



Empowering LDCs Through an International Online University: Expanding Access, Enhancing Quality, and Advancing STEM

Innovative Solutions for Equitable Higher Education

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Quote

"Online education is the key to unlocking a world of knowledge, anytime, anywhere. Challenges may arise, but the benefits of flexibility, accessibility, and personalized learning make it a worthwhile pursuit."

Michael Collins, 2009

Session Objectives

Highlight Key Challenges in LDC Higher Education

Analyze proven models of global online universities.

Identify adaptable strategies for LDC contexts.

Discuss how digital learning can enhance local education systems without disrupting cultural integrity.

Case Study and model

Use case

Key Challenges in LDC Higher Education

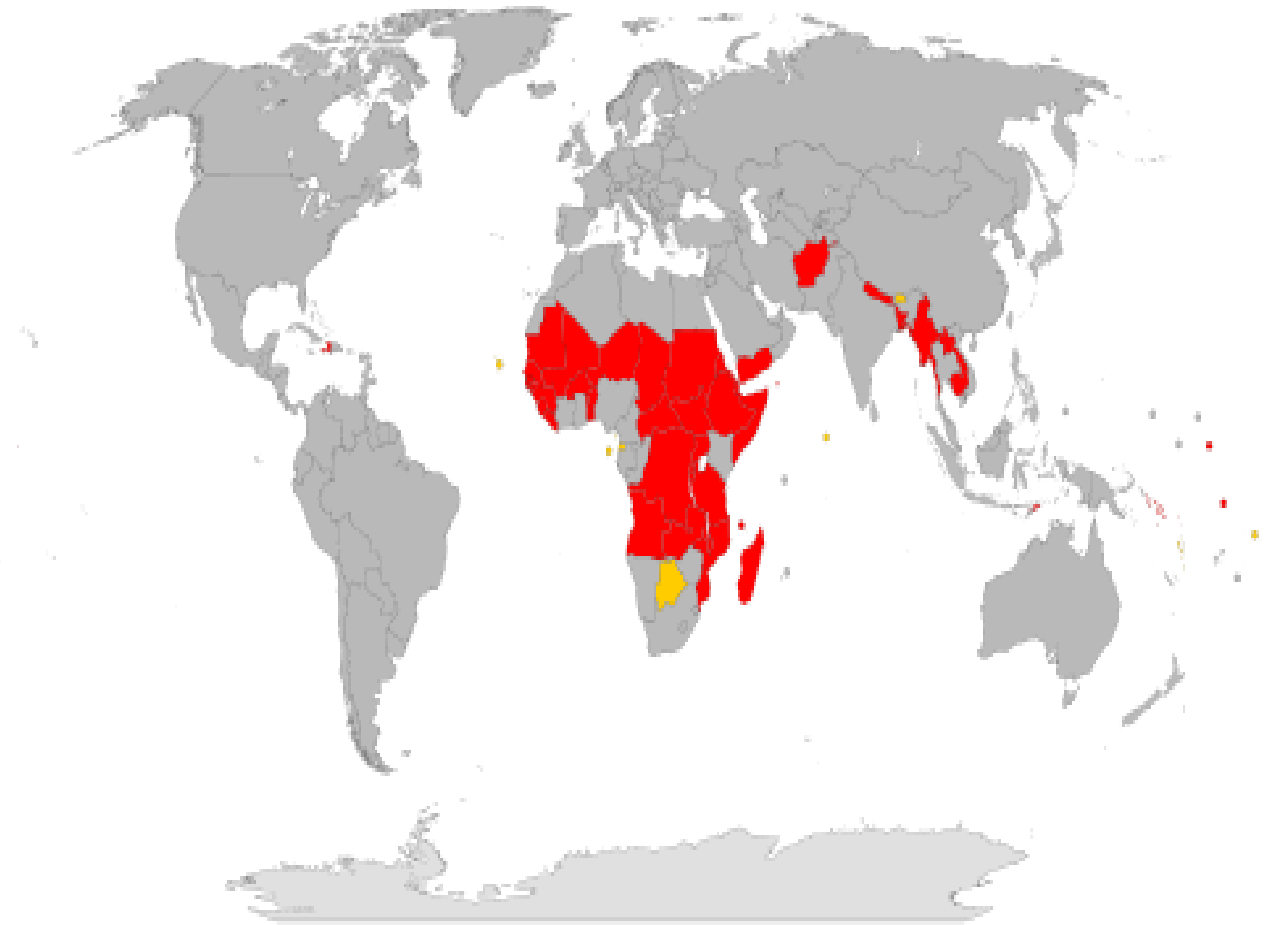
Infrastructure Limitations: limited access to high-speed internet, and a general lack of access to the necessary digital devices.

