The Intra-Africa Academic Mobility to enhancing African Nationalism: Case of Tlemcen University

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Abstract:

The Intra-Africa Academic Mobility Scheme fosters collaboration among African universities by providing financial support to partnerships between institutions for the organization and implementation of student mobility in high-quality master's and doctoral programs within African countries. The primary aim of this paper is to explore the Pan-African institution at Tlemcen University and its role in advancing human capital development across Africa. Specifically, the paper seeks to highlight how the institution enhances student employability, improves the quality and relevance of higher education in Africa, and contributes to the modernization and internationalization of African higher education institutions.

Keywords:African Academic Mobility Higher Education Institutions; Human Capital Development

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1. The Introduction

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The African Union (AU) is an international organization made up of 55 African nations, founded on July 9, 2002, as the successor to the Organization of African Unity. The AU's most critical decisions are made during biannual meetings of the heads of state and government representatives from member countries, known as the General Assembly. Its Secretariat and the African Union Commission are headquartered in Addis Ababa, Ethiopia's capital.

During the General Assembly meeting in February 2009, led by Libyan leader Muammar al-Gadhafi, he announced the dissolution of the African Union Commission and the creation of the African Union Authority.Since its inception in 2003, regional integration within the African Union had largely remained theoretical, but the continent's growing challenges have made it more practical and attainable.

Scholars like Golo Nukunu from the University of Lomé in Togo argue that the transformations in countries like Burkina Faso, Senegal, Congo, and Burundi show progress toward integration. The rise of an engaged civil society could help overcome the challenges to this integration, with many obstacles starting to dissipate due to the current political and economic environment.

The following research questions and hypotheses guide this study, which examines the role of intra-Africa academic mobility in promoting African nationalism among students at Tlemcen University. Specifically, the research seeks to answer: ***(1) How does intra-Africa academic mobility at Tlemcen University contribute to the promotion of African nationalism among students? and (2) What are the challenges and opportunities***

associated with intra-Africa academic mobility in enhancing African nationalism at Tlemcen University?

To explore these questions, the study is grounded in two central hypotheses. The first posits that intra-Africa academic mobility at Tlemcen University strengthens African nationalism by fostering a sense of unity, shared cultural identity, and collaboration among African students.

The second hypothesis suggests that although this form of academic mobility presents challenges—such as language barriers and cultural differences—it also offers significant opportunities for students to deepen their understanding of African unity and nationalism through direct intercultural exchange. Together, these questions and hypotheses provide a foundation for examining the transformative potential of intra-African academic experiences.

2. African Nationalism (AN)

African Nationalism is a movement aimed at unifying Africa (Pan-Africanism) and achieving national self-determination. It played a significant role in the decolonization process. The causes of nationalism included land issues, poor education for Africans, discriminatory labour practices, excessive taxation, and religious oppression.Former Ghanaian President and a prominent figure in the African Nationalism movementNkrumah (1963:132) famously proclaimed that "Africa is one continent, one people, one destiny."

He emphasized his vision of a united and sovereign Africa as crucial for genuine freedom and development, stating that “the only guarantee for our survival, dignity, and progress is the unity of Africa” (Kwame Nkrumah, 1963, p. 132).During the apartheid era, in 1964, ten members of the African National Congress (ANC) were charged with sabotage in what became known as the Rivonia Trial, with Nelson Mandela among the accused.

Mandela, during his statement at the trial, expressed his lifelong commitment to freedom and equality:“I have dedicated my life to this struggle of the African people. I have fought against white domination and black domination. I dream of a democratic society where all people live together in harmony and with equal opportunities. It is an ideal I hope to live for and, if necessary, die for” (Mandela, 1964, para. 3)

This statement not only articulated the aims of the anti-apartheid movement but also reinforced the moral high ground on which Mandela and the ANC stood.As the trial unfolded, international attention grew, with the British Foreign Office, along with their American counterparts, expressing relief when Mandela received a life sentence instead of the death penalty.

