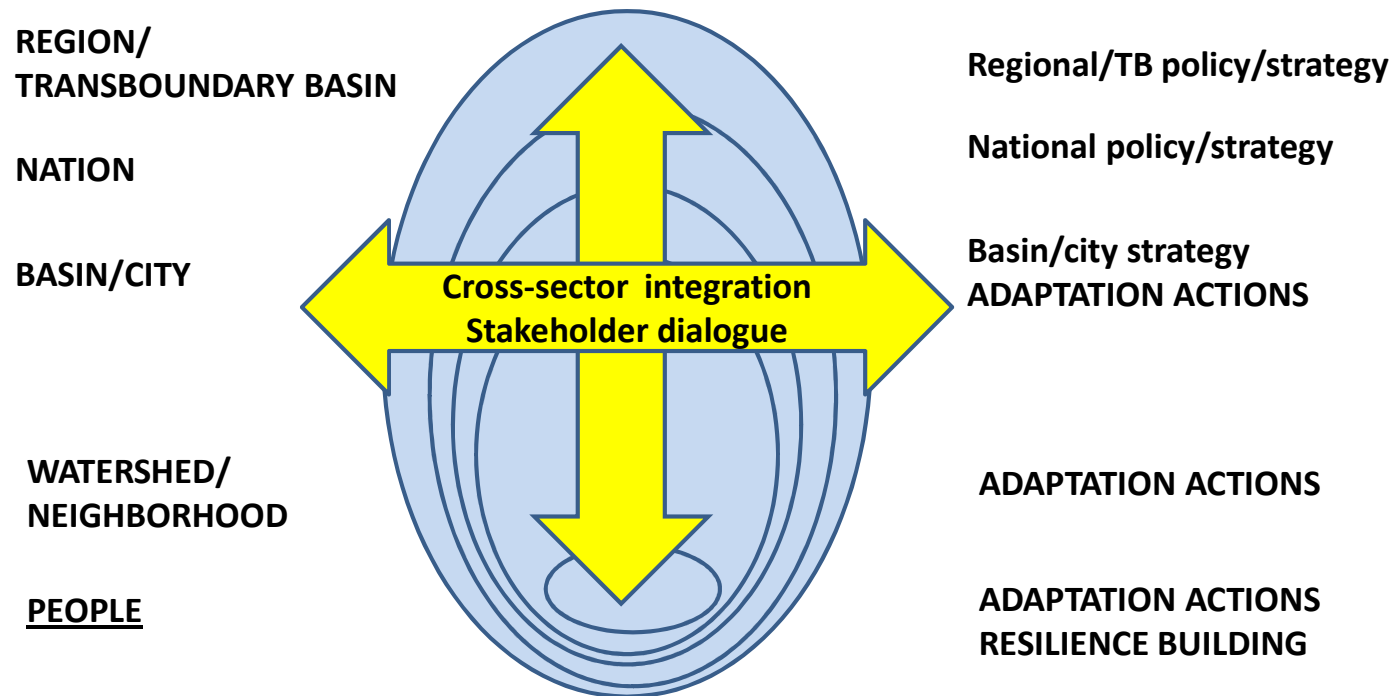
## Adaptation and IWRM are both about:

- Adaptive management towards triple bottom line/3 E's:
  - ✓ *Economic –Equity – Environment*
- X-sectoral integration
- Vertical integration: top-down meeting bottom-up
- Basin as the basic unit
  - ✓ *The IWRM spiral at basin level*
  - ✓ *The 11 messages by UNESCO/JWA*
- Linking land and water management
- Focus on demand management
  - ✓ *Including 3R: Reuse – Recycling- Recharge*
- Addressing variability
  - ✓ *Integrated flood management*
  - ✓ *Integrated drought management*



# Adaptation and IWRM

## VERTICAL AND HORIZONTAL LINKAGES



*From climate proof design to no regret actions  
From big infrastructure to local resilience building - hard and soft*

# Adaptation, IWRM and the Water, Energy and Food Security Nexus



## The nexus and adaptation

- Climate change impacts the food and energy sectors through water
  - ✓ *Adaptation must be addressed in a nexus context*

## The nexus and IWRM

- The nexus is all about X-sectoral integration
  - ✓ *Involving the food and energy sectors (“ot of water box”)*
- Builds on IWRM as the operational approach

## Post-Johannesburg IWRM Plans in Africa, Asia, Latin America:

- Building blocks for adaptation

## IWRM recognized by IPCC

### STATEMENT BY IPCC, 3<sup>rd</sup> Assessment:

*“It can be expected that the paradigm of Integrated Water Resources Management will be increasingly followed around the world... which will move water, as a resource and a habitat, into the center of policy making.*

