

ARUA ECR FELLOWSHIP · UNIVERSITY OF GHANA

From Fellowship to Futures

My ARUA Early Career Research Journey

Dorothy Khasisi Lukhabi · Postdoctoral Fellow, University of Cape Coast · June 2026

The ARUA Early Career Research (ECR) Fellowship has been a turning point in my career as a coastal climate researcher. Over six months at the Institute of Environment and Sanitation Studies, University of Ghana, I moved from a single project idea to a web of collaborations, publications and leadership opportunities that are reshaping how I think about African-led ocean and coastal research.

1,007

Records
screened

37

Studies
synthesised

3

Countries in
partnership

1

Springer
book
chapter

01 — RESEARCH SPOTLIGHT

Indigenous Knowledge & Low-Cost Desalination

At the core of my Fellowship was a desk-based systematic review titled:

"Indigenous Knowledge and Low-Cost Desalination in Coastal and Saline-Affected Communities: A Review of Methods, Effectiveness and Socio-Environmental Implications."

The review:

- Screened 1,007 records and synthesised 37 studies.
- Mapped low-cost, community-grounded practices such as:
 - Solar stills and solar-thermal desalination
 - Rainwater harvesting in saline landscapes
 - Plant-based coagulants (e.g. Moringa, *Phyllanthus emblica*)

- Biochar-based filtration and microalgal biodesalination
- Showed that these methods work best when they:
 - Use local materials and labor
 - Fit existing water-use routines and governance systems
 - Recognise Indigenous and local knowledge as central, not peripheral

"These methods work best when they use local materials, fit existing governance systems, and recognise Indigenous and local knowledge as central — not peripheral."

This work is now under review in a peer-reviewed journal and provides an exciting foundation for future empirical work on climate-resilient, low-cost water supply in coastal communities.

Key Methods Identified

☐ Solar Stills

Solar & solar-thermal desalination harnessing local sunlight

☐ Plant Coagulants

Moringa & *Phyllanthus emblica* as natural water purifiers

☐ Rainwater Harvesting

Adapted systems for saline-affected coastal landscapes

☐ Biochar Filtration

Biochar-based filtration & microalgal biodesalination

02 — CONTINENTAL PARTNERSHIPS

Co-Writing Grants with Fellow ARUA ECRs

One of the biggest and most unexpected gifts of the Fellowship has been the people. Through the ARUA/Carnegie Early Career Workshop and ongoing interactions, I have developed a new collaborative partnership spanning three countries.

The Research Team

GHANA

**Dorothy Khasisi
Lukhabi**

University of Cape Coast

SOUTH AFRICA

**Dr. Kundani
Makakarvule**

University of Pretoria

TANZANIA

**Dr. Belinda
Chepchumba**

University of Dar es Salaam

Together, we have:

- Co-designed and submitted a joint research proposal.
- At the verge of securing funding under CODESRIA's 2026 Meaning-Making Research Initiatives (MRI).

★ PROBABILITY OF SECURING FUNDING

CODESRIA 2026 Meaning-Making Research Initiatives (MRI)

This collaboration is a platform to:

- Co-supervise ideas across institutions and contexts
- Co-develop future grant proposals with built-in cross-country credibility
- Explore exchange visits, peer learning and joint publications

"This is where ARUA's value really shines: not just in skills training, but in brokering real partnerships that outlive the formal fellowship period."

03 — LEADERSHIP

Stepping into Leadership: A Springer Book Chapter

Mentorship has been another powerful thread in this journey. Under the guidance of my ARUA mentor, Prof. Kwasi Appeaning Addo, I have been given the opportunity to lead a book chapter that places the Volta Delta at the centre of global coastal hazard discourse.

SPRINGER PUBLICATION

"Relative Sea-Level Rise and Compound Coastal Hazards in the Volta Delta: Socio-Ecological Vulnerability, Adaptation and Governance in Threatened Communities."

- ☐ Co-authored with experienced scholars from the University of Ghana and across the globe
- ☐ Published by Springer — placing African-led research in a global space
- ☐ Examines sea-level rise and compound hazard intersections with livelihoods
- ☐ Explores socio-ecological vulnerability and governance responses

04 — WHY THIS MATTERS

The Fellowship Effect

Looking back, the ARUA ECR Fellowship has:

01

Research Portfolio

A high-quality systematic review on Indigenous knowledge and low-cost desalination, now under peer review in an international journal.

02

Continental Network

A successfully funded collaborative proposal with colleagues in South Africa and Tanzania — building the kind of African research coalition that produces durable knowledge.

03

Academic Visibility

A Springer book chapter on coastal hazards and governance in the Volta Delta: an early career researcher trusted to lead, not just contribute.

Lean into the Networks

If you are an early career researcher working on coastal adaptation, Indigenous knowledge, water security or blue economies, these kinds of platforms and networks can be transformative. ARUA has not only supported my current research, it has scaled up my trajectory as an early career scholar working at the intersection of coastal resilience, water security and climate justice.

If you are already in the ARUA ecosystem: lean into the networks, the workshops and the mentorship; they can open doors you didn't even know were there.

#CoastalResilience #IndigenousKnowledge #WaterSecurity #ClimateJustice #AfricanResearch
#ARUA #BlueEconomy #ECRFellowship

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