

# FLOOD & DROUGHT MANAGEMENT TOOLS

*Strategic recommendations on how the planning tools can support the TDA/SAP process*

*IWC9, Marrakesh, 5-8 November 2018*

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## Output 2.2.1 of the Flood & Drought Project:

“Strategic recommendations for inclusion of flood and drought considerations in IWRM, TDA, Water-Safety and other basin land and water planning tools in the three selected pilot basins”.

*.....also inspire other basins to apply the F&D tools in their TDA/SAP updates.*

# Starting Point

A well functioning and well establish  
TDA/SAP process recognised by the basin  
countries and basin organisations!!

Incl. guidelines and training courses  
prepared by IW:Learn!!

# New opportunities

- **Frequently updated and freely available global data-sets (e.g. hydro-met data, land use, elevation, river-flows, population data, socio-economy, health, etc.).**
- **Internet is getting more reliable and fast.**
- **Workshops/meetings via the internet.**
- **Freely available predictive models and tools via web portal**

# Flood & Drought Applications



## ISSUE ANALYSIS

Causal Chain analysis and WRIAM. Understand and prioritise the causes behind issues.



## WATER INDICATOR

Identify water related indicators to support management and decision-making.



## DATA AND INFORMATION

Access to near real-time data. Flood and drought indices. Climate forecast and climate change data.



## DROUGHT ASSESSMENT

Locate and identify hazards, estimate impacts and provide risk assessment.



## CROP APPLICATION

Visualise crop calendar, estimate crop water requirement and crop yield.



## FLOOD ASSESSMENT

Locate and identify hazards, estimate impacts and provide risk assessment.



## BASIN PLANNING

Create and evaluate basin plans. Linkage to water resource model.



## WATER SAFETY PLANNING

Support water safety planning



## RDM TOOL

Robust Decision Making Tool



## REPORTING

User configured templates providing linkage to overview reports or bulletins. Specific templates for TDA/SAP, IWRM and WSP.



