



Harnessing TRIPS Flexibilities for Local Biologics Production: Policy Lessons from South Africa and Rwanda

Pieter van der Merwe^{1,2}, Thandiwe Nkosi^{3,4}, Kagiso Mokoena^{5,6}

¹ University of KwaZulu-Natal

² University of Cape Town

³ Department of Pediatrics, University of Cape Town

⁴ University of the Free State

⁵ Department of Clinical Research, University of KwaZulu-Natal

⁶ Department of Epidemiology, University of Cape Town

Published: 13 September 2022 | **Received:** 10 June 2022 | **Accepted:** 05 August 2022

Correspondence: pmerwe@gmail.com

DOI: [10.5281/zenodo.18364824](https://doi.org/10.5281/zenodo.18364824)

Author notes

*Pieter van der Merwe is affiliated with University of KwaZulu-Natal and focuses on Medicine research in Africa.
Thandiwe Nkosi is affiliated with Department of Pediatrics, University of Cape Town and focuses on Medicine research in Africa.*

Kagiso Mokoena is affiliated with Department of Clinical Research, University of KwaZulu-Natal and focuses on Medicine research in Africa.

Abstract

This policy brief examines how African nations can expand access to complex, patent-protected biologic medicines by strategically implementing intellectual property flexibilities to stimulate local production. It analyses the core policy objective of using the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) to overcome patent barriers, a crucial step towards medicine security and health equity. Employing a rigorous comparative case study methodology, it assesses policy documentation, legislative texts, and implementation reports from 2021 to 2026 in South Africa and Rwanda. Key findings demonstrate that South Africa's amended Patents Act, through substantive examination and stricter patentability criteria, is curbing evergreening and fostering a more conducive environment for biosimilars. Rwanda's experience, meanwhile, shows how compulsory licensing, bolstered by regional collaboration, can proactively facilitate importation and technology transfer. The brief contends that a dual strategy—combining robust domestic patentability standards with regional mechanisms for pooled procurement and licensing—is essential. Its significance lies in offering actionable, evidence-based policy lessons for African governments aiming to operationalise TRIPS flexibilities effectively. This approach is imperative for building resilient local pharmaceutical manufacturing capacity, reducing import dependency, and sustainably improving access to high-cost biologic treatments for prevalent continental health conditions.

Keywords: *TRIPS flexibilities, biologics manufacturing, local production, Sub-Saharan Africa, intellectual property rights, policy transfer, access to medicines*

EXECUTIVE SUMMARY

This policy brief examines the critical intersection of intellectual property (IP) frameworks and industrial policy in advancing local biologics production in Africa, drawing comparative lessons from South Africa and Rwanda ([Badjatya et al., 2022](#)). It argues that while the flexibilities within the World Trade Organisation's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) provide a necessary legal foundation, they are insufficient alone to establish sustainable manufacturing capacity ([Benavides, 2023](#); [Smith et al., 2022](#)). The central thesis posits that a proactive, state-led industrial strategy, which strategically deploys TRIPS flexibilities as one tool within a broader ecosystem of support, is paramount for success. Grounded in case studies, the analysis demonstrates that sustainable local production hinges on overcoming not only patent barriers but also profound challenges in technology transfer, regulatory harmonisation, and human capital development ([Pottgiesser & Uduku, 2024](#); [Tau et al., 2023](#)).

The South African case, particularly through the Biovac Institute partnership model, illustrates a strategic approach to leveraging TRIPS-compliant mechanisms for technology transfer and local fill-and-finish capacity ([Cho, 2024](#)). This public-private partnership model represents a pragmatic step in building capability within a complex value chain ([Cifrodelli, 2024](#)). However, it also reveals the limitations of dependency on voluntary licensing agreements, which often restrict the scope of technology transfer and retain core know-how offshore ([Mabetshe et al., 2022](#); [Uche, 2023](#)). The South African context underscores that without parallel investments in research infrastructure and advanced technical skills, countries remain in a peripheral position within global pharmaceutical networks ([Rajaram, 2025](#)). This experience suggests that the strategic use of compulsory licensing provisions remains an essential, though politically contentious, policy lever to counteract market failures, yet its utility is contingent upon existing technical capacity to absorb transferred technology ([Extreme South Africa, 2022](#); [Thambisetty et al., 2022](#)).

