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# Nexus Trade-offs and Strategies for Addressing the Water, Agriculture and Energy Security Nexus in Africa

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# BACKGROUND TO THE STUDY

By addressing:

***“Nexus challenges, trade-offs, possible synergies and project opportunities relevant for Africa (and its regions) in general, and two selected river basins in particular, namely: the Lake Victoria and Volta River basins.”***

The study was intended to produce:

***“An action oriented outlook for optimising multi-purpose water infrastructure and establishing the enabling environment to develop and implement such infrastructure”***

and

***“A Rapid Assessment Framework”***

# APPROACH TAKEN

1. Intellectual orientation by the development of a Draft Intervention and Impact Typology For Nexus Water Infrastructure.
2. Target basin profiles
3. Literature review
4. Stakeholder consultation
5. Case studies
6. Analysis of results

# STAKEHOLDERS AND PERCEPTION OF SECURITY

- ***State Entities***, which are concerned about:
  - secure factors of production and output markets in order to maintain economic growth and in the case of Africa, to catalyse socio-economic transformation;
  - securing peace and stability in order to avoid military confrontation;
- ***Populations***, which are concerned about:
  - secure family lifestyles in terms of shelter (homes and warmth), water supply and sanitation;
  - income security based on a choice of sustainable livelihoods and equitable and reliable access to the means of production.
- ***The Private Sector***, which is concerned about:
  - Secure access to the factors of production
  - Secure markets and opportunities
- ***The Environment***, managers of which are concerned about:
  - secure biodiversity, as a result of sustainable habitats;
  - sustainable ecosystem services.

# DEFINING SECURITY

- ***Water Security:*** is “the availability of and access to sufficient water for human and ecosystem use.”
- ***Agricultural security:*** is “the availability of affordable agricultural commodities necessary for healthy, productive lives and profitable agricultural value chains.”
- ***Energy security:*** is “access to clean, reliable and affordable energy for cooking, heating, lighting, communications and productive uses.”

# WATER IS THE SENIOR NEXUS ELEMENT

“if the nexus were a hierarchy would water occupy the top layer?”

A working hypothesis at this stage therefore is that water is the senior nexus element because:

- “...water infrastructure is at the heart of the nexus debate...” (Smith and Bergkamp 2013)
- Provision and operation of appropriate water infrastructure – **including natural infrastructure** – could directly increase the security of ecosystem services; agricultural production and energy.
- Investments in agricultural infrastructure would increase agricultural security and could contribute to energy security benefits, but most investment in agriculture would not present an infrastructural option for increasing water security.
- Investments in energy infrastructure would increase energy security and contribute to increased agricultural productivity (right along the value chain from seed to spoon); but they would not contribute to bulk water security – although energy could establish local increases in water security where pumping is needed.

# THE SHORT TERM VIEW

Stakeholders were very much of the opinion that planners are taking a short term view that results in:

- scarce resources being tied up in sub-optimal one-way streets, and hence
- “winner takes all” results

