

ASSESSMENT OF BENEFITS OF TWC Cubango-Okavango River Basin Case Study

**(Rational, Conceptual and Methodological Framework,
Perceived National and Basin-wide Benefits, Conclusions and
Recommendations)**

Sub-regional Workshop

Enhancing transboundary water cooperation in the North Africa region

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By:

Ebenizario Chonguica

OKACOM Executive Secretary



Geographical Setting



- **Over the more than two decades of cooperation the Commission:**
- Provided a solid foundation for:
 - facilitating communication among the Member States and
- Establishing joint processes to:
 - understand and agree on the complex interactions among
 - the bio-geophysical and socio-economic drivers that
 - characterise the basin
- Benefit assessment is meant to
 - continue this tradition and
 - inform a better understanding of the benefits of water cooperation
 - Inform implementation of Strategic Action Programme (SAP)
 - Assessing of benefits derived from specific actions
 - Distribution of such benefits



Categorization of Benefits from TWC (Framework for Identification & Assessment)

- A deceptively simple organizing framework identifies four dimensions of benefits that are relevant in negotiations between riparian's:
- Benefits to the river
 - improved water quality,
 - environmental protection
- Benefits from the river
 - hydropower, irrigation, etc.
- Benefits because of the river
 - reduced risk of conflict; increased food security, etc. ; and,
- Benefits beyond the river
 - integration of markets, regional trade, etc.

Source: Sadoff and Grey (2002)



UNECE CONCEPTUAL FRAMEWORK

Origin of Benefits	Benefits for Economic Activities	Benefits Beyond Economic Activities
Improved water Management	<p>Economic Benefits</p> <ul style="list-style-type: none"> ○ Expanded activity and productivity in economic sectors ○ Reduced cost of carrying out productive activities ○ Reduced economic impacts of water-related hazards (floods, droughts) ○ Increased value of property 	<p>Social and Environmental Benefits</p> <ul style="list-style-type: none"> ○ Health impacts ○ Employment and reduced poverty impacts ○ Improved access to services (such as electricity and water supply) ○ Improved satisfaction due to preservation of cultural resources or access to recreational opportunities. ○ Avoided/reduced habitat degradation and biodiversity loss
Enhanced Trust	<p>Regional Economic Cooperation Benefits</p> <ul style="list-style-type: none"> ○ Development of regional markets for goods, services and labour ○ Increase in cross-border investments ○ Development of transnational infrastructure networks 	<p>Peace and Security Benefits</p> <ul style="list-style-type: none"> ○ Strengthening of international law ○ Increased geopolitical stability ○ Reduced risk and avoided cost of conflict ○ Savings from reduced military spending



CORB METHODOLOGICAL APPROACH

- Literature review analysis, OKACOM and other important documents – country specific
- Interview guide development, discussion & finalisation – stakeholder perception surveys (pros and cons)
- Local consultations/events (Maun, Rundu, Menongue) and key basin stakeholders (linked to Basin Vision feedback)
- National consultations and/or interviews with key sectors and stakeholders
- Initial analysis of perceived benefits – (risk of being skewed to personal exposure and preferences – how objective can this be?)



	On economic activities	Beyond economic activities
<p>From improved water management</p>	<p>Economic benefits</p> <ul style="list-style-type: none"> ● Projects in the fields of energy, irrigation and water for Angola (small-scale hydro plants) – national plans ● Project for agriculture development – national plans ● Family production/ income ● Accommodation offer ○ Ecotourism offer development ○ Development of aquaculture 	<p>Social and environmental benefits</p> <ul style="list-style-type: none"> ● Improvement of the potable water supply ● Development of basic water infrastructure ● Community cohesion ● Reduction human pressure on the river <ul style="list-style-type: none"> ○ Ensure species reproduction ○ Normalization of flow rates (upstream) ○ Combat hunger and reduce poverty ○ Food and nutritional security ○ Reduction of mortality and increase of life expectancy

**From
enhanced
trust**

**Regional economic
cooperation benefits**

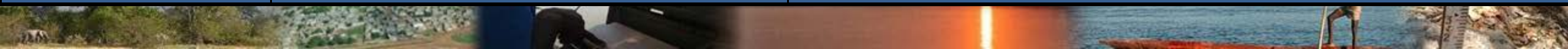
- **Common fund for investment**
- **Increase commercialization of produced goods (trans border commercial trade)**
- **Cross-border accessibility**
- **Namibia and Botswana expertise in i) Management of hydraulic resources /biodiversity, ii) Sustainable tourism, iii) Agro-livestock and fishing business, iv) vaccination (e.g. cattle immunization), v) Environmental education**

Peace and security benefits

- **Scientific investigations (joint)**
- **Information sharing**
- **Regional cooperation/ integration**
- **Harmonisation of water management and fishing law**
- **Hydrological network data (integration)**
- **Rapid alert systems (e.g. flood)**
- **Stakeholders involvement (communication strategy): environmental impacts, water management**
- **Best practices (e.g. sustainable tourism)**
- **Control of deforestation**
- **Waste management optimization / pollution control**

	Benefits for economic activities	Benefits beyond economic activities
Improved IWRM	<p>Economic benefits</p> <ul style="list-style-type: none"> Strong expansion of tourism sector with increased income & business opportunities Modest expansion of agricultural activities, particularly fishing Foreign exchange from tourism sector Reduced costs of natural disasters due to early warning Increased value of plots along the river front 	<p><u>Social benefits:</u></p> <ul style="list-style-type: none"> Employment creation in tourism & related sectors Improved livelihoods and poverty reduction for those who benefit directly or indirectly from tourism and other river-based activities Water transport & recreation benefits (e.g. pan handle) Improved public services, including water reticulation Exposure to and appreciation of cultures in other member states Raised awareness about the importance of ecosystem integrity conservation by communities <p><u>Environmental benefits:</u></p> <ul style="list-style-type: none"> Conservation of biodiversity & Delta ecosystem Maintenance of good water quality in the delta More collaborative natural resource management (basin-wide) Protection of upstream environment and river flow More basin wide environmental research, monitoring & data collection Improved control of invasive species

<p>Enhanced trust</p>	<p>Regional economic cooperation benefits</p> <p>Investments in research and road infrastructure</p> <p>Limited transboundary tourism</p> <p>Enhancement of bilateral relationships with the other MS</p>	<p>Peace & security benefits</p> <p>Avoidance of conflicts</p> <p>Increased collaboration in anti-poaching, border controls</p> <p>Support from other MS for World Heritage Site Declaration Okavango Delta.</p> <p>Cultural exchange visits</p> <p>Agreement about a shared vision based on a shared identity.</p>
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From improved water management

Economic Benefits

- **Expanded activity and productivity in economic sectors**
- **Reduced cost of carrying out productive activities**
- **Reduced economic impacts of water-related hazards**
- **Increased value of property**

Socio-Environmental (beyond economics) Benefits

- **Positive health impacts**
- **Employment & reduced poverty**
- **Improved access to public services**
- **Improved satisfaction due to preservation of cultural resources or access to recreational opportunities**
- **Avoided/ reduced habitat degradation & biodiversity loss**

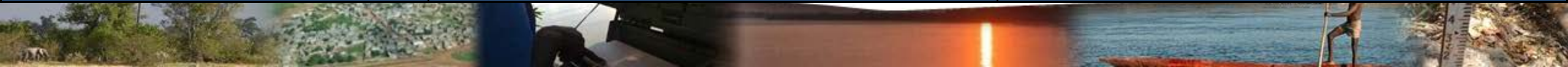
from enhanced trust

Regional Economic Cooperation Benefits

- Development of regional markets for goods, services & labour
- Increase in cross-border investments & trade
- Development of transnational infrastructure networks

Peace and Security Benefits

- Strengthening of international law
- Increased geopolitical stability
- Reduced risk & avoided cost of conflict
- Savings from reduced military spending

