

## ARAŞTIRMA MAKALESİ/RESEARCH ARTICLE

INTERNATIONAL ACTORS SHAPING UGANDA'S STIRD LANDSCAPE: A  
DECADAL REVIEW\*UGANDA'NIN BİLİM VE TEKNOLOJİ POLİTİKALARINI ŞEKİLLENDİREN  
ULUSLARARASI AKTÖRLER: SON ON YILA DAİR BİR DERLEMEİbrahim Hakan KARATAŞ\*\* Charles KYASANKU\*\*\* 

**Abstract:** Uganda's science, technology, innovation, research, and development (STIRD) ecosystem has historically been shaped by actors from the Global North. However, in the past decade, a more diversified landscape has emerged, marked by increasing engagement from Global South countries, including Türkiye and Chinese. Despite this evolution, limited research has examined the full spectrum of international actors influencing Uganda's STIRD trajectory. This study addresses this gap by identifying and analysing the organisational actors that shape Uganda's STIRD ecosystem—categorised into five groups: cultural institutions, health research organisations, development NGOs, bilateral/multilateral development agencies, and emerging STI policy networks. Using qualitative document analysis, the research investigates each actor's roles, partnerships, thematic focus, and influence on national policy. Findings reveal a continued dominance of established donors like the USA, UK, and Sweden, yet highlight a growing role of actors such as Türkiye, China, and regional networks. These actors contribute through funding, institutional partnerships, and capacity-building. The study offers insights for policymakers to enhance coordination and alignment with national development goals and for new actors to craft more strategic STI diplomacy engagements. It concludes by calling for further empirical and comparative research to deepen understanding of transnational influences in East Africa's innovation landscape.

**Keywords** Science Diplomacy, Uganda, STIRD, International Partnerships, Soft Power.

**Öz:** Uganda'nın bilim, teknoloji, yenilik, araştırma ve geliştirme (STIRD) ekosistemi geleneksel olarak Küresel Kuzey'den gelen aktörler tarafından şekillendirilmiştir. Ancak son on yılda Türkiye ve Çin gibi Güney ülkelerinin katılımıyla daha çeşitlenmiş bir tablo ortaya çıkmıştır. Buna rağmen, Uganda'nın STIRD yolculuğunu etkileyen uluslararası aktörlerini bütünsel olarak inceleyen sınırlı sayıda çalışma bulunmaktadır. Bu çalışmada, Uganda'nın STIRD ekosistemini şekillendiren kurumsal aktörler beş kategoride ele alınmaktadır: kültürel kurumlar, sağlık araştırma kuruluşları, kalkınma odaklı STK'lar, ikili/çok taraflı kalkınma ajansları ve STI politika ağları. Aktörler rolleri, ortaklıkları, tematik odak alanları ve ulusal politika üzerindeki etkileri belge analizi yöntemiyle incelenmiştir. Bulgular, ABD, Birleşik Krallık ve İsveç gibi yerleşik bağışçıların etkisinin sürdüğünü gösterirken, Türkiye, Çin ve bölgesel ağların artan rollerini de öne çıkarmaktadır. Bu aktörlerin katkıları özellikle finansman, kurumsal ortaklıklar ve kapasite geliştirme alanlarında belirgindir. Çalışma, politika yapımcılar için koordinasyonu güçlendirme ve ulusal kalkınma hedefleriyle daha tutarlı stratejiler geliştirme konusunda öneriler sunarken, yeni aktörlerin daha stratejik STI diplomasisi yaklaşımları oluşturmaya ışık tutmaktadır. Ayrıca Doğu Afrika'daki inovasyon ortamına dair sınır ötesi etkileri daha iyi anlamak için ileriye dönük ampirik ve karşılaştırmalı araştırmalar yapılmasını önermektedir.

**Anahtar Kelimeler:** Bilim Diplomasisi, Uganda, STIRD, Uluslararası Ortaklıklar, Yumuşak Güç.

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\*\* Prof. Dr., İstanbul Medeniyet Üniversitesi, [ihkaratas@gmail.com](mailto:ihkaratas@gmail.com), [ibrahimhakan.karatas@medeniyet.edu.tr](mailto:ibrahimhakan.karatas@medeniyet.edu.tr), ORCID: 0000-0001-5569-014X.

\*\*\* Dr., Makerere University, [kyasacha@gmail.com](mailto:kyasacha@gmail.com), ORCID: 0009-0002-1679-5146

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## Introduction

Over the past decade, Uganda's science, technology, innovation, research, and development (STIRD) landscape has evolved significantly, shaped by a diverse array of international contributors. Despite strong aspirations to drive socio-economic progress through STIRD, Uganda's domestic investment remains limited: gross expenditure on research and development (GERD) has hovered around 0.4% of GDP, falling short of the National Development Plan III (NDPIII) target of 1% by 2025. Consequently, international organizations have become central to Uganda's STIRD ecosystem, offering financial resources, technical expertise, capacity building, and global networks—while aligning with their own countries' soft power and science diplomacy agendas (National Planning Authority, 2022).

These international actors encompass cultural institutions, agricultural and environmental researchers, health and biomedical agencies, NGOs, and bilateral and multilateral development partners. Their roles supplement national efforts and often reflect foreign policy priorities. Yet, a key gap exists: limited understanding of the identity, structure, and influence of these actors within Uganda's STIRD environment. This gap is particularly felt in intellectual circles in countries like Türkiye, where visibility into Uganda's science diplomacy footprint remains minimal.

While existing literature offers valuable case-based insights—such as the World Bank's sectoral policy reviews (Brar et al., 2008; *Science, Technology and Innovation Policy Review of Uganda*, 2010), and health-focused innovation studies (Kamunyor et al., 2009)—these tend to explore isolated domains. Similarly, ICT-in-agriculture analyses (Ayim et al., 2020) highlight technological and structural challenges, and academic-public-private partnerships in biotech (Kamunyor et al., 2009; Infectious Diseases Institute). Yet, there is a notable absence of scholarship offering *holistic cross-sector mapping* of Uganda's STIRD ecosystem, especially regarding the evolving role of Türkiye. This study responds to that gap by examining organizational actors across sectors—agriculture, health, ICT, industrial research—while situating Türkiye within the emerging constellation of international STIRD actors.

This research advances new questions: Who are the key international STIRD actors operating in Uganda? What are their primary functions and focus areas? How do they engage with local institutions and policies? What degree of influence do they exert over Uganda's STIRD agenda? Additionally, it examines how increasing participation from Global-South actors is reshaping a landscape historically dominated by North-South partnerships. By clarifying these dynamics, this study contributes to the broader discourse on science diplomacy and international collaboration in Africa's development trajectory.