3. African Higher Education

Higher education in Africa is at a crucial juncture, needing to support the continent's youth in addressing development challenges. Africa is home to the youngest population globally, with over 400 million people aged 15–35. According to Adebayo (1999), former Executive Secretary of the United Nations Economic Commission for Africa, “the future of Africa depends on the quality of its higher education. It is through higher education that Africa will develop the human capital necessary to address its challenges and achieve sustainable growth”.

Even though young people have significant potential for innovation and economic growth, many obstacles remain, including low enrollment rates, a mismatch between academic programs and labor market demands, and the underrepresentation of women in higher education, particularly in

STEM fields. These issues were also addressed during the UNESCO Forum on Higher Education in Africa, held in Nairobi, Kenya, in December 2024.

3.1. Higher Education and Africa's Sustainable Development

Africa's youth is its greatest asset, with approximately 75% of the population under the age of 35. This generation holds the key to economic growth, innovation, and sustainable development. However, they must receive quality education to acquire the necessary skills. It is projected that by 2040, the number of young Africans completing secondary or higher education will more than double.

Education systems must adapt to meet the increasing demand for higher education, particularly to address challenges such as youth unemployment, economic inequality, and climate change. Higher education also plays a critical role in advancing research and innovation in sectors such as health, agriculture, and technology.

As noted in *Agenda 2063: The Africa We Want*, "higher education is a critical pillar for the sustainable development of Africa, as it nurtures human capital, fosters innovation, and empowers societies to address their own development challenges" (African Union, 2016). This document outlines the continent's long-term development agenda and emphasizes the central role of education—particularly higher education—in achieving sustainable development goals.

3.2. Challenges Facing Higher Education in Africa

Despite a rise in enrolment, which more than doubled between 2000 and 2021 (from 4% to 9%), Africa's higher education enrolment rate remains far below the global average of 38% (UNESCO, 2021). Youth unemployment and underemployment are growing concerns across the continent. Each year, approximately 11 million young Africans enter the labour market, yet around 40% lack the skills required for formal employment, often resulting in unemployment or engagement in the informal sector (UNESCO, 2021).

Higher education plays a critical role in promoting sustainable development in Africa by fostering innovation, developing human capital, and strengthening institutional capacity. Universities and postsecondary institutions are essential for equipping individuals with the knowledge and skills needed to address local development challenges and participate in the global knowledge economy. As emphasized in *Agenda 2063: The Africa We Want*, higher education is central to achieving Africa's long-term development objectives (African Union, 2016).

This vision underscores the importance of investing in high-quality, relevant, and accessible higher education systems capable of producing engineers, researchers, educators, and entrepreneurs. Beyond expanding access, universities serve as hubs for scientific research and technological innovation, which are vital for addressing pressing challenges such as youth unemployment, food security, public health crises, and climate change.

However, this potential is constrained by persistent challenges. Gender disparities remain significant, particularly in STEM (science, technology, engineering, and mathematics) fields, where women are underrepresented due to social norms, limited mentorship opportunities, and insufficient policy support. This imbalance not only perpetuates inequality

but also limits diversity in research and innovation. Furthermore, inadequate funding for research and development continues to hinder progress in key sectors.

Africa invests only about 0.6% of its GDP in research and development, compared to the global average of 1.79% (UNESCO, 2021). Addressing these structural inequalities—especially in terms of gender equity and research funding—is essential to fully realize the transformative role of higher education in Africa's sustainable development.

4. Intra-Africa Academic Mobility

Collaborative initiatives such as the Intra-Africa Academic Mobility Scheme have emerged to address these challenges and enhance the role of higher education in Africa. The program, jointly funded by the European Union and the African Union, aims to strengthen academic collaboration and institutional capacity in support of Africa's economic, social, and environmental development (European Education and Culture Executive Agency, 2024). It places particular emphasis on developing skills in areas such as water resource management, the green transition, and climate change—fields that are critical to sustainable development but often underfunded in traditional academic systems.