Barriers to Access: Scarce institutions, financial constraints, remote locations.

Quality Concerns: Obsolete curricula, faculty shortages (especially in STEM)

Energy Constraint and other associated Technologies: Many LDCs face unreliable electricity supply and lack tools

Digital Literacy and Capacity Gaps and scarcity of qualified local STEM Instructors and students



■ Least developed countries (designated by the [UN](#) as of 2023)

■ Former least developed countries



Language and Cultural Relevance

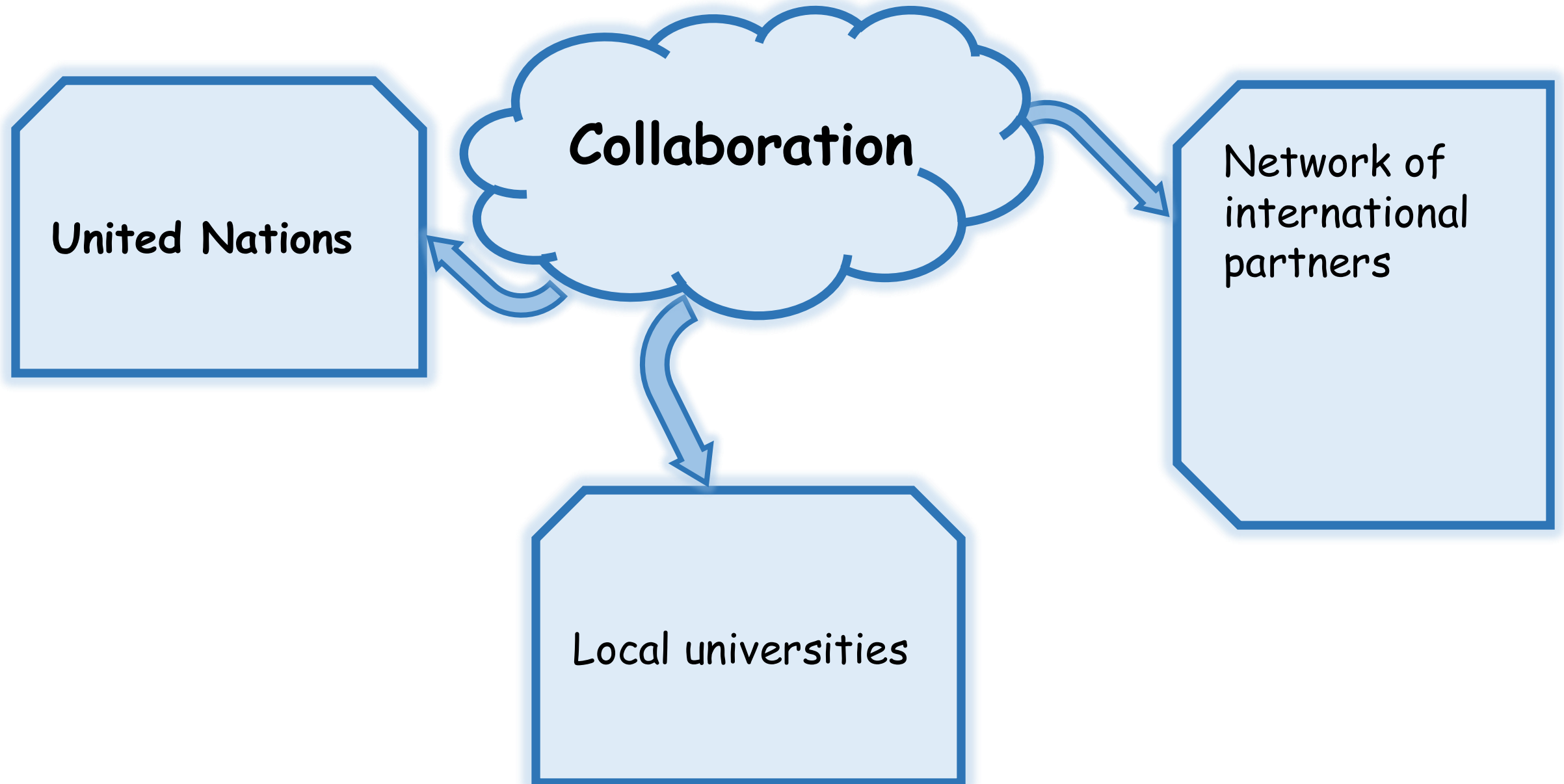
Most international online STEM programs are delivered in dominant languages like English, posing a challenge for learners in LDCs with limited proficiency

Limited General Proficiency:
language barriers, curricula often fail to incorporate culturally relevant examples

Accreditation and Recognition Challenges

- Acceptability by employers or government bodies.
- formal recognition from national accreditation systems,
- Qualifications holding little weight in local job markets.

