

Background and context:

- Water supply, sanitation, and hygiene (WASH) services are critical for:
 - Public Health
 - Burden of diseases (e.g. water supply → 68% diarrhoeal disease);
 - Mortality risk (Water supply → (OR 0.62), child mortality) (Hasset & Waddington 2025)
 - Socioeconomic outcomes
 - Time savings (WASH → 3.5-8 hrs/week for household) (Waddington 2025)
 - School absenteeism (WASH → (OR 0.69)) (Andres et al. 2018)
- Multilateral development banks (MDBs) annually invest billions of dollars in WASH:
 - Multilateral organisations → US\$29 billion in WASH (2014-2024)
 - MDBs accounted for → >70% (\$20 billions) of the US\$29 billion investment
 - The World Bank, the African Development Bank and the Asian Development Bank
 - Share >90% of total MDBs' investment
 - Nonetheless, billions of people lack access to water and sanitation services (WHO&UNICEF 2025)

Background and context – continued

- MDBs use benefit-cost analysis to inform efficient resource allocation:
 - 8 out of 10 projects → BCA at the appraisal and completion stage (Musa et al. 2026)
- But,
 - The reporting quality of BCA → is low (Musa et al. 2026)
 - BCA → conducted after decisions have been made (IEG 2010)
 - Uneconomically viable projects → approved
 - Roles of stakeholders in the BCA model development → unclear.

- Research Aim:

Examine how benefit-cost analysis is developed and utilised in water and sanitation projects supported by three main MDBs: The World Bank, the African Development Bank and the Asian Development Bank.

Materials and Methods

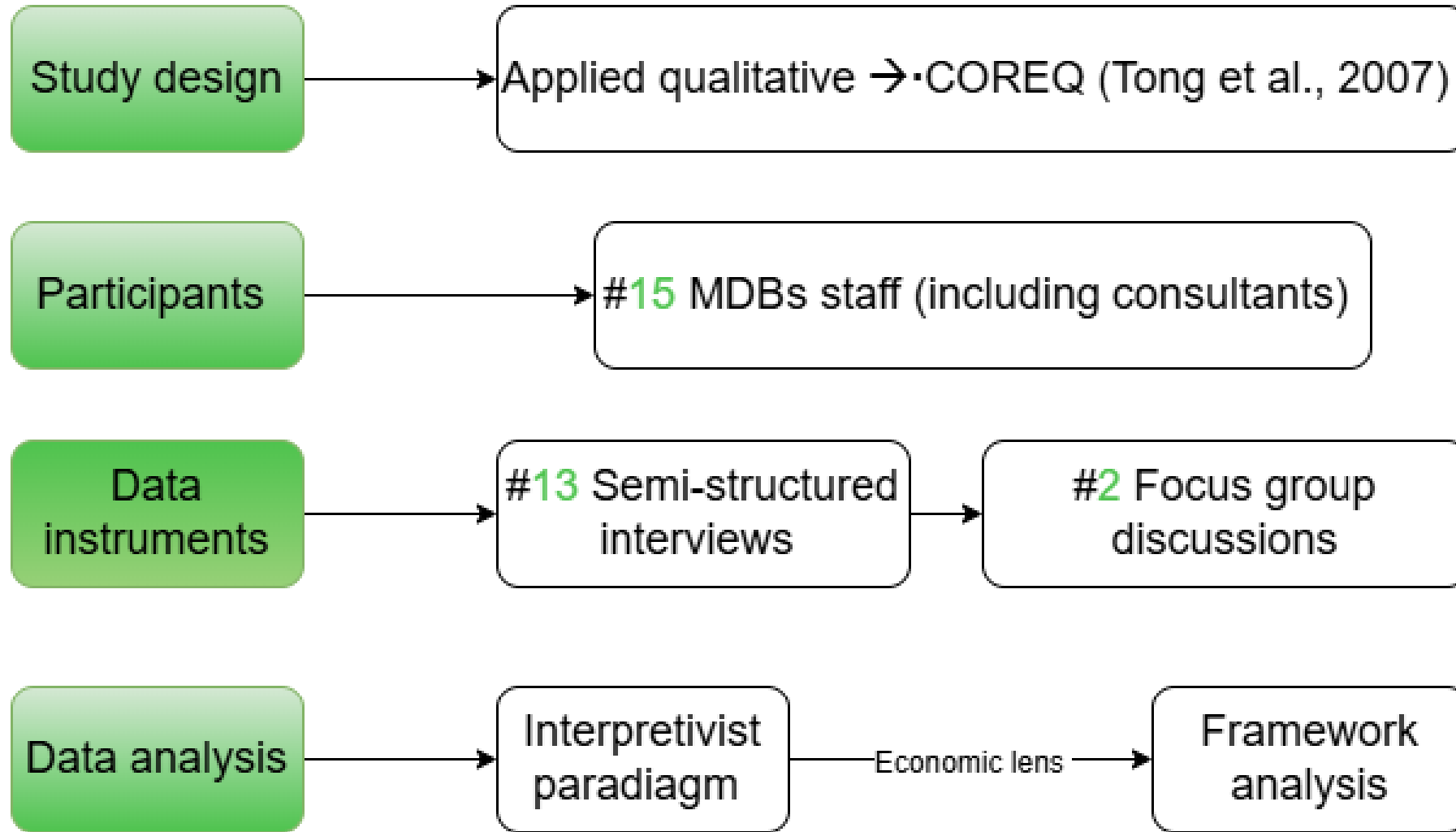
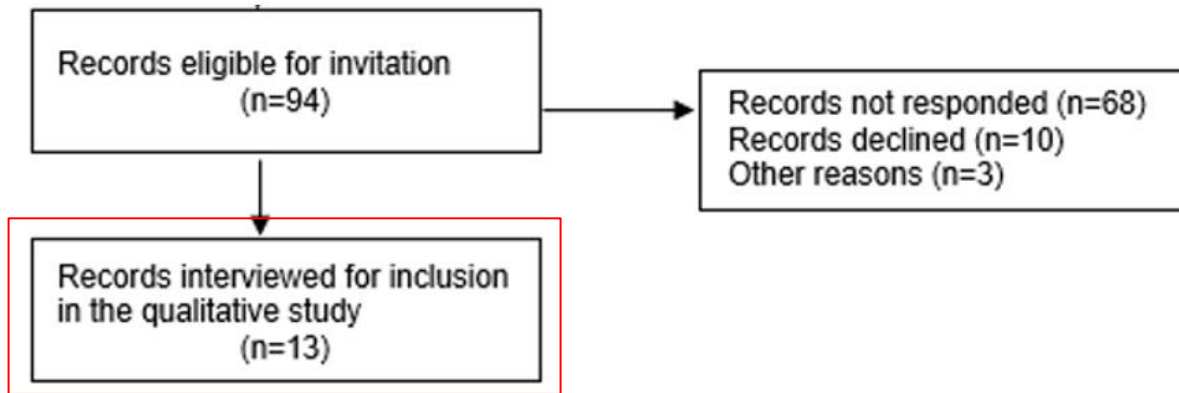


