Available Online at http://www.journalajst.com

ASIAN JOURNAL OF SCIENCE AND TECHNOLOGY

ISSN: 0976-3376

Asian Journal of Science and Technology
Vol. 17, Issue, 01, pp. 14058-14062, January, 2026

RESEARCH ARTICLE

STRATEGIES TO OVERCOME THE CHALLENGES IN TRANSLATING RESEARCH INTO COMMERCIALIZATION IN KENYA RESEARCH INSTITUTES

***Josphert Kimatu**

South Eastern Kenya University, School of Science and Computing, Department of Life Sciences. P.O. Box 170-90200, Kitui, Kenya

ARTICLE INFO

Article History:
Received 14th October, 2025
Received in revised form
26th November, 2025
Accepted 11th December, 2025
Published online 29th January, 2026

Key words:
Technologies, Innovation, Startups, Development, Incubation, Competitive.

***Corresponding author:**
Josphert Kimatu

ABSTRACT

Although Kenya ranks consistently among the top countries in Africa in research output, there is a stark disparity between national research production and its uptake in the marketplace.This paper explores the challenges of research commercialization in Kenya, identifying structural, financial, policy, cultural, and institutional barriers that hinder public and private universities and research institutes from translating innovations in scientific, technological, agricultural, and health fields into marketable products. The investment in research and development in Kenya remains low at about 0.8% of GDP, far below the 2% target set by the Science, Technology and Innovation Act. Furthermore, over half of research funding comes from foreign donors, leading to fragmented financing and weak links between academia, government, and industry. These conditions have resulted in under-resourced laboratories, insufficient commercialization infrastructure, weak university–industry partnerships, and cultural challenges such as limited entrepreneurial orientation and public mistrust of new technologies. Intellectual property management issues further impede progress, as relatively few research outputs are patented or otherwise protected and commercialized. The case studies in this paper illustrate these obstacles. For example, the Kenya Agricultural and Livestock Research Organization's (KALRO) development of a genetically modified cassava resistant to mosaic and brown streak diseases has faced protracted regulatory approval processes and public misinformation, delaying its commercialization. Likewise, several universities have launched startup incubators and innovation hubs to spin off research-based enterprises, but these initiatives often struggle with limited funding and support. Overall, the report concludes that the country needs comprehensive systemic reforms. These include increased Research and Development (R&D) investment, stronger policy incentives, improved intellectual property support, and enhanced public–private collaboration. These shall strengthen research commercialization efforts and ensure Kenya's innovations contribute to socio-economic development.

Citation: ***Josphert Kimatu.*** **2026.** "Strategies to overcome the Challenges in Translating research into Commercialization in Kenya Research Institutes", *Asian Journal of Science and Technology*, 17, (01), 14058-14062.

INTRODUCTION

Kenya aspires to become a knowledge-based economy under its Vision 2030 development agenda, recognizing science, technology and innovation (STI) as key enablers of national development (UNESCO, 2023). The country boasts a vibrant research sector anchored by public institutions such as universities, national research institutes and a number of private universities. Kenya consistently ranks among Africa's top countries in research output; however, a stark disparity exists between research production and its uptake in the marketplace. Recent estimates indicate that less than 10% of Kenyan research is commercialized (KeNIA, 2025). This gap highlights the persistent challenges in translating academic and scientific findings into tangible products, services, and innovations that drive socio-economic growth. This paper examines the multifaceted barriers; structural, financial, policy, cultural, and institutional, that hinder research commercialization in Kenya's public and private research institutes across major fields like scientific, technological, agricultural, health, and related disciplines. Relevant case studies are discussed to illustrate these challenges, and references are provided in support of the analysis.