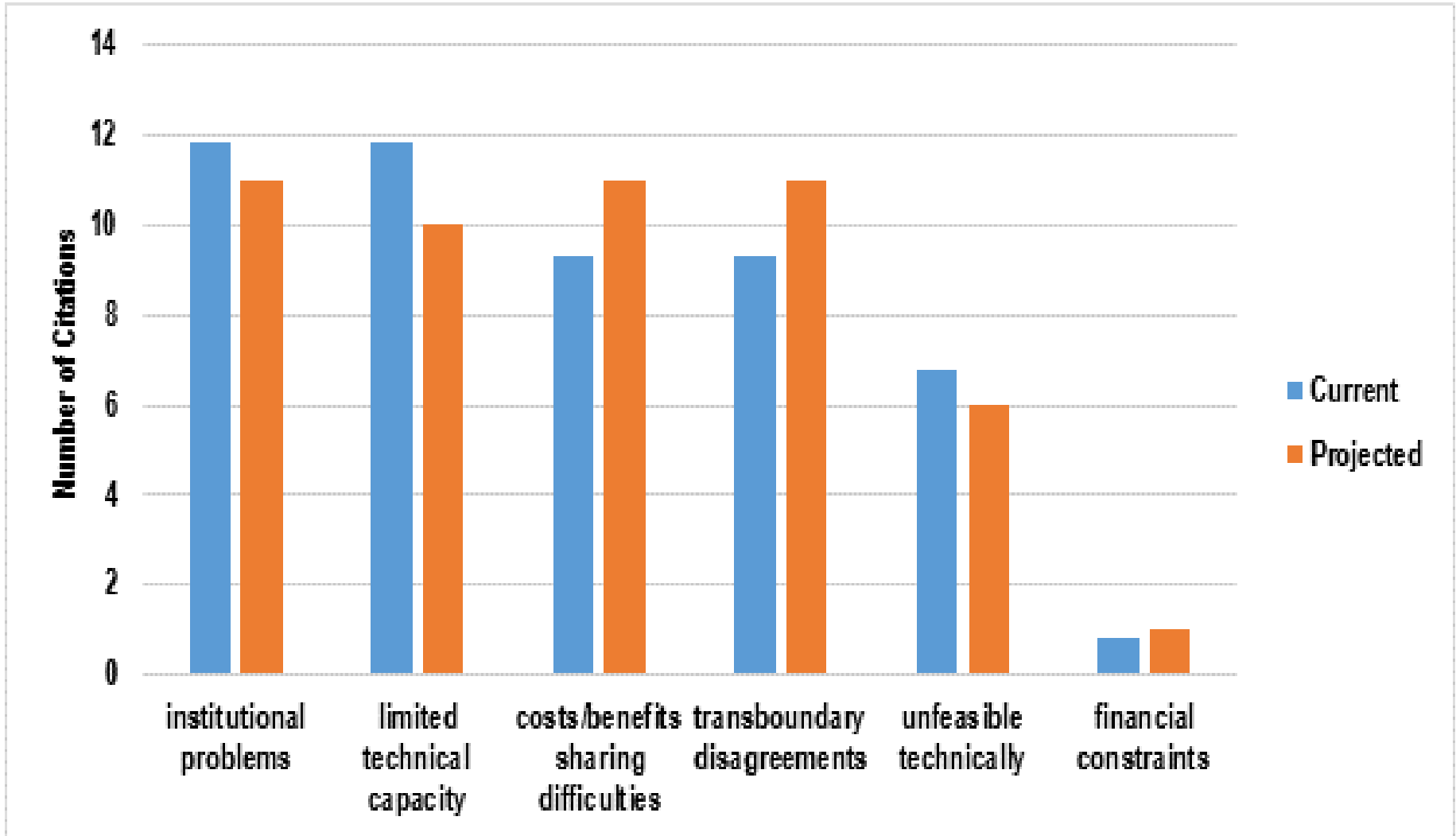
This is very much evidence by the ICA’s most recent report which stated that only 2.5% of AfDB’s investments in water infrastructure concern multi-purpose infrastructure.

Yet the “horizon” view says that opportunities are still there, but that these should:

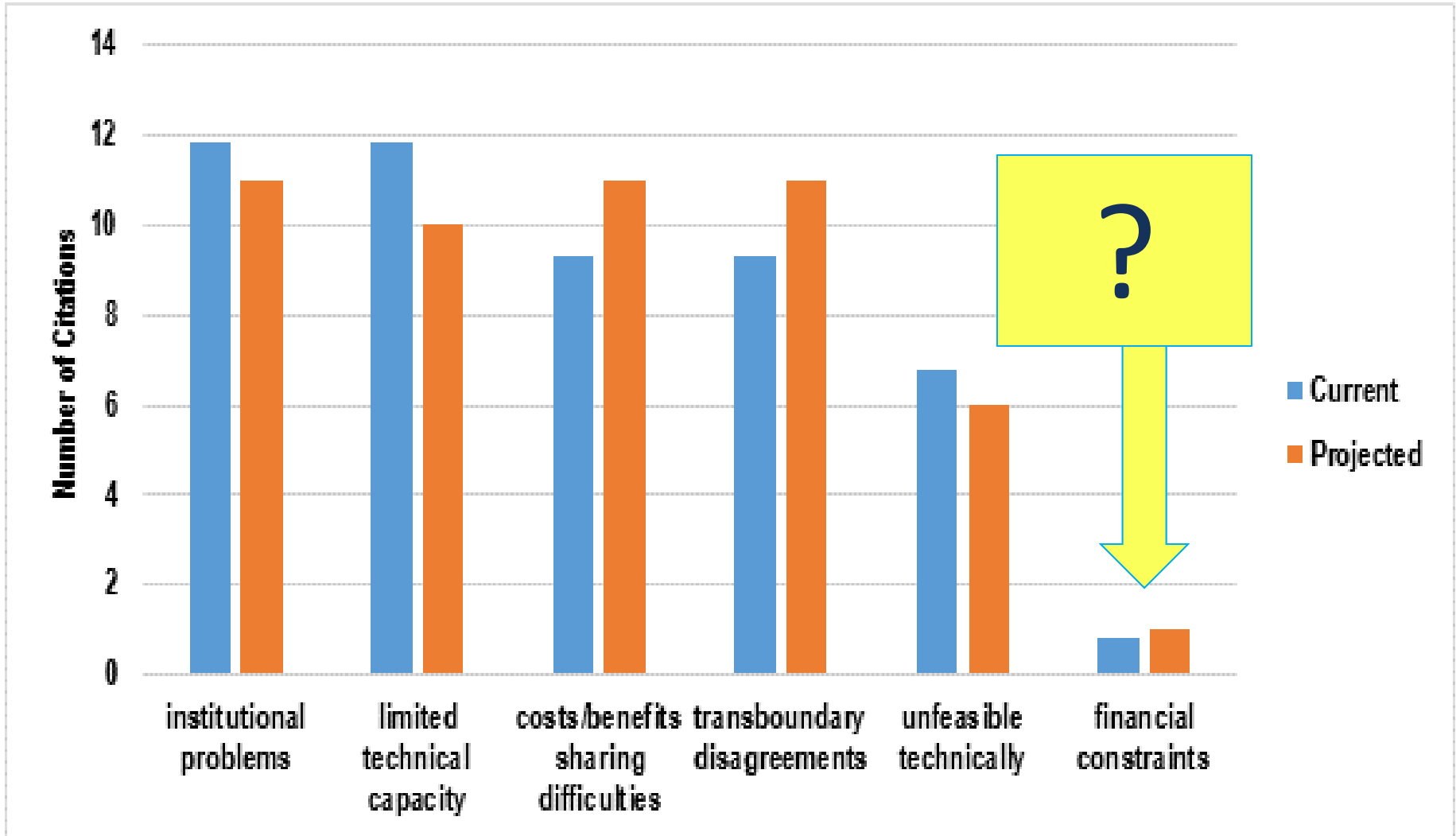
- acknowledge the importance of scale; and
- the potential represented by natural-infrastructure (eg in the Orange-Senqu basin).



# EMERGING THEMES - 1



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### Silos and Linear Thinking

Agricultural policies for instance continue to be drafted in isolation of water policies and vice versa while institutions, even with higher level objectives in common fail to cooperate, and instead compete for resources, both financial and natural.

- single solutions to multiple problems remain elusive
- efforts to solve watershed problems are usually limited to watershed solutions

## Political Economy

Simply stated, the underlying problem here is that a typical politician is unlikely to expend scarce and hard-won political capital that will make him or her unpopular in the short term in order to make someone else look good in the long term!