Figure 1: Methodological process

Materials and methods – continued



- 10 (77%) of projects → Africa
- 6 projects (60%) → Mozambique, Somalia and Malawi

Figure 2: Geographic location of sampled projects

Results – Emerged themes

Theme 1: Development of benefit-cost analysis



Theme 2: Use of benefit-cost in decision-making



Theme 3: Recommendations for improving benefit-cost practice

Figure 3: Identified themes of benefit-cost practice in water and sanitation projects

Results: Development of Benefit-Cost Analysis at the Appraisal Stage

Theme 1: Development of benefit-cost analysis

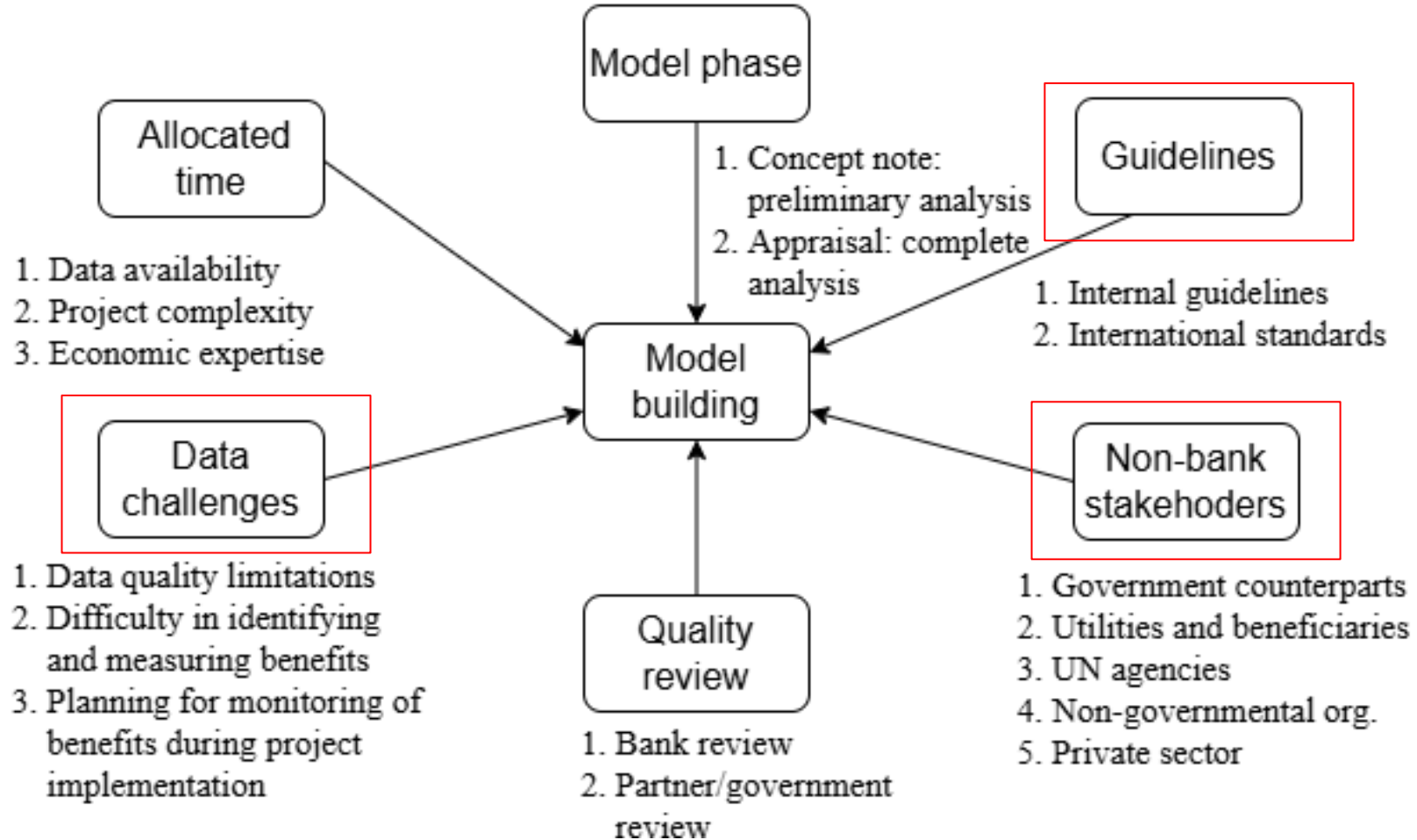


Figure 4: Development of benefit-cost analysis in MDBs' water sector during the appraisal stage

Results – continued

▪ Data challenges

- *“The problem is sometimes obtaining quality information for the benefit-cost model development ...” [Interview, 28]*
- *“Once the project is approved, we do not often monitor the parameters used in the economic analysis...” [FGD 01]*

▪ Use of guidelines in benefit-cost analysis

- *“[Analysis] must be appropriately conducted according to international guidelines ...” [Interview, 22]*

▪ Stakeholders’ involvement in the BCA process

- *“Stakeholders are involved in the benefit-cost analysis, and they often provide information ...” [Interview, 27]*