The Research and Innovation Landscape in Kenya: Kenya has made significant strides in building its research and innovation ecosystem. The government has established specialized agencies like the Kenya National Innovation Agency (KeNIA) to promote innovation, the National Research Fund (NRF) for research financing, and the National Commission for Science, Technology and Innovation (NACOSTI) for regulatory oversight. This is in line with the Science, Technology and Innovation (ST&I) Act of 2013. Public universities conduct research across diverse fields including engineering, natural and social sciences, health, agriculture etc. Prominent public research institutes like KALRO in agriculture, KEMRI in medical research and KIRDI in industrial research further contribute to R&D outputs. Private universities are also increasingly involved in research and innovation, though public institutions still account for most of the Kenya's research output. Despite this growing knowledge base, the translation of research into commercially viable innovations remains limited, pointing to systemic issues that need to be addressed. Notably, Kenya's investment in R&D has historically been low relative to its ambitions. National expenditure on research stands at around 0.8% of GDP, below both the African Union's target of 1% and Kenya's own statutory target of 2% set by the ST&I Act (UNESCO, 2023). Moreover, approximately half of all research funding in Kenya comes from international development partners, leading to fragmented funding streams and weak commercialization of research outputs (Africenter.isaaa, 2025). This donor dependence often means research agendas can be misaligned with local industry needs or lack continuity for product development.

In addition, Kenya's private sector contributes relatively little to R&D funding or in absorbing academic innovations, leaving a gap in the later stages of the innovation pipeline. These contextual factors underpin many of the challenges discussed in subsequent sections.

Structural and Institutional Barriers: There is a fundamental structural challenge of an insufficient connection between research institutions and industry or community stakeholders. Kenya has lacked a robust national framework for academia-industry collaboration (KeNIA, 2025). This means research ideas often remain "within the laboratories" without clear pathways to development and market application. Industries that could benefit from local innovations may be unaware of, or lack trust in academic research outputs, while researchers may have limited understanding of market needs. This siloed structure (Figure 1) of academia, industry and market is evidenced by the low rate of collaborative projects and the minimal involvement of businesses in funding or guiding university research. This scenario was envisioned and discussed in the triple helix model of sustainable development (Kimatu, 2016).

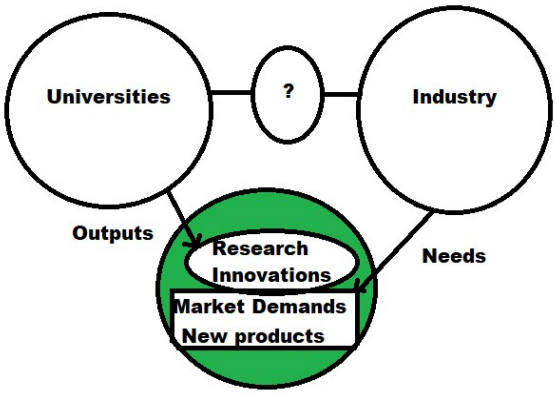

Figure 1. The siloed structure of the market, Industry and academia which is existing in most of the sub-Saharan countries which is stifling the commercialization of innovation

Secondly, within many Kenyan universities and institutes, the formal mechanisms to transfer research to the market are nascent or ineffective. Technology Transfer Offices (TTOs) are dedicated units to manage intellectual property and facilitate commercialization, but they are either absent, newly established, or under-resourced in most institutions. A recent national assessment by KeNIA highlighted ineffective and inadequately resourced TTOs as a key institutional barrier (Kenia, 2025). Until the mid-2020s, only a few universities had active TTOs or incubators, and even those often-lacked trained personnel and operational funds to scout innovations, file patents, or attract industry partners. This has resulted in having many promising research outputs being left languishing without a champion to drive them toward commercialization. Thirdly, at the university level, institutional strategies for commercialization have been weak or absent according to research done by KENIA, 2025. Few universities have clear commercialization strategies or dedicated seed funds to support prototype development and startup formation. Internal policies on intellectual property (IP) and spin-off company formation are often present on paper but ineffectively implemented. For instance, guidelines on ownership of IP, whether it belongs to the researcher or institution and revenue-sharing from patents/licensing can be unclear or inconsistently applied. This has created uncertainty for researchers and potential investors. Additionally, university leadership has traditionally placed greater focus on academic outputs like publications and graduating students than on innovation metrics. Until recently, there has been inadequate focus by senior management on commercialization activities in many institutions. This top-level prioritization is crucial: without it, initiatives like TTOs or incubators do not receive the necessary support or visibility on campus. Staff promotions criteria can also include the number of patents and commercialized products as indicated by the Kenya higher education regulatory body called the Commission of University (CUE) quality standards. Fourthly, many research institutes face practical structural limitations that indirectly hinder commercialization. Laboratories and equipment are often limited or underutilized, and research facilities may not meet the standards needed for advanced product development and testing (africenter.isaaa.org, 2025). For example, underutilized laboratories and outdated equipment mean researchers cannot easily move beyond theoretical work to develop market-ready prototypes. In fields like biotechnology or materials science, the high cost of specialized reagents and equipment is prohibitive, preventing experimentation that could lead to patentable inventions. Furthermore, the human capacity for managing innovation is limited. There are relatively few technology managers, patent agents, or venture developers within Kenyan universities. This skills gap means researchers often lack guidance on how to turn a laboratory result into a business venture.