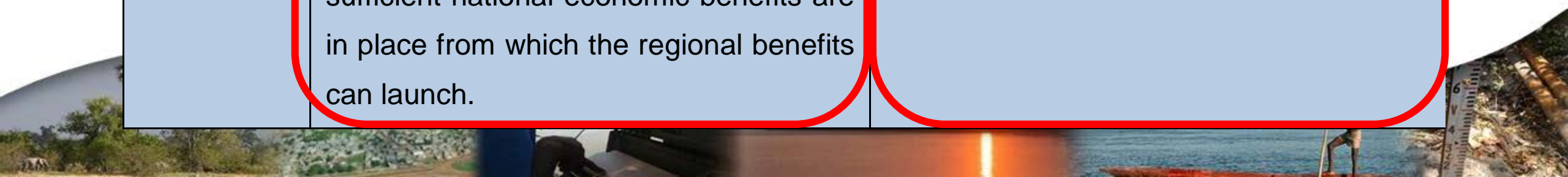
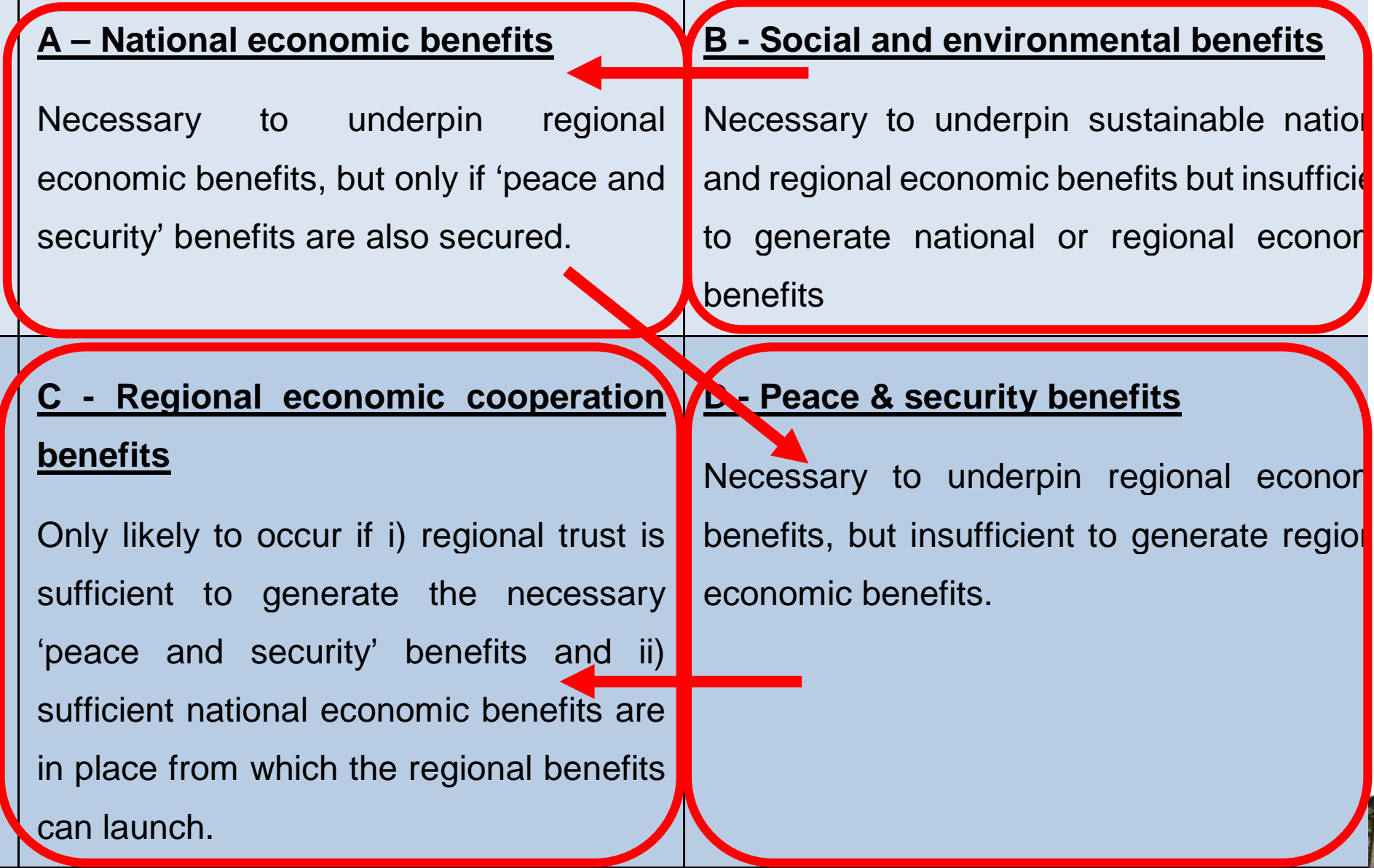


Indicator	Angola	Botswana	Namibia
GDP	US\$92 billion	US\$11 billion	US\$10 billion
Total population	nearly 26 million	just over 2 million	roughly 2.5 million
GDP per capita	US\$ 7,249	US\$ 15,845	U\$ 10,754
Gini coefficient	0.427	0.605	0.613
Population within the basin	3.2% 75% living at “livelihood level”	7.1% 54% living at “livelihood level”	9.2% 60% living at “livelihood level”
Vision documents for the country	<ul style="list-style-type: none"> • Angola 2025 • National Development Plan 2013-2017 	<ul style="list-style-type: none"> • Vision 2016 • National Development Plan 	<ul style="list-style-type: none"> • Vision 2030 • National Development Plan • Harambee Prosperity
Context	<ul style="list-style-type: none"> • War/ reconstruction • Growth/ development 	<ul style="list-style-type: none"> • Sustained development, rapid economic growth, economic independence and social justice 	<ul style="list-style-type: none"> • sustained economic growth, increased income equality, employment creation