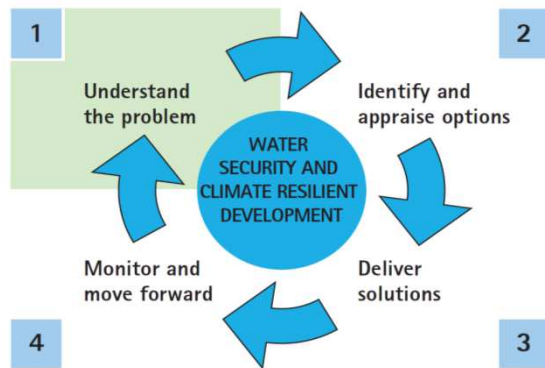
*This is likely to decrease the vulnerability of freshwater systems to climate change.”*



**PHASE 1**



# The Strategic Framework process – Phase 1



**Make the case for climate resilience**

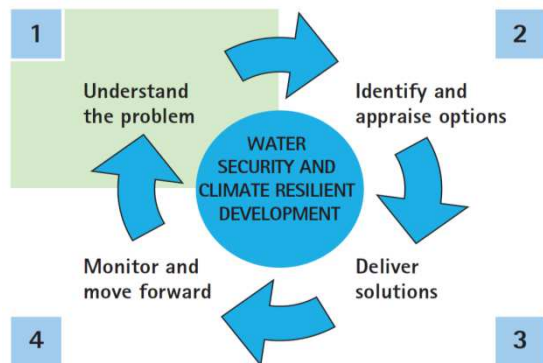
**Gain stakeholder perspectives**

**Assess climate impact and vulnerability**



# The Strategic Framework process – Phase 1

## Climate impact and vulnerability mapping



### Literature review of national assessments

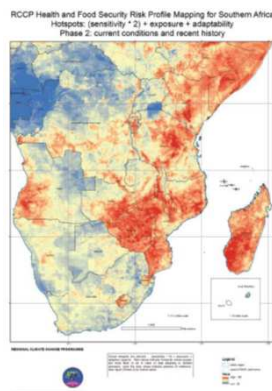
Ex. NAPA and technical studies (e.g. research institutions, RLBOs)

### Sector wide studies

Ex. agriculture, energy, water resources, disaster risk...

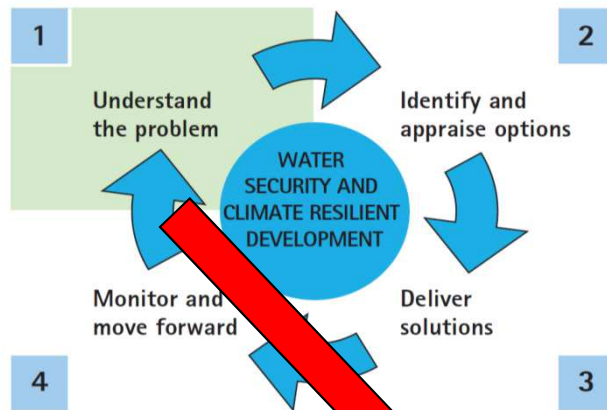
### Community and livelihoods vulnerability assessments

### Vulnerability or hazard hotspot mapping



**TOOL - Climate impact and vulnerabilities studies , and information needs**

# The Strategic Framework process – Phase 1



## OUTPUT

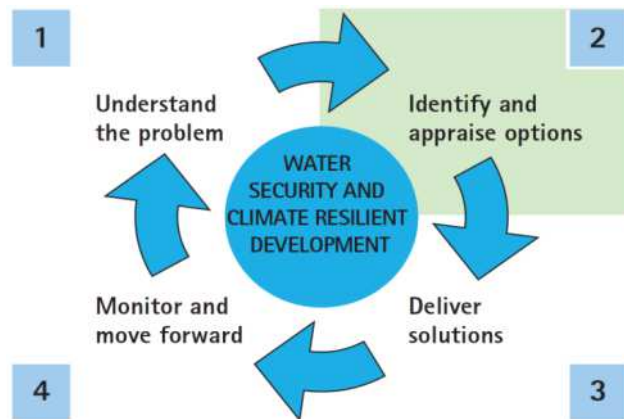
**Key challenges identified and strong case for climate resilience developed**

**Stakeholder partnerships built**

**Review of available information, gaps identified, and studies commissioned**

**PHASE 2**

# The Strategic Framework process – Phase 2



**Identify opportunities for climate resilience and ongoing development**

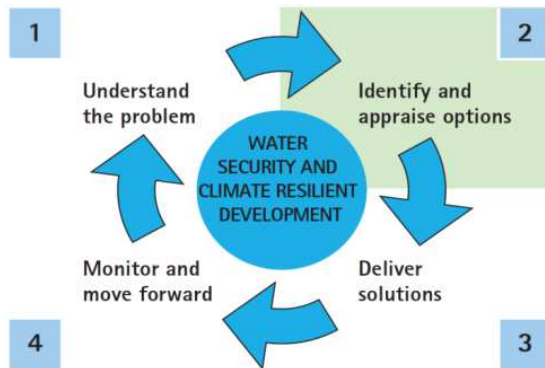
**Identify new and innovative investment opportunities**