- Politicians and planners that could work together towards common solutions to their problems do not want to relinquish control over limited budgets and resources.
- In addition to the well described concepts of economic and physical water scarcity, the rejection of productive comparative advantage in favour of political economy introduces a third manifestation of scarcity: namely political scarcity.
- *ditto* institutional scarcity.

## EMERGING THEMES - 4

### **Political implications of choice** (*closely related to political economy*)

The stakeholder consultation suggested that in the absence of a paradigm shift in the way that politicians and planners think, compromise will remain a distant, unfulfilled dream.

### “Donor Drag”

- According to stakeholders, the policy cycles of various donors and development finance institutions i) lag behind the promulgation of promising new policy frameworks in client countries or ii) fail to adapt to them.
- Donors and/or development finance institutions operating in a particular country sometimes have incompatible and even opposing objectives.
- Finally, and closely related to the combined problems of “the donor knows best” and “the next big thing” is the problem already anticipated by one of the two caveats posited above.

# WAY FORWARD - 1

**THE RAPID ASSESSMENT FRAMEWORK**, for a given infrastructure intervention scores:

- geography, politics and development trajectory
- technical characteristics
- economics

and allows alternatives to be ranked.

# WAY FORWARD - 2

## INFRASTRUCTURE

undertake:  
a hands-on identification and ranking study on the potential with respect to regional solutions to local problems, especially any that are trade based with value added possibilities

establish:  
appropriate cost/benefits sharing protocols between countries and between sectors;  
  
but  
using the study as an opportunity for hands-on training and sensitisation of key stakeholders

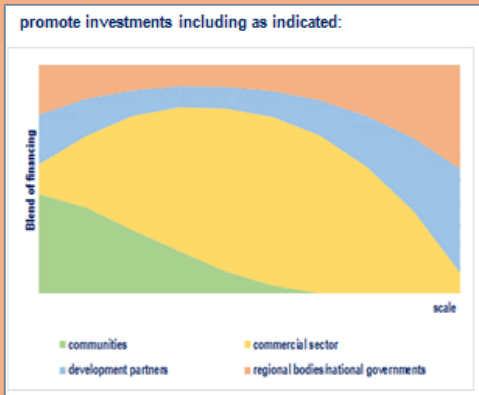
assess:  
any constraints on the enabling environment, not least at the policy level and as regards compromise and commercial investments

undertake:  
an institutional Knowledge, Attitude and Perception (KAP) Survey;  
  
and  
an institutional needs gap assessment.

prepare and regularly update:  
an investment dossier of the infrastructural components (multi scale, natural or built) of the high ranking regional solutions to local problems  
  
hands-on training

prepare:  
an institutional capacity programme intended to break down silos; operationalise the cost/benefit sharing protocols and elevate the technical level of officials and their establishments