Coordination and Cultural Gaps: Differences in organizational culture and objectives between academic researchers and industry practitioners form another structural barrier. Universities operate on academic timelines and reward structures, whereas industry values speed, marketability, and profit. These differing cultures can lead to poor coordination in collaborative projects (Mreji, et al., 2023). In Kenya, stakeholders have noted challenges in coordinating projects between Higher Education Institutions (HEIs) and Small and Medium Enterprises (SMEs) due to mismatched expectations, bureaucratic procedures, and timelines (RISA, 2023). This misalignment can cause potentially innovative joint projects to falter before reaching the market.

Financial and Resource Barriers: Perhaps the most cited challenge in research commercialization across Kenyan institutions is insufficient funding and financial support. Multiple studies and reports identify financial constraints at various levels as a primary impediment to translating research into commercial products (RISA, 2023). Funding for basic and applied research in Kenya is limited relative to need. As noted, Kenya invests around 0.8% of its GDP in R&D, which is below its own policy targets. An academic review by Siringi (2022) concludes that funding of research activities in Kenyan universities is the single biggest challenge, contributing to very few innovations being protected or commercialized despite many being developed. Insufficient research grants mean that promising projects often cannot be sustained through the development phase. Researchers may have funding to complete academic studies and publish papers, but not enough to build prototypes, conduct field trials, or refine technology for market readiness. Beyond research funding, there is a dearth of resources earmarked for commercialization activities (sometimes called "innovation funds" or seed capital). Kenya has historically lacked a dedicated national innovation or commercialization fund (Kenia, 2025). Until recently, researchers who wanted to patent an invention, launch a start-up, or pilot a product had few avenues to secure the small-to-medium-scale financing required for these endeavors. Universities themselves rarely set aside internal funds specifically to advance research outputs towards commercialization (Mbego, 2025). This gap at the critical *"*valley of death*"* stage – between research and a viable product – results in many innovations dying early for lack of relatively modest investments.

As mentioned, a significant portion of research funding in Kenya comes from external donors and development agencies. While these grants have been invaluable in building research capacity, they often come with predetermined objectives (e.g. specific public health or agricultural outcomes) and may not prioritize commercialization. Fragmented, project-based funding can lead to situations where, once a donor-funded project ends, there is no follow-on funding to continue developing the output for the market. For example, Kenya's leading health research institute, KEMRI, relies on external grants for the majority of its R&D budget. In 2018, only about 13% of KEMRI's research funding came from the Kenyan government (US$2.6M out of $20M), leaving the rest to foreign donors (PATH, 2020). Such dependence means research priorities and timelines are