## 1. Literature Review

Uganda has officially committed to advancing its science, technology, innovation, research, and development (STIRD) agenda, including its ambitious target of increasing gross expenditure on R&D to 1% of GDP by 2025 (Ministry of Finance, Planning and Economic Development, 2025). Major national assessments—like the World Bank's comprehensive policy appraisal (Brar et al., 2011) and the UNCTAD review (2019)—highlight the critical role of transnational partnerships across sectors such as agriculture, health, energy, and ICT. However, these reviews primarily analyze policy environments and recommend reforms without offering a systematic mapping of the diverse international actors shaping Uganda's STIRD ecosystem.

Sectoral case studies provide deep but narrowly focused insights. For instance, Kamunyor et al. (2010) and Al Bader and Singer (2010) document how incubators, international NGOs, and donors play pivotal roles in Uganda's biomedical research, particularly through public-private health partnerships like the Uganda Virus Research Institute and Infectious Diseases Institute. In the energy sector, Bhamidipati, Hansen, and Haselip (2019) examine the influence of donors, multilateral bodies, and private firms on off-grid solar PV adoption, revealing coordinated efforts in Uganda's energy transition. Yet, these investigations remain isolated to individual sectors and lack integration with national STIRD strategies.

Other studies highlight specific sectors' dynamics: Ayim et al. (2022) analyze how ICT innovations serve Uganda's smallholder farmers, and Marshall Lucette et al. (2007) assess the impact of international partnerships in developing local research capacities in nursing education. Additionally, Mutyaba et al. (2016) explore institutional influences on the cassava sector, while Namugumya et al. (2020) examine donor-driven nutrition policy reforms. Each contributes valuable sector-specific knowledge but lacks a holistic framework that ties individual initiatives into a broader ecosystem.

Recent efforts, such as the landscape analysis by Möbius and Althaus Mugagga (2023), advance knowledge ecosystems by mapping actors like innovation hubs, entrepreneurial support organizations, and funders. However, they overlook crucial dimensions such as scholarship mechanisms, bilateral agencies, academia-to-academia exchanges, and Türkiye's emerging engagement in Uganda's STIRD diplomacy landscape.

A striking omission across this corpus is the understanding of how these diverse actors interact—whether as siloed projects or within broader policy frameworks—and the specific role of Türkiye in this evolving landscape. This study addresses that gap by providing the first integrated, ecosystem-wide analysis of transnational STIRD actors in Uganda. It will identify who these actors are, how they collaborate, and how their interactions collectively shape national innovation trajectories and diplomatic relations.

## **2. Uganda's STIRD Policy Landscape: Context and Aspirations**

Uganda's strategic ambition to harness STIRD for economic transformation is increasingly evident in its national policy frameworks. However, its performance remains constrained by underinvestment and systemic gaps. According to the Global Innovation Index (GII), Uganda was ranked 102 out of 129 countries globally in 2019, trailing behind its East African counterparts—Kenya (77), Rwanda (94), and Tanzania (97). Uganda's gross expenditure on research and development (GERD) stood at just 0.4% of GDP, with business R&D investment as low as 0.01% (MoSTI, 2023).

The Government of Uganda, through MoSTI, recognises that weak coordination, inadequate infrastructure, and limited private sector participation continue to hinder the national STIRD ecosystem. The National Development Plan III (2020/21–2024/25) and the STI Sector Development Plan (2019/20–2024/25) outline bold targets: to raise GERD to 1% of GDP and increase Uganda's GII ranking to 35 by 2025. Policy objectives focus on enabling innovation ecosystems through scientific parks, incubation centres, skilled human capital, and legal-regulatory frameworks (NPA, 2020).

Importantly, the Ugandan government acknowledges that the advancement of STI is essential not only for national development but also for realising the Sustainable Development Goals (SDGs). This policy shift is reflected in growing partnerships with international actors who contribute knowledge, funding, and infrastructure, thereby shaping the contours of Uganda's STIRD landscape. In this context, the Kiira Motors Corporation (KMC) initiative exemplifies how international actors shape Uganda's STIRD ecosystem. Established as a state-led project with Makerere University, KMC has engaged multiple global partners to develop electric and hybrid vehicles, including collaborations with German e-mobility companies (SoftPower News, 2025), the United Nations Development Programme (UNDP) (UNDP Uganda, 2024), and Rotary International. These partnerships support technology transfer, skills development, and infrastructure for electric mobility, illustrating the tangible ways in which international actors contribute to Uganda's innovation capacity. The Kiira initiative demonstrates how bilateral and multilateral collaborations extend beyond funding to include expertise, training, and co-development of sustainable technologies, reinforcing Uganda's strategic ambition to harness STIRD for industrial and economic transformation (Kiira Motors Corporation, 2025).

## **3. Methodology**

This study employs a qualitative document analysis approach to examine the international actors shaping

Uganda's STIRD landscape over the past decade. Document analysis is a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material. It is particularly useful for analyzing policy documents, organizational reports, and other textual data to understand the context, processes, and actors involved in a particular field (Bowen, 2009).

### ***3.1. Selection of Organizations***

The organizations included in this study were selected based on the following criteria:

- They are officially recognized as partners by Uganda's Ministry of Foreign Affairs, as listed on the Ministry's official website.
- They have an established agency or representation in Uganda.
- They have been engaged in at least one STIRD-related project in Uganda within the last ten years.

This selection process ensures that the study focuses on organizations with a tangible presence and active involvement in Uganda's STIRD ecosystem.

### ***3.2. Data Collection and Analysis***

Data were collected from a variety of sources, including official websites of the selected organizations, policy documents, project reports, and reputable media outlets. The analysis involved coding the documents to identify key themes, actors, instruments, and convergence points. This thematic analysis allows for the identification of patterns and relationships among the various international actors and their roles in Uganda's STIRD landscape (Braun & Clarke, 2006).

### ***3.2. Research Originality and Significance***

This research is original in its comprehensive approach to identifying and analyzing the international actors involved in Uganda's STIRD sector. While previous studies have examined individual organizations or thematic areas, this study provides a holistic view of the landscape, including the emerging role of Türkiye as a non-Western actor in science diplomacy. By mapping the functions, partnerships, and influences of these actors, the study contributes to the broader understanding of science diplomacy and international collaboration in Africa.