The scheme promotes multiculturalism, knowledge exchange, and the internationalization of African higher education by facilitating the mobility of students and staff across African universities. It also contributes to the development of a highly skilled generation of graduates equipped with both scientific expertise and regional awareness, thereby fostering innovation and locally grounded solutions to continental challenges (European Education and Culture Executive Agency, 2024).

These regional partnerships demonstrate how targeted funding and international cooperation can support national education strategies, reduce skills gaps, and position African universities as leaders in research and innovation. To maximize their impact, such programs must be expanded, sustained, and aligned with long-term development priorities, including gender equity, increased investment in research and development, and the integration of indigenous knowledge systems.

4.1. Pan-African University (PAU)

The Pan-African University (PAU), established by the African Union Commission, is a continental initiative aimed at developing centres of excellence in science, technology, social sciences, and governance. Its core objective is to provide high-quality postgraduate education and research opportunities to talented African students, particularly in fields critical to the continent's long-term development.

According to Mamadou (2011), the PAU seeks to enhance the quality of higher education across Africa and improve the efficiency of African economies by training a new generation of visionary leaders equipped with the skills needed to promote peace, prosperity, and regional integration. Through its network of regional hubs and partnerships with leading universities, the PAU serves as a model for intra-African academic cooperation and capacity-building, aligning closely with the broader goals of *Agenda 2063: The Africa We Want* (African Union, 2016).

5. PAUWES: A Case Study

The Pan African University Institute of Water and Energy Sciences (PAUWES), hosted by the University of Tlemcen in Algeria, was established in 2014 as one of the flagship institutes of the Pan-African University, an initiative of the African Union Commission. PAUWES integrates applied research and postgraduate education to address key development challenges in Africa, particularly in the areas of climate resilience, renewable energy, and sustainable water management.

Since its inception, the institute has enrolled more than 200 students from over 30 African countries, with dozens of graduates contributing to academia, industry, and public policy across the continent (Pan African University Institute of Water and Energy Sciences, n.d.). PAUWES exemplifies how the Pan-African University translates its continental vision into concrete forms of cross-border academic cooperation and institutional capacity-building. It also supports the broader objectives of *Agenda 2063: The Africa We Want* by equipping young Africans with practical skills in environmental sustainability and regional integration (African Union, 2016).

5.1. Programs Offered

One of the flagship institutes of the Pan-African University is the Pan African University Institute of Water and Energy Sciences (PAUWES), established in 2014 and hosted by the University of Tlemcen in Algeria. PAUWES focuses on addressing some of Africa's most pressing challenges—sustainable water management, renewable energy, and climate resilience—through advanced education and applied research.

Since its inception, the institute has attracted over 200 students from 31 African countries, with 73 graduates contributing to policy, academia, and industry across the continent (Pan African University Institute of Water and Energy Sciences, n.d.).PAUWES offers a range of specialized graduate programs, including:

- **Master of Science in Water (Engineering track):** This program targets students seeking technical expertise in water systems, infrastructure, and sustainable water management. It emphasizes engineering-based solutions to challenges such as flood control, water scarcity, irrigation system design, and water quality management. Through rigorous coursework, laboratory training, and field-based learning, students develop analytical and practical skills to design and implement innovative water solutions in both urban and rural contexts.
- **Master of Science in Water (Policy track):** This program prepares students to address the institutional, legal, and regulatory frameworks governing water resources. With a focus on governance, resource allocation, and the socioeconomic dimensions of water access, it equips graduates to design sustainable and equitable water policies. Graduates are well positioned to work with governments, international organizations, and NGOs in addressing both local and global water challenges.
- **Master of Science in Energy (Engineering track):** This program provides comprehensive training in energy systems, renewable energy technologies, and engineering solutions for global energy demand. It focuses on technical innovation, efficiency, and system optimization, preparing engineers to develop and implement renewable energy systems such as solar, wind, hydro, and bioenergy. Graduates are equipped to contribute to global energy transitions across both emerging and established energy markets.
- **Master of Science in Energy (Policy track):** This program examines the intersection of energy production, regulation, and sustainability from a policy perspective. It emphasizes strategic planning, economic analysis, and policy formulation in response to global energy challenges. Students learn to design policies that

promote innovation, reduce carbon emissions, and ensure energy equity while considering social, environmental, and political dimensions of energy use. Graduates are prepared for roles in international organizations, policy institutions, and government agencies.