often donor-driven, and potentially commercializable discoveries might not align with donor mandates, thus remaining unexploited locally. Kenya has a vibrant tech startup scene (notably in ICT sectors), there is relatively limited venture capital targeting university spin-offs or research-derived startups outside of software/IT. High-potential innovations in areas like biotechnology, engineering, or agriculture may struggle to attract investors due to higher perceived risk and longer development times. The private sector in Kenya invests modestly in formal R&D, and indigenous industries often prefer to import proven technologies rather than invest in local R&D. This cautious investment climate means fewer partnerships and less funding to drive academic innovations to scale. As an illustration, stakeholders have pointed out that SMEs in Kenya have difficulty securing funds to collaborate with universities on technology development (RISA, 2025), and even when technologies exist, there may be no capital to manufacture or market them at scale. A subtler resource challenge is the loss of talented researchers and innovators to better-funded environments abroad or in the private sector. This is called brain drain. When highly skilled scientists leave academia for industry or foreign institutions due to funding frustrations, it reduces the capacity of universities to produce market-driven research and to mentor the next generation in innovation. Although quantifying this effect is difficult, it forms part of the financial/incentive barrier landscape.

Policy and Regulatory Barriers: The policy environment in Kenya, while improving, has historically not been fully conducive to smooth research-to-market translation. Gaps in national policy frameworks, regulatory hurdles, and intellectual property regimes have posed challenges for researchers and innovators. Until recently, Kenya did not have a dedicated national commercialization or innovation policy to guide and coordinate efforts. The Kenya National Innovation Agency noted the lack of a national innovation and commercialization policy and a national commercialization strategy as major high-level barriers (Kenia, 2025). Without a unifying strategy, initiatives to promote tech transfer were often ad hoc. The ST&I Act (2013) provided a broad mandate but specific operational strategies (e.g. how to increase patenting and startups from universities) were not clearly defined at the national level. This policy gap is gradually being filled, for instance, the government in 2020s has been formulating a Decade of Research and Innovation plan and Masterplan, but its absence in earlier years meant a lack of direction and accountability for commercialization outcomes. Entrepreneurs and researchers alike face cumbersome bureaucratic processes when attempting to commercialize an innovation. Navigating the process of intellectual property protection (patent filing at the Kenya Industrial Property Institute, KIPI) and obtaining regulatory approvals for new products (for example, certifications from standards bodies or environmental and health approvals) can be time-consuming and complex. Stakeholders report that regulatory bottlenecks impede efficient knowledge and technology transfer (RISA, 2025). For example, a university-developed food technology or biomedical device might require approvals from multiple agencies (KEBS, Pharmacy and Poisons Board, etc.), and these processes often lack clarity or efficiency. Additionally, internal university bureaucracy can slow down the signing of licensing agreements or establishment of spin-off companies. Therefore, researchers have to clear many administrative steps to commercialize an invention, during which time investor interest or market opportunity may fade.