Recommended Offering for LDC Countries





The Promise of an International Online University

Breaking Barriers: Affordable, adaptable, and wide

Democratizing Education: Affordable, flexible, and scalable learning.

STEM for Growth: Meeting workforce needs in key sectors.

Digital Roadmaps: Syncing with national ed-tech strategies.

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Benefits of Collaboration with Local Universities



**Localized Delivery
with International
Quality**

**Local universities
ensures program
contextualization:
Cultural, linguistic,
and economic
realities**

**The UN and
international
institutions provide:
Curriculum, funding,
and technical support**



How an International Online University Can Transform LDCs

Breaking Barriers:

Affordable, adaptable, and wide-reaching education.

STEM Empowerment:

Closing critical skill gaps in science and technology.

Global Collaboration:

Harnessing expertise from leading institutions.

Localized Approach:

Culturally sensitive content, multilingual options.

Global Success Stories in Online Higher Education

University of the People (UoPeople): Tuition-free degrees in high-demand fields.

African Virtual University (AVU): Continent-wide STEM programs.

Coursera & edX Degrees: Universities delivering credentials via MOOCs.

Commonwealth of Learning (COL): Open/distance learning initiatives for developing nations.

Adaptable Strategies for LDCs

Flexible Learning Models



Self-paced

hybrid options

Affordable Tech Solutions



Offline access

mobile-friendly platforms

Industry-Driven STEM



Partnerships

local employers.

Contextualized Content



Culturally resonant materials

languages.

Strengthening Local Education Systems

- **Blended Approaches:**

- Online courses + in-person mentorship.

• **Educator Development:** Online training for local faculty.

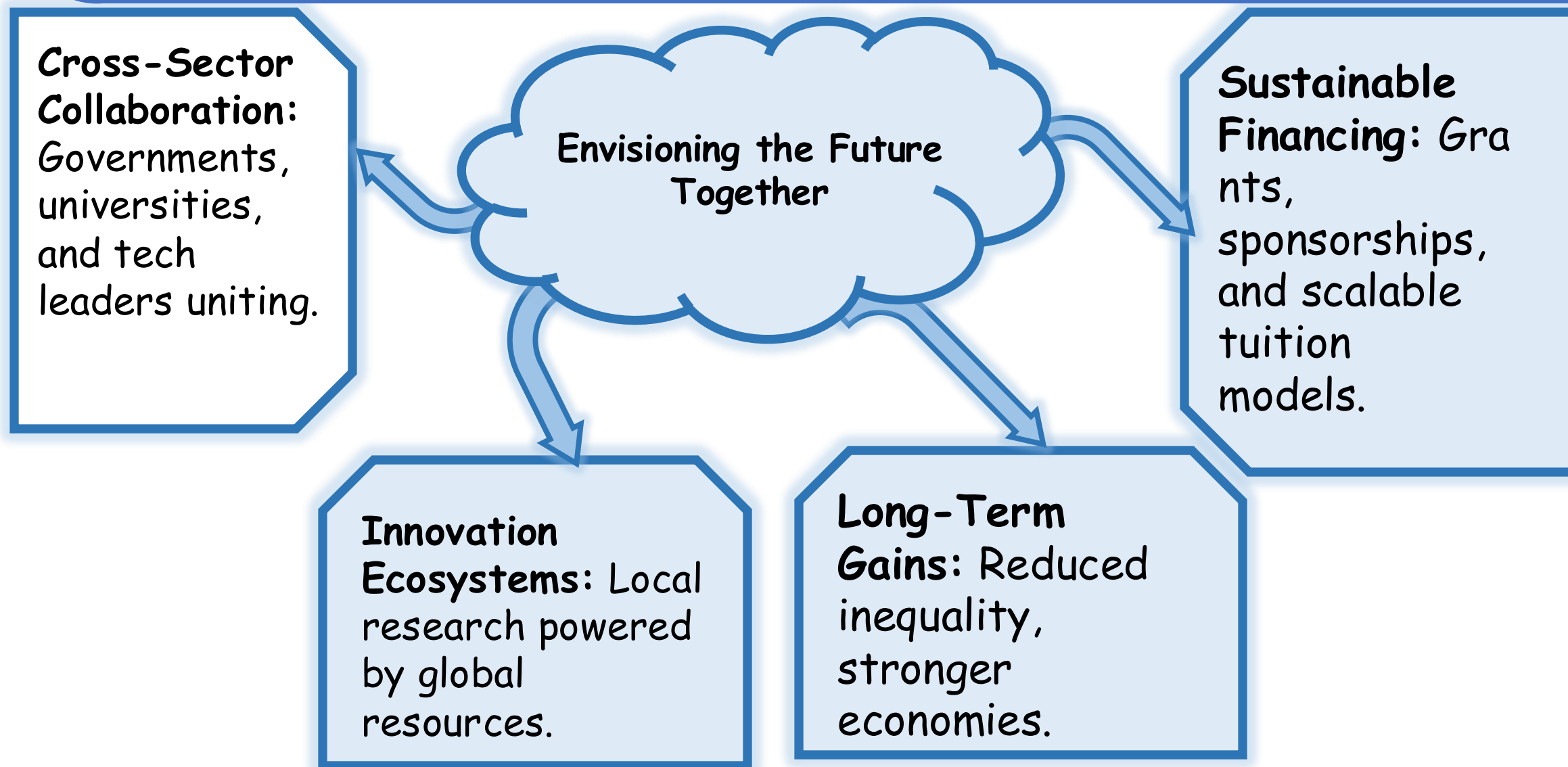
• **Policy Engagement:** Government/NGO support for accreditation.