Overall, these programs reflect a balanced integration of technical and policy-oriented training, equipping graduates with the competencies required to develop evidence-based solutions in critical infrastructure and environmental sectors. PAUWES thus demonstrates how the Pan-African University translates its continental vision into institutional excellence, supporting the objectives of *Agenda 2063: The Africa We Want* (African Union, 2016) through capacity-building, innovation, and cross-border academic collaboration.

5.2. Cooperation and Partnerships

PAUWES has established several strategic partnerships with leading African and international institutions to strengthen its teaching and research capacity. Key partners include the African Development Bank, the Japan International Cooperation Agency, the Egypt-Japan University of Science and Technology, the Kenya Medical Research Institute, and the International Centre of Insect Physiology and Ecology.

These collaborations facilitate access to funding opportunities, joint research initiatives, knowledge exchange, and practical training for both staff and students. Through such partnerships, PAUWES contributes directly to the objectives of *Agenda 2063: The Africa We Want* by expanding its academic reach and strengthening its capacity to address complex challenges in infrastructure, agriculture, sustainable development, and public health (African Union, 2016).

5.3. Admission Requirements

To ensure preparedness for rigorous academic and professional training, applicants must meet specific admission requirements. A bachelor's degree with strong academic performance—typically at least a second-class upper division—is required. Applicants to the policy track are expected to have a background in social sciences, economics, public policy, or related fields, while those applying to the engineering track must hold degrees in science, engineering, or closely related disciplines.

Although knowledge of French is considered an advantage, all candidates must demonstrate proficiency in English. In addition, applicants must be under 30 years of age for men and under 35 for women at the time of application. The selection process also includes a medical examination and submission of supporting documents. Successful candidates admitted to the program receive full scholarships covering tuition and living expenses provided by the Pan African University Institute of Water and Energy Sciences (PAUWES) (Pan African University Institute of Water and Energy Sciences, n.d.).

6. Methodology

6.1. Type and Approach of the Research

The present study is part of a qualitative approach, based on a case study, aimed to analyse the role, functioning and impact of the Pan African University Institute of Water and Energy Sciences (PAUWES) within the University of Abou Bekr Belkaïd in Tlemcen. This approach is appropriate, in that it allows an in-depth understanding of a phenomenon that is institutional in its real context.

6.2. Framework of the Study

The research was conducted within PAUWES in Tlemcen (Algeria), Pan-African institute specialized in the science of water, energy and climate change. The choice of this framework is explained by the strategic importance of PAUWES in the training of African professionals who are highly qualified and by its integration into the university system of Algeria.

6.3. Population and Sampling

The population of the study includes all actors involved in the academic activities, administrative and scientific of the Pan African University Institute of Water and Energy Sciences (PAUWES), hosted by the University of Abou Bekr Belkaïd in Tlemcen. It consists of three main categories:

- The responsible academic and administrative PAUWES;
- Teachers and researchers affiliated with the institute;
- Students in training courses and graduates of PAUWES.

In the framework of this research, a purposive sample (non-probability) has been withheld in order to select participants who have a direct experience, and relevant to the functioning of the institute. The final sample of the study consisted of 30 participants will be distributed as follows:

- 5 responsible for academic and administrative staff, including members of the management and program coordinators;
- 10 teachers and researchers, national and international, involved in the programs of training and research;
- 15 students and graduates from different cohorts and sub-sectors (water and energy).

The selection of participants was carried out on the basis of the following criteria:

- ❖ Active involvement in the activities of academic or administrative PAUWES;
- ❖ Minimum age of a year at the institute (for students and staff);
- ❖ Diversity profiles of academic and professional;
- ❖ Availability and voluntary consent to participate in the study.