# TDA/SAP Process

TDA

SAP

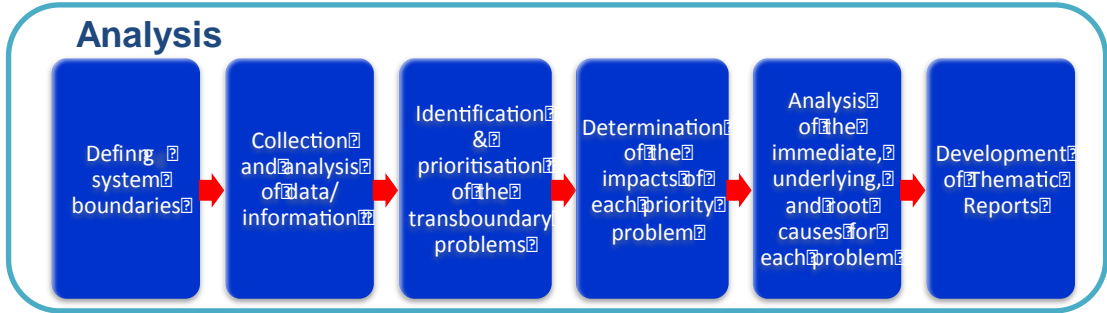
Analysis

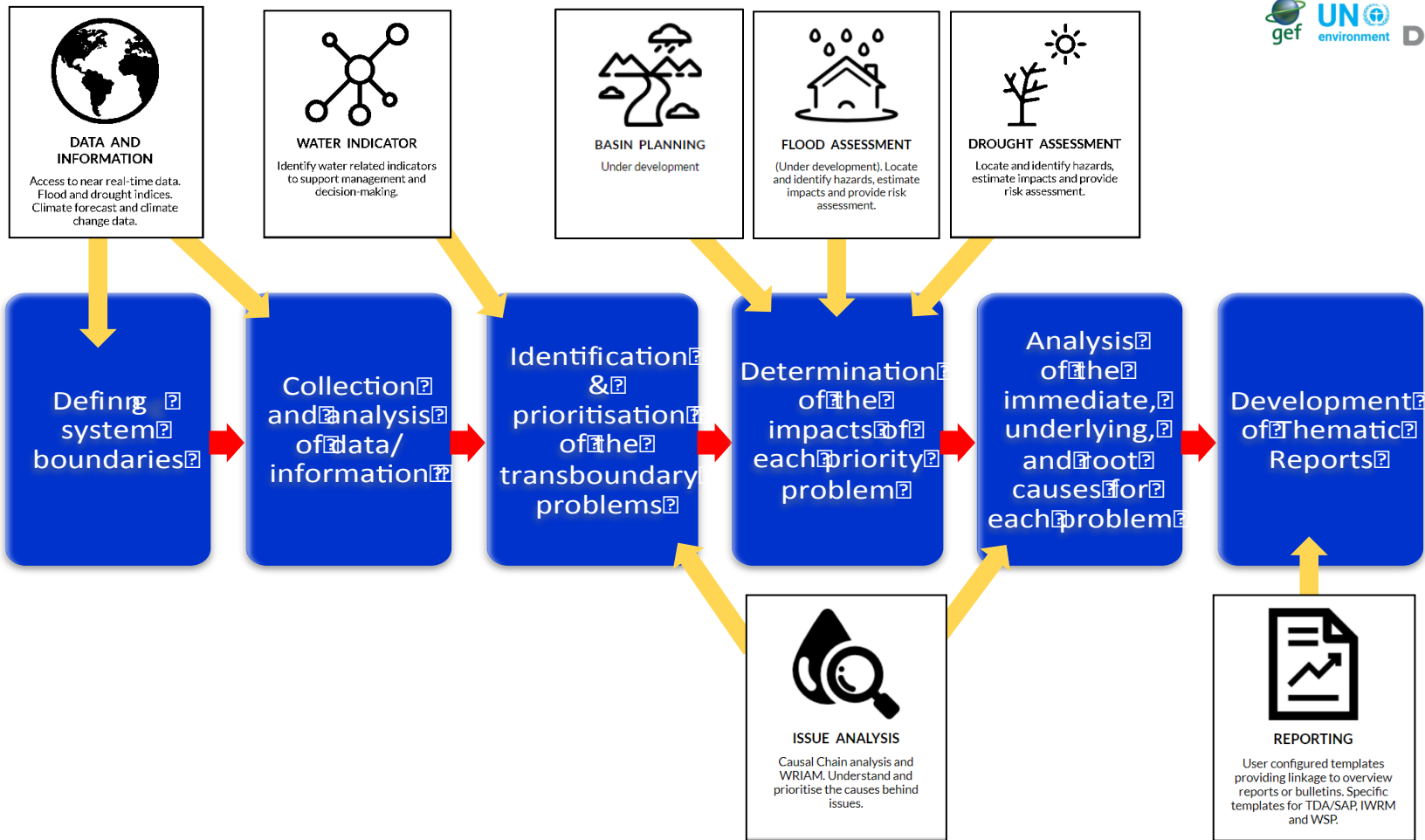
Strategic Thinking

Strategic Planning

Implementation

# TDA/SAP Process












**BASIN PLANNING**  
Under development




**FLOOD ASSESSMENT**  
(Under development). Locate and identify hazards, estimate impacts and provide risk assessment.



**DROUGHT ASSESSMENT**  
Locate and identify hazards, estimate impacts and provide risk assessment.



**DATA AND INFORMATION**  
Access to near real-time data. Flood and drought indices. Climate forecast and climate change data.