**Sift ideas, assess robustness and make the economic case for a robust portfolio**



# The Strategic Framework process – Phase 2

## Screening for climate risks



**Generic approach can be applied across sectors and scales**

**Requires simple climate change scenarios**

**Risk reduction:**

- **reduce uncertainty**  
Ex. detailed studies, modelling
- **do things differently**  
Ex. staging, adaptive management
- **do different things**  
Ex. natural storage, technology
- **bear the risks**

### **Examples for screening:**

Infrastructure development (e.g. energy, transport, agriculture)

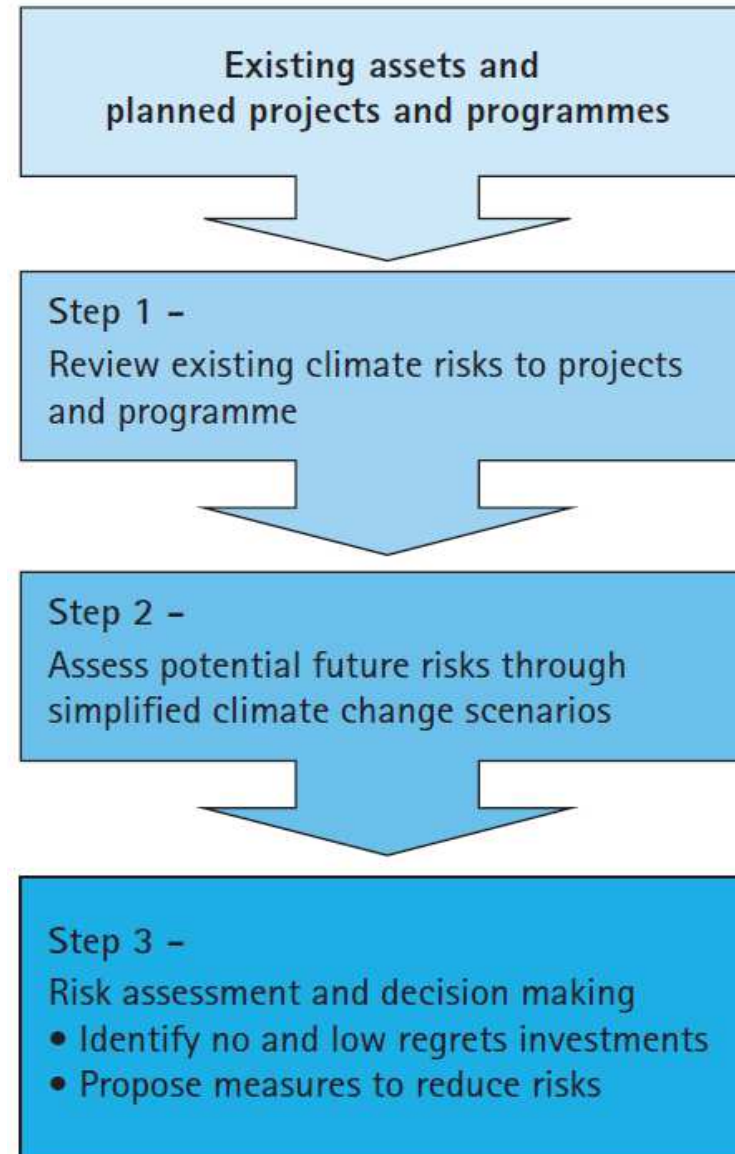
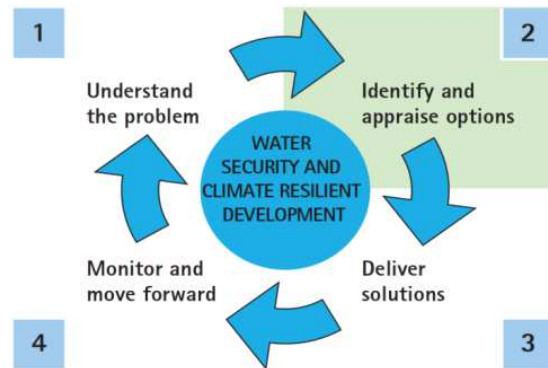
Water resources policies, projects and programmes