Results: Use of Benefit-Cost Analysis in Decision-making

Theme 2: Use of benefit-cost analysis in decision-making

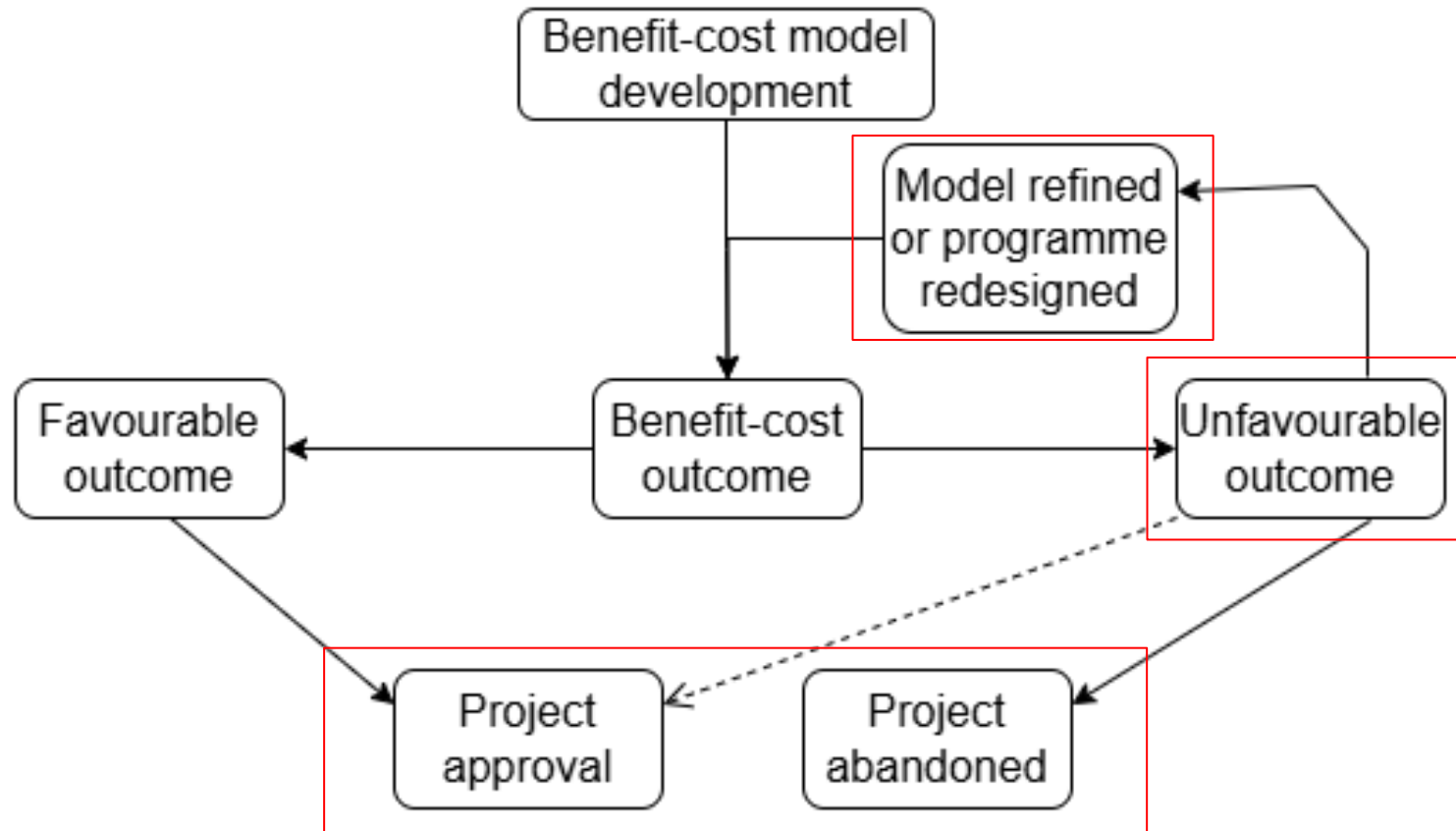


Figure 5: Use of benefit-cost outcomes in water and sanitation project appraisal in MDBs

Results – continued

- **Benefit-cost outcome**

- *“[The analysis] aided project approval and led to granting additional funding due to its huge impact...”*
[Interview, 33]

- **Model refinement/programme redesign**

- *“The economic analysis model would be restructured if a project does not show favourable results ...”*
[FGD 02]

- **Project abandoned**

- *“Projects can not move forward if they are economically unviable ...”* *[Interview 23]*