## **4. International Actors**

### ***4.1. Cultural Institutions and Science Diplomacy***

Table 1. Cultural Institutions

<b>Name</b>	<b>Country of Origin</b>	<b>Website</b>
Goethe-Zentrum Kampala (UGCS)	Germany	<a href="http://goethezentrumkampala.org">goethezentrumkampala.org</a>
Alliance Française Kampala	France	<a href="http://afkampala.org">afkampala.org</a>
British Council Uganda	United Kingdom	<a href="http://britishcouncil.ug">britishcouncil.ug</a>
China Cultural Center (Confucius Institute)	China	ci.mak.ac.ug

International cultural institutions in Uganda—such as Goethe-Zentrum Kampala (Germany), Alliance Française Kampala (France), the British Council (UK), and the Confucius Institute at Makerere University (China)—primarily serve linguistic and cultural exchange functions. However, their activities have indirect yet important implications for Uganda's STIRD landscape. These institutions

foster human capital, promote global linkages, and facilitate platforms for scientific collaboration.

The British Council, for instance, operates programs on education, society, and youth engagement that link directly with science diplomacy objectives. In 2021, it facilitated a climate communication competition for Ugandan youth ahead of COP26, positioning young citizens at the intersection of science and policy (British Council, 2019). Similarly, the Confucius Institute, established in 2014, promotes Chinese language learning while supporting academic mobility to China in STEM disciplines—linking with broader geopolitical strategies like the Belt and Road Initiative (Liu, 2019).

Though Goethe-Zentrum and Alliance Française primarily focus on arts and language, they host events exploring urban innovation, digital transformation, and environmental change, bridging cultural expression and scientific dialogue. These platforms cultivate awareness and interdisciplinary knowledge among Ugandan creatives and academics.

Importantly, these cultural organisations contribute to bilateral research cooperation and academic development. The British Council, through Chevening and Commonwealth Scholarships, supports Ugandan scholars, many of whom return to leadership roles in academia or policy. Alumni networks often facilitate UK–Uganda collaborations aligned with British science diplomacy strategies (Gillespie et al., 2020). Likewise, France and Germany support higher education partnerships via French Embassy networks and DAAD programmes, respectively.

The Confucius Institute exemplifies soft power through education. It is co-managed by Makerere and Xiangtan Universities, integrating cultural and technical exchange. China’s concurrent investments in demonstration farms and technology transfer illustrate coordinated diplomacy across science and development. A comparative study describes such institutions as part of a “smart power” strategy—blending attraction with influence (Gillespie et al., 2020).

Partnerships are central to these institutions’ operations. The British Council works with Uganda’s Ministry of Education and UNCST, contributing to curriculum reform and entrepreneurship in universities. The Confucius Institute is embedded within Makerere University, while Goethe-Zentrum and Alliance Française collaborate with arts colleges and the Ministry of Gender, Labour and Social Development. These relationships foster skills development, intercultural competencies, and internationalisation of Ugandan science.

In summary, cultural institutions act as diplomatic agents that subtly shape Uganda’s STIRD ecosystem. By building linguistic capacity, facilitating international exchanges, and anchoring bilateral academic partnerships, they create the socio-cultural infrastructure necessary for sustained scientific cooperation. Their contributions may not always be explicit in national innovation policy but are vital to the enabling environment for science diplomacy in Uganda.

#### **4.2. Health and Biomedical Research Institutions**

Table 2. Health & Medical Research Organizations

Name	Country of Origin	Website
Medical Research Council (MRC) Uganda Unit	United Kingdom	<a href="http://mrcuganda.org">mrcuganda.org</a>
Infectious Diseases Institute (IDI)	USA/Canada	<a href="http://idi.mak.ac.ug">idi.mak.ac.ug</a>
International AIDS Vaccine Initiative (IAVI)	USA	<a href="http://iavi.org">iavi.org</a>
African Academy of Sciences (AAS)	Kenya	<a href="http://aasciences.africa">aasciences.africa</a>

Uganda is a leading hub for tropical disease research, vaccine trials, and health innovation in Africa, shaped significantly by international biomedical research institutions. Key players include the UK-funded Medical Research Council (MRC) Uganda Unit, the Infectious Diseases Institute (IDI), the

International AIDS Vaccine Initiative (IAVI), the African Academy of Sciences (AAS), and the U.S. Centers for Disease Control and Prevention (CDC), often working with local institutions such as the Uganda Virus Research Institute (UVRI) and Makerere University.

**Medical Research Council (MRC) Uganda Unit:** The MRC/UVRI & LSHTM Uganda Research Unit, supported by the UK, specialises in infectious and non-communicable diseases. It has been a major contributor to global HIV prevention (e.g., male circumcision, combination prevention) and pandemic response, including genomic surveillance for COVID-19 in East Africa (LSHTM, 2023). Its infrastructure includes advanced labs and a historical biobank. Core to its mission is capacity-building: by 2023, the unit trained hundreds of Ugandan scientists (MSc, PhDs, postdocs) and secured renewed funding following an excellent review of its scientific outputs and training achievements. MRC's sustained presence reflects the UK's science diplomacy through long-term research investment.

**Infectious Diseases Institute (IDI):** Established in 2002 through collaboration between Makerere University, Uganda's Ministry of Health, and Pfizer, IDI exemplifies a Ugandan-led yet internationally supported research model (Kajubi et al., 2020). It focuses on HIV/AIDS and other infectious diseases, providing care to over 100,000 patients, supporting health worker training (over 19,000 individuals by 2016), and contributing to research and clinical trials. Despite the tapering of initial donor funding, IDI has secured support from PEPFAR, NIH, and CDC, making it a sustainable centre of excellence. Its proximity to the Ministry of Health ensures its research regularly informs national HIV/TB policies, making IDI a strategic science diplomacy model rooted in international collaboration and local capacity.

**UVRI–IAVI HIV Vaccine Programme:** The UVRI–IAVI partnership, initiated in 2001, focuses on HIV vaccine trials and emerging diseases like Ebola and Marburg. Backed by donors including the Gates Foundation and European governments, it has conducted numerous Phase I/II trials and epidemiological studies (IAVI, 2023). The programme's objectives go beyond research: they include capacity building, training clinical trial investigators, and strengthening regulatory oversight. A recent collaboration with the European Vaccine Initiative (EVI) positioned Uganda as a regional vaccinology training hub. Through this partnership, Uganda is actively participating in global health governance, which enhances its soft power through science.

**African Academy of Sciences (AAS):** The Nairobi-based AAS supports research across Africa, including Uganda, through programs such as the DELTAS Africa initiative. These initiatives strengthen research leadership and provide funding for collaborative health science projects. While not headquartered in Uganda, AAS plays a regional role in research governance and capacity development.