Urban planning policies and regulations

**TOOL – Screening tool for climate risks**

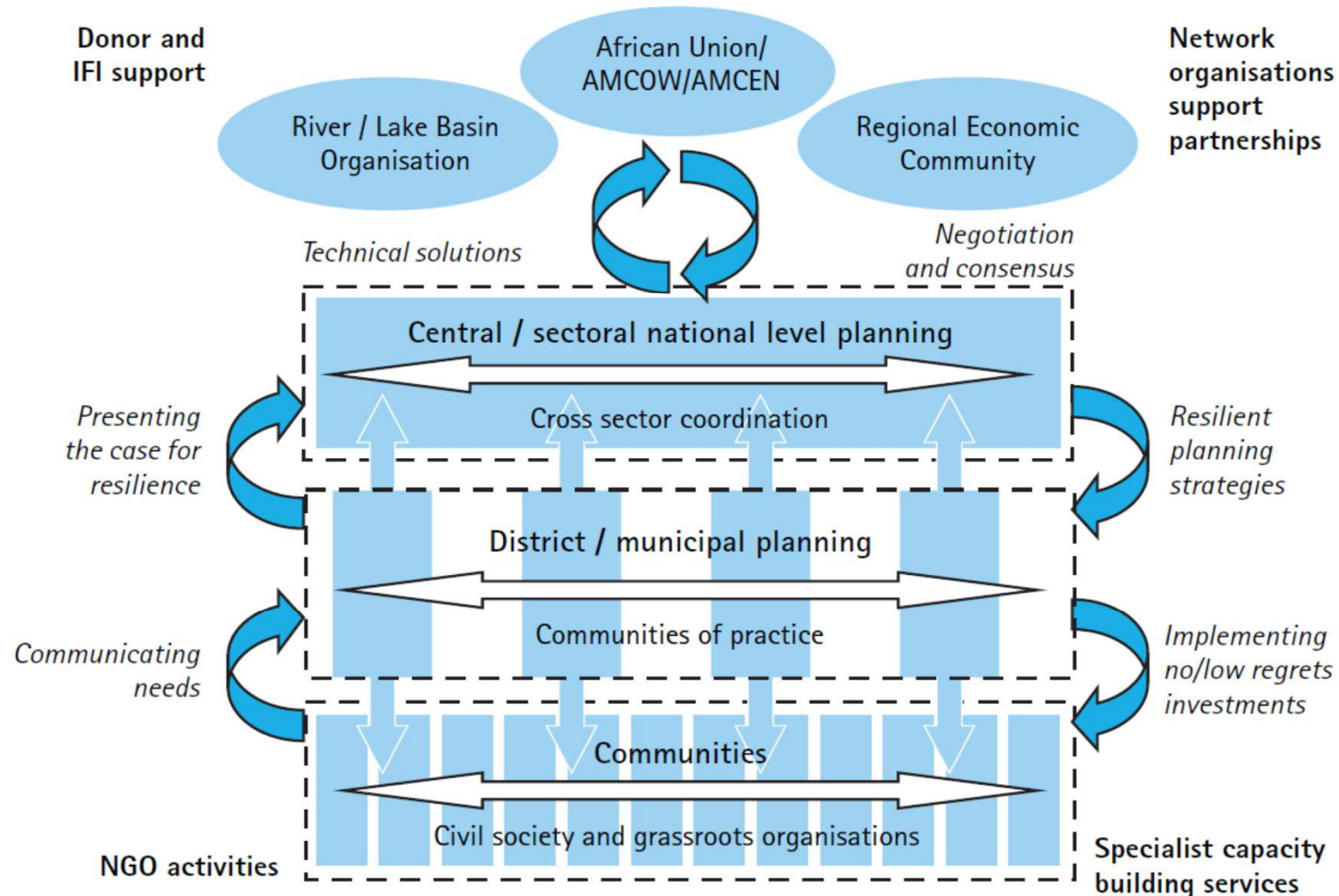
# The Strategic Framework process – Phase 2

## Screening for climate risks



# The Strategic Framework process – Phase 2

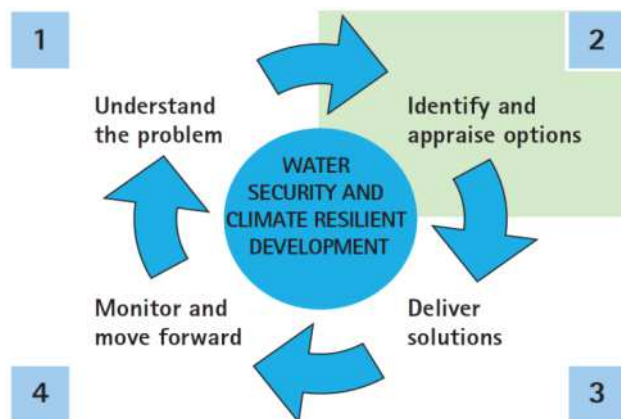
Cross sector dialogue to identify opportunities for no/low regret investments.





# The Strategic Framework process – Phase 2

## Robust Decision Making (RDM)

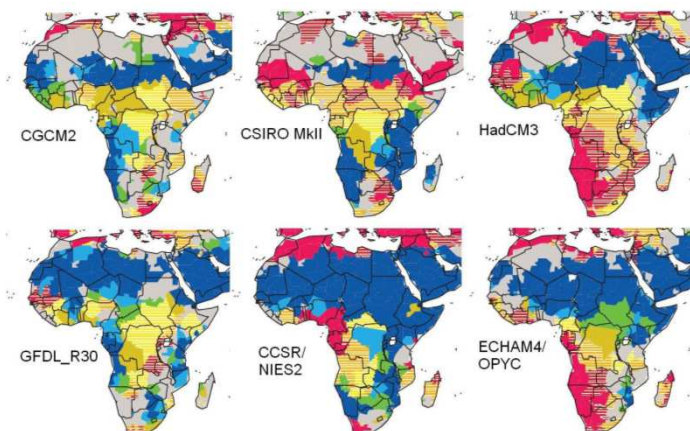


Process for making decisions under uncertainty

‘Testing’ performance of investment options for multiple scenarios of climate and development futures to

