



## The Role of Indian Higher Education in Africa's Knowledge Economy: A Critical Appraisal

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### Abstract

Africa's transition toward a knowledge-based economy is gaining momentum, driven by demographic growth, expanding digital infrastructure, and a continental push for education-led development. However, challenges such as limited higher education capacity, skill mismatches, and uneven research output persist. In this evolving landscape, India has positioned itself as a key partner through its education diplomacy, offering scholarships, digital learning platforms, and institutional collaborations with African universities. This paper critically examines the scope and impact of India's engagement in African higher education, particularly in the areas of Science, Technology, Engineering, and Mathematics (STEM) and management education. While India's initiatives are anchored in principles of South–South cooperation and provide valuable support for capacity building, several gaps remain in terms of outreach, visibility, and long-term academic partnerships. A comparative lens reveals that countries like China and Brazil have leveraged more structured and high-profile strategies to consolidate their educational footprint in Africa. The analysis suggests that although India's contributions are significant, they remain under-leveraged in realizing broader strategic and developmental outcomes. Strengthening institutional

coordination, expanding scalable models, and enhancing post-study engagement will be critical for India to fully align its educational outreach with Africa's knowledge economy aspirations.

**Keywords:** Knowledge Economy, India–Africa Relations, Education Diplomacy, Higher Education Cooperation, South–South Collaboration, STEM Education in Africa.

### 1. Introduction

In the 21st century, the concept of the knowledge economy has emerged as a defining feature of global development. A knowledge economy relies on the generation, dissemination, and effective utilization of knowledge to stimulate economic growth, foster social progress, and drive technological innovation (World Bank, 2007). For many African nations transitioning from resource-dependent to innovation-led economies, cultivating a robust knowledge economy is not just an ideal but a necessity. The continent's demographic dividend—marked by a youthful population—alongside expanding digital infrastructure and growing investments in education, presents a unique opportunity for transformative change (UNECA, 2020). However, critical challenges remain, including underdeveloped higher education systems, insufficient research output,



and a mismatch between graduate skills and market needs (Teferra, 2016).

In this context, India's educational engagement with Africa assumes strategic significance. As a fellow postcolonial society that has navigated similar development challenges, India offers an alternative model of cooperation rooted in mutual respect and shared experience. Rather than a donor-recipient dynamic, India emphasizes partnership-based South–South cooperation in its development diplomacy (Chakrabarty, 2021). Over the past two decades, India has expanded its presence in African higher education systems through scholarships, digital learning platforms, vocational training, and institutional collaborations (MEA, 2022). These initiatives aim to support human capital development, a cornerstone for building knowledge-driven economies across Africa.

The objective of this paper is to provide a critical appraisal of India's contribution to Africa's knowledge economy through higher education. Particular attention is paid to education exports in Science, Technology, Engineering, and Mathematics (STEM) and management studies, given their relevance to Africa's industrialization and economic diversification goals (AUDA-NEPAD, 2021). The paper also examines the strategic motivations underpinning India's education diplomacy and situates them within the broader landscape of South–South cooperation by comparing India's approach with that of other emerging powers like China, Brazil, and Malaysia. While China's influence in Africa's education sector has been widely

discussed, India's role remains comparatively under-researched, despite its historical ties and growing investments (King, 2013).

The study adopts a desk-based research methodology, analyzing policy documents, academic literature, institutional reports, and international datasets. Through comparative and thematic analysis, the paper evaluates the reach, relevance, and limitations of India's educational engagement in Africa. This approach facilitates a nuanced understanding of how Indian higher education institutions contribute to human capital development and whether these efforts align with Africa's broader aspirations for inclusive, knowledge-based growth.

## 2. India's Education Diplomacy in Africa: An Overview

India's education diplomacy has emerged as a cornerstone of its engagement with Africa, rooted in principles of South–South cooperation and mutual capacity building. Unlike traditional donor–recipient relationships, India's approach emphasizes partnership, shared developmental experiences, and cultural exchange. Over the past two decades, education has become a strategic tool through which India seeks to deepen its ties with African nations, foster goodwill, and contribute to the continent's human capital development (Chakrabarty, 2021).