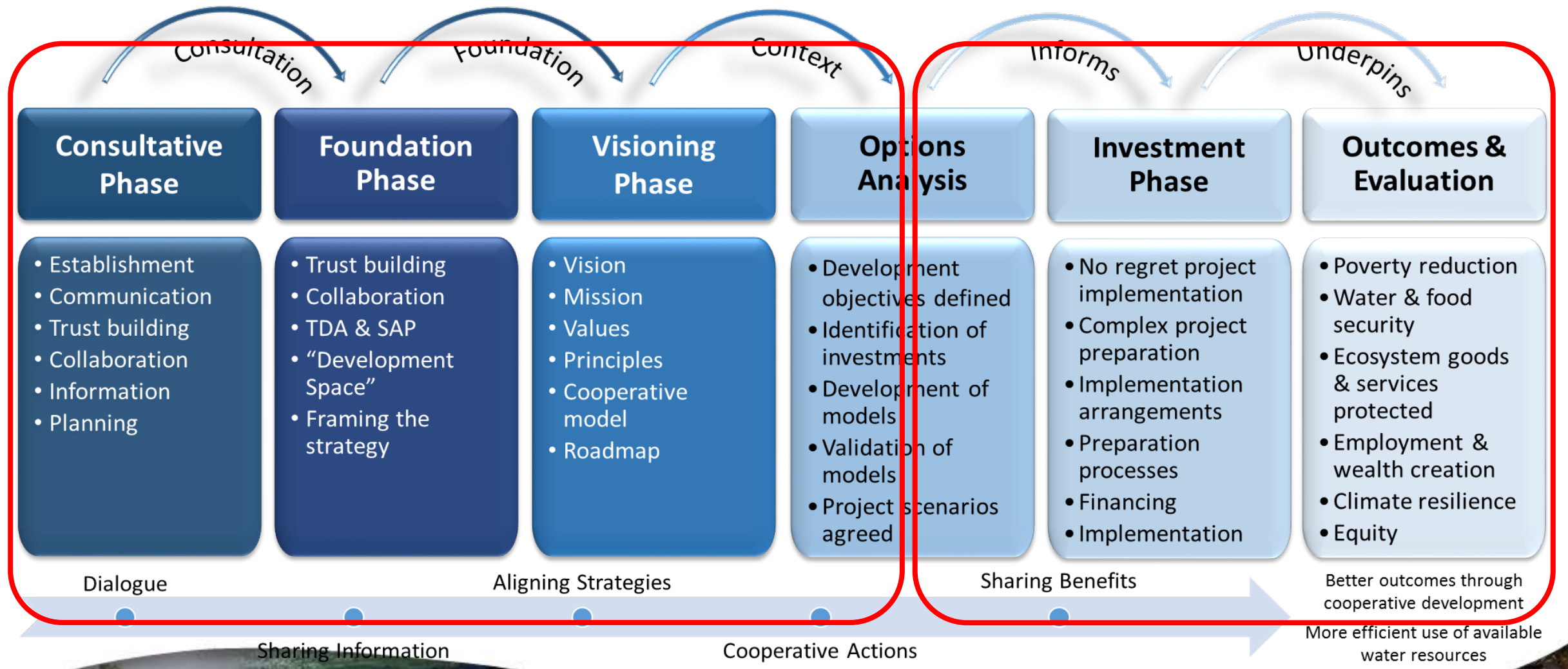


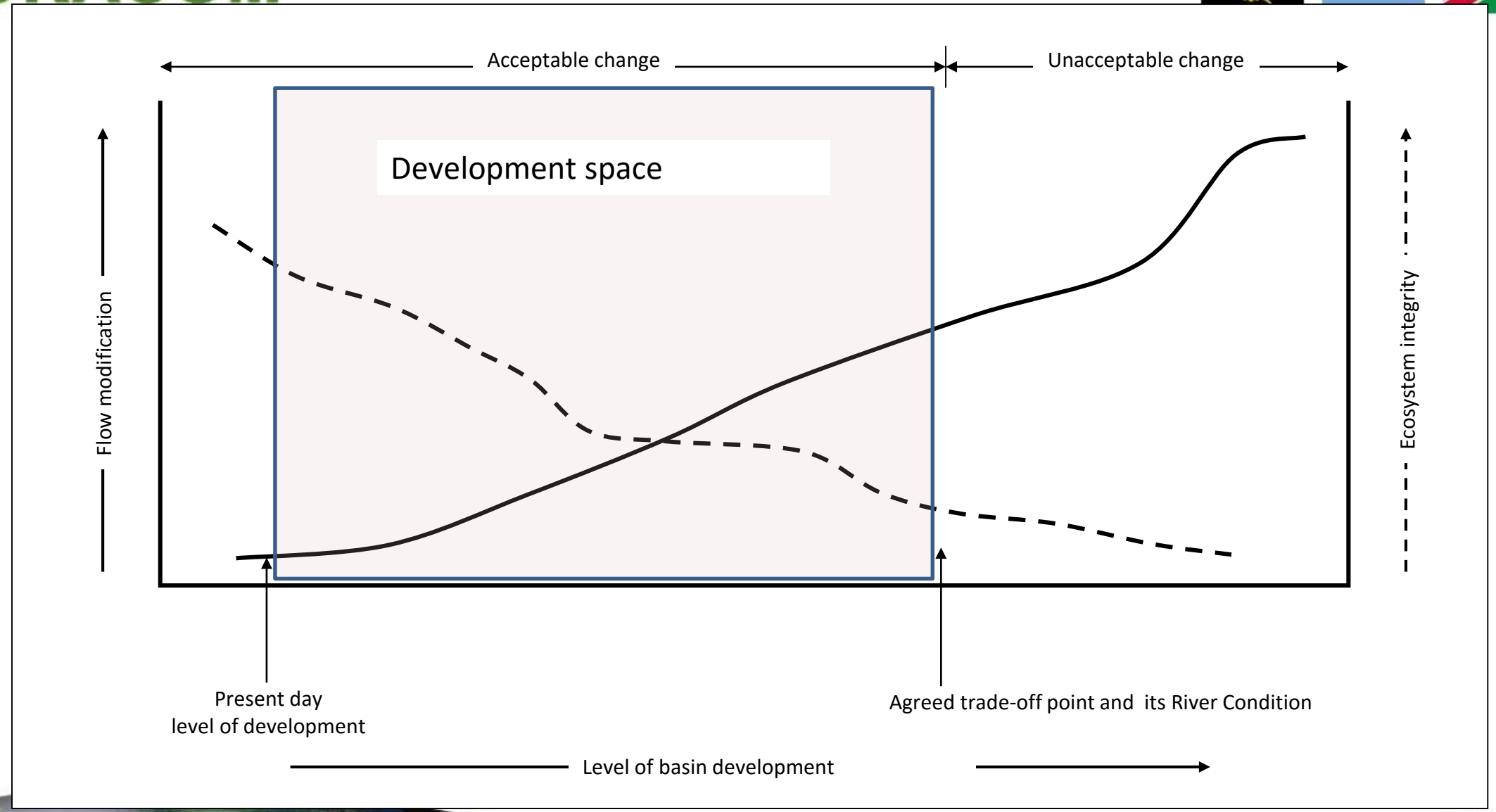


	Benefits from economic activities	Benefits beyond economic activities
Improved IWRM	<p><u>A – National economic benefits</u></p> <p>Necessary to underpin regional economic benefits, but only if ‘peace and security’ benefits are also secured.</p>	<p><u>B - Social and environmental benefits</u></p> <p>Necessary to underpin sustainable national and regional economic benefits but insufficient to generate national or regional economic benefits</p>
Enhanced trust	<p><u>C - Regional economic cooperation benefits</u></p> <p>Only likely to occur if i) regional trust is sufficient to generate the necessary ‘peace and security’ benefits and ii) sufficient national economic benefits are in place from which the regional benefits can launch.</p>	<p><u>D - Peace & security benefits</u></p> <p>Necessary to underpin regional economic benefits, but insufficient to generate regional economic benefits.</p>



Institutional Evolution in the CORB





Vision is to achieve an “**economically prosperous, socially just, and environmentally healthy development of the Cubango-Okavango River Basin**”.

The indicators used in the table and graph below are:

- Economic NPV is a measure of economic prosperity
- Social value (NPV of livelihood and employment income, and social component of electricity and urban water) is a social justice indicator
- Environmental integrity index is an indicator of environmental health