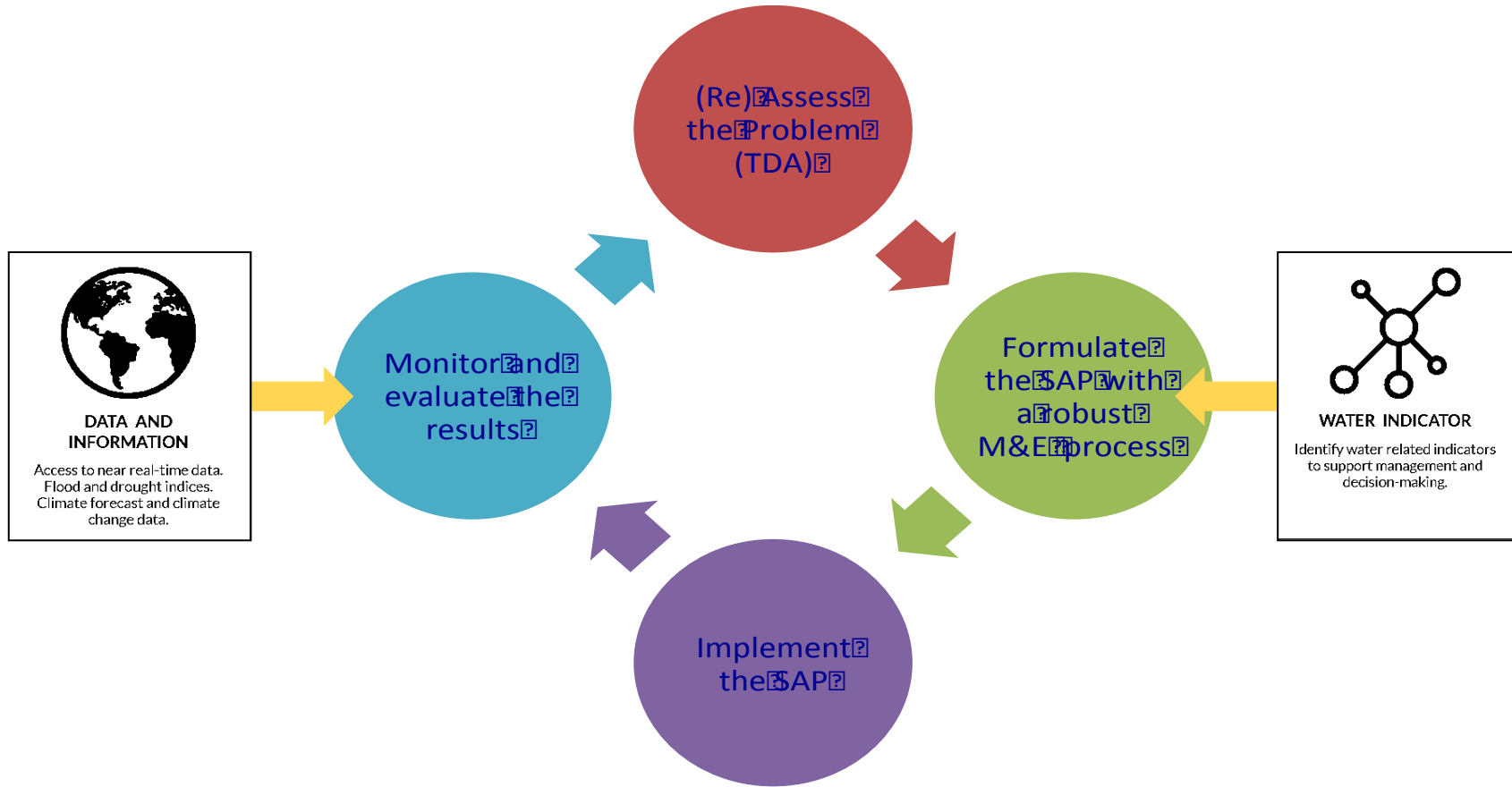
**WATER INDICATOR**  
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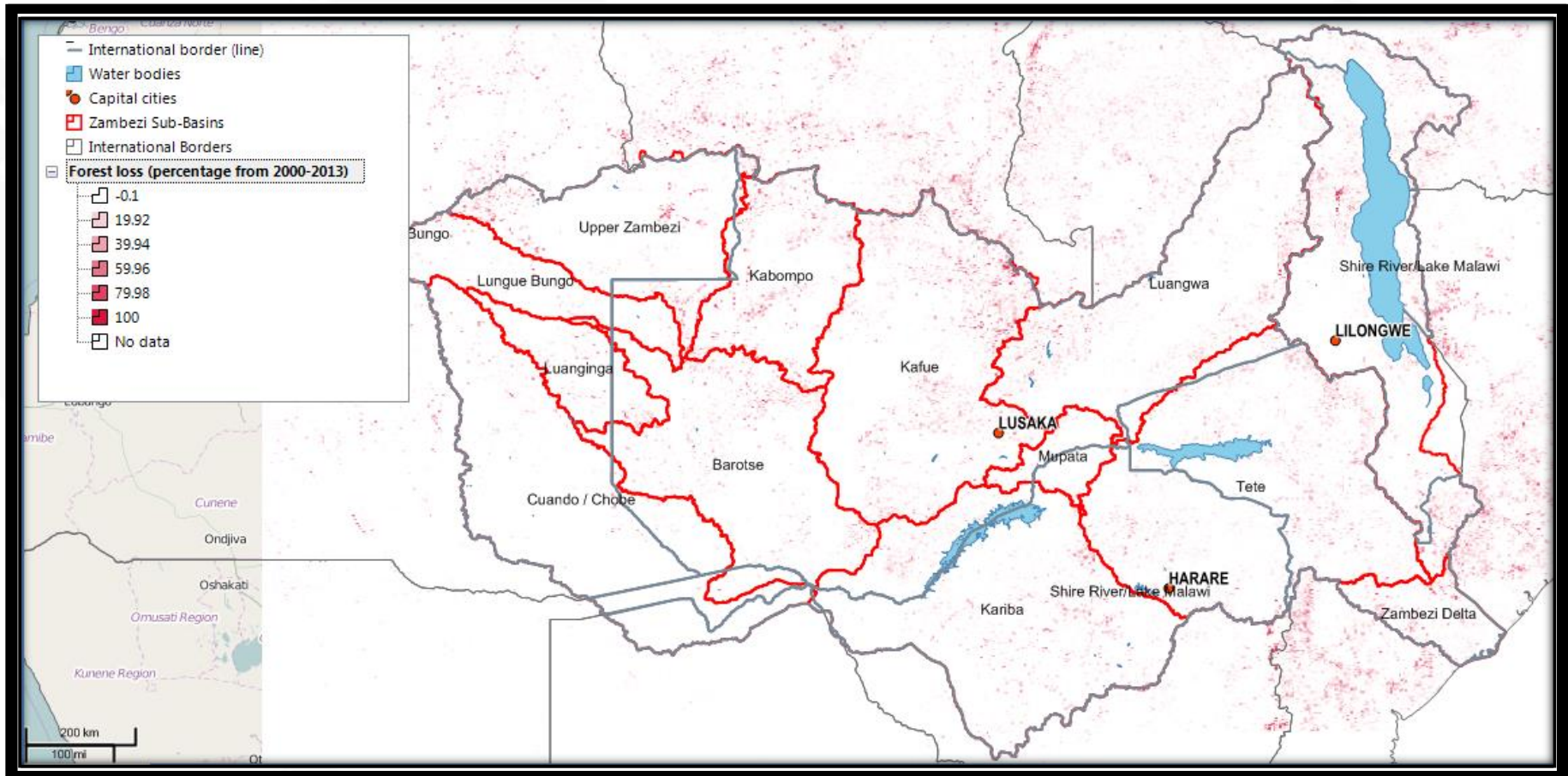
**Strategic Thinking:**  
The collaborative development of the key components of the SAP - Vision, Goals Opportunities for Innovation; Options and Alternatives