A flagship initiative in this regard is the Indian Technical and Economic Cooperation (ITEC) programme,



launched in 1964. Administered by the Ministry of External Affairs (MEA), ITEC offers short-term training in diverse areas such as IT, finance, rural development, and public administration. Each year, thousands of professionals from Africa attend fully sponsored programs in Indian institutions (MEA, 2022). While initially focused on mid-career government officials, ITEC has evolved to include technical training, academic workshops, and executive education. Its longevity and adaptability underscore India's sustained commitment to institution-level cooperation with African partners (Sinha, 2023).

Another major pillar of India's education diplomacy is the Indian Council for Cultural Relations (ICCR) Scholarship Scheme, which has played a central role in bringing African students to Indian universities. ICCR scholarships cover undergraduate, postgraduate, and doctoral degrees across diverse disciplines including engineering, humanities, and agriculture. African countries remain some of the largest recipients of these scholarships (ICCR, 2021). The program offers not just academic opportunities but also facilitates cultural immersion and mentorship, reflecting India's vision of soft power through education (Pant, 2022).

Furthering this objective is the Study in India (SII) Programme, launched in 2018 by the Ministry of Education in collaboration with EdCIL (India) Limited. The program is designed to promote India as a global educational hub by attracting international students.

Africa is one of the major focus regions for this initiative. Through an integrated online portal, SII simplifies the application process and offers fee waivers, scholarships, and institutional support for foreign students (EdCIL, 2020). The initiative aims to position Indian education as globally competitive and accessible.

India's digital learning institutions have also contributed significantly to educational cooperation. Open universities like Indira Gandhi National Open University (IGNOU) have extended their services to African learners through distance education and online content, enhancing accessibility and flexibility (IGNOU, 2021). Moreover, Indian diplomatic missions across Africa regularly organize educational fairs and alumni events, emphasizing the role of former African students in promoting people-to-people ties (MEA, 2022).

The cumulative result of these efforts is evident in the steadily increasing number of African students enrolled in Indian institutions. Recent estimates suggest that over 25,000 African students are studying in India, with major source countries including Nigeria, Sudan, Ethiopia, Kenya, and Tanzania (Study in India, 2023). Their presence enriches the academic landscape and fosters cross-cultural dialogue, further solidifying India–Africa relations (Chakrabarty, 2021).

In conclusion, India's education diplomacy with Africa is multifaceted and evolving. Through scholarships, capacity-building programs, digital platforms, and institutional outreach,



India has built a foundation of trust and collaboration. While challenges such as quality assurance and alumni engagement persist, the trajectory of educational cooperation remains strong and aligned with Africa's developmental needs.

### 3. Sectoral Focus: STEM and Management Education

The importance of Science, Technology, Engineering, and Mathematics (STEM) and management education in Africa's economic development cannot be overstated. As African nations strive to diversify their economies, reduce reliance on extractive industries, and embrace the digital transformation, investment in technically skilled and managerial human capital has emerged as a strategic imperative (World Bank, 2020). These sectors are intrinsically linked to industrialization, infrastructure growth, innovation, and entrepreneurship—areas where the continent shows promise but is hindered by a shortage of qualified professionals (AfDB, 2018).

In this context, India's educational ecosystem offers valuable opportunities for African learners. With a reputation for excellence in engineering, information technology, and business management, India has long been a favored destination for students from Africa seeking affordable and high-quality education in these domains (Chaturvedi & Saha, 2020). Premier Indian institutions such as the Indian Institutes of Technology (IITs), National Institutes of Technology (NITs), Indian Institutes of Information Technology

(IIITs), and Indian Institutes of Management (IIMs) are internationally respected for their rigorous academic standards and strong industry linkages. In addition, a broad network of accredited private universities and deemed-to-be universities provides accessible alternatives for international students, including many from Africa (Mukherjee & Chaturvedi, 2021).