The size of the sample was determined in accordance with the principle of data saturation, the collection was halted when the information collected did not bring more new items are significant. This helps ensure a balanced representation of stakeholders, while maintaining the depth and reliability of the qualitative analysis

6.4. Data Collection Techniques

The data collection is based on a number of complementary techniques:

- ❖ Semi-structured interviews conducted with key actors, with the aid of an interview guide structured around the following themes: governance, training, research, international cooperation and institutional impact.
- ❖ Literature review on institutional documents (reports, regulations, training programs, scientific publications and official sources related to the Pan-African University and PAUWES.
- ❖ Direct Observation, particularly during academic activities, seminars and corporate events held in Tlemcen.

6.5. Methods of Data Analysis

The qualitative data collected were processed using a thematic analysis. This method has enabled:

- The coding of the collected data;
- The identification of recurring themes;
- The interpretation of the results in relation with the objectives of the research and the theoretical framework.

7. Statistical Results and Interpretation

Table 1: Distribution of Participants According to the Status

Status of the participants	Strength (n)	Percentage (%)
Responsible for the administrative and academic	5	16,7
Teachers and researchers	10	33,3
Students and graduates	15	50,0
Total	30	100

This table shows that the students and graduates who make up half of the sample (50 %), which is used to gather perceptions directly on the quality of the training and the academic experience within PAUWES. The presence of a significant number of researchers and teachers (33.3%), and institutional leaders (16,7 %) ensures a diversity of points of view and increases the credibility of the results.

Table 2: Assessment of the Training Programs

Assessment of program	Staff (n)	Percentage (%)
Very satisfied	14	46,7
Satisfactory	11	36,6
Moderately satisfactory	5	16,7

Total	30	100

The results indicate that 83.3% of participants felt the training programs of PAUWES satisfactory or very satisfactory. This positive appraisal reflects the adequacy of the educational content with the issues related to water, energy and climate change. However, the proportion of participants were moderately satisfied (16,7 %) suggests the need to strengthen certain aspects, particularly the practical activities and professional integration.

Table 3: Perception of Institutional Governance

Perception of the governance	Strength (n)	Percentage (%)
Good	13	43,3
Average	12	40,0
Low	5	16.7
Total	30	100

The institutional governance of PAUWES is perceived as good or average 83.3% of the participants. This perception reflects an organization's overall functional and institutional co-ordination to be relatively effective. Nevertheless, the responses indicating that governance is considered to be low (16,7 %) highlight the difficulties related mainly to the administrative procedures and the coordination between the different bodies.

Table 4: Institutional Impact of PAUWES to Tlemcen

Perceived Impact	Strength (n)	Percentage (%)
high-Impact	12	40,0
moderate Impact	14	46,7
low Impact	4	13,3
Total	30	100

The results show that 86.7% of the participants felt that PAUWES exerts a moderate impact to raise on the University of Tlemcen. This impact is manifested in particular through the strengthening of the international visibility of the university and the promotion of Pan-African cooperation. However, the perception of a low impact in a small minority of respondents stressed the need for better local roots and a greater interaction with the environment, socio-economic regional.

8. Pan-Africanism

In this study, Pan-Africanism is not understood as a shared political ideology, nor as a unified political stance. Rather, it is conceptualized as a functional and academic form of Pan-Africanism, expressed through education, professional interaction, and institutional cooperation. Accordingly, the promotion of Pan-Africanism is assessed through a set of observable and qualitative indicators, grouped into four main dimensions:

8.1. Academic and Professional Cooperation Indicator

This indicator refers to the extent to which the institution facilitates cross-national academic and professional collaboration among African participants. It is measured through:

- the formation of academic and professional networks among students and researchers from different African countries;
- participation in joint research projects or group academic activities with a continental scope;
- continuation of professional or academic collaboration after graduation.

At PAUWES, the presence of multinational cohorts working within unified academic programs constitutes a concrete expression of this indicator.