A supportive IP regime is crucial for commercialization, as it provides protection and incentives for innovation. In Kenya, the legal framework for IP (patents, utility models, etc.) exists, but its utilization and enforcement in academia-industry contexts have been suboptimal. Ambiguities surrounding IP rights, for instance, who owns an invention developed with university resources, or how royalties are shared, have at times deterred collaboration between universities and companies. SMEs have been especially wary of joint projects because of unclear guidelines on ownership and benefits from resulting innovations (RISA, 2025). Moreover, many Kenyan research institutions only recently developed institutional IP policies; even when policies exist, lack of awareness and administrative support means that potentially patentable discoveries go unpatented. The net result is that relatively few patents originate from Kenyan universities compared to their research output. The patenting rate "falls far below the investments in the research and innovation system", signaling missed opportunities to legally protect and commercialize innovations (Siringi, 2022). This under-utilization of the IP system can be attributed to both policy-level issues. There has been no Bayh-Dole-like act until recently to assert institution IP rights and capacity issues resulting to few technology licensing experts, as noted earlier. Up until the late 2010s, most Kenyan universities had no formal provisions for faculty or student startups. There was no information on how a researcher can form a company based on their research, conflict-of-interest management, equity sharing with the university, etc. This lack of clear policy made it difficult for researchers to become entrepreneurs. The KeNIA commercialization toolkit explicitly identified *"*lack of clarity on how universities can establish and manage spin-offs*"* as a challenge. Uncertainty in this area can discourage entrepreneurial faculty, as they might fear breaching university rules or losing their jobs if they engage in commercial ventures. It can also deter investors who are unsure how to engage with a university-owned enterprise. Only recently have some universities like Strathmore University and University of Nairobi started to draft guidelines on startup incubation and equity stakes. In certain fields of research, national regulations have directly impacted commercialization. A prominent example is biotechnology in agriculture. For years, Kenya had a ban or strict controls on genetically modified (GM) crops. This meant that locally developed GM innovations could not be deployed. Case in point*:* the Kenya Agricultural and Livestock Research Organization (KALRO) spent years developing a genetically improved cassava (resistant to devastating viral diseases), but commercialization had to await regulatory approval once the GM ban was eased. In 2025, KALRO's biotech cassava (called *KingaKuu*) finally entered the approval process, and an Environmental Impact Assessment was submitted and public consultations held as required by law. It highlighted how regulatory frameworks like the biosafety laws and environmental regulations were to align with research advancements for commercialization to occur. Similar regulatory hurdles exist in pharmaceuticals (clinical trial requirements, stringent approval processes) and energy technologies (safety and environmental standards), which can be especially arduous for resource-constrained local innovators to comply with. However, encouragingly, there are ongoing policy reforms: for example, the development of a national *Research and Innovation Masterplan (2026–2036)* aims to create a more coherent, supportive environment for innovation financing and commercialization. Continuing to streamline regulations and solidify pro-innovation policies will be vital to overcoming these barriers.

Cultural and Organizational Barriers: Beyond formal structures and policies, cultural factors and institutional mindsets play a significant role in impeding the commercialization of research in Kenya. These include the attitudes, motivations, and awareness of individuals (researchers, administrators, industry partners) and the broader societal perception of local innovations. The traditional academic culture in universities prioritizes basic research and publications over applied innovation. Kenyan academics are typically evaluated and promoted based on metrics like journal publications, teaching, and community service, not on patents or startups. This "publish or perish*"* environment leaves little room for *"*patent and prosper.*"* As a result, researchers may view commercialization as extra work with little career reward. The KeNIA toolkit identifies low awareness of intellectual property and low incentives for IP protection and commercialization among individual researchers (Kenia, 2025). Many faculty and students lack training in how to identify potentially patentable ideas or how to engage in entrepreneurial activities. Without incentives, such as recognition, promotion points, or financial rewards for successful commercialization, there is a cultural hesitancy to pursue commercialization. Moreover, some in academia may perceive business pursuits as conflicting with the purity of research or fear that focusing on commercialization could undermine

academic credibility. Culturally, entrepreneurship, particularly tech entrepreneurship coming out of universities, is still developing in Kenya. Taking an invention to market involves risk, and many researchers may be risk-averse, lacking the entrepreneurial mindset or role models to follow. Unlike in some Western contexts where professors founding startups is common, in Kenya such examples have been rare until recently. This meant there were few mentors to demonstrate that failing in a startup is a learning step rather than a career-ending move. As universities begin to embrace entrepreneurship programs, this culture is slowly changing, but historically the fear of failure and unfamiliarity with business have been barriers to commercialization. On a broader societal level, there can be skepticism towards home-grown innovations. Some Kenyan innovators have noted that local consumers or companies often prefer established international products over local research-based solutions, unless the latter clearly prove themselves. This can be a cultural barrier where *"*imported technology bias*"* exists. It requires strong validation and marketing for a Kenyan-developed product to gain trust. While this is not unique to Kenya, it does mean that even when a research product is ready, gaining adoption might be slow without champions and demonstration of quality. In fields like medicine or agriculture, farmers and doctors may be cautious to adopt a new variety or device developed locally until it's endorsed by trusted authorities.