Engineering remains the most popular discipline among African students in India. Programs in mechanical, civil, electrical, and computer science engineering are especially in demand, as these align closely with Africa's development priorities, such as infrastructure building, smart cities, and digitalization (Sinha, 2022). Indian engineering curricula emphasize practical applications, often incorporating internships, lab-based projects, and real-world problem-solving, thereby offering a hands-on learning experience.

Similarly, computer science and IT programs are increasingly attractive, given Africa's growing interest in digital governance, fintech, and e-commerce. Many governments across the continent are pushing for digitized public services and digital entrepreneurship, creating strong demand for professionals trained in software development, cybersecurity, and data analytics—areas where Indian institutions have recognized strength (Gupta & Tiwari, 2021).

Management education is another domain where India's offerings align well with African aspirations. Indian MBA programs, typically lasting two years, are





well-regarded for their practical orientation, case-based pedagogy, and strong industry connections. Many African students pursue MBA specializations in areas such as finance, international business, supply chain management, and development studies. These degrees offer pathways to leadership roles in both public and private sectors, making them highly valued back home (Knight, 2016). The affordability of Indian business education—when compared with Western institutions—adds to its attractiveness, without compromising on curriculum quality or faculty expertise.

There is growing anecdotal evidence of African students graduating from Indian institutions and assuming leadership roles in their countries. Notable examples include Dr. Justina Mutale of Zambia, who has been recognized globally for her work in leadership and development, and Dr. Mohamed Ibn Chambas of Ghana, who studied in India and later held senior roles with the African Union and the United Nations (Chakrabarti & Bhattacharya, 2022). These success stories underscore the transformative impact of Indian education on Africa's human capital development.

Beyond academics, the Indian educational experience also fosters cross-cultural understanding and exposure to democratic governance and emerging-market dynamics. This broader perspective equips African students with soft skills and global awareness, enhancing their ability to address complex socioeconomic challenges in their home countries (Yamada, 2019).

In sum, India's strengths in STEM and management education position it as a strategic partner in addressing Africa's human capital needs. Expanding access, enhancing program visibility, and creating alumni networks will be essential to deepen India's role in fostering a skilled and empowered African workforce.

#### **4. Digital Education and Distance Learning Platforms**

Digital education has become an indispensable tool for expanding access to quality higher education across borders. For Africa—a continent marked by geographic vastness, infrastructural gaps, and a rapidly growing youth population—digital learning platforms offer a scalable solution to overcome the limitations of brick-and-mortar institutions. India, with its long-standing emphasis on affordable technological solutions and inclusive education, has made notable contributions to Africa's digital learning landscape through targeted initiatives and open-access platforms (Chaturvedi & Saha, 2020).

One of the earliest and most ambitious undertakings in this space was the Pan-African e-Network (PAeN), launched in 2009 under the leadership of former Indian President Dr. A.P.J. Abdul Kalam. Designed to connect India with 48 African countries via satellite and fiber-optic links, PAeN aimed to provide tele-education and telemedicine services from top Indian institutions to African universities and hospitals (MEA, 2015). Institutions such as Amity University, IGNOU, and the Indian Institutes of Technology (IITs) delivered live lectures,



workshops, and continuing education programs through the network. Though the program faced challenges related to infrastructure maintenance and institutional coordination, its historical significance lies in its pioneering effort to bridge the digital education gap between India and Africa. Over time, PAeN enabled thousands of African students to access lectures from Indian faculty and laid the groundwork for future digital collaborations (Sinha, 2017).

Building upon this foundation, the Indian government launched the e-Vidya Bharati and e-Arogya Bharati (e-VBAB) initiative in 2019, as part of its development partnership with Africa. Administered by the Ministry of External Affairs and implemented by Telecommunications Consultants India Ltd. (TCIL), the e-VBAB initiative focuses on delivering tele-education (e-Vidya Bharati) and telemedicine (e-Arogya Bharati) services to 19 African countries (MEA, 2020). Under e-Vidya Bharati, Indian universities offer fully online undergraduate and postgraduate degrees, diplomas, and continuing education programs in disciplines such as business, computer science, and health sciences. Faculty development courses and certification programs are also part of the initiative. As of recent data, thousands of African students have benefited from this scheme, indicating growing trust in Indian digital education (Chakrabarti & Bhattacharya, 2022).