No/low regrets investment options prioritised over climate risky investments

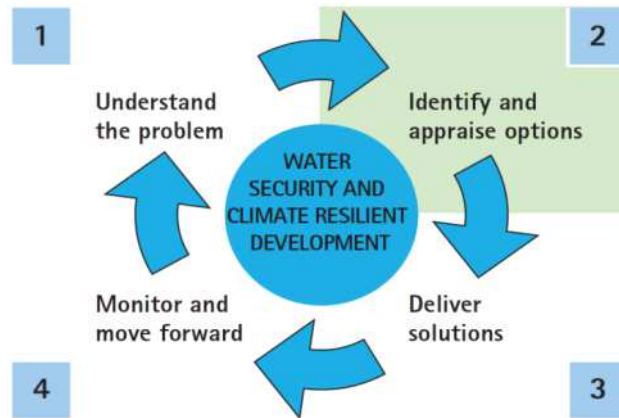
Risk reduction measures promoted to deal with residual risks



**TOOL – Robust Decision Making (RDM)**

# The Strategic Framework process – Phase 2

## Making the case for priority options



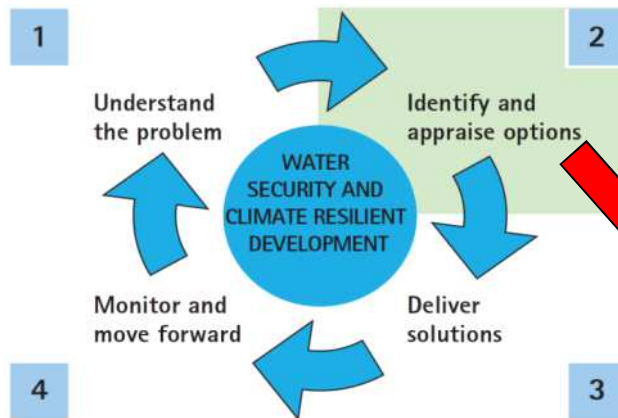
**Economic appraisal techniques -  
making the case for investment**

**Estimating social and environmental  
costs**

**Ecosystems approaches for  
highlighting ecosystems services.**

**TOOL – Benefit Cost Analysis (BCA), Cost Effectiveness (CE), Multi  
Criteria Analysis (MCA)**

# The Strategic Framework process – Phase 2



## OUTPUT

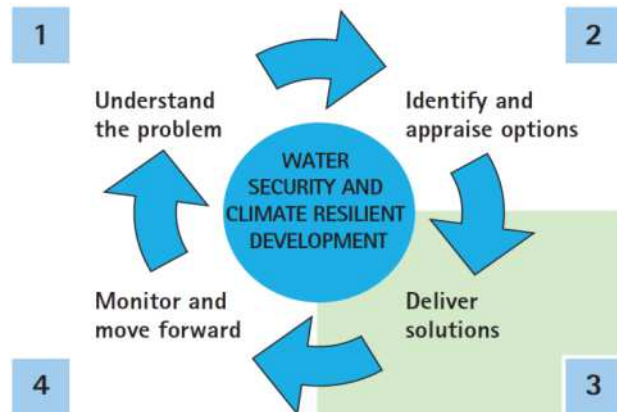
Balanced portfolio of no/low regret priority investment options

Measures for risk reduction to existing assets and planned projects

Portfolio as strongly argued case for options using RDM to test resilience and economic appraisal techniques to ensure viability.

**PHASE 3**

# The Strategic Framework process – Phase 3



**Integrate no/low regret investments into development planning**

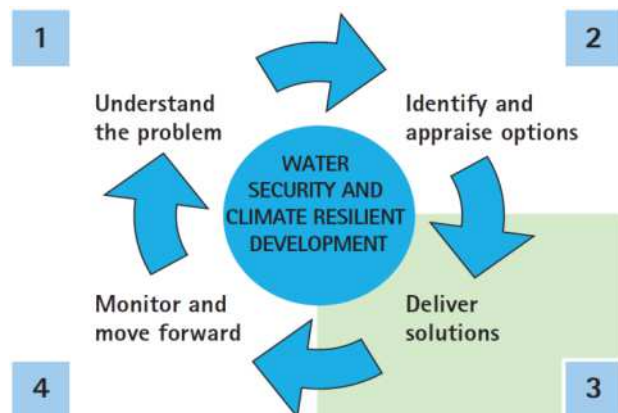
**Developing financing and investment strategies**