Effective commercialization also depends on communication, scientists need to communicate the benefits of their innovations, and the public/industry need to understand and accept them. Kenya faces issues of misinformation and gaps in science communication that can undermine the uptake of innovations (Kenia, 2025). For example, as new technologies like biotechnology or vaccines are introduced, misinformation can cause public resistance. If researchers and institutions do not proactively engage in outreach and education, cultural resistance can stall commercialization. The GMO debate in Kenya is a prime example where years of public skepticism, fueled by misinformation, delayed the acceptance of biotech crops. Similar challenges have occurred with other innovations, necessitating better science communication strategies. Within institutions, a culture of siloed departments can also hinder interdisciplinary collaboration that often drives commercialization. Many innovations occur at the intersection of disciplines (e.g., bioengineering, agri-tech, etc.), but if faculties and departments in universities do not collaborate, opportunities are missed. Additionally, a competitive rather than collaborative ethos among researchers or between institutions can limit knowledge sharing that might spark commercial ideas. On the other hand, where a collaborative culture has been fostered. A thorough joint innovation challenges or networks can led to more entrepreneurial activities. The presence of innovation hubs and contests, often supported by donors or NGOsis gradually encouraging a more collaborative, problem-solving culture among students and researchers. Many researchers and students in Kenya simply have not been exposed to the processes of commercialization. There is a lack of widespread awareness about how to go from a research result to a business plan, how to pitch to investors, or how to manage IP. Stakeholder workshops have highlighted that both SMEs and HEI researchers often lack awareness of the mutual benefits of collaboration and technology transfer (RISA, 2025). This knowledge gap is cultural/informational especially if a researcher is unaware of the support structures (like TTOs or incubators) or the potential market for their idea, they are unlikely to pursue commercialization. Likewise, if industry players are not aware of what universities have to offer, they won't seek partnerships. Bridging this gap requires cultural change through training, sensitization, and success stories that demonstrate the value of research commercialization.

Case Studies: Concrete examples from Kenya's research landscape help illustrate how these challenges manifest in practice and highlight both failures and emerging successes in research commercialization:As mentioned earlier, KALRO's development of the KingaKUU cassava variety is a case study in navigating the path from lab to farm. This cassava, genetically engineered to resist two viral diseases, was a significant scientific achievement by a Kenyan institute. However, bringing it to farmers requires surmounting policy and regulatory barriers. For years, a ban on GMO cultivation meant the product could not be released. By 2025, with policy changes, KALRO moved to commercialize the variety, undergoing an Environmental Impact Assessment and public comment period as mandated by regulators. This case underscores how regulatory approval processes (though necessary for safety) can slow down deployment. It also highlights the importance of public perception. KALRO had to engage stakeholders to address concerns. If approved, the payoff is large because, KingaKUU could significantly increase cassava yields and supply in Kenya, showing how research translation can tackle food security challenges. The lesson is that strong research alone isn't enough; aligning policy (lifting the ban, creating biosafety protocols) and managing public discourse were crucial to moving this innovation forward. In the technology domain, there have been a few budding successes indicating a shift in the innovation culture at Kenyan universities. For example, *Crackfox*, a venture supported by the University of Embu, secured nearly $890,000 in international funding in partnership with the University of Michigan (Mbego, 2025). This suggests that with the right support and collaboration, university projects can attract significant investment. Similarly, the Kenya government Presidential Innovation Fund has started awarding grants (e.g. KES 10 million each) to top university-led startups like *Afyalishe*, giving researchers capital to scale their solutions. Another notable example is KCA University, a private institution, which after receiving capacity-building support from KeNIA, managed to file 11 patents in a short span. This is a remarkable jump for a single university, reflecting how training and institutional support can overcome the cultural barrier of low IP activity. Meanwhile, Maasai Mara University (a public university) launched its Technology Transfer Office (TTO) and began commercializing research outputs in bioenergy and agriculture. South Eastern Kenya University has also launched a promising TTOfocusing of dry land agriculture and environmental management of ASALs resources. This demonstrates an institutional commitment to bridging the gap and is likely to produce commercialization successes in the coming years. Each of these cases showcases elements of overcoming challenges: Embu's success leveraged international collaboration and funding, KCA's patent surge was enabled by building researcher awareness and skills, and Maasai Mara's progress came from leadership initiative and structural change (creating a TTO).