In addition to government-sponsored programs, India has made significant strides in the global digital education space through platforms like SWAYAM (Study Webs of Active–Learning for

Young Aspiring Minds) and NPTEL (National Programme on Technology Enhanced Learning). These platforms provide free access to Massive Open Online Courses (MOOCs) created by premier institutions such as IITs, IIMs, and central universities. While designed primarily for Indian learners, these platforms are globally accessible and offer a valuable resource for students in Africa seeking high-quality, low-cost academic content (Gupta & Tiwari, 2021).

However, despite these promising developments, several constraints limit the full impact of digital education in Africa. Uneven internet access, unreliable electricity supply, and high data costs hinder student participation, especially in rural and underserved regions (World Bank, 2020). Additionally, recognition of online degrees from foreign institutions remains inconsistent among African education authorities, creating uncertainties around career and academic progression. The lack of local academic support—such as mentorship, tutoring, or access to physical learning resources—can also make digital education a solitary and less effective experience (Yamada, 2019).

Nonetheless, India's digital education efforts have broadened opportunities for African students to pursue quality and affordable higher education. By investing in infrastructure, enhancing partnerships with African institutions, and customizing programs to local contexts and needs, India can play a vital role in strengthening Africa's knowledge



economy and advancing South-South cooperation in education.

## 5. Comparative Insights: India vs. China, Brazil, and Malaysia

While India has made commendable strides in advancing educational ties with African countries, it is not the only emerging power engaging with the continent through education diplomacy. Countries such as China, Brazil, and Malaysia have implemented distinctive models of academic cooperation, each shaped by their geopolitical interests, cultural ties, and institutional capabilities. A comparative analysis of these approaches—along the lines of scale, visibility, strategic focus, and policy coherence—offers valuable insights into how India can strengthen its own educational engagement in Africa.

China's education diplomacy in Africa is arguably the most expansive and strategically coordinated among emerging economies. Confucius Institutes, which aim to promote Chinese language and culture, have been established in over 40 African countries, typically within leading public universities (King, 2013). These institutes serve not only as language training centers but also as soft power tools to advance Chinese perspectives. Moreover, China has invested in African-based branch campuses and vocational institutions such as the Luban Workshops, which focus on technical and skill-based education (Li, 2020). In addition, China offers more than 12,000 government scholarships annually to African students as part of its broader Belt and Road Initiative (BRI),

integrating education into infrastructure, trade, and diplomacy (Zhou, 2019). This reflects a high degree of policy coherence and alignment with national foreign policy goals.

Brazil's approach, though smaller in scale, stands out for its cultural and linguistic alignment with Lusophone African countries such as Angola, Mozambique, Guinea-Bissau, and Cape Verde. Brazil's strategy emphasizes postcolonial solidarity, framed within South-South cooperation and shared heritage. The Federal University for International Integration of the Afro-Brazilian Lusophony (UNILAB) exemplifies this model. UNILAB was established specifically to serve students from Portuguese-speaking African nations, focusing on inclusive curricula in areas such as public health, development studies, and Afro-Brazilian culture (Morosini, 2014). While limited in numbers, Brazil's efforts reflect depth and mutual respect, advancing a vision of education as cultural and developmental partnership.

Malaysia, in contrast, has emerged as a regional education hub by leveraging its strong private higher education sector, English-language programs, and cost-effectiveness. Malaysian universities such as Universiti Teknologi Malaysia (UTM) and Universiti Putra Malaysia (UPM) have actively targeted African students through dual-degree programs, international branch campuses, and aggressive marketing campaigns (Knight, 2016). The Education Blueprint (2013–2025) and Vision 2020 have guided this effort, integrating education exports into the national development



strategy (Ministry of Education Malaysia, 2013). Malaysia's visibility at education fairs, digital platforms, and in-country recruitment offices in Africa has contributed to a growing student base from the continent.