**U.S. CDC and PEPFAR Influence:** The CDC, primarily through the PEPFAR initiative, has invested over \$3 billion in Uganda since 2004 (CDC, 2023). By 2023, over 769,000 Ugandans were receiving antiretroviral therapy through PEPFAR-supported programs, with viral suppression rates exceeding 96%. CDC's implementation science and data systems have significantly improved Uganda's HIV response. Moreover, the CDC has supported the creation of the Public Health Emergency Operations Centre and a Field Epidemiology Training Programme, training hundreds of "disease detectives" and improving Uganda's outbreak response capacity. These initiatives have saved lives and institutionalised research-informed public health approaches.

The CDC–MoH partnership extends beyond HIV, impacting national epidemic response strategies and enhancing Uganda's global health diplomacy profile. Notably, Uganda's outbreak surveillance has been shaped by CDC inputs, and policy instruments have benefited from joint implementation science. Other countries also contribute: the UK's Wellcome Trust and Germany's Bernhard Nocht Institute support health research in areas like malaria and nodding syndrome, although on a smaller scale.

In Uganda's health STIRD ecosystem, international organisations have played foundational roles in shaping biomedical research, health systems, and capacity building. The UK's MRC Unit is a pillar of research excellence and training. The U.S. has been especially influential through PEPFAR and CDC,

embedding science in health systems and diplomacy. Institutions like IDI and UVRI–IAVI show how local capacity can be cultivated through sustained global partnerships. Collectively, these actors enhance Uganda’s scientific stature, reinforce soft power dynamics, and exemplify science diplomacy in action.

### 4.3. Development and Humanitarian NGOs in STIRD

Table 3. Development & Humanitarian Organizations

Name	Country of Origin	Website
International Rescue Committee (IRC)	USA	<a href="https://www.rescue.org">rescue.org</a>
International Organization for Migration (IOM)	United Nations	<a href="https://iom.int">iom.int</a>
UNICEF Uganda	United Nations	<a href="https://unicef.org/uganda">unicef.org/uganda</a>
World Vision Uganda	USA	<a href="https://worldvision.org">worldvision.org</a>
Caritas Uganda	Catholic Church (Global)	<a href="https://caritas.org">caritas.org</a>
Uganda Red Cross Society	International Red Cross	<a href="https://redcrossug.org">redcrossug.org</a>
CURE Children's Hospital of Uganda	USA	<a href="https://cure.org/hospitals/uganda">cure.org/hospitals/uganda</a>
Women of Uganda Network (WOUGNET)	Uganda (International Partnerships)	<a href="https://wougnet.org">wougnet.org</a>
International Labour Organization (ILO)	United Nations	<a href="https://ilo.org">ilo.org</a>
Oxfam International	UK	<a href="https://oxfam.org">oxfam.org</a>

Development and humanitarian organisations—ranging from global NGOs and UN agencies to locally rooted, tech-forward NGOs—play a pivotal, if often under-recognised, role in shaping Uganda’s science, technology, innovation, research, and development (STIRD) landscape. Though their core mandates centre on relief, development, and advocacy, many have integrated innovation, technology, and research into their work. Notable organisations include UNICEF, USAID, the International Rescue Committee (IRC), the International Organization for Migration (IOM), World Vision, Oxfam, Caritas Uganda, the Uganda Red Cross Society, CURE Children’s Hospital, and the Women of Uganda Network (WOUGNET).

**Innovation at the Community Level:** UNICEF Uganda has been a front-runner in incorporating technology into child-focused development. Projects like mobile birth registration, e-health systems, and the Kampala-based Innovation Fund Hub have supported locally sourced solutions in maternal health, youth engagement, and refugee education (UNICEF, 2018). These efforts promote a local problem-solving culture while contributing data and insights for national policy.

Similarly, Oxfam and World Vision have used GIS and community weather monitoring tools in climate adaptation projects. These not only serve vulnerable populations but also provide empirical evidence on disaster resilience, feeding into broader policy conversations. The IRC, working in refugee settlements, has introduced water purification and cash transfer technologies, often accompanied by rigorous evaluations.

IOM has focused on data-driven migration responses, including its Migrant Information Portal and human trafficking surveys, whose findings influence policy. Even faith-based Caritas Uganda has introduced improved crop varieties via church networks, monitored outcomes, and refined extension methods—blurring the line between development practice and applied R&D.

**Bridging Research and Implementation:** Many NGOs partner with universities to evaluate program effectiveness. For example, World Vision collaborated with Makerere University to assess nutritional interventions, influencing Uganda’s national nutrition policy. WOUGNET has played a prominent role in digital inclusion by training rural women in ICT, promoting market information systems, and publishing research on gender and technology (WOUGNET, 2020). Its work has informed both Uganda’s ICT4D policies and international discourse on closing the gender digital divide.



**Institutional Partnerships and Programmatic Influence:** These NGOs often formalise partnerships with government agencies, ensuring their innovations can scale. USAID's ResilientAfrica Network (RAN), hosted at Makerere, supported student innovators to develop low-cost technologies—from irrigation systems to disease surveillance tools—which were later piloted by Uganda Red Cross and integrated into broader public programs.

UNICEF's FamilyConnect program (a maternal health SMS service) began as a pilot and was adopted by Uganda's Ministry of Health after validation. IRC and IOM's innovative tools for refugee aid delivery—like solar-powered pumps and blockchain systems—have informed broader refugee management policies coordinated by the Office of the Prime Minister and UNHCR.

The Uganda Red Cross collaborates with the Ministry of Disaster Preparedness and NARO on community-based early warning systems, while working with tech groups like OpenStreetMap Uganda to map crisis zones. Their input into national frameworks, including Uganda's COVID-19 response plan, underscores their role as soft influencers in science and technology policy.

**Evidence and Advocacy for Policy Change:** Through evidence-based advocacy, NGOs influence national policies. Oxfam's research on climate resilience and land rights has informed Uganda's land policy debates. World Vision and Save the Children contributed data on education in emergencies, influencing the Education Response Plan for Refugees and Host Communities. WOUGNET and CIPESA used project data to successfully advocate for gender inclusion in national ICT policies (CIPESA, 2020).

**Soft Power and Grassroots Diplomacy:** Development NGOs also function as soft power actors, often reflecting the values of their donor countries or global missions. USAID, for instance, has funded civic tech projects promoting transparency—indirectly projecting democratic ideals. IRC, Oxfam, and World Vision promote humanitarian norms aligned with liberal democratic values. Meanwhile, UN agencies like UNICEF gain soft power through perceived neutrality and global legitimacy, reinforcing the diplomatic capital of multilateralism.

