

# View Survey Response

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## Questions

### 1. Name of Proponent(s)\*:

Mohammed Isah

### 2. Country(ies)\*:

Nigeria

### 3. Title of Proposal\*:

Industrial Ecology Training for University Professionals in Nigeria

### 4. \* WHAT IS THE CENTRAL IDEA OF THE PROPOSAL?

Nigeria is Africa's largest economy and most populous nation on the continent. By 2050, it is projected to be the world's third most populous country. Nigeria is blessed with abundant natural resources: 37.1 billion barrels of oil reserves, 209.5 trillion cubic feet of gas, 84 million hectares of arable land, and enormous minerals such as lithium and columbite-tantalite. The country is a leading gas producer and exporter, and one of the fastest-growing economies in the world.

The rising population, exploitation of these resources, and urbanisation are increasing environmental pollution and competition for land and other resources. Industrial ecology can serve as an invaluable tool for assessing environmental impacts and the effectiveness of mitigation strategies, mapping the flow of resources, and closing the loop. However, some university professionals lack the knowledge and tools to teach industrial ecology methods; life cycle assessment, material flow analysis and environmental input-output analysis. They are rarely taught or applied in Nigerian universities. This limits the ability of policymakers, researchers, and industries to evaluate environmental and social impacts across value chains.

The central idea of this proposal is to build Nigerian university professionals' capacity in industrial ecology to support sustainable resource management and industrial development.

## **5. \* WHAT IS THE BENEFIT TO THE SOCIETY AND MEMBERS?**

This proposal offers three strategic benefits to the ISIE and its members. First, the training will expand ISIE's presence in underrepresented regions of Sub-Saharan Africa, increasing participation in the Society's activities, including conferences and working groups, and supporting its membership growth objectives. Second, increased membership would lead to research collaboration and improve the availability of regionally relevant datasets, thereby addressing the current geographic imbalance in industrial ecology research, which is largely concentrated in Europe, North America, and parts of Asia. New data from Sub-Saharan Africa will enhance understanding of the environmental and social impacts of critical mineral extraction, natural resource use, and agricultural systems. Third, strengthening the capacity of Nigerian university professionals will help cultivate a new generation of IE scholars who contribute to Africa's sustainable and transformative development, foster stronger linkages among academia, government, and industry, and promote evidence-based policymaking.

## **6. \* WHO WOULD GOVERN OR OPERATE THE PROPOSAL?**

The entire proposal will be managed by Mohammed Isah (PhD) with support from the steering committee of the African Life Cycle Assessment and Interested Enthusiasts Society (ALIES).

## **7. \* WHAT RESOURCES ARE AVAILABLE TO SUPPORT THE PROPOSAL (e.g. Administrative, Financial, personnel)**

The proposal will be supported by personnel from the Environmental and Economics Laboratory Group led by Prof. Kazuyo Matsubae, Graduate School of Environmental Studies, Tohoku University, Japan. This group and the institute will also provide administrative support, including coordination, communication, and organizational management. In addition, members of the ALIES Steering Committee have pledged their commitment to the initiative and are willing to serve as faculty members for the training programme. Their expertise will support the delivery of courses on environmental and social life cycle assessment. Collectively, these institutional and professional resources provide strong personnel, administrative, technical, and academic capacity to ensure effective implementation of the proposed activities and the successful delivery of high-quality training outcomes.

## **8. \* IS THIS PROPOSAL DEFINED WITHIN A SINGLE ISIE SECTION OR ACROSS SECTIONS?**

This proposal cuts across several ISIE sections, including Socio-economic Metabolism and Life Cycle Sustainability Assessment. By integrating expertise from these complementary areas, the initiative adopts a multidisciplinary approach that equips researchers with the knowledge and tools needed to effectively diagnose environmental

challenges. This collaboration strengthens their capacity to generate robust scientific evidence, support evidence-based policymaking, and foster meaningful social and environmental change.

## **9. EVIDENCE OF SUPPORT FOR THE PROPOSAL (FROM WITHIN OR ACROSS SECTIONS OR REGIONS)**

The proposed workshop builds on ongoing exchanges with members across multiple sections of the association, particularly those engaged in LCA, MFA, and E-IOA. Preliminary discussions indicate that there is strong interest in expanding IE capacity-building activities in Africa, where demand for methodological training continues to grow. Upon funding approval, relevant sections and regional representatives will be formally engaged in programme co-development, speaker identification, and outreach, ensuring broad cross-sectional participation and institutional ownership of the workshop outcomes.

The proposal builds upon existing professional networks developed through conference participation, collaborative research engagements, and academic partnerships across Africa and Europe. The workshop concept has received positive preliminary feedback from peers who recognize the growing need to expand capacity in sustainability assessment across the Global South.

## **10. IF ISIE MEMBER FOR <2 YEARS, PROVIDE NAME OF SUPPORTING ISIE BOARD MEMBER OR SECTION LEADER**

Professor Arnold Tukker

## **11. APPROXIMATE BUDGET IF APPLICABLE (Financial estimates and explanations)**

1. Venue and Logistics - €1000  
Lagos, 2 days × €500 Euro per day
2. Catering and Refreshments - €800
  - Tea/coffee breaks
  - Lunch for participants and facilitators (2 days)
3. Training Materials and Supplies - €400
  - Printing of certificates
  - Stationery (folders, notebooks, pens, name tags)
4. Facilitator Support - €800
  - Local transportation and accommodation support for trainers
  - Honoraria for invited resource persons or gifts
5. Participant Support - €1200
  - Travel support for early-career researchers outside the host city with minimized carbon emissions.
6. Administration and Communication - €600
  - Publicity and media

- Media documentation and reporting
  - Networking session
- Total = €4800.00

## **12. OTHER**

The proposed training on IE for Nigerian university professionals will expand the reach of ISIE and strengthen engagement in underrepresented regions. The initiative aims to enhance research capacity in resource-producing regions, promote more equitable global knowledge production, and cultivate a new generation of sustainability scholars equipped to address complex environmental challenges.

The training will be implemented in two phases. The first phase will consist of a three-month online programme, with sessions held twice monthly for selected university researchers. This phase will introduce core concepts, analytical frameworks, and methodological foundations. The second phase will involve an in-person industrial ecology workshop for selected Nigerian participants in Lagos. At the workshop, they will apply their knowledge to real-world LCA, MFA, and EE-IOA case studies. Participants will receive hands-on training using tools such as ODYM models, SimaPro, or OpenLCA, under the guidance of experienced researchers from the ISIE and ALIES.