On the other hand, cases from the health sector illustrate persistent gaps. Kenya has world-class health researchers. For instance, in KEMRI or at academic medical departments, who have contributed global knowledge on HIV, malaria, etc. However, translating these research findings into locally produced health technologies (drugs, vaccines, diagnostics) has been limited. One example is the development of diagnostic kits: Kenyan universities have developed prototypes for things like rapid disease tests or low-cost medical devices (e.g., during the COVID-19 pandemic, local teams designed ventilators and test kits). While a few prototypes made headlines, none reached mass production in-country due to regulatory hurdles, lack of manufacturing partners, and funding shortages for scaling. A specific illustrative statistic: even though Kenya spends a considerable amount on health research (US$81 million in 2019), nearly all of the essential medical products are imported. The health R&D brief (2020) pointed out that because health research is heavily donor-funded in Kenya, external funders often dictate priorities, and there is very little government funding to take local health innovations to market (PATH, 2023). A positive development is that Kenyan institutions are increasingly seeking patents in health – for example, JKUAT researchers patented a herbal anti-malarial formulation a few years ago – but the challenge remains to find industry partners to develop these patents into medicines. This highlights the interplay of financial, policy, and cultural barriers in a critical field like healthcare. An anecdotal case often cited in Kenyan innovation discussions is that of numerous *"*stunted innovations*"* as one policy paper termed them. (Bolo et al., 2024). For instance, over the past decade, university students in engineering have designed

things like a solar-powered irrigation system or an automated weather station for farmers as part of final-year projects. This garnered praise and sometimes awards, but after the project ended, they were not heard of again. The reasons typically include lack of follow-on funding, no incubation structure to refine the prototype, and students moving on to other jobs (lack of incentive to pursue the project post-graduation). These micro-cases exemplify how easily good ideas can fall into the *"*valley of death*"* between research and commercialization in the absence of supportive systems. The cumulative effect is that Kenya loses potential innovations that could have been local businesses or solutions, reinforcing the need for robust support mechanisms. Each of these case studies, spanning agriculture, technology, and health, reinforces the themes of the challenges previously discussed. They also offer learning points: policy support and regulatory clarity enabled the cassava commercialization effort; capacity building and funding spurred the Embu and KCA successes; lack of these elements has left many health and student innovations on the shelf. Going forward, replicating the success factors and addressing the shortcomings seen in these examples will be crucial for Kenya's research institutes.

DISCUSSION AND CONCLUSION

Translating research into commercialized innovation in Kenya is a complex challenge that involves more than just scientific excellence. As this report has detailed, a constellation of structural, financial, policy, cultural, and institutional barriers has historically hindered the journey from lab to market. Structural issues like weak academia-industry linkages and under-resourced innovation offices mean that many research outputs struggle to find practical pathways to implementation. Financial constraints – inadequate R&D funding, scarce commercialization capital, and reliance on donor-driven projects – create an environment where even promising innovations wither for lack of support (Siringi, 2022). Policy and regulatory gaps have added friction, from missing national strategies to cumbersome approval processes that dampen the momentum of innovation (KeNIA, 2025). Underpinning all this, cultural and institutional mindsets have not until recently been oriented toward entrepreneurship and commercialization, resulting in low IP awareness, minimal incentives, and a cautious approach to venturing outside academic comfort zones. Importantly, these challenges span all major fields of research in Kenya. In scientific and technological domains (like engineering, ICT, and health sciences), the barriers manifest in underutilized patents and few tech start-ups emerging from campuses. In agriculture, despite Kenya's strong research in crop and livestock improvement, uptake by industry (seed companies, agribusiness) has been slow when policies or extension systems lag. Even in emerging fields like renewable energy or biotechnology, innovators face the same cross-cutting issues of funding and regulation. Thus, the obstacles are systemic rather than field-specific – which means solutions, too, must be systemic. There is, however, cause for optimism. Kenya's leaders and institutions are increasingly acknowledging and addressing these commercialization bottlenecks. The Kenya National Innovation Agency (KeNIA) has initiated programs to embed commercialization as a core mission of universities – for example, training vice-chancellors in entrepreneurial leadership and encouraging the establishment of TTOs and internal innovation funds (Mbego, 2025). Government funding for R&D is gradually rising and new financing instruments are being explored (the Presidential Innovation Fund is one step in this direction). On the policy front, the forthcoming Research Financing and Innovation Masterplan (2026–2036) is explicitly designed to create a predictable, sustainable framework for research financing and stronger commercialization pathways, addressing long-standing issues like fragmented funding and weak linkages.