• **Community Access Points:** Rural learning centers for offline resources.

Culturally Responsive Education

- **Local Knowledge Integration:** Blending indigenous and global perspectives.
- **Multilingual Offerings:** Courses in native languages.
- **Gender Inclusion:** Encouraging women in STEM fields.
- **Ethical Frameworks:** Avoiding one-size-fits-all impositions.





Benchmark by Analyzing national and International Standard

- This involves analyzing national and international standards that govern higher education
- Council for Higher Education Accreditation (CHEA),
- European Association for Quality Assurance in Higher Education (ENQA)
- UNESCO guidelines.
- These frameworks help maintain academic rigor, institutional accountability, and learner outcomes.
- Adapt online context Accreditation mechanisms to some existing frameworks which help maintain academic rigor

ACCREDITATION PROGRAMMES FOR UNIVERSITIES IN NIGERIA "MY EXPERIENCE"

- National University Commission
- Council for The Regulation of Engineering in Nigeria

Practical Case Study/Models

My Experience

- National Open University of Nigeria(On Sabbatical)
(Africa Centre for Technology Enhance Learning(ACETEL))
- MIVA Open University of Nigeria (Developing Curriculum and Posting Online Lectures)
- ICT University Cameroun Yaoundé (Hybrid Operation)

Case Study and Model

Africa Centre of Excellence on Technology Enhanced Learning (ACETEL)

- Centre was launched at the Djibouti Workshop of World Bank and Association of African Universities (AAU) in 2019.
- The Centre offers six (6) programmes at the postgraduate level.
- Centre will offer fourteen (14) short courses
- Students spans through all regions in Africa generally but West African sub-region specifically.

Philosophy

- Leveraging on the affordances of technology to ensure digital literacy and enhance the quality of STEM education



Enhancing Tools and use cases

- TEAM WINEST

- TEAM TECH
RANGERS

Leverage on Special Tools
and Platforms

- Sandbox
- Amazon Web Service AWS
- And More

Use Case 1 Research Project Nigeria (ITU Magazine)