Some NGOs also act as intermediaries in science diplomacy. For instance, the global Medicines for Malaria Venture (MMV), in collaboration with Ugandan research sites, conducts clinical trials of new malaria treatments—transferring cutting-edge science into national practice.

While development and humanitarian NGOs are not traditional science actors, their role in diffusing technology, catalysing innovation, and generating policy-relevant knowledge is indispensable to Uganda's STIRD ecosystem. Their ability to operate at grassroots level, build capacity (e.g., training citizen scientists, para-veterinarians, health workers), and advocate for evidence-informed policy gives them significant influence. Moreover, through their partnerships with both local and international institutions, they contribute to a form of grassroots science diplomacy that enhances both development outcomes and international cooperation.

#### 4.4. Bilateral and Multilateral Development Agencies

Table 4. International Development Agencies in Uganda

Name	Country Of Origin	Website
Austrian Development Agency (ADA)	Austria	entwicklung.at
Belgian Development Agency (Enabel)	Belgium	<a href="https://enabel.be">enabel.be</a>
Japan International Cooperation Agency (JICA)	Japan	<a href="https://jica.go.jp">jica.go.jp</a>
Swedish International Development Cooperation Agency (SIDA)	Sweden	<a href="https://sida.se">sida.se</a>
French Development Agency (AFD)	France	<a href="https://afd.fr">afd.fr</a>



United States Agency for International Development (USAID)	USA	<a href="https://www.usaid.gov/uganda">usaid.gov/uganda</a>
United States African Development Foundation (USADF)	USA	<a href="https://www.usadf.gov">usadf.gov</a>
Turkish Cooperation and Coordination Agency (TİKA)	Turkey	<a href="https://www.tika.gov.tr">tika.gov.tr</a>
The Norwegian Agency for Development Cooperation	Norway	<a href="https://www.norad.no/">https://www.norad.no/</a>
Danish International Dev't Agency	Denmark	<a href="https://um.dk/en/danida">https://um.dk/en/danida</a>
Welthungerhilfe (WHH)	Germany	<a href="https://www.welthungerhilfe.org/">https://www.welthungerhilfe.org/</a>

Bilateral and multilateral development agencies have been pivotal in shaping Uganda's STIRD landscape, particularly through funding, capacity-building, and policy influence. Over the last decade, institutions such as USAID, Sida, JICA, Enabel, ADA, AFD, TİKA, and the World Bank have supported STI-related initiatives across sectors including health, agriculture, ICT, education, and vocational training.

**Strategic Focus and Functions:** These agencies have increasingly integrated STI into their development portfolios, recognising that innovation underpins sustainable development. Sweden's Sida exemplifies this long-term strategy. Since 2000, it has supported research capacity at public universities, especially Makerere University, funding postgraduate training and infrastructure development. By 2022, over 378 Ugandan staff had received advanced training, particularly in ICT, and Makerere's College of Computing was transformed into a regional centre of excellence (Embassy of Sweden Kampala, 2022).

USAID, through its Global Development Lab and Feed the Future programs, has funded local innovation hubs, agricultural R&D, and digital solutions for market access. It works closely with institutions like NARO and Makerere to develop climate-resilient crops and value addition technologies.

JICA's emphasis has been on technical skills transfer and STEM education. Its long-standing "SMASSE" initiative trained secondary school science teachers in practical pedagogy. JICA also supported vocational education through the establishment of technical institutes and partnerships with the Ministry of Education and MAAIF, focusing on agricultural extension and industrial skills (JICA Uganda, 2017).

TİKA, Turkey's development agency, has grown in visibility since 2016, contributing to vocational training centres, science laboratories, and university collaborations. Though its scale is modest, TİKA's investments are highly symbolic of Turkey's emerging science diplomacy in East Africa (Şanlı, 2020).

Multilateral organisations like the World Bank have funded flagship projects like MAPRONANO ACE (Materials and Nanotechnology) and other African Centres of Excellence. These projects target postgraduate research and institutional development in STI domains. The Bank also provides analytical support—its 2019 STI policy review for Uganda helped identify system gaps and advised on governance and innovation strategy (World Bank, 2019).

**Policy Influence and Institutional Capacity:** These agencies often shape national policy through budget support and technical assistance. Sida's sustained engagement with Uganda's university sector has resulted in direct influence over higher education and science policy. Swedish advisors and alumni from Swedish institutions now play key roles in policy drafting within MoSTI and UNCST.

The Science Granting Councils Initiative (SGCI)—a multi-donor platform including IDRC (Canada), FCDO (UK), Sida, and Norad—has significantly strengthened UNCST's grant management, evidence-based policy capacity, and emphasis on gender in STI (IDRC, 2021). SGCI's alignment with global best practices has influenced Uganda's adoption of competitive research funding mechanisms.

USAID's support for innovation in agriculture has led to the uptake of digital extension tools, village agent models, and farmer market apps in national agricultural strategy. Enabel (Belgium) has informed vocational education policy through its "Skilling Uganda" program, advancing public-private

partnerships in technical institutes.

AFD (France) has contributed to Uganda's energy transition strategy, financing solar mini-grid pilots and working with the Ministry of Energy to evaluate and incorporate renewable energy into rural electrification policy (AFD, 2020). The EU has also facilitated Uganda's participation in Horizon 2020 projects, promoting research collaborations in renewable energy and climate resilience.

***Development Partnerships and Modalities:*** These agencies operate through formal partnerships with government ministries, universities, and national research bodies. Sida's collaboration with Makerere, Busitema, and Gulu universities is formalised through joint steering committees. JICA works with NARO, MAAIF, and vocational training centres on agriculture and industrial skills.

USAID collaborates across sectors—from NARO in agriculture to UNCST and MoSTI in innovation. Its partnership with Makerere's School of Public Health has also influenced national health surveillance systems. ADA (Austria) co-established a GIS centre at Makerere, while GIZ (Germany) implemented renewable energy training programs through CREEC, showing how even smaller donors target niche STI gaps.

A hallmark of such partnerships is co-funding of regional programs. For instance, the BioInnovate Africa initiative, supported by Sida, engages NARO and other Ugandan bodies to drive biotechnology solutions for food security and environmental resilience.

***Diplomacy and Soft Power Dimensions:*** These development partnerships are closely aligned with the diplomatic and strategic interests of their home countries. The United States projects global health leadership through USAID and CDC programs in Uganda. PEPFAR and Feed the Future are often presented as symbols of U.S. generosity and innovation capacity, serving both development and diplomatic purposes.