Additionally, the STI Policy 2020–2030 and related strategies emphasize aligning research with industry needs and improving the national IP regime. Cultural shifts are also underway: success stories of Kenyan university startups and patents (some highlighted in this report) are slowly changing mindsets, showing that it is possible for academia to directly contribute to enterprise development. Universities such as JKUAT and Strathmore have started integrating entrepreneurship into curricula and supporting student innovation hubs. The rise of mentorship networks, incubators, and innovation challenges in Kenya provides budding researchers with exposure to commercialization processes that were scarcely available a decade ago. In conclusion, while significant challenges persist in translating research into commercialization in Kenya, the trajectory is towards improvement. Overcoming structural barriers will require continued investment in innovation infrastructure and fostering partnerships between academia and industry. Tackling financial barriers will involve sustained commitment by government to fund research (up to the 2% GDP target) and incentives for private sector R&D investment (Siringi, 2022). Policy and regulatory reforms must be seen through to implementation – simplifying processes, clarifying IP rights, and ensuring that regulations keep pace with technological advancements. Finally, nurturing a pro-innovation culture is perhaps the most critical, if intangible, need: by rewarding innovative efforts, celebrating local successes, and learning from past failures, Kenyan research institutes can embed commercialization into their very fabric. This holistic approach – combining policy, infrastructure, funding, and culture change – is essential for Kenya to fully harness its research prowess and generate the scientific and technological innovations that will drive sustainable economic growth and societal well-being in the years to come.

REFERENCES

Africenter.isaaa.org (2025). Catalyzing Kenya's Research and Innovation Future through a Research Financing Masterplan (2026–2036).

Bolo, M., Odongo, D., Awino, V., Achieng', V., and Onyango, C. (2014). Stuck On The Road To the Market: Why Kenya Suffers from Stunted Innovations. The Scinnovent Centre Discussion Paper 01. Nairobi, Kenya: The Scinnovent Centre.

ISAAA AfriCenter. (2025, November 26). Kenyans Submit Comments on Proposed Commercialization of Biotech Cassava. ISAAA AfriCenter News.

Kenya National Innovation Agency (KeNIA). (2023). Commercialisation Guidelines Toolkit.

Mapping Research and Innovation in the Republic of Kenya. NACOSTI, ed. UNESCO (2023) GP SPIN Country Profiles in Science, Technology and Innovation Policy, vol 12. United Nations Educational, Scientific and Cultural Organization: Paris.

Mbego, S. (2025, August 5). Kenya's Universities Get Gov't Nod To Commercialize Innovation. CIO Africa.

Mreji Pamela, Orina Afred I., Mbugua Levi N., Sagwa Evans. V. (2023). Technical University of Kenya Technology Transfer Assistance to Enhance Knowledge Exchange and Technology Transfer between SMEs and HEIs in Nairobi Innovation Ecosystem. Call No. RISA-01-2022, Research and Innovation Systems for Africa (RISA)- Policy Brief.

PATH. (2020). Landscape of Health R&D Investment in Kenya.

RISA (Research and Innovation Systems for Africa) Fund. (2023). Policy Brief: Technology Transfer and Innovation in Kenya.

Siringi, E. M. (2022). Commercialization Models of University Research Output and Patenting Policy Practices in Kenya. SSRN Electronic Journal.

****