regular capacity building: people and establishment

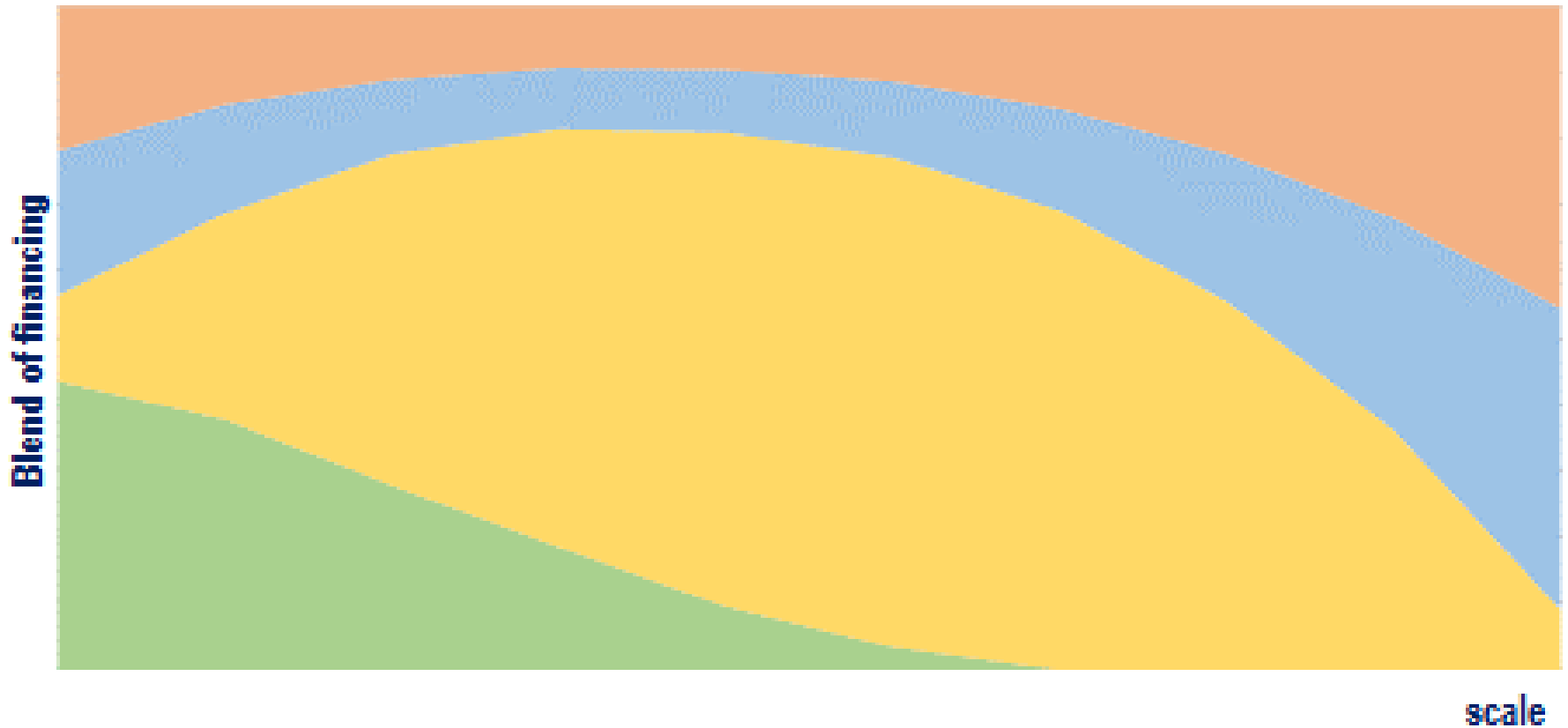


IMPLEMENT, OPERATE AND MONITOR INVESTMENTS THAT ARE SUCCESSFULLY FINANCED

## INSTITUTIONS



# WAY FORWARD - 3



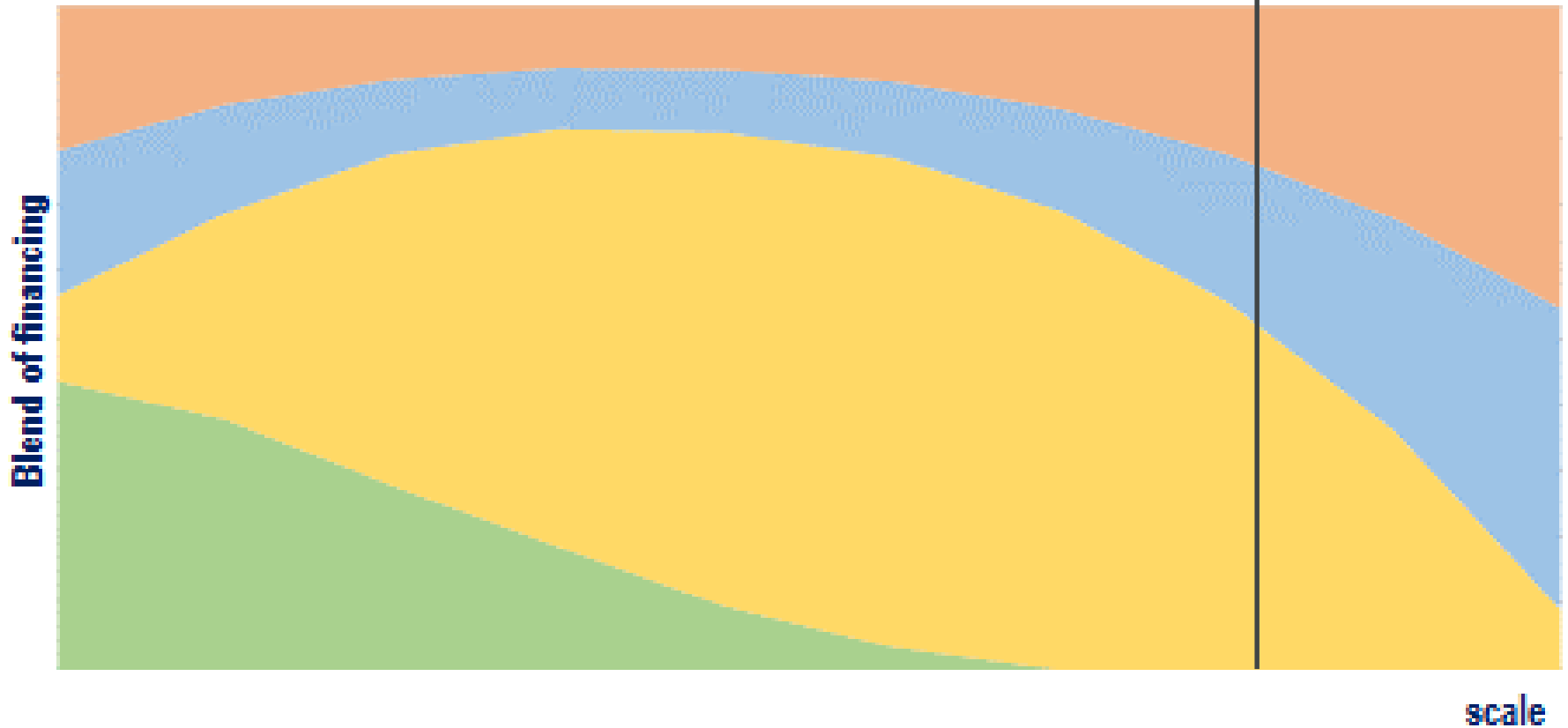
■ communities

■ commercial sector

■ development partners

■ regional bodies/national governments

# WAY FORWARD - 4



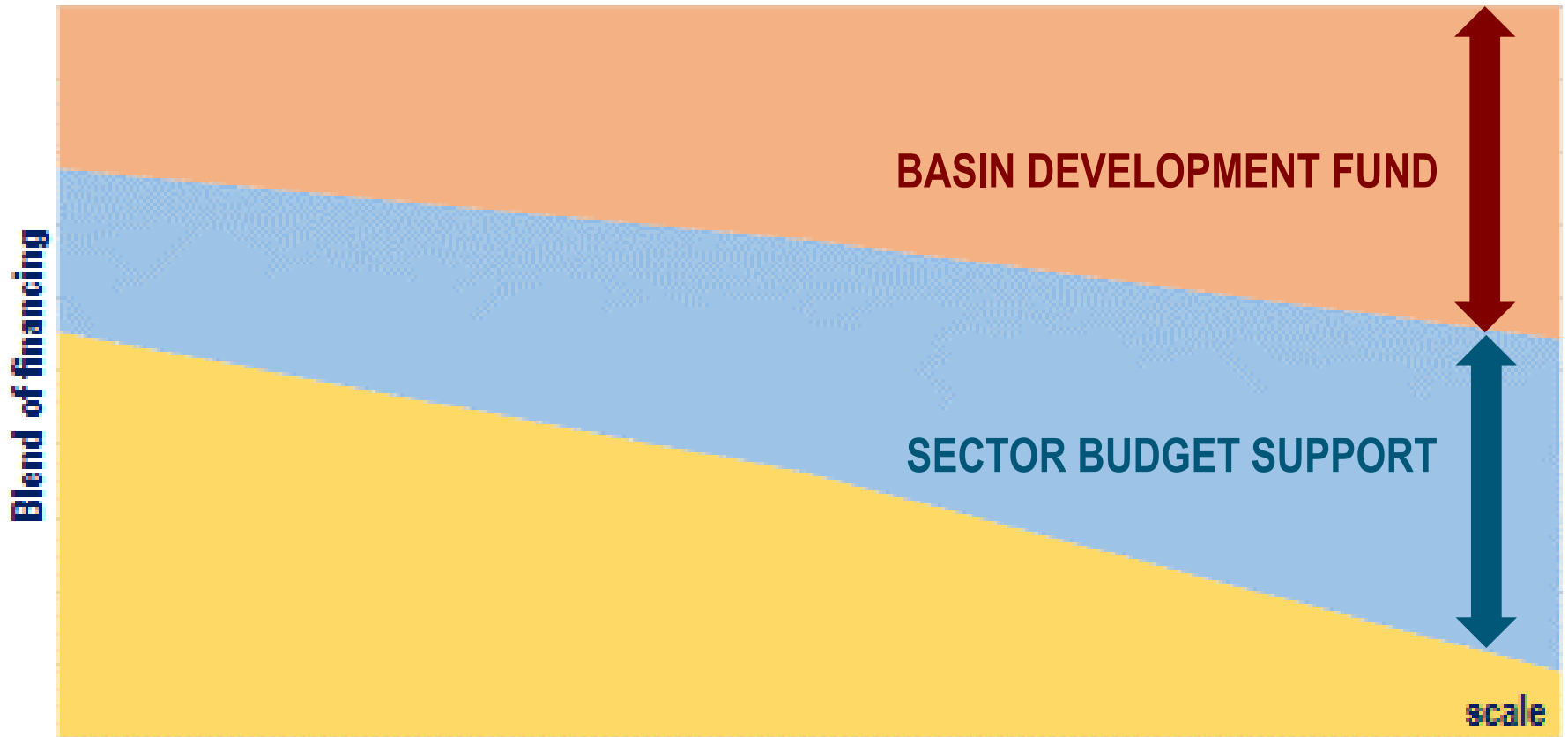
■ communities

■ commercial sector

■ development partners

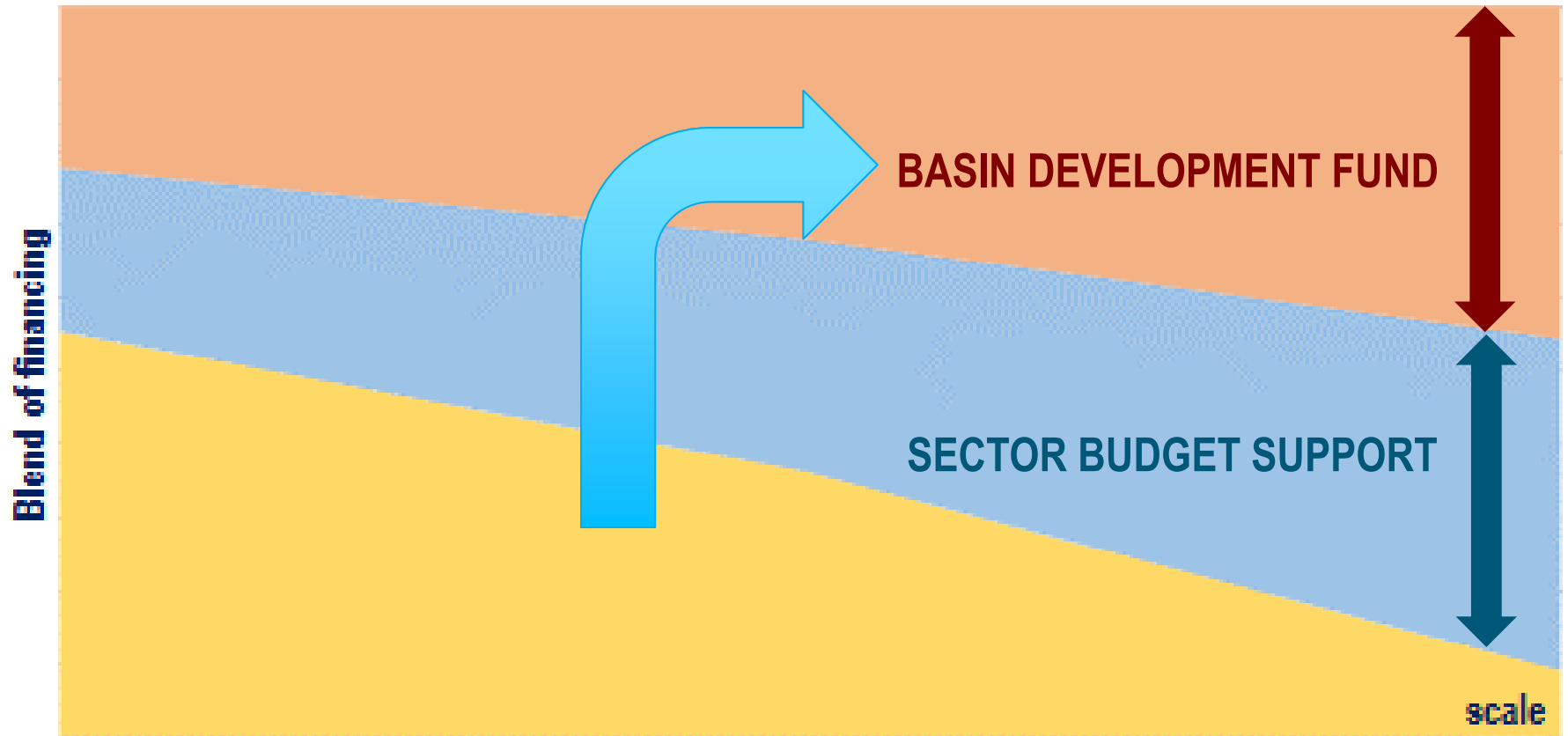