**Mainstreaming climate resilience in development planning**



# The Strategic Framework process – Phase 3

## Delivering solutions



**Developing financing strategies for priority investment options**

**Bringing financiers together with planners**

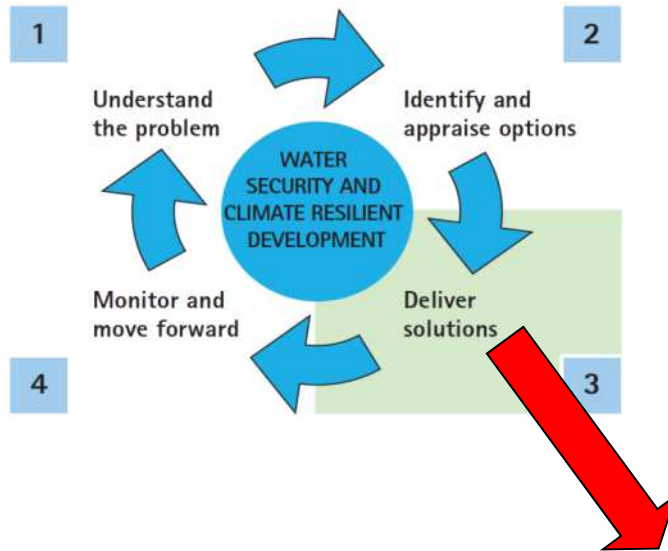
**Innovative mix of financing approaches :**

- Repayable loans (e.g. WB, AfDB, EIB)
- Non-OECD finance
- Public Private Partnerships
- Finance blending (EU Infrastructure Trust Fund)
- Catastrophe risk finance
- Specialist climate funds
- 3 T: Tariffs / Taxes / Transfers

### **FUNDS INCLUDE:**

- Green Climate Fund
- Global Climate Change Alliance
- International Climate Initiative
- Adaptation Fund
- Least Developed Countries Fund
- Special Climate Change Fund
- Millennium Development Goal Fund
- Pilot Programme for Climate Resilience

# The Strategic Framework process – Phase 3



## OUTPUT

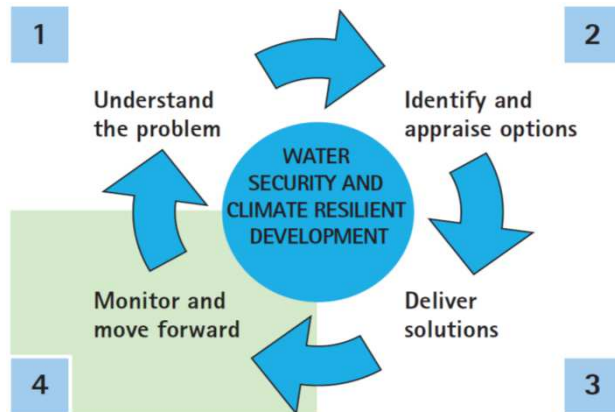
Investment strategies integrated into development planning

Investment strategies developed for priority options

**PHASE 4**



# The Strategic Framework process – Phase 4

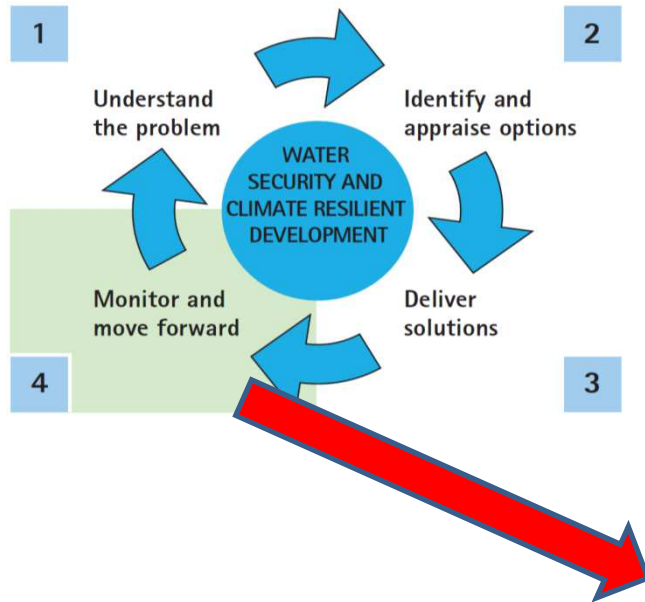


**Learn lessons from application of the Framework**

**Set a monitoring and review process**



# The Strategic Framework process – Phase 4



## Lessons learnt from the Framework process

**What can be up-scaled, mainstreamed and repeated?**

**Monitoring indicators and processes for measuring progress towards implementation**

- Indicators for Framework implementation (short / medium term)
- Indicators for implementation outcomes (long term)
- Expenditure review (CPEIR)

# THE FRAMEWORK PACKAGE

**Strategic Framework**  
Strategic guidance document

An approach for the development of no/low regrets investments  
A starting point for embarking on climate resilient development

**Technical Background Document**

Methodologies, protocols and decision support tools  
Supports application of the Framework  
Provides detail on concepts, methodologies and approaches  
Underpins practical application of the actions and steps identified in the Framework

**Policy Briefs**

Series of high-level briefs  
Water security for development  
Building on IWRM foundations  
Adaptation at all levels  
Managing risks  
Water and climate financing