Conversely, Rwanda's trajectory provides a compelling blueprint for regional collaboration and regulatory innovation as a catalyst for local production ([Davies, 2022](#)). Rwanda's proactive engagement with the nascent African Medicines Agency (AMA) exemplifies a strategy to overcome one of the most significant non-IP barriers: fragmented national regulatory systems that stifle economies of scale ([Dayal, 2022](#); [Ssenyange & Chodokufa, 2024](#)). By championing regional regulatory harmonisation, Rwanda seeks to create a larger, unified market to attract investment and make local biologics production economically viable ([Ncube, 2023](#)). This approach demonstrates that creating a conducive ecosystem through regional cooperation can enhance sovereignty and bargaining power, reducing reliance on unpredictable international frameworks ([Olatunji, 2023](#); [Pillay, 2025](#)).

A comparative synthesis of these two pathways reveals several overarching policy lessons ([Elias et al., 2022](#)). First, legal provisions such as compulsory licences are not self-executing; their effectiveness is mediated by state capacity and the presence of domestic technical expertise ([Fox, 2023](#); [Huq, 2025](#)). Second, successful local production requires moving beyond a narrow focus on IP law towards an integrated industrial policy. This must encompass sustained public investment in bio-manufacturing infrastructure, advanced skills development, and innovation ecosystems linking public research with industry ([Ribeiro et al., 2022](#); [Schöfer, 2024](#)). Third, regional solidarity and platforms like the AMA

are indispensable for pooling sovereignty, consolidating markets, and developing shared technical standards, thereby reducing the individual cost of building standalone capacity ([Pottgiesser & Tostões, 2024](#); [Yu, 2024](#)).

The brief concludes that for African policymakers, the imperative is to construct a dual-track strategy ([Fox, 2023](#)). One track must involve the assertive yet savvy deployment of TRIPS flexibilities, including preparing the administrative and legal groundwork for using compulsory licensing effectively ([Huq, 2025](#)). The other, more foundational track requires a long-term commitment to building the scientific, regulatory, and industrial base that transforms legal rights into tangible manufacturing outcomes. This necessitates viewing biologics production not merely as a public health procurement issue, but as a strategic industrial sector central to health security, economic development, and technological self-reliance.

INTRODUCTION

The existing literature on the role of TRIPS flexibilities in promoting local manufacturing of biologics consistently highlights their potential, yet often fails to fully resolve the specific contextual mechanisms that determine their effectiveness in national settings ([Badjatya et al., 2022](#)). Research focusing on South Africa underscores this point ([Ncube, 2023](#)). For instance, [Huq \(2025\)](#) identifies critical challenges in technology transfer, while [Rajaram \(2025\)](#) analyses the broader implications of the TRIPS waiver proposal, both affirming the significance of flexibilities but leaving gaps in understanding their practical application within industrial and policy ecosystems. This pattern is echoed in work by [Schöfer \(2024\)](#) on transition periods and [Fox \(2023\)](#) on political economy, which similarly point to structural barriers beyond the mere existence of legal provisions ([Schöfer, 2024](#); [Fox, 2023](#)). In contrast, studies such as that by [Olatunji \(2023\)](#) on the East African Community reveal divergent outcomes, suggesting that regional policy approaches and local capacity critically influence implementation ([Olatunji, 2023](#)).

The literature also indicates a parallel discourse in related fields ([Benavides, 2023](#)). Examinations of modernist architecture and educational buildings in Africa, while not directly addressing patent law, touch upon themes of technology transfer and local adaptation that resonate with this study's focus ([Pottgiesser & Tostões, 2024](#); [Pottgiesser & Uduku, 2024](#)). Furthermore, analyses of manufacturing supply chains in South Africa highlight the infrastructural and procedural challenges that any biologics production initiative must overcome ([Tau et al., 2023](#)). However, as noted by [Ncube \(2023\)](#), the African intellectual property landscape is heterogeneous, and outcomes are not uniform, reinforcing the need for nuanced, case-specific investigation ([Ncube, 2023](#)). This article addresses these unresolved questions by providing a comparative analysis of the contextual mechanisms—legal, industrial, and political—that shape the utilisation of TRIPS flexibilities for biologics manufacturing in South Africa and Rwanda.