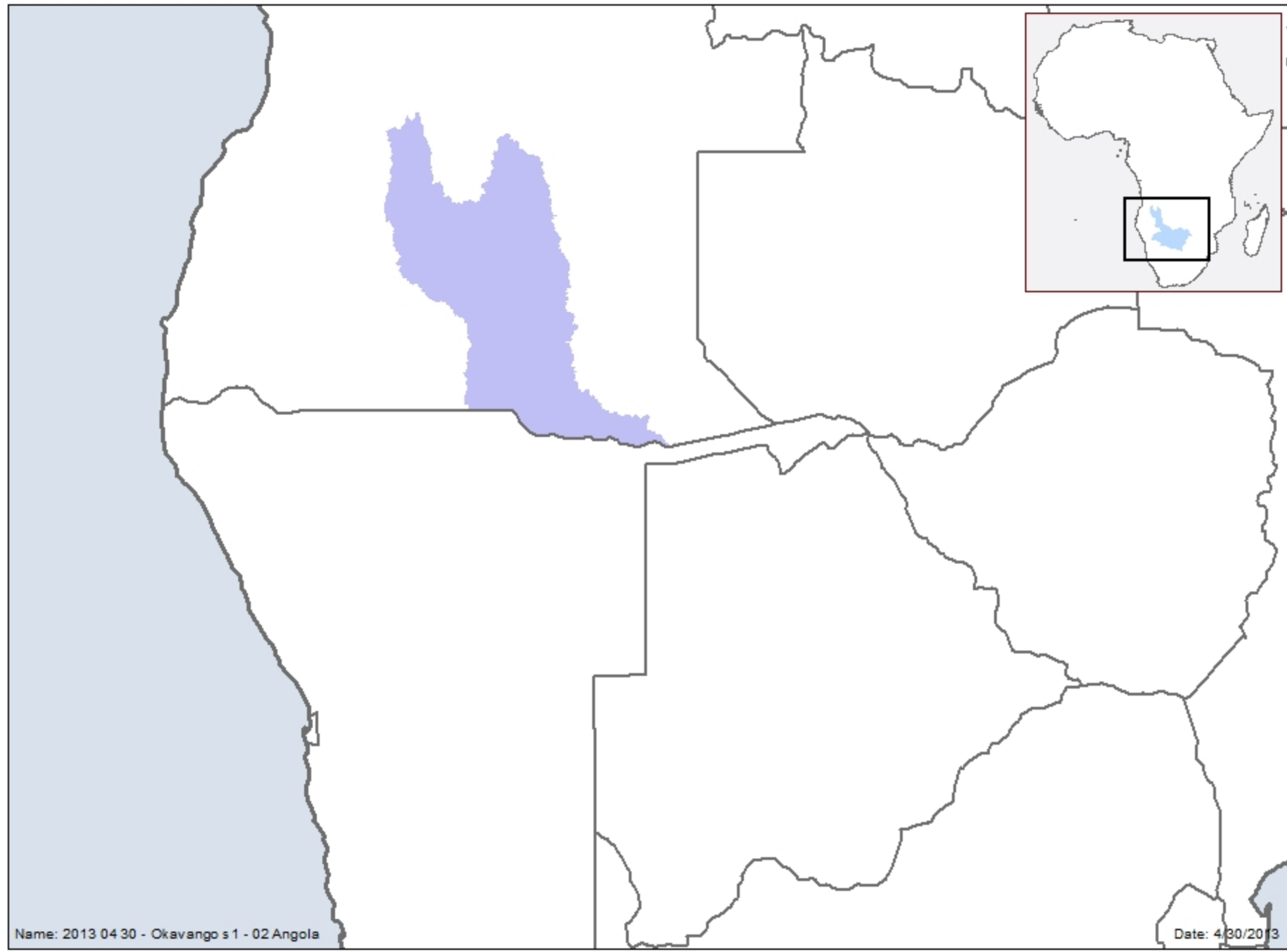


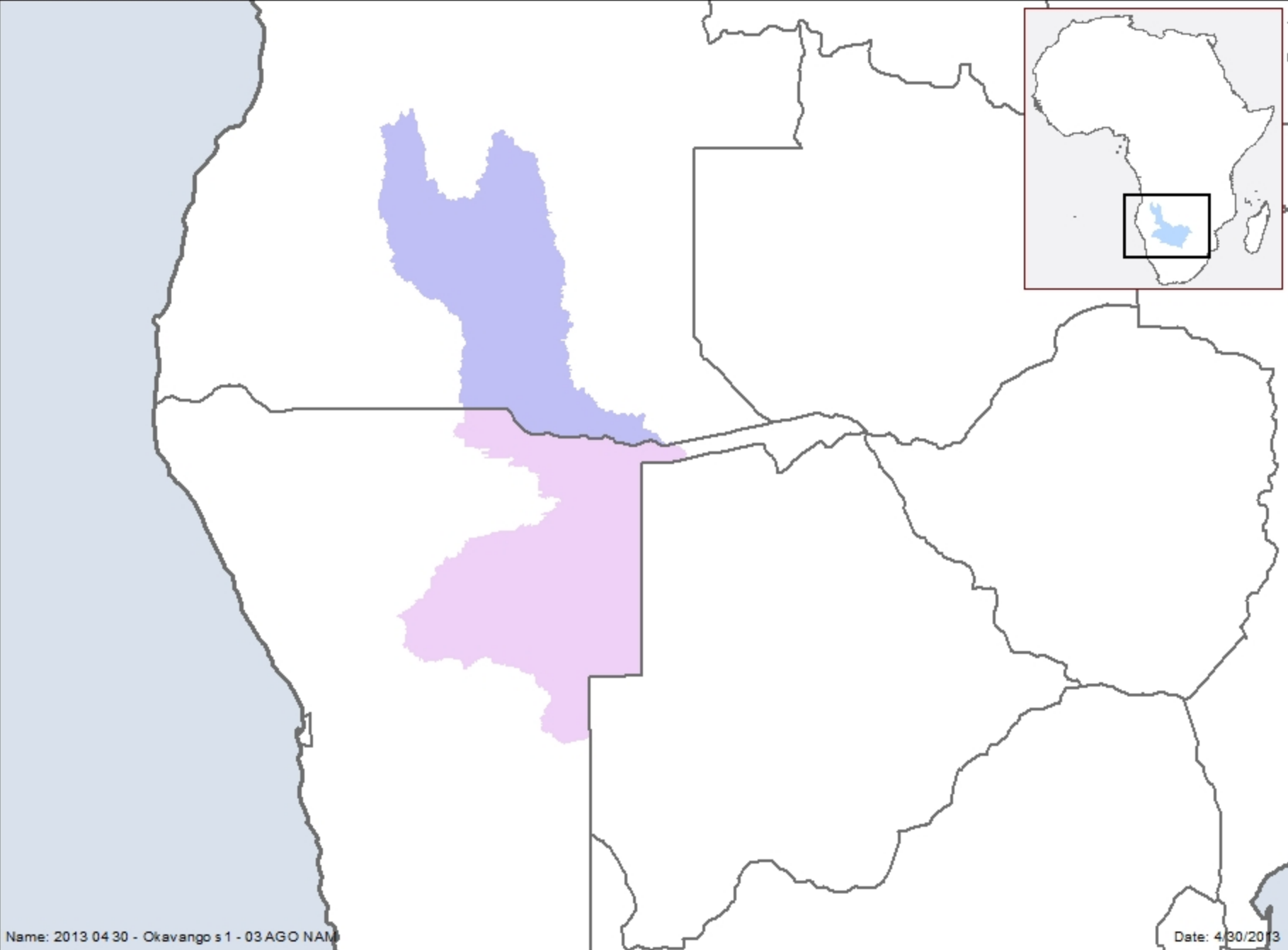
The Multi-Sector Investment Opportunities Analysis – (MSIOA)