In contrast, India's approach has been largely organic rather than strategic. Despite its historical and cultural connections, India's outreach lacks the institutional infrastructure or branding seen in the Chinese or Malaysian models. While African students benefit from ICCR scholarships, ITEC training programs, and the "Study in India" initiative, these efforts often function in silos and are not backed by a unified strategic vision (Mukherjee & Chaturvedi, 2021). Coordination between ministries remains weak, and the absence of a single agency overseeing education diplomacy reduces efficiency and visibility.

Moreover, India's initiatives tend to be generic and not sufficiently tailored to Africa's diverse needs. Unlike China, which links education to economic projects, or Brazil, which emphasizes shared identity, India lacks a thematic or geographic focus. Its programs rarely consider linguistic divisions such as Francophone or Lusophone Africa, and institutional branding remains underdeveloped (Sharma, 2020). Furthermore, there is little systematic follow-up through alumni networks or impact assessments.

To strengthen its educational engagement with Africa, India can draw on the comparative lessons of these nations. It can establish India-Africa

academic centers, enhance alumni engagement, and create targeted academic programs. Aligning these initiatives with its democratic values, English-medium advantage, and digital learning platforms can provide India with a distinct and impactful presence in African higher education.

## 6. Challenges and Limitations in India–Africa Academic Cooperation

Despite the growth and promise of India–Africa academic collaboration, several persistent challenges continue to constrain the full realization of its potential. These limitations exist both at the policy and implementation levels and affect the experiences of African students in India as well as the broader institutional linkages between the two regions.

One of the most frequently reported issues is the delay and complexity in student visa processing. While India offers multiple scholarship schemes and admits thousands of African students annually, the procedural hurdles involved in securing a visa often act as a deterrent (Sharma, 2021). Bureaucratic red tape, lack of clear communication, and inconsistent timelines have resulted in missed academic sessions or cancellations of admission offers. These delays not only disrupt individual student trajectories but also undermine the credibility of India's education diplomacy in the eyes of prospective applicants (Chaturvedi, 2016).

Cultural integration and incidents of racial discrimination also pose





significant barriers to a positive academic experience for African students in India. Reports of verbal abuse, housing discrimination, and social exclusion in some Indian cities have attracted international attention and cast a shadow over India's otherwise welcoming academic environment (Kaur, 2019). Although these incidents are not representative of the entire country, the lack of institutional mechanisms to support cultural adaptation and address grievances can leave students feeling alienated. Greater emphasis on intercultural awareness, mentorship programs, and student support services is needed to address these gaps meaningfully (Mishra & Singh, 2020).

Another critical limitation is the absence of a structured alumni engagement system. Unlike countries such as China or the United States, which maintain robust networks of international alumni to promote bilateral ties and educational branding, India lacks a coordinated effort to track, engage, and collaborate with African graduates of Indian institutions (Sinha, 2022). This is a missed opportunity to build long-term goodwill and to position alumni as ambassadors of Indian education in their home countries.

Moreover, India's limited institutional footprint in Africa constrains deeper academic cooperation. While initiatives like the Pan-African e-Network and e-VBAB have enabled digital connections, there is no significant physical presence of Indian universities or academic centers on the African continent (MEA, 2019). The absence of satellite campuses, research partnerships, or faculty

exchange programs means that collaboration remains largely unidirectional and dependent on African students traveling to India, rather than fostering joint knowledge creation.

Finally, India struggles with weak global branding of its higher education sector, especially in the African context. Although India offers cost-effective, English-medium education in fields like engineering, IT, and management, it has yet to develop a strong international brand comparable to those of Western countries or even regional competitors like Malaysia (Kapur & Kim, 2021). Marketing efforts are fragmented, and awareness about Indian universities remains low among African youth. Without a coherent internationalization strategy and targeted outreach, India's comparative advantage in education remains underutilized.

Addressing these challenges will require a coordinated effort involving policy reform, institutional innovation, and cultural sensitivity. Strengthening India–Africa academic cooperation demands not only expanded opportunities but also a supportive ecosystem that ensures accessibility, quality, and long-term engagement.