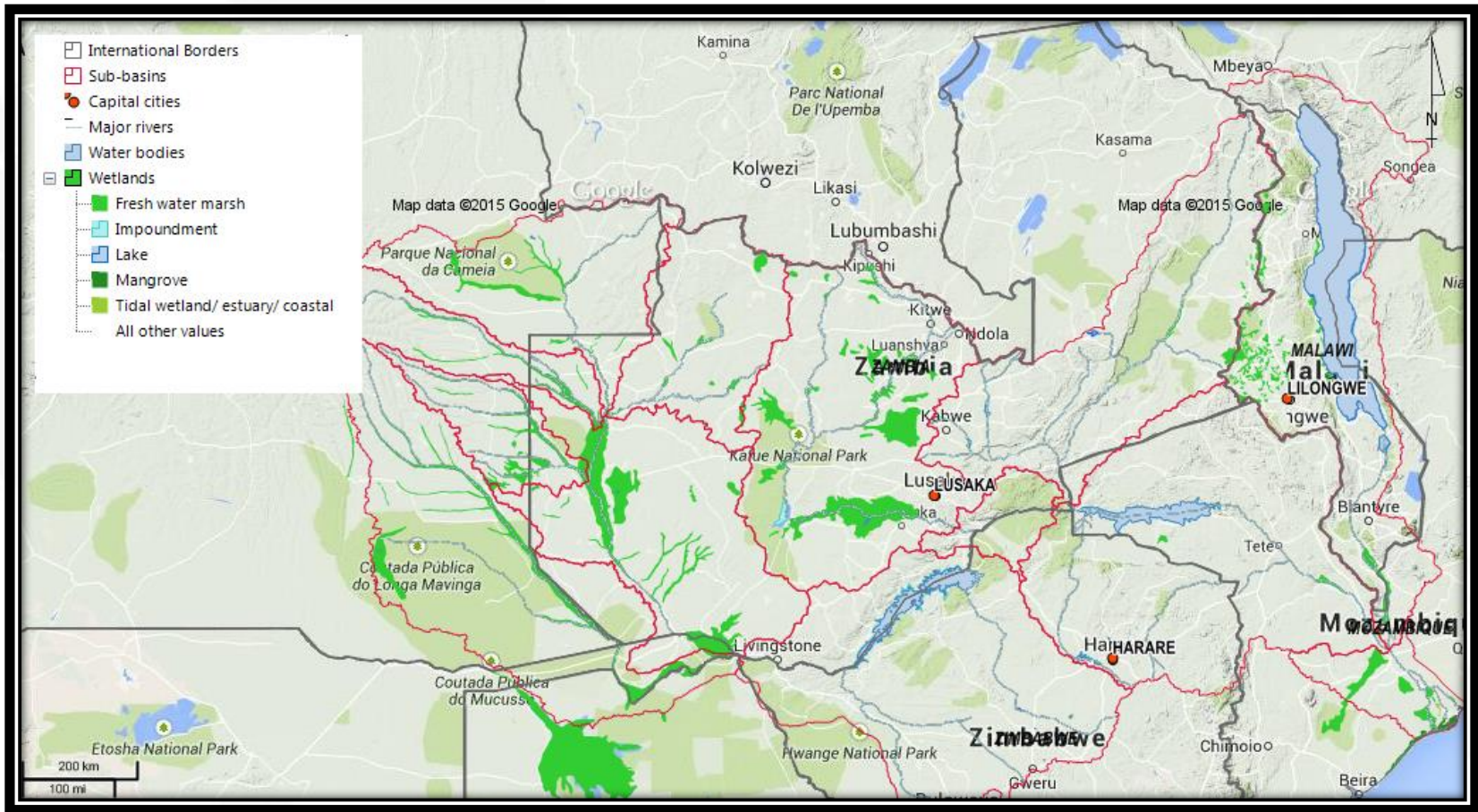
**Strategic Planning:**  
National and regional consultation processes; setting strategies for implementation; action planning; developing the draft action plan