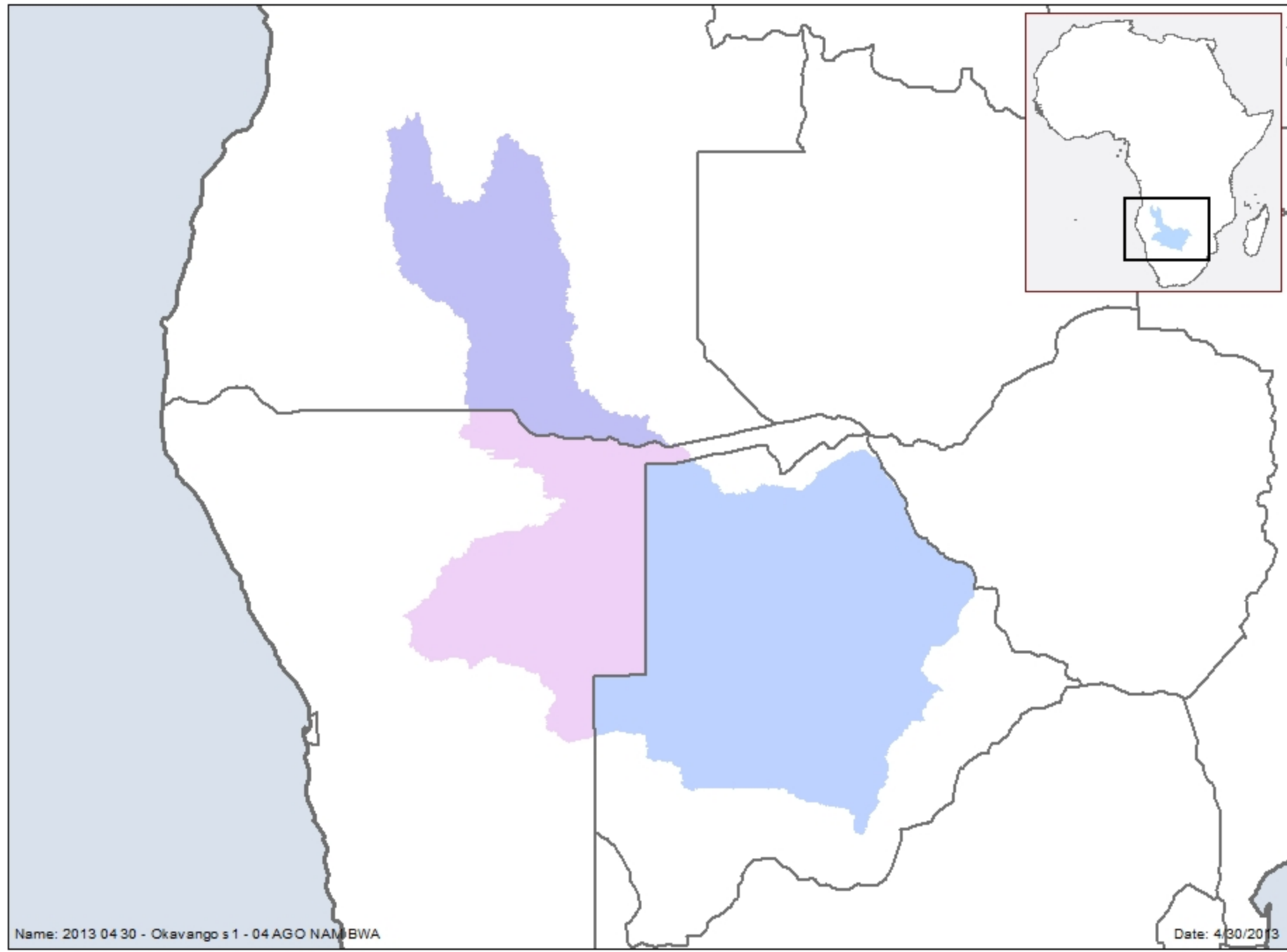


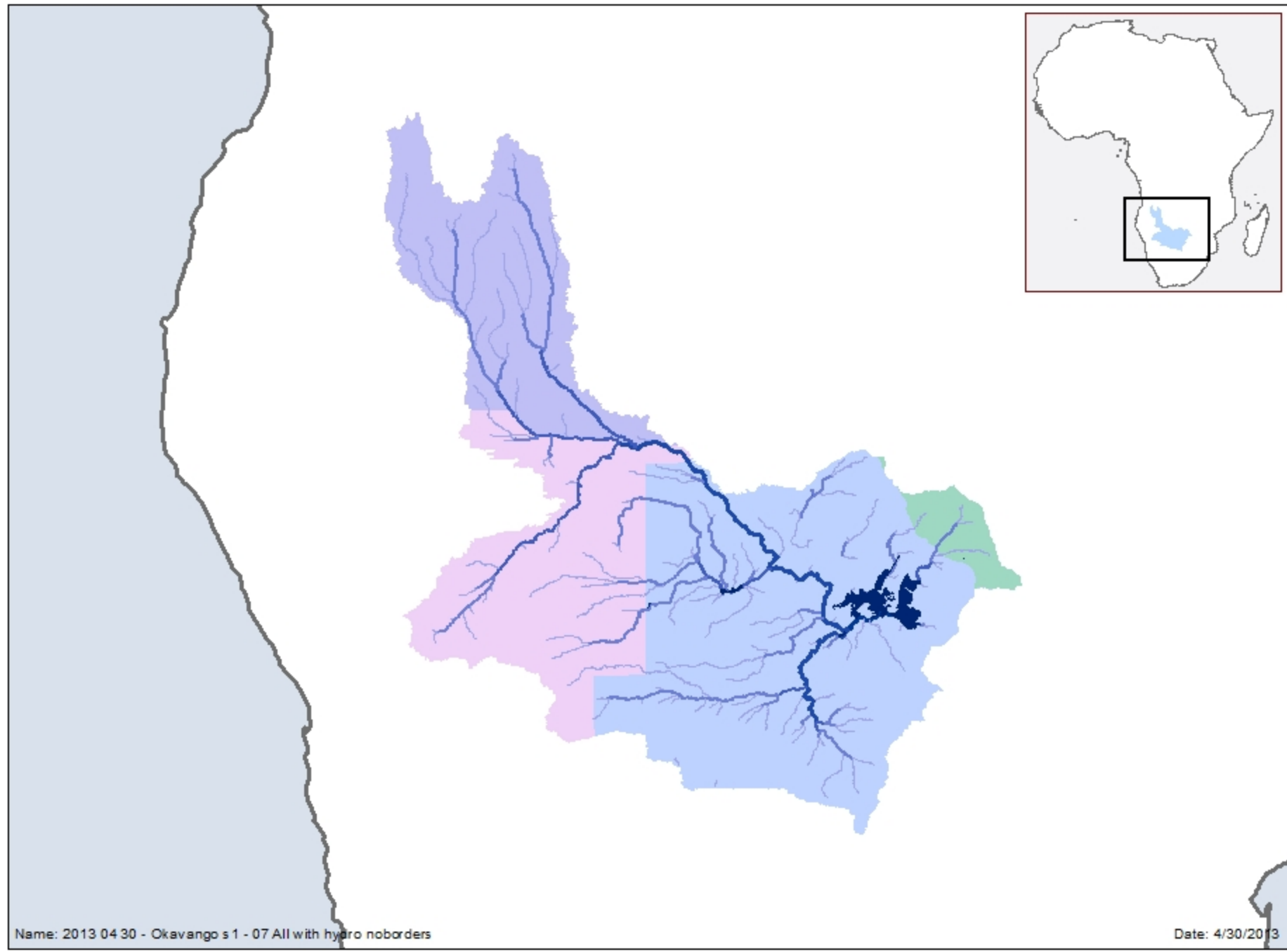
- Information review & collation (TDA, SAP, NAPs)
- Analysis of existing national and regional water development
- Analysis and inclusion of multi-basin options,
- Analysis of regional energy and food security plans and alternatives,
- Analysis of incremental cost of options to offset Okavango Delta impacts,
- Analysis of offset financing options, related to environmental services and least cost options,
- Development of suitable hydrological and economic modeling tools through which to develop and assess options,
- Review of potential finance packaging options for alternative water security options.