**Capacity Development Strategy**

# The Framework Package

**Water Security and Climate Resilient Development**  
TECHNICAL BACKGROUND DOCUMENT

Investing in water security for growth and development

**Water Security and Climate Resilient Development**  
STRATEGIC FRAMEWORK

Investing in water security for growth and development

Global Water Partnership  
Investing in water security for climate resilient growth and development  
Policy Brief | No. 1

**Water Security for Development in an Uncertain Climate**

Investing in water security for climate resilient growth and development

Global Water Partnership  
Investing in water security for climate resilient growth and development  
Policy Brief | No. 2

**Building on the Foundations of Integrated Water Resources Management**

Investing in water security for climate resilient growth and development

Global Water Partnership  
Investing in water security for climate resilient growth and development  
Policy Brief | No. 3

**Ensuring Adaptation At All Levels**

Investing in water security for climate resilient growth and development

**Key messages:**

- Water security and of resilience are vital to national resilience in the development strategy.
- Leadership from central government is required to ensure climate resilient development.
- Incorporating climate development as part of integrated water resources management approach reduce risk across all and enhance resource integration.

**Key messages:**

- Vision and drive to make development more climate-resilient is vital at all levels of governance and within sectors operating at each level.
- Central government is a natural driver for change, using its leadership to help coordinate national climate-resilient development alongside poverty and disaster risk reduction strategies.
- Regional Economic Communities and River and Lake Basin Organisations have a crucial role in realising the vast potential of Africa's transboundary waters.
- Local communities are in the front line for the impact of climate change, and need support with local agendas and priorities.
- The onus of implementing climate-resilient development ultimately falls to non-state actors in civil society, water users and private businesses. Policy-makers must harness and motivate these key stakeholders.

**Development planning and climate change**

The project of climate change elicits central planners and implementing agencies to update and re-configure their investment portfolios by: (i) including more resilient, regent options which provide returns under any climate future, (ii) adapting climate change likely investments to reduce risk where feasible, and (iii) considering selected (climate change justified) investments as a hedge against the serious risks that would be caused by climate change.

**Government's central role in promoting resilience at all levels**

Integrating climate resilience into development planning processes requires action across a range of planning levels and sectors. Central governments must direct and drive this process, but their actions have to be implemented by a hierarchy of actors and agencies, each with their own constraints and agendas. Figure 1 identifies key relationships across these levels. Many governments have delegated responsibilities

Africa is one of the regions in the world most vulnerable to climate change. Climate resilient development cannot be achieved by simply addressing the risks at a project or programme level. Vision and drive to integrate climate change into development planning is vital at all levels of governance. The first step is to embed this vision in central government so that line ministries take up the challenge of climate change in their policy formulation, planning and programmes. Through their participation in River and Lake Basin Organisations (RLBOs) – both national and international – government can ensure that the vast potential benefits of transboundary waters are realised at the regional level. This will lead to a system where resilience is at the heart of economic development and investment planning from the beginning.

has set a separate agenda for adaptation activities and programmes, and in some cases separate budget lines. The temptation to set up separate processes should be resisted – climate resilience should be part of the mainstream of development.

Rather than seeing climate change and adaptation as a separate issue, with separate planning processes, development planning should itself be adapted to accommodate the challenges imposed by climate change. Much of the effort in adaptation to climate change in Africa

# Policy briefs

Distil the key messages from the Strategic Framework for decision makers

Six themed briefs in a series



- **Summary of the Strategic Framework**
- **Water Security for Development in an Uncertain Climate**
- **Building on the Foundations of Integrated Water Resources Management**
- **Ensuring Adaptation At All Levels**
- **Managing Risks and Making Robust Decisions for Development**
- **Innovative Approaches to Water and Climate Financing**



Investing in water security  
for climate resilient growth and development  
**Policy Brief | No. 1**

## Water Security for Development in an Uncertain Climate

### Key messages:

- Integrating water security and climate resilience into development planning, rather than pursuing it as a separate agenda, is a good long-term strategy.

Improving water security is a prerequisite for growth, development and poverty reduction. It is the link between food, energy and economic growth. Yet, most African countries are far from achieving water security, and without it their development prospects are compromised. As climate risks increase, water security becomes even more difficult and costly to achieve.

Strategies, plans and investments that promote sound water resources management are a cost-effective way of delivering immediate development



Investing in water security  
for climate resilient growth and development

**Policy Brief | No. 2**

## Building on the Foundations of Integrated Water Resources Management

### Key messages:

- Water security and climate resilience are vital cross-sectoral themes in national development strategies.
- Leadership from central government is required to coordinate climate resilient

Water security is key to the realisation of Africa's development goals, and is also the primary medium through which climate change impacts will be felt. Building climate resilience into development across water dependent sectors – water supply and sanitation, agriculture, energy, environment, and others – is key to achieving long-term sustainability but will demand strong cross-sectoral integration and coordination. Building on IWRM foundations is an effective way to fast-track the integration of climate resilience in development planning.