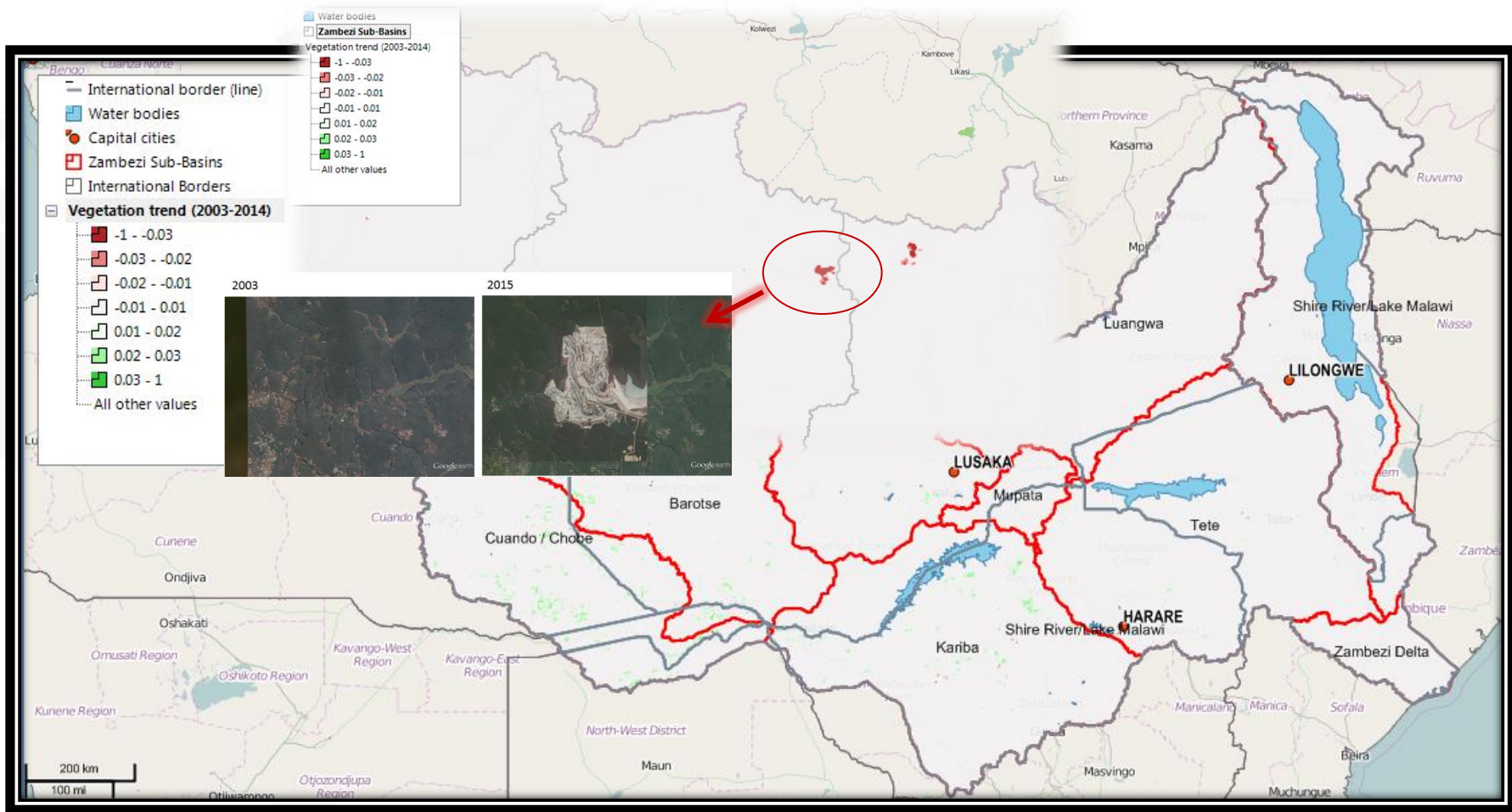
**Implementation:**  
Endorsing the SAP; key implementation steps