No. 5, 2020

Insights from academia

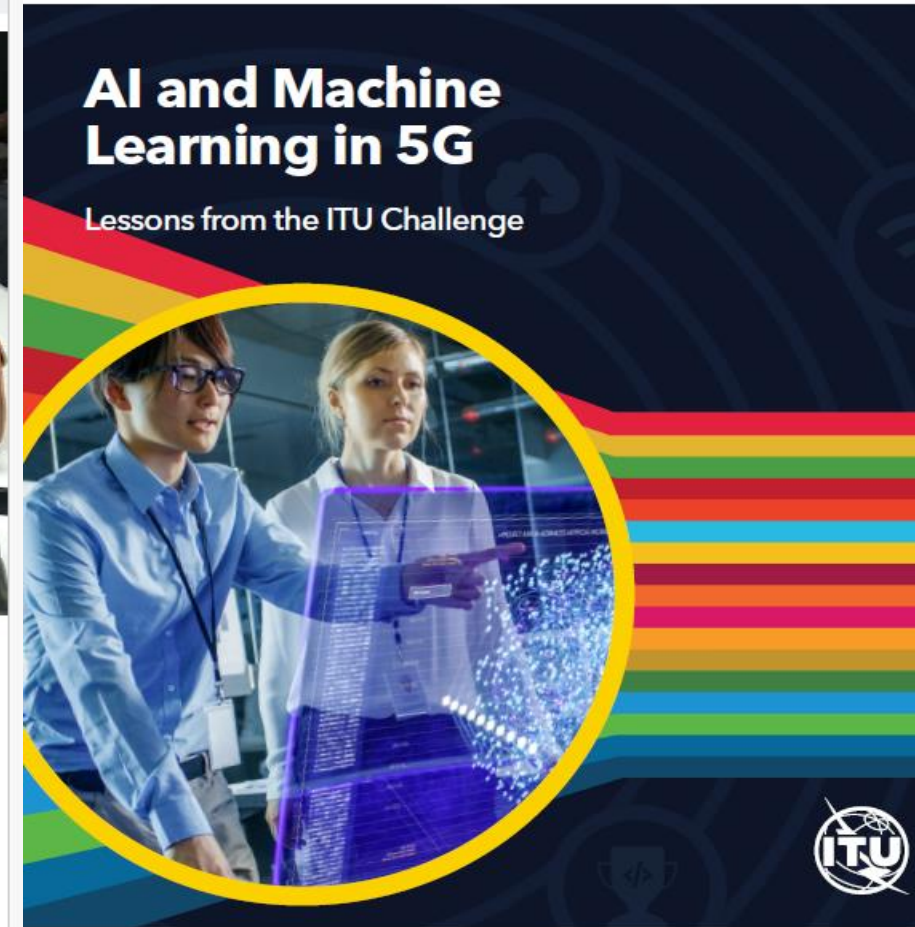
ITU News MAGAZINE No. 05, 2020 78



Federal University of Technology, Minna

Research projects in Nigeria advancing education and speech recognition

By James Agajo, Associate Professor and Head of WINEST Research Group, Department of Computer Engineering, Abdullahi Sani Shuaibu and Blessed Guda, Students, Federal University of Technology, Minna, Nigeria



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Use Case 2 Using AI to Reduce 5G/6G Standard Barriers for For Learners in Sub-Sahara Africa



WINNER

AI for Good Global Summit

This certificate is awarded to

Prof. James Agajo

Federal University of Technology, Minna

Nigeria

**Innovate for Impact
Use Case**

Your hard work, dedication, and achievement is well recognized. Thank you sincerely from the
AI for Good team at the International Telecommunication Union (ITU)

A handwritten signature in black ink, reading 'Seizo Onoe', is centered below the congratulatory text.

Seizo Onoe

*Director of ITU Telecommunication
Standardization Bureau*

30, May, 2024
Geneva, Switzerland



Evolving Practical tools The ITU Experience

- Research projects in Nigeria advancing education and speech recognition -2019
- Building a robust knowledge base for autonomous networks based on Text-Generative AI Chatbot - 2023
- Import and Export of knowledge in an autonomous network -2023

Mentor Encouragement Award



Tiny ML Challenge

WINNER CERTIFICATE

tinyML Challenge

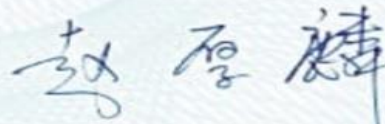
Bronze Champion (3rd prize)

is presented to

*Aaron Emmanuel, Michael Selnan Meshach, Isaiah Terhide
Barnabas, and Blessed Guda*

for their innovative solution to the problem statement
"Smart weather station" in the ITU AI/ML in 5G Challenge 2022

15 December 2022


Houlin Zhao
Secretary General, ITU


Chaesub Lee
Director, ITU Standardization Bureau



Benefit Enjoyed(Invitation With Prize and Academic Funding Sponsorship Award)



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Geneva, 23 March 2023

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Subject: Invitation to ITU Machine Learning in Communication Networks workshop (5 July 2023) and AI for Good Global Summit 2023 (6 - 7 July 2023), Geneva, Switzerland

Dear Prof. James,

I have the pleasure to invite you to participate and give a talk at the Machine Learning in Communication Networks (*ML in Comms*) workshop on 5 July 2023. The workshop will be followed by the AI for Good Global Summit on 6 – 7 July 2023 (<https://aiforgood.itu.int/summit23/>). Both events take place in-person in Geneva.