Investing in water security  
for climate resilient growth and development

**Policy Brief | No. 3**

## Ensuring Adaptation At All Levels

### Key messages:

- Vision and drive to make development more climate-resilient is vital at all levels of governance and within sectors operating at each level.

Africa is one of the regions in the world most vulnerable to climate change. Climate resilient development cannot be achieved by simply addressing the risks at a project or programme level. Vision and drive to integrate climate change into development planning is vital at all levels of governance. The first step is to embed this vision in central government so that line ministries take up the challenge of climate change in their policy formulation, planning and

participation in River and Lake Basin Organisations



Global Water  
Partnership

Investing in water security  
for climate resilient growth and development

**Policy Brief | No. 4**

## Managing Risks and Making Robust Decisions for Development

### Key messages:

- Despite growing scientific consensus about the likelihood of future climate change there is a wide margin of

There are wide margins of uncertainty in future climate change. Leaders of today and tomorrow will need to embrace this uncertainty in their decision-making processes if timely progress is to be made toward achieving water security to underpin economic growth and climate resilient development.



Investing in water security  
for climate resilient growth and development

**Policy Brief | No. 5**

## Innovative Approaches to Water and Climate Financing

### Key messages:

- The cost of achieving water security for Africa will be tens of billions of dollars each year. Making development climate resilient could add another US\$10–15 billion annually.
- Investments in water security

Building water security and climate resilience into development activities is key to achieving long-term sustainability, but requires much higher levels of investment than at present. Innovative approaches to financing are needed to make sufficient funding available. Financing strategies will benefit from a blend of traditional water finance sources alongside specialist climate finance.

**What will water security cost?**

necessary) the extra external public funding needed to give these investments climate

**LAUNCH**



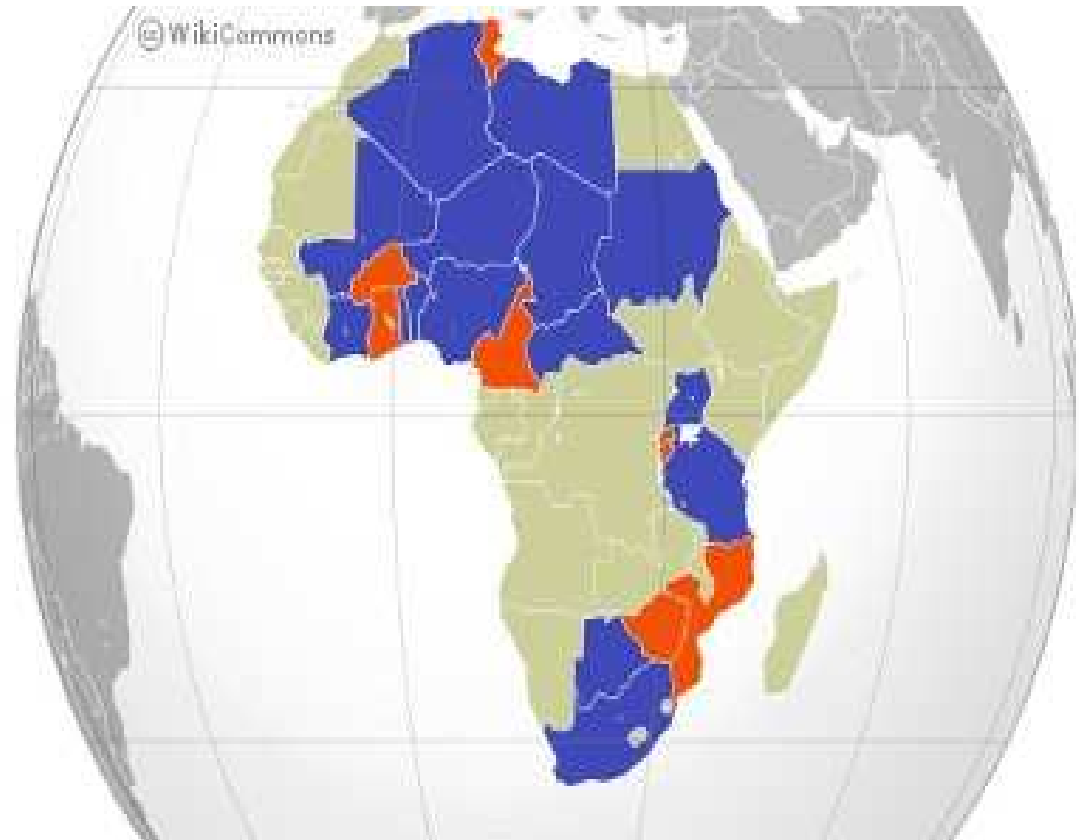
**PILOT ACTION**

# Launched by 33 Ministers and their representatives



## Pilot implementation beginning

- *8 pilot countries*
- *4 pilot TB basins*
- *1 pilot TB aquifer*





**THANK YOU!**

[www.gwp.org/WACDEP](http://www.gwp.org/WACDEP)

[tjc@dhigroup.com](mailto:tjc@dhigroup.com)