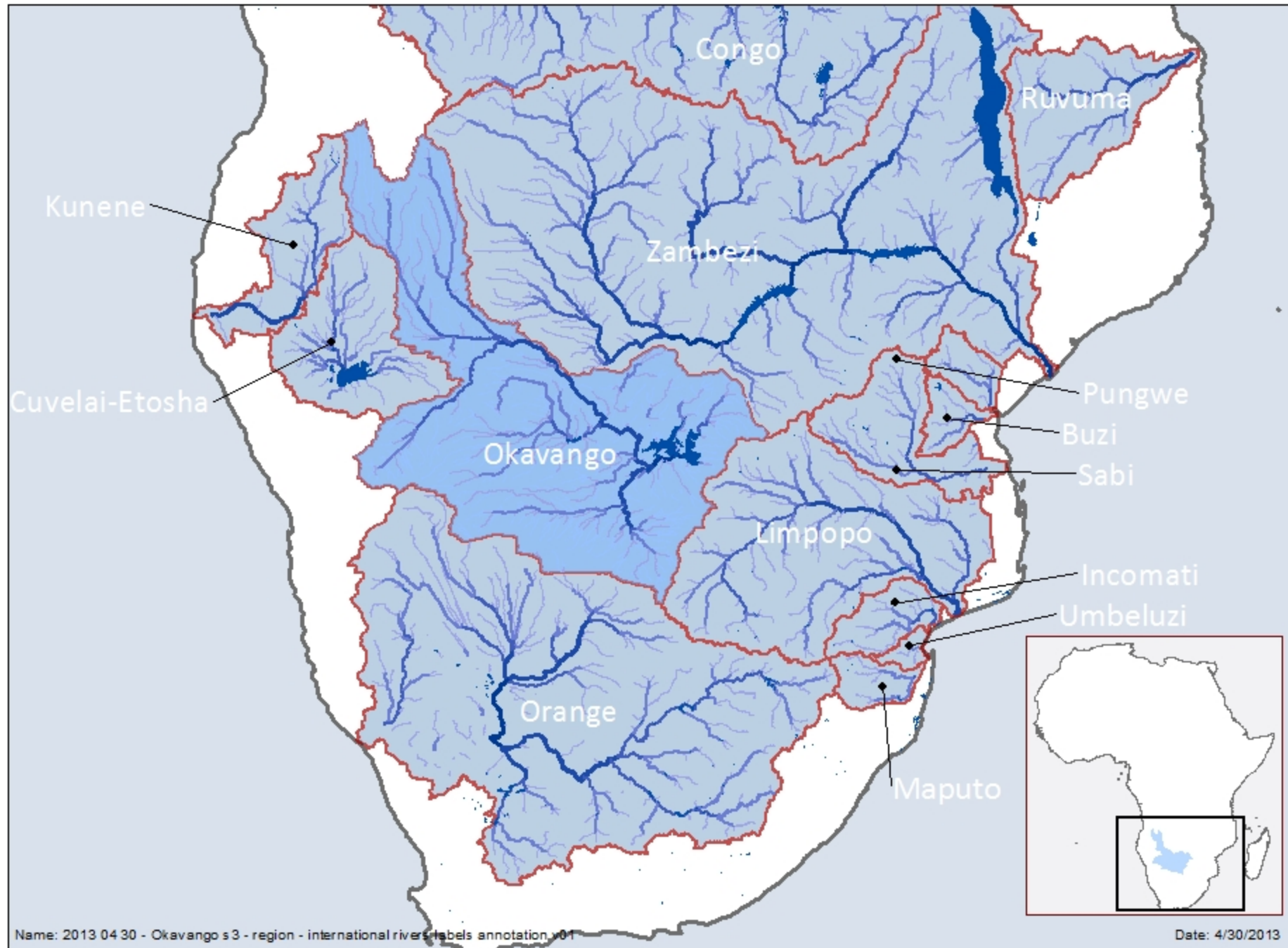












Achieving the Vision

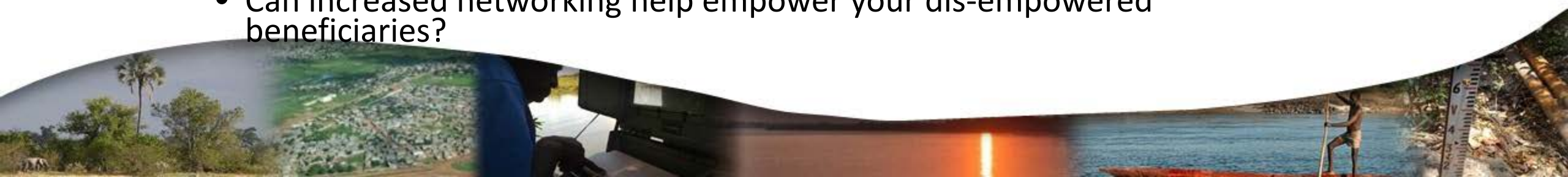
Success



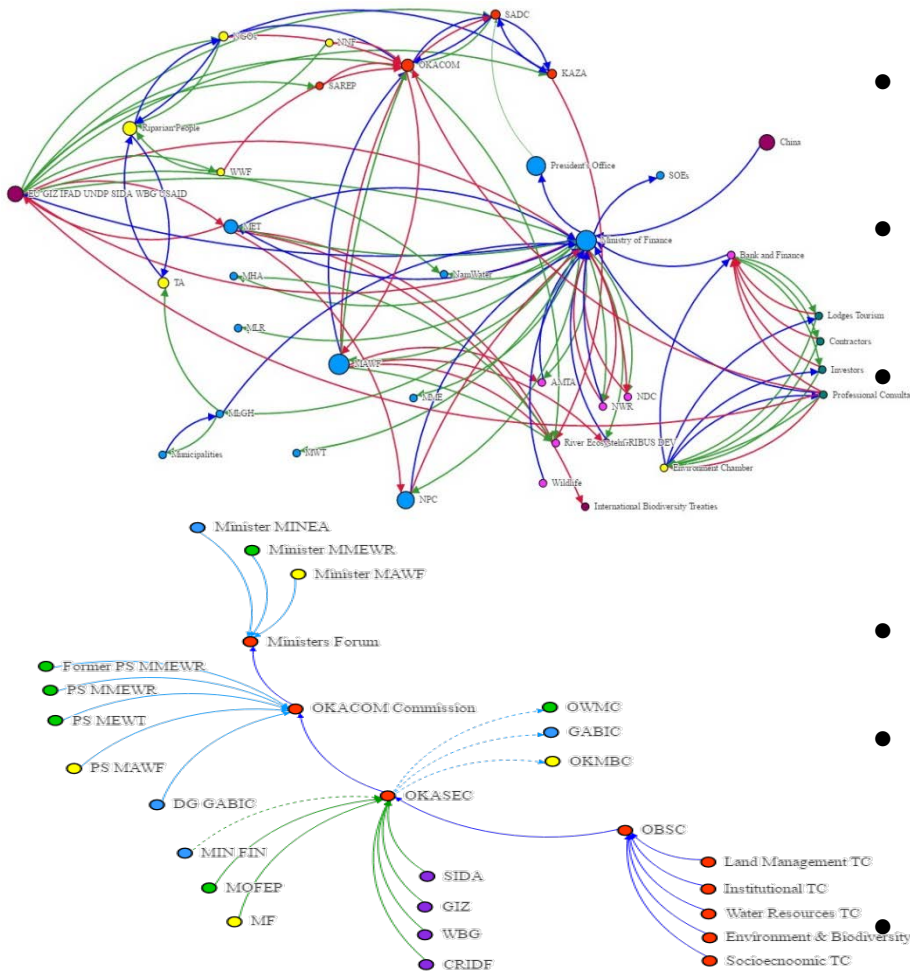
what people think
it looks like



- Together with the MSIOA and the Benefits Assessment, the results of stakeholder mapping will contribute to better understanding the options for within basin projects with regional benefits in the basin, as well as possible pathways, coalitions and opportunities for moving forward
- Determining linkages, levels of influence, and goals allows users to **be more strategic** about how they act in these complex situations
- Helps people **understand, visualize, discuss and improve situations** in which many different actors influence outcomes
- It helps users to answer questions such as:
 - Do you need to strengthen the links to an influential potential supporter (high influence, same goals)?
 - Do you have to be aware of an influential actor who doesn't share your goals?
 - Can increased networking help empower your dis-empowered beneficiaries?