8.2. Cultural and Identity-Based Indicator

This dimension captures the development of a shared African identity and mutual cultural recognition. It is assessed through:

- participants' expressed sense of belonging to Africa as a collective space;
- appreciation and respect for African cultural diversity;
- the use of continental narratives when addressing challenges related to water, energy, and climate change.

This indicator is primarily identified through interview discourse and qualitative analysis.

8.3. Cognitive and Value-Based Indicator

This indicator reflects the adoption of Africa-centered perspectives in understanding development challenges. It is measured through:

- recognition of water and energy issues as continental rather than purely national problems;
- preference for context-specific solutions rooted in African realities;
- awareness of and reference to the African Union's Agenda 2063.
- Importantly, this dimension is conceptual rather than ideological.

8.4. Institutional and Structural Indicator

This dimension assesses the extent to which participants perceive themselves as part of a continental institutional project. It includes awareness of PAUWES as an institute of the Pan-African University under the African Union, the perceived value of the institution in promoting African integration, and participation in continent-wide academic events and networks.

8.5 What Pan-Africanism does *not* mean in this study

In this research, Pan-Africanism does not refer to adherence to a political ideology, nor does it imply the rejection of national identities or engagement in political mobilization or activism. Rather, it is conceptualized as a pragmatic, academic, and professional form of Pan-Africanism. It is expressed through cooperation, shared learning, and collective problem-solving among African participants within higher education contexts.

9. Conclusion

The Intra-Africa Academic Mobility program plays a significant role in strengthening cooperation and mobility within African higher education systems. By facilitating the movement of students and academic staff across African universities, the program encourages postgraduate studies, enhances knowledge exchange, and contributes to student retention within the continent. It also supports the development and internationalization of African higher education institutions, with the broader aim of improving the quality, relevance, and competitiveness of the region's educational systems.

Higher education is widely recognized as a cornerstone of Africa's sustainable development, as it contributes to innovation, the development of human capital, and regional integration. In this regard, initiatives such as the Intra-Africa Academic Mobility program, the Pan-African University (PAU), and its specialized institute PAUWES represent strategic efforts to strengthen institutional capacity and foster academic cooperation across the continent. These programs are not only educational interventions but also developmental tools designed to respond to Africa's pressing economic, environmental, and social challenges.

Moreover, such initiatives illustrate how targeted investment in higher education can contribute to the emergence of a new generation of skilled professionals and leaders capable of advancing Africa's development agenda. Through exposure to diverse academic environments and intercultural collaboration, participants acquire both technical expertise and a broader understanding of continental challenges. However, despite their positive impact, these programs continue to face structural challenges, including persistent gender inequalities in access to STEM fields and insufficient funding for research and innovation.

Therefore, strengthening and expanding such initiatives remains essential for unlocking Africa's full potential. Their continued development is closely aligned with the objectives of *Agenda 2063: The Africa We Want*, which emphasizes education, integration, and innovation as key drivers of a resilient and prosperous African future.

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8. Appendices

1. African Union Agenda 2063

Document: Agenda 2063: The Africa We Want
Source: African Union Commission
Link: https://au.int/en/agenda2063/overview
Description: The continent's strategic framework for inclusive and sustainable development over 50 years, highlighting education's role.

2. Pan-African University (PAU)

Document: Pan-African University: A flagship initiative of the African Union
Source: African Union Commission
Link: https://au.int/en/organs/pan-african-university
Description: Official description, objectives, and structure of PAU.

3. Pan African University Institute of Water and Energy Sciences (PAUWES)

Document: PAUWES official website and strategic plans
Link: https://pauwes.dz/
Description: Information on academic programs, partnerships, and institutional objectives.

4. Intra-Africa Academic Mobility Scheme

Document: European Union & African Union joint initiative documentation
Source: European Education and Culture Executive Agency
Link: https://education.ec.europa.eu/intra-africa-academic-mobility
Description: Program goals, funding details, and guidelines.

5**. UNESCO Science Report**

Document: UNESCO Science Report: The Race Against Time for Smarter Development

Link: https://unesdoc.unesco.org/ark:/48223/pf0000377433