Results: Recommendations for improving Benefit-Cost Practice

Theme 3: Recommendations for enhancing benefit-cost analysis

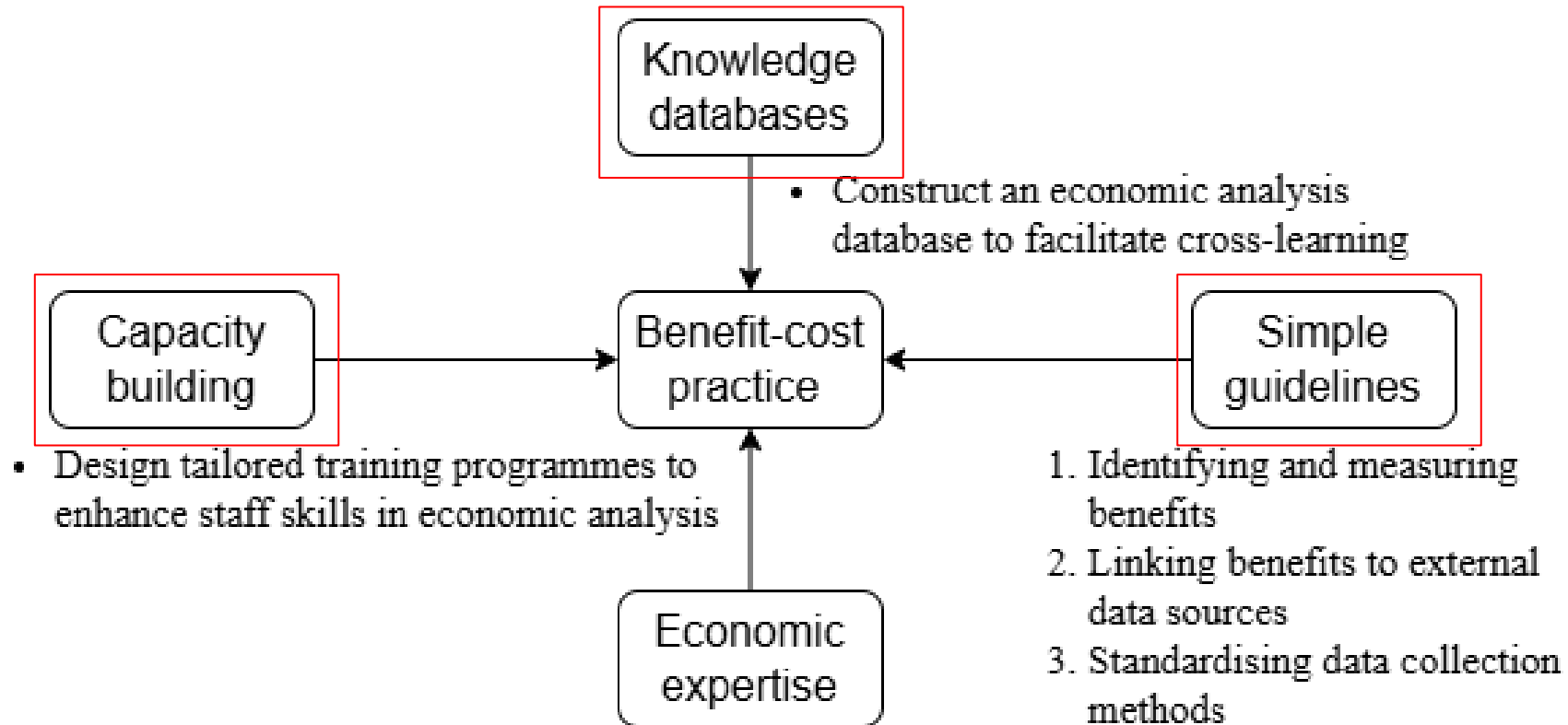


Figure 6: Recommendations for improving benefit-cost practice in MDBs' water sector

Results – continued

- **Update BCA guidelines**

- *“We need harmonised guidelines to accelerate discussions on the identification and quantification of benefits as well as linking secondary data with country-specific information...” [Interview 028]*

- **Construct a knowledge database**

- *“We are not being diligent about compiling and making templates of economic analysis available in a single repository for project members to learn and gain ideas for their analysis...” [Interview, 035]*

- **Design capacity building programmes**

- *“There should be some capacity building training for project managers and team members, as benefit-cost requires well-qualified staff ...” [Interview, 025]*

Discussion and implications

- BCA plays a role during project appraisal but is not the sole driver for decision-making in MDB practice.
- Stakeholders' role in BCA could be expanded beyond the provision of data
 - Participate in discussion of model results
- Quality enhancement review → not reflected in the reporting of benefit-cost
 - Validity and reliability of results → decisions suboptimal.
- Inadequate monitoring of economic benefits during project implementation
 - Impede estimation of the real benefit achieved → project completion.

Strength and limitation

Strengths:

- First qualitative synthesis to elicit context-rich staff's accounts of the largest MDBs

Limitations:

- We only included staff from three MDBs; however, this does not limit the relevance of results to other banks because operational models and procedures are likely similar across MDBs

Conclusion and policy recommendations

Conclusion:

- Benefit-cost analysis is a critical factor in water project decision-making appraisals; however, its value depends on several factors
 - Political, institutional and operational factors

Policy recommendations:

- MDBs should strengthen benefit-cost practice to support transparent and efficient resource allocation in WASH projects.
 - Design training programmes for staff
 - Establish BCA databases for cross-learning across projects and contexts
 - Update guidelines (identifying and measuring benefits, linking benefits to relevant data sources)

Acknowledgement

Supervisory Team



Ian Ross, LSHTM
Assoc Prof. Health Economics



Elisa Van Waeyenberge, SOAS
Prof. Development Economics



Oliver Cumming, LSHTM
Assoc Prof. Environmental Health



Bloomsbury Colleges PhD
Studentship

Thank You

WASH Economics Conference 2026

CWAS CENTER FOR WATER AND SANITATION
CRDF CEPT UNIVERSITY

CEPT UNIVERSITY
FACULTY OF PLANNING

IFS Institute for Fiscal Studies

LONDON SCHOOL OF HYGIENE & TROPICAL MEDICINE

Gates Foundation