■ regional bodies/national governments

# WAY FORWARD - 4



■ commercial sector ■ development partners ■ regional bodies/national governments

# WAY FORWARD - 5



■ commercial sector ■ development partners ■ regional bodies/national governments

# NEXT STEPS - 1

Continuing discussion between IWA, IUCN and ICA:

## 1 **COMMUNICATIONS:**

- facilitate broader dialogue with stakeholders & sectors
- strengthen institutional capacity for multi-purpose planning and appraisal
- promote “nexus” opportunities with investors (public and private)
- produce a short summary of the full report to share more broadly and at higher levels
- Highlight nexus opportunities and drivers identified at different events (this one, plus Stockholm Water Week, Energy fora, etc).

## NEXT STEPS - 2

### **2 IF POSSIBLE, ICA (with IWA and IUCN) WOULD LIKE TO:**

- Focus in-depth on two strategic and demand driven basins
- work with RBOs and multi-stakeholders to develop a portfolio of investment opportunities to full economic feasibility level
- present a ranked list of nexus investment opportunities to a range of investors
- roll out the approach with other RBO's for their uptake, development, and use to mobilise resources

# THANK YOU

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the document can be found at:

[http://www.waternexusolutions.org/contentsuite/upload/wns/all/Nexus%20Trade-off%20and%20Strategies\\_%20ICA%20Report\\_%20Jan%202016.pdf](http://www.waternexusolutions.org/contentsuite/upload/wns/all/Nexus%20Trade-off%20and%20Strategies_%20ICA%20Report_%20Jan%202016.pdf)