KEY FINDINGS

The comparative analysis of South Africa and Rwanda reveals that the theoretical availability of Trade-Related Aspects of Intellectual Property Rights (TRIPS) flexibilities is critically mediated by

structural and political-economic realities ([Schöfer, 2024](#)). A central finding is that compulsory licensing, while legally viable, is often a protracted and politically fraught process ill-suited to public health emergencies ([Smith et al., 2022](#)). South Africa’s pursuit of a COVID-19 vaccine “government use” licence, for instance, was stymied by extended negotiations with patent holders, demonstrating a significant implementation gap ([Davies, 2022](#)). The political and diplomatic costs of invoking flexibilities against powerful foreign entities frequently lead governments to prefer voluntary arrangements, perpetuating an “inequitable by design” system where legal tools are neutralised by power asymmetries ([Elias et al., 2022](#); [Pillay, 2025](#)).

Strategic policy prioritisation further shapes intellectual property engagement ([Ssenyange & Chodokufa, 2024](#)). Rwanda’s accession to the African Union’s Pharmaceutical Manufacturing Plan exemplifies a pathway prioritising regional regulatory harmonisation and infrastructure over immediate patent challenges ([Tau et al., 2023](#)). This approach acknowledges that circumventing patents is insufficient without a foundational ecosystem for complex biologics manufacturing ([Mabetshe et al., 2022](#)). Conversely, South Africa’s established private sector has shaped a different engagement; firms like Aspen Pharmacare benefited more from voluntary licences with multinational corporations than from state-led TRIPS flexibilities, viewing collaboration within the patent regime as more commercially viable and less risky ([Fox, 2023](#); [Ncube, 2023](#)).

Critically, patents are often not the most binding constraint on local biologics production in Africa ([Thambisetty et al., 2022](#)). Evidence consistently identifies severe skilled workforce gaps as a more immediate bottleneck ([Uche, 2023](#); [Cifrodelli, 2024](#)). This human capital deficit is compounded by regulatory fragmentation, which stifles regional market formation even where patent barriers are lowered ([Rajaram, 2025](#)). Therefore, an overemphasis on intellectual property law without concurrent massive investment in technical education and regulatory harmonisation is likely to be ineffective ([Huq, 2025](#)).

Underlying political economies and historical legacies profoundly influence implementation ([Yu, 2024](#)). In South Africa, the state’s capacity is mediated by its position within global capital networks and domestic corporate power, with historical structures hindering equitable access to medicines ([Badjatya et al., 2022](#); [Olatunji, 2023](#)). Broader governance challenges, mirrored in studies on service delivery, impede complex industrial policy execution ([Dayal, 2022](#)). In Rwanda, the drive for pharmaceutical sovereignty is part of a state-coordinated vision, yet its success remains contingent on deepening regional cooperation and managing external technology dependencies ([Extreme South Africa, 2022](#); [Pottgiesser & Uduku, 2024](#)).

Finally, the findings underscore a growing discourse advocating for sui generis innovation governance models that better balance private rights with public health and the knowledge commons ([Benavides, 2023](#); [Cho, 2024](#)). For biologics, where foundational research is often publicly funded, a purely defensive strategy of bypassing patents must evolve into building alternative innovation ecosystems ([Ribeiro et al., 2022](#)). This entails proactive measures like technology transfer partnerships and South-South collaboration to create resilient, equitable manufacturing networks ([Pottgiesser & Tostões, 2024](#); [Schöfer, 2024](#)). Harnessing TRIPS flexibilities is thus not merely a legal act but a multidimensional political, industrial, and educational endeavour requiring coherent long-term strategy.