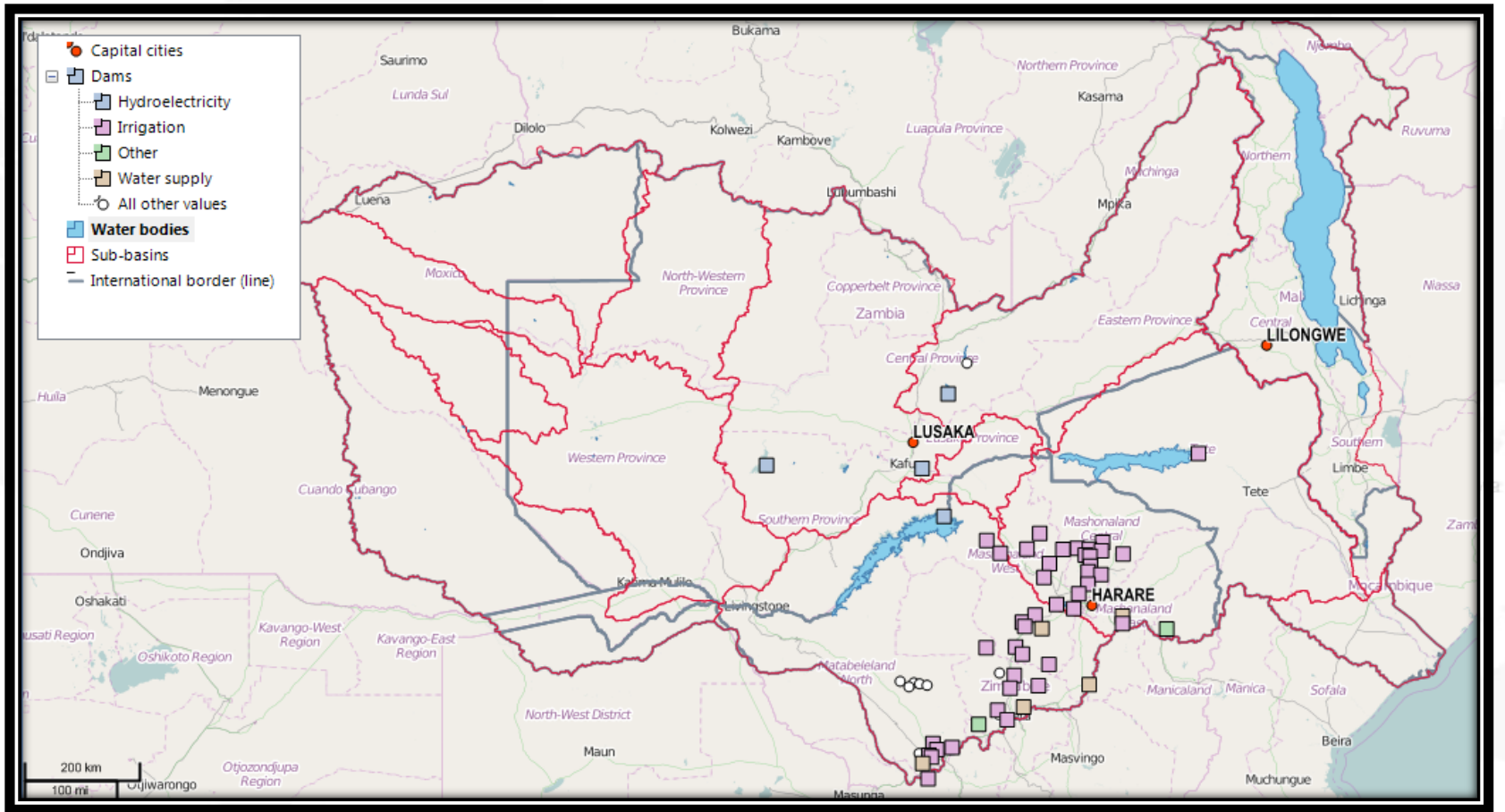
# The SAP Process











# Advantages 1/2

- **Involving more stakeholders for no or limited additional costs.**
- **Provide timely and reliable/objective information.**
- **Provide results/impacts of various development scenarios based on indicators decided by (groups of) the stakeholders.**
- **Potential for frequent virtual meetings by specialised group of stakeholders.**

# Advantages 2/2

- **Potential for reducing the number of physical meetings/workshops = reduced costs**
- **Ensure that meetings participants are all well informed prior to the actual meetings / decision making.**
- **Monitor the basin wide impact of the actual implementation of SAP via global data sets (e.g. change in agricultural practices, protection of forests and wetlands, dam construction and operation, location and size of irrigation schemes, etc.).**



# Examples of recent GEF projects that may contribute to the TDA/SAP process.

- “Transboundary Waters Assessment Programme (**TWAP**)”
- “Development of tools to incorporate impacts of climate variability and change, in particular floods and droughts, into basin planning processes (**F&D**)”.

# Way Forward.

- **Identify priority tools that are most relevant for the TDA/SAP process (first batch).**
- **Priority tools to be introduced to the stakeholders as part of TDA/SAP training.**
- **On line training courses shall be available for stakeholders with relevant background.**
- **Training in “internet meetings”.**

# ***Thank you!***

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To get started with the tools right now, register for free by visiting

[www.flooddroughtmonitor.com](http://www.flooddroughtmonitor.com)



Learn more at [fdmt.iwlearn.org](http://fdmt.iwlearn.org)




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**ISSUE ANALYSIS**  
Causal Chain analysis and WRIAM. Understand and prioritise the causes.


What are the issues and underlying causes in my area?




**WATER INDICATOR**  
Identify water related indicators to support management and decision making.

What indicators can be used to monitor the state of the issues?

What data can be used to calculate the indicators?




**DATA AND INFORMATION**  
Access to near real-time data. Flood and drought indices. Climate forecast and climate change data.




**DROUGHT ASSESSMENT**  
Locate and identify hazards, estimate impacts and provide risk assessment.

What is the level of drought risk in my area?




**CROP APPLICATION**  
Visualise crop calendar, estimate crop water requirements, crop yield.

Agricultural impact




**REPORTING**  
User configured templates providing links to overview reports or bullet points.

How can results and data be disseminated?




**BASIN PLANNING**  
Under development.

What are the planning options to address issues and impacts?



**WATER SAFETY PLANNING**  
Support water supply planning.

What procedures are needed to address risks to water supply?



**FLOOD ASSESSMENT**  
(Under development). Locate and identify hazards, estimate impacts and provide assessment.

What is the assessment of flood risk in my area?