Sweden's aid is explicitly tied to a vision of "knowledge diplomacy." Its long-term investment in Uganda's research capacity has built an influential network of Ugandan alumni of Swedish universities—an enduring form of soft power (Sweden Abroad, 2022).

Japan's aid emphasises quality infrastructure and human resource development. JICA's volunteer programs and education initiatives foster interpersonal ties and showcase Japan's technological expertise. These efforts create goodwill and expand Japan's influence as a trustworthy development partner.

TIKA embodies Turkey's ambition to grow its influence in Africa through highly visible STI-linked projects. Vocational school renovations, laboratory donations, and scholarships reflect Turkey's soft power strategy rooted in development cooperation.

The World Bank, meanwhile, projects its intellectual leadership by publishing STI diagnostics and policy blueprints. It influences STI reform while branding itself as a global knowledge hub.

The European Union's science diplomacy is reflected in its inclusive research programming, such as Horizon 2020, which integrates Global South institutions. Belgium's partnership with Makerere in vaccine research (e.g., schistosomiasis) also exemplifies a dual focus on development and scientific collaboration.

Bilateral and multilateral agencies are foundational actors in Uganda's STIRD ecosystem. They fund institutions, shape policy, and embed international norms in STI governance. Whether through postgraduate scholarships, nanotech centres, or STI policy frameworks, these actors translate their home countries' diplomatic ambitions into long-term influence on Uganda's scientific future.

Their presence ensures Uganda's participation in global research conversations, reinforces institutional capacity, and helps align national strategies with international priorities. Ultimately, these agencies act as both development partners and diplomatic agents—accelerating Uganda's STI ambitions while extending their own soft power in the process.

## 5. Main Findings

This research has mapped the complex web of international actors shaping Uganda's STIRD ecosystem, with a focus on five major categories: cultural institutions, health research organisations, development NGOs, bilateral/multilateral development agencies, and STI-related academic and policy networks. It finds that:

***Dominant Influence of Global North Actors:*** Countries like the United States (via USAID, CDC, PEPFAR), the United Kingdom (MRC, British Council), Sweden (Sida), and Japan (JICA) have long-standing institutional footprints in Uganda's STI sectors. Their impact includes funding, capacity-building, policy development, and sustained partnerships with Makerere University, MoSTI, UNCST, and other key agencies (Bliss, 2021; LSHTM, 2023; Sweden Abroad, 2022).

***Emerging Presence of Global South Actors:*** Türkiye (TİKA), China (Confucius Institute), and regional networks like AAS and SGCI are increasing their presence. Although smaller in scale, these partnerships are symbolic of a shifting science diplomacy dynamic, aligning with South–South cooperation trends (Şanlı, 2020; Ogada et al., 2023).

***Hybrid Roles of NGOs and Cultural Institutions:*** Organisations such as UNICEF, WOUGNET, IRC, and the British Council serve as intermediaries between grassroots innovation and national policy, often producing data and evidence that shape public programs and ICT, gender, or education strategies (UNICEF, 2018; WOUGNET, 2020).

***High Level of Institutional Embeddedness:*** Partnerships are often formalised through MoUs, technical assistance, and joint program design. This institutionalisation allows international actors to influence Uganda's national STI priorities and frameworks, such as the National Innovation Fund or STI Sector Development Plans (IDRC, 2021; World Bank, 2019).

## 6. Discussion

The findings support the core assumption of this study: while Northern actors remain dominant in Uganda's STI space, there is a clear trend of diversified engagement from emerging powers. These South–South collaborations—such as Türkiye's educational and vocational initiatives or China's technology transfers—are not yet as entrenched but are politically significant. They represent an evolution in science diplomacy that complements Uganda's aim to broaden its international alliances and reduce over-reliance on traditional partners (Gluckman et al., 2017; Ruffini, 2021).

Furthermore, this research highlights how different types of actors (governmental agencies, NGOs, cultural institutions) pursue distinct soft power strategies. For instance, the British Council focuses on long-term educational linkages, whereas USAID funds scalable innovations tied to policy outcomes. These distinctions are important for understanding the motivations and implications of international STI engagement.

Additionally, the study reveals how local institutions are not passive recipients but active co-creators of these engagements. Makerere University, NARO, UNCST, and MoSTI consistently co-design, adapt, and steer international projects toward national priorities—a form of co-produced diplomacy (Turekian et al., 2015).

Despite the breadth of this study, several limitations should be acknowledged. First, the research relies

primarily on document analysis and secondary sources, which, while rich in institutional insights, may not fully capture the lived experiences and nuanced perceptions of the individuals and communities directly engaged in international STIRD initiatives. The absence of interviews or ethnographic methods means that the study may overlook informal dynamics, challenges in implementation, or power asymmetries within partnerships. Second, the study does not employ quantitative measures to assess the tangible outcomes or impact of international collaborations—such as bibliometric data, research outputs, innovation indicators, or funding flows—which could have further substantiated the patterns observed. Additionally, while the research includes emerging actors such as Türkiye and regional institutions, it does not offer a longitudinal or comparative analysis of their evolving role vis-à-vis more established donors from the Global North.

Across all four categories – cultural institutions, global health research collaborations, development/humanitarian NGOs, and bilateral/multilateral agencies – it is evident that international actors have been instrumental in shaping Uganda's science, technology, innovation, research, and development landscape in the past decade. They have provided critical resources: from funding laboratories and training scientists, to piloting innovations and informing policies. Crucially, these actors almost always work in partnership with Ugandan entities. Whether it is a joint research project between NARO and IITA that yields a new banana variety, or a donor-university collaboration that trains hundreds of PhDs, or an NGO and ministry co-creating a digital health solution, the model has been collaborative. This partnership approach ensures relevance to Uganda's needs and builds local ownership of initiatives, even as the impetus, expertise, or financing may originate abroad.

The influence of international actors manifests at multiple levels. At the policy level, they have helped set up structures (like UNCST's funding mechanisms, or national strategies for rice, ICT, etc.) and inculcated evidence-based decision-making. Ugandan government policies in STI now frequently reference or incorporate outputs from donor-funded projects (e.g., the National ICT Policy integrating gender due to WUGNET's input, the National Research Agenda shaped with SGCI support). At the institutional level, Uganda's universities and research institutes have been strengthened – Makerere University today ranks among Africa's top research institutions partly thanks to sustained international collaborations, and entities like UVRI and UIRI (Uganda Industrial Research Institute) have upgraded their capabilities through donor-funded programs. At the societal level, the diffusion of new technologies and practices – improved crops, better health services, digital tools – owes much to the work of NGOs and projects reaching communities.