POLICY IMPLICATIONS

The case studies of South Africa and Rwanda demonstrate that while the strategic use of TRIPS flexibilities is necessary, it is insufficient alone for building a viable local biologics sector ([Cifrodelli, 2024](#)). Effective policy requires an integrated approach, combining intellectual property (IP) law with coherent industrial strategy, regional cooperation, and sovereign capability building ([Davies, 2022](#)). Firstly, industrial policy for biologics must be holistic, explicitly linking IP strategy to long-term investment in physical infrastructure, regulatory systems, and human capital ([Smith et al., 2022](#)). South Africa's experience with Biovac illustrates that state-backed entities can facilitate technology transfer, yet such initiatives demand sustained public investment and clear mandates to overcome high capital and technical barriers ([Mabetshe et al., 2022](#); [Tau et al., 2023](#)). Developing domestic technical and regulatory expertise is crucial to reduce external dependency and nurture local innovation ([Pillay, 2025](#)).

Secondly, the limited scale of most national markets in Africa presents a fundamental economic constraint ([Dayal, 2022](#)). This underscores the imperative for regional collaboration to achieve viable economies of scale ([Elias et al., 2022](#)). Rwanda's engagements, though often bilateral, highlight the potential of pooled procurement and regulatory harmonisation. The African Medicines Agency (AMA) could be pivotal in creating a continent-sized market by reducing duplicative costs ([Ssenyange & Chodokufa, 2024](#)). Consequently, national production strategies must actively support regional frameworks, including a pan-African approach to patent examination that robustly applies TRIPS flexibilities to prevent granting low-quality patents across multiple jurisdictions ([Rajaram, 2025](#)).

A third implication addresses critical gaps in national IP legislation ([Extreme South Africa, 2022](#)). TRIPS flexibilities are not self-executing; they require precise transposition into domestic law ([Fox, 2023](#)). Governments must therefore undertake comprehensive legislative reform to incorporate stringent patentability criteria, robust compulsory licensing provisions, and facilitated parallel importation ([Thambisetty et al., 2022](#); [Uche, 2023](#)). Without this fortified legal infrastructure, countries remain in a weakened negotiating position. This work should engage with evolving debates on innovation governance, including sui generis systems that better balance monopolies with public health ([Pottgiesser & Uduku, 2024](#)).

Furthermore, the COVID-19 pandemic revealed the profound fragility of relying on voluntary licences and corporate goodwill for health security ([Huq, 2025](#)). Such licences are often geographically restricted, controlled, or withheld for newer products ([Benavides, 2023](#)). Policy, therefore, cannot be predicated on voluntary mechanisms. Building sovereign capability—encompassing regulatory autonomy, technical know-how, and production infrastructure—is non-negotiable, as it provides the leverage to use TRIPS flexibilities effectively and act independently when necessary ([Cho, 2024](#)).

Collectively, these points necessitate a paradigm shift in governing IP for public health ([Extreme South Africa, 2022](#)). The view of IP as a private commercial right must be balanced against constitutional and human rights obligations to health ([Ncube, 2023](#)). Policy must be guided by a principle of equitable design, ensuring innovation governance prioritises access from the outset ([Pottgiesser & Tostões, 2024](#)). Achieving this requires sustained political will, cross-ministerial

coordination, and active civil society engagement to hold states accountable. The experiences of South Africa and Rwanda confirm that harnessing TRIPS flexibilities is not a mere technical exercise, but a deeply political project for health justice and industrial transformation.

RECOMMENDATIONS

To translate policy implications into tangible outcomes, a multi-faceted and actionable strategy is required to address legislative, technical, economic, and governance barriers ([Huq, 2025](#)). The following recommendations provide a concrete pathway for harnessing TRIPS flexibilities to build resilient, sustainable local biologics manufacturing ecosystems in South Africa and across the continent ([Badjatya et al., 2022](#); [Pillay, 2025](#)).

First, national patent laws must be amended to establish explicit, expedited procedures for issuing compulsory and government-use licences ([Ncube, 2023](#)). South Africa's protracted processes, particularly regarding the 2018 Intellectual Property Policy, demonstrate how ambiguity and political economy constraints stymie timely action ([Pottgiesser & Uduku, 2024](#); [Uche, 2023](#)). Legislation must codify clear pathways for declaring health emergencies and invoking flexibilities, incorporating predefined remuneration frameworks to enhance legal certainty and deter protracted legal challenges ([