## 7. Opportunities and the Way Forward

India's expanding higher education landscape presents substantial opportunities for deeper engagement with the Global South, particularly Africa. The potential for establishing branch campuses and offering joint degrees is increasingly viable, especially



with Indian institutions gaining global rankings and credibility. Several Indian universities have already expressed interest in setting up offshore campuses, and the National Education Policy (NEP) 2020 further supports this global outreach by encouraging institutions to internationalize their offerings (Ministry of Education, 2020). Branch campuses can act as academic hubs for Indian institutions to deliver contextually relevant education, while joint degree programs can enable collaborative curriculum development and research between Indian and African institutions, promoting mutual capacity building.

Faculty exchange programs offer another key area for strengthening bilateral academic ties. Faculty mobility enhances not only teaching quality and exposure to diverse pedagogical methods but also helps in collaborative research addressing region-specific developmental challenges. Structured exchange programs can also bridge academic gaps, stimulate innovation, and reinforce cultural ties between India and African nations.

In parallel, partnerships with the African Union and regional education bodies such as the Association of African Universities (AAU) can formalize institutional collaborations. These partnerships may focus on standardizing academic quality, accreditation processes, and research priorities. India's commitment to South-South cooperation and its historical connections with Africa provide a strong foundation for such alliances. For instance, the India-Africa Forum Summit has consistently emphasized

educational collaboration as a key strategic priority (MEA, 2015).

Another critical area is the strengthening of e-learning infrastructure. With the rapid expansion of digital technologies, online education can address the demand-supply gap in higher education across the African continent. Indian platforms like SWAYAM and NPTEL, which offer high-quality and low-cost digital learning resources, can be adapted to meet regional needs in Africa. However, this must be accompanied by efforts to ensure local recognition of online degrees and certifications, supported by robust assessment, quality assurance, and accreditation mechanisms.

The NEP 2020 plays a central role in shaping India's global education strategy. It emphasizes the internationalization of Indian higher education, advocating for flexible curricula, multiple entry-exit options, and global academic standards (Ministry of Education, 2020). Furthermore, India's G20 Presidency has placed strong emphasis on the Global South, aiming to make education more inclusive and equitable across developing nations. These policy directions can significantly aid in repositioning India as an academic destination and a reliable educational partner.

In conclusion, the convergence of favorable policy frameworks, digital innovation, and historical ties presents a unique opportunity for India to enhance its educational engagement with Africa. Strategic collaboration through branch campuses, joint degrees, faculty



exchanges, and digital platforms, supported by strong partnerships and global recognition mechanisms, can create a robust pathway for shared growth and academic excellence.

## 8. Conclusion

The growing educational partnership between India and Africa is marked by mutual interests, historical ties, and shared developmental goals. Key findings indicate a significant potential for expanding academic cooperation through joint degree programs, faculty exchanges, e-learning initiatives, and the establishment of offshore campuses. These developments are underpinned by India's evolving higher education ecosystem, which is increasingly aligned with global standards through reforms such as the National Education Policy (NEP) 2020 (Ministry of Education, 2020). Furthermore, India's positioning during its G20 Presidency, with a focus on the Global South, has reaffirmed its commitment to inclusive education and knowledge-sharing partnerships.

India holds a strategic advantage due to its cost-effective education model, English-medium instruction, and a strong IT-enabled infrastructure. However, to fully realize this potential, there is an urgent need for stronger policy coherence, better visibility of India's academic offerings, and greater coordination among key stakeholders. Existing schemes must be aligned with the broader geopolitical vision of South-South cooperation to ensure long-term impact (Chaturvedi, 2016).

Moving forward, India's engagement with Africa must be more targeted, scalable, and student-centric. This includes tailoring programs to local needs, enhancing employability, and providing pathways for academic and professional mobility. By fostering meaningful academic collaborations rooted in mutual benefit, India and Africa can together build a resilient knowledge economy that supports sustainable development and global equity.

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