The question of “who shapes the STIRD landscape in Uganda” thus has a dual answer: it is shaped by Ugandans (policymakers, scientists, institutions) in concert with these international actors. International organisations serve as catalysts and supporters, sometimes leaders, in different aspects. For instance, the UK (through British Council and MRC) has shaped cultural and health research dimensions, the US (through USAID and CDC) has shaped agriculture and health implementation science, Germany, France, China (through cultural centers and specific university ties) have influenced educational and cultural aspects that underpin scientific capacity, while multilaterals have influenced systemic and policy reforms. Each actor also carries an element of their national or organisational ethos – effectively practising science diplomacy. We see the UK and Sweden emphasising long-term capacity building, the US focusing on large-scale program results, and newer entrants like China and Turkey focusing on visibility and strategic sectors. This mosaic of influences has generally been synergistic for Uganda, contributing to progress in STI indicators (Uganda's scientific publications, though modest in number, have grown; technology startups are emerging; and the country is often cited as an innovation leader in East Africa in areas like fintech and public health). However, reliance on external funding remains a vulnerability – the sustainability of some initiatives can be in question if donor priorities shift.

Going forward, the partnerships are evolving. Uganda is asserting more ownership, as seen by increased government funding pledges for STI (e.g., committing to raise R&D/GDP to 1% and creating a Ministry for STI). International actors are correspondingly repositioning towards facilitating self-reliance – for example, current donor programs emphasize co-funding and capacity transfer. The concept of soft power

will continue to play out: countries that have built goodwill via science cooperation (UK, US, Sweden, etc.) are likely to enjoy continued influence and collaboration opportunities, while emerging players will use science and education initiatives to deepen ties.

## Conclusion

Uganda's STIRD environment has matured into a dynamic arena co-created by both national institutions and international partners. These actors are more than funders—they serve as catalysts for co-designed projects spanning research, training, and policy innovation. This collaborative model—underpinned by increased domestic STI investment, including the government's commitment to raising R&D expenditure to 1% of GDP—marks the emergence of an African-centered science diplomacy network.

Soft power strategies are increasingly diverse: Northern actors emphasize sustained capacity-building, while newer partners provide high-visibility infrastructure and sectoral support. This diversification enhances Uganda's autonomy in STI governance and positions the country to engage globally on its own terms. As partnerships evolve, the nation's future STI trajectory will depend on aligning traditional and emerging alliances within a framework of mutual benefit, ensuring science and innovation continue to advance national development objectives.

This study offers valuable insights into how international actors shape Uganda's STIRD ecosystem, yet it is subject to several limitations. First, our analysis relies primarily on document review and secondary data—rich in institutional detail but limited in capturing the lived experiences, informal dynamics, or power asymmetries within partnerships. Interviews or ethnographic methods could uncover these nuances and ground our findings more deeply. Second, the study lacks quantitative measures—such as bibliometric analysis, innovation indicators, or funding flows—to substantiate the observed trends and validate impact across sectors. Incorporating such metrics would strengthen evidence of STI outputs (Gluckman & Turekian, 2025; Ruffini, 2021).

Furthermore, while emerging South–South actors like Türkiye, China, and South Korea are identified as rising participants, their evolving role remains under-theorized. Longitudinal research is needed to compare their influence alongside traditional Northern donors and to trace changes in diplomatic strategies (Ambrozaite et al., 2024; Gluckman & Turekian, 2025).

## Genişletilmiş Özet

### Çalışmanın Amacı ve Kapsamı

Bu çalışma, Uganda'nın bilim, teknoloji, yenilik, araştırma ve geliştirme (STIRD) ekosistemini şekillendiren uluslararası aktörlerin son on yıldaki değişimini ve bu aktörlerin etkilerini incelemektedir. Geleneksel olarak Küresel Kuzey ülkelerinin (ABD, İngiltere, İsveç vb.) hakimiyetindeki bu ekosistemin, son on yılda Türkiye, Çin gibi Küresel Güney ülkelerinin de artan katılımıyla nasıl çeşitlendiğini analiz etmektedir. Makale, bu dönüşümün arkasındaki itici güçleri, aktörlerin rollerini, kurdukları ortaklıkları, odaklandıkları tematik alanları ve Uganda'nın ulusal politikaları üzerindeki etkilerini bütünsel bir yaklaşımla ele almaktadır. Özellikle Türkiye'nin yükselen rolünü, bilim diplomasisi ve yumuşak güç stratejileri bağlamında değerlendirerek, mevcut literatürdeki önemli bir boşluğu doldurmayı amaçlamaktadır.

Çalışma, Uganda'nın STIRD ortamını şekillendiren kurumsal aktörleri beş ana grupta sınıflandırmaktadır: kültürel kurumlar, sağlık araştırma kuruluşları, kalkınma odaklı sivil toplum kuruluşları (STK'lar), ikili/çok taraflı kalkınma ajansları ve yükselen bilim, teknoloji ve inovasyon (STI) politika ağları. Bu gruplar arasındaki etkileşimi, makale, kapsamlı bir belge analizi yöntemiyle ele alarak, sektörel ve politik düzeydeki dinamikleri ortaya koymaktadır.

### Kuramsal Çerçeve ve Yöntem

Bu çalışmanın kuramsal çerçevesi, *bilim diplomasisi* ve *yumuşak güç* kavramlarına dayanmaktadır. Bilim diplomasisi, bilimsel işbirliğinin uluslararası ilişkileri ve dış politikayı desteklemek için kullanılması sürecini ifade ederken, yumuşak güç ise askeri veya ekonomik zorlama yerine kültürel cazibe, siyasi değerler ve dış politika aracılığıyla diğer ülkeleri etkileme yeteneğini açıklar. Makale, uluslararası aktörlerin Uganda'daki STIRD alanındaki faaliyetlerinin, sadece kalkınma hedeflerine hizmet etmekle kalmayıp aynı zamanda kendi ülkelerinin diplomatik gündemlerini de ilerlettiğini öne sürmektedir.

Çalışma, *belge analizi* yöntemini kullanmaktadır. Bu yöntem, makalenin temel araştırma sorularına yanıt bulmak için resmi belgeleri, proje raporlarını, kurumsal web sitelerini ve güvenilir medya kaynaklarını sistematik olarak incelemeyi içerir. Analiz süreci, verilerin kodlanarak aktörlerin rolleri, ortaklıkları ve etkileri gibi ana temaların belirlenmesini sağlamıştır. Seçilen kuruluşlar, Uganda Dışişleri Bakanlığı tarafından resmi olarak tanınan ve son on yılda en az bir STIRD projesinde yer almış olanlardır. Bu yaklaşım, makalenin bulgularının sağlam ve kanıta dayalı olmasını sağlamaktadır.