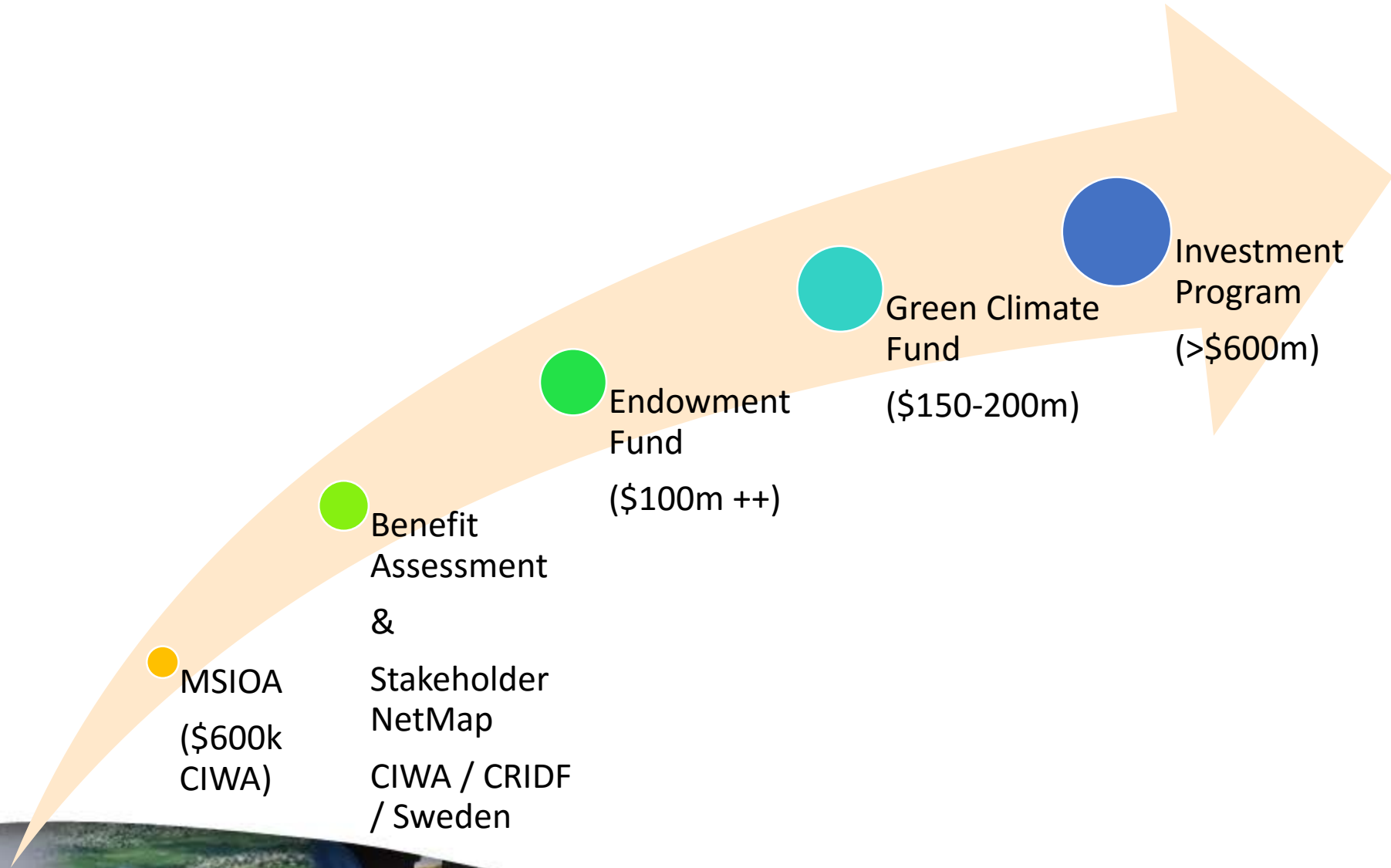
Stakeholder Analysis & Network Mapping



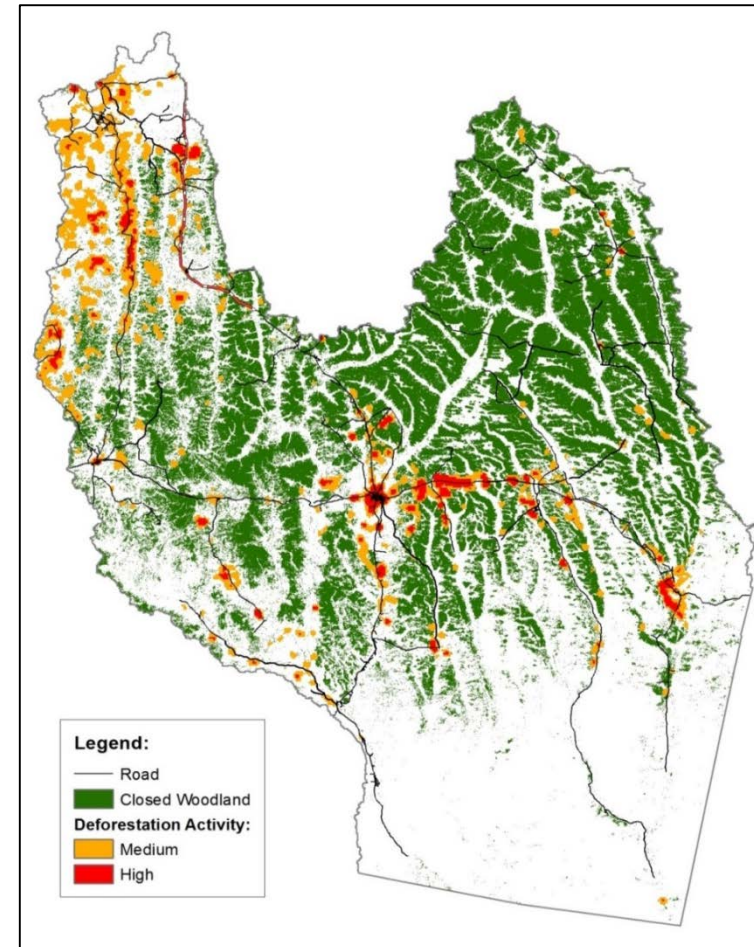
- Range of national and sectoral consultations to explore perceived relationships, incentives and influence of actors
- Focus groups were asked *who has influence on advancing within basin investments with regional impact?*
- The groups mapped the following:
 - *Who is involved?*
 - *How are they linked?*
 - *What are their goals?*
 - *What is their influence?*
- Over 200 unique actors identified with >1700 links
- Density and complexity provides a striking visualization of the level of coordination required within riparian states, between riparian states, and with other regional and international actors
- Contribute to dialogue about options for engagement that respond to the political-institutional realities on the ground in the basin



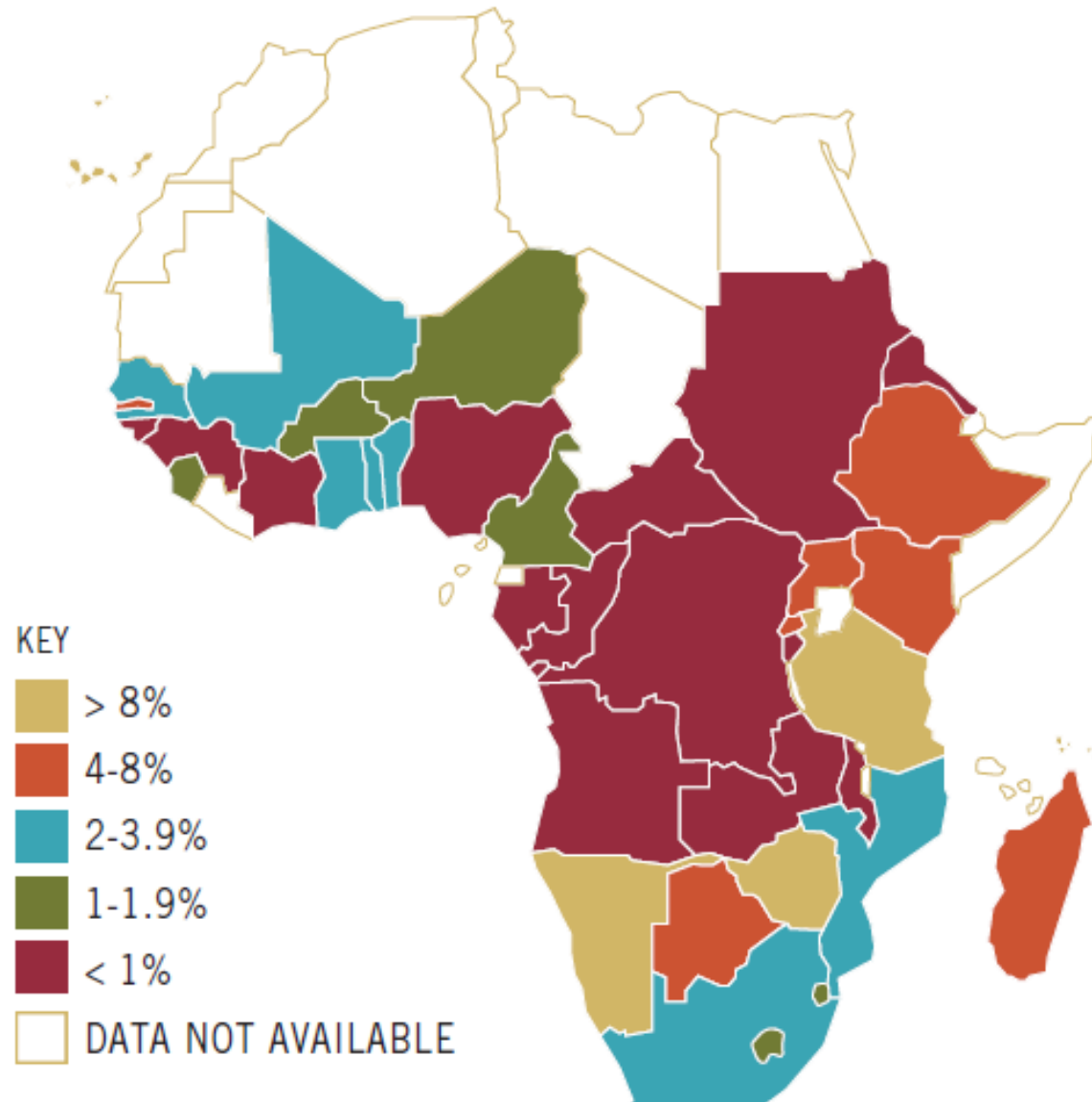
Achieving the Vision



- Current status quo is unsustainable
- Limited development to date
 - Opportunities not yet taken up in Angola
 - Tourism in Botswana
 - Some irrigated agriculture in Namibia
- Poverty is destructive
 - Poverty is widespread in the basin
 - Survival strategies threaten the catchment – deforestation etc
- Poverty reduction projects should be pursued immediately
 - ‘Low Regret’ as minimal affect on downstream flows



Tourism's Contribution to GDP in SSA



- Iconic global good
- World Heritage Site
- RAMSAR site

- High end low volume
- Distribution of benefits
 - Within countries
 - Between countries
- Revenue distribution

- Constraint factors



Kavango-Zambezi Transfrontier Conservation Area



Formed in 2003 and ratified by the SADC Ministers in 2006.

Includes 17 national parks as well as wildlife management areas and hunting blocks.

Covers an area of 444,000 km²

Five partner countries converge (Angola, Botswana, Namibia, Zambia and Zimbabwe).

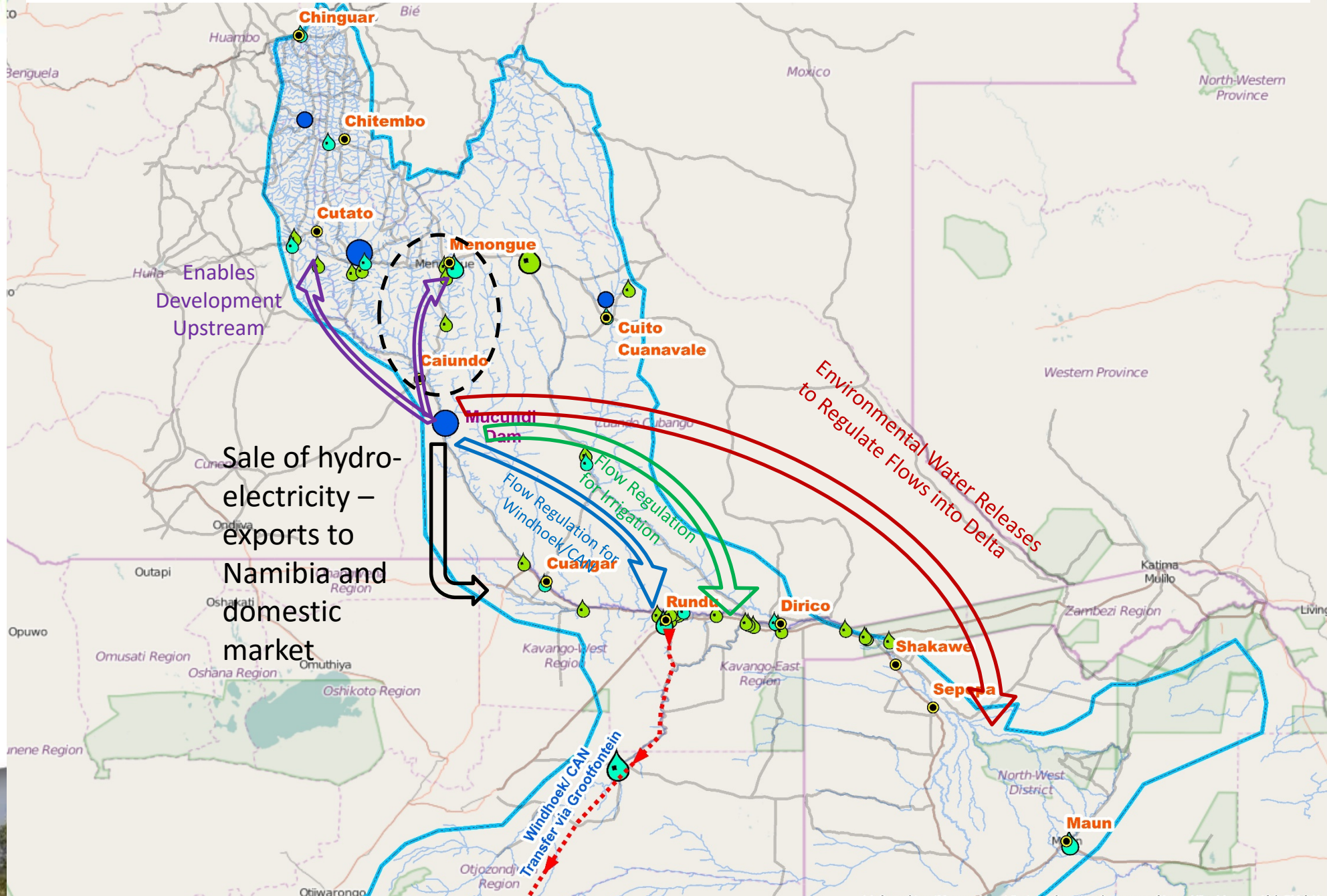
Development needs identified as tourism development, natural resource management, infrastructure development, integrated land use planning, livelihoods enhancement and transboundary political cooperation.

Tourism Development is the core driver to generate the resources needed to meet the objectives.

Common strategy to attract tourists to stay longer in the region, combining visits to different countries and sampling different kinds of tourism products.



Mucundi Dam – Possible Shared Benefits



Enables Development Upstream

Sale of hydro-electricity – exports to Namibia and domestic market

Flow Regulation for Windhoek/CAM

Flow Regulation for Irrigation

Environmental Water Releases to Regulate Flows into Delta

Cooperation in the CORB has generated a range of economic, social and environmental benefits ... that vary across countries and scales

- Improved communication and coordination has provided foundation for better water management
- CORB countries have benefited in different ways
 - Angola - knowledge for decision-making
 - Namibia - revenue generation in agriculture & mining
 - Botswana - tourism
- CORB countries have benefited in different degrees (more downstream)
- The importance of benefits varies between:
 - local (N-poverty alleviation, B-water quality)
 - national (environmental quality, revenue generation) and
 - global levels (preservation of unique habitats)

Initial observations – ‘Process lessons’

- First mover advantages.
- First mover disadvantages.
- The process of national dialogue – ‘testing past actions and future aspirations against the OKACOM Vision’.
- The process of regional dialogue – ‘benefits from past investments in building trust, looking for added value beyond unilateral action – the cooperation dividend’.
- Point data useful, but series data could be more valuable.
- Important to demonstrate the net-benefits, their current and future distribution
- The costs of non-cooperation
- Stakeholders are already looking at opportunities for generating and sharing benefits through cooperation vs. historical and status quo



INITIAL OBSERVATIONS – ‘CONTENT LESSONS’

- Principles of Cooperation - actions should create the conditions where MS have an equal ‘seat at the table’
- Actions should incentivise ‘joint action’ between MS,
- Collaboration between MS should be prioritised,
- Benefit sharing requires equity, transparency, mutual respect and interaction.
- Links and complementarity – especially to the MSIOA but also to other OKACOM processes.
- Understanding (pre)conditions for achieving regional benefits.



Preliminary recommendations

- Link the cooperative process to national development strategies
- Consider expanding the mandate of OKACOM to include other government ministries and agencies (in particular finance, planning and economic development)
- Communicate the benefits of cooperation at different scales (national-level stakeholders, basin populations,...)



Thank You for Your Attention!

**For more information go to:
www.okacom.org**