## Bulgular ve Sonuçlar

### Uluslararası Aktörler ve Roller

Çalışmanın bulguları, Uganda'nın STIRD ekosistemini şekillendiren uluslararası aktörlerin çeşitliliğini ve bu aktörlerin rollerindeki gelişimi ortaya koymaktadır.

- **Kültürel Kurumlar:** Almanya'dan Goethe-Zentrum, Fransa'dan Alliance Française ve İngiltere'den British Council gibi kurumlar, dil ve kültür alışverişi yoluyla bilim diplomasisine dolaylı olarak katkıda bulunmaktadır. Örneğin, British Council'in gençlik programları ve bursları, Uganda'daki insan sermayesinin gelişmesine ve Birleşik Krallık ile bilimsel bağların güçlenmesine hizmet etmektedir. Çin'in Makerere Üniversitesi'ndeki Konfüçyüs Enstitüsü ise, Çin dili ve kültürel eğitimlerinin yanı sıra STEM alanlarında burslar sağlayarak Çin'in kuşak ve yol girişimleriyle uyumlu bir "akıllı güç" stratejisi izlediğini göstermektedir.

- **Sağlık ve Biyomedikal Araştırma Kuruluşları:** Uganda, tropik hastalıklar ve aşı çalışmaları alanında Afrika'nın önde gelen merkezlerinden biridir. İngiltere'nin MRC Uganda Birimi ve ABD destekli Enfeksiyon Hastalıkları Enstitüsü (IDI) gibi kurumlar, uzun vadeli araştırma yatırımları ve kapasite geliştirme programlarıyla bu alanda belirleyici bir rol oynamaktadır. ABD Hastalık Kontrol ve Önleme Merkezleri (CDC), PEPFAR girişimi aracılığıyla HIV/AIDS ile mücadelede önemli finansman ve teknik destek sağlamıştır. Bu kuruluşlar, bilimsel mükemmeliyeti artırırken aynı zamanda Uganda'nın uluslararası sağlık diplomasisindeki konumunu da güçlendirmektedir.

- **Kalkınma Odaklı STK'lar:** UNICEF, Oxfam ve World Vision gibi kuruluşlar, doğrudan bilim ve teknoloji alanında çalışmasalar da, yenilikçi çözümleri ve teknoloji entegrasyonu STIRD'a katkı sağlamaktadır. Örneğin, UNICEF Uganda'nın mobil sağlık sistemleri ve Oxfam'ın iklim adaptasyonu için kullandığı coğrafi bilgi sistemleri (GIS) araçları, ulusal politikaların şekillenmesine katkıda bulunmaktadır. Bu STK'lar, tabandan gelen yenilikleri destekleyerek ve kanıta dayalı savunuculuk yaparak bilimsel bilgi ile saha uygulamaları arasında köprü kurmaktadır.

- **İkili ve Çok Taraflı Kalkınma Ajansları:** USAID, Sida, JICA ve Enabel gibi köklü ajanslar, Uganda'nın STIRD gündeminin en önemli finansörleri ve politika belirleyicileridir. İsveç'in Sida ajansı, Makerere Üniversitesi'nde uzun vadeli araştırmalar ve lisansüstü eğitimler için fon sağlayarak kalıcı bir etki yaratmıştır. Uganda'nın ilk elektrikli otomobili olan Kiira Motors girişimi gibi örnekler, UNDP ve Alman ortaklıkları gibi uluslararası aktörlerin somut teknoloji transferi ve kapasite geliştirme yoluyla nasıl etki yarattığını göstermektedir. Bu ajanslar, Uganda'nın kalkınma hedeflerine ulaşmasında kritik bir rol oynamaktadır.

- **Türkiye'nin Yükselen Rolü:** Çalışma, Türkiye'nin TİKA aracılığıyla Uganda'nın STIRD ekosistemine olan yeni ve artan katılımına özel bir vurgu yapmaktadır. Geleneksel olarak Batılı aktörlerin hakim olduğu bu alanda, Türkiye'nin girişimleri yeni bir "güney-güney" işbirliği modelini temsil etmektedir. TİKA'nın tarım, mesleki eğitim ve sağlık alanındaki projeleri, teknik destek ve

teknoloji transferi odaklıdır. Bu durum, Türkiye'nin bilim diplomasisi ve yumuşak güç stratejilerinin Afrika'da nasıl bir yörünge izlediğini göstermektedir.

## Politik Etki ve Öneriler

Çalışmanın bulguları, uluslararası aktörlerin Uganda'nın STIRD politikaları üzerinde doğrudan ve dolaylı bir etkiye sahip olduğunu ortaya koymaktadır. Bu aktörler, finansman, teknik destek ve kapasite geliştirme yoluyla ulusal öncelikleri etkilemekte, ancak bu durum bazen parçalı ve koordinasyonsuz bir tabloya yol açabilmektedir. Makale, bu bulgulardan yola çıkarak Uganda'daki politika yapıcılar için somut öneriler sunmaktadır:

- **Koordinasyonun Artırılması:** Politika yapıcılarının, farklı uluslararası aktörlerin projelerini ulusal kalkınma hedefleriyle daha iyi hizalamak için daha güçlü bir koordinasyon mekanizması oluşturması gerekmektedir.

- **Stratejik Ortaklıklar:** Yeni ve yükselen aktörlerin, özellikle Küresel Güney'den gelenlerin, Uganda'nın ulusal önceliklerine daha fazla odaklanan stratejik STI diplomasisi yaklaşımları benimsemesi teşvik edilmelidir.

Sonuç olarak, bu çalışma, Uganda'nın STIRD ekosistemindeki uluslararası aktörlerin haritasını çıkararak bilim diplomasisi ve uluslararası işbirliği üzerine yapılan literatüre önemli bir katkı sağlamaktadır. Makale, Doğu Afrika'daki inovasyon ortamına dair sınır ötesi etkileri daha iyi anlamak için gelecekte ampirik ve karşılaştırmalı araştırmaların yapılması çağrısında bulunmaktadır. Uganda'daki bu dinamik ve çok aktörlü ortamın analizi, Afrika'da sürdürülebilir kalkınma için bilim ve diplomasinin birleşimini anlamak açısından değerli bir vaka çalışması sunmaktadır.

Makale Bilgileri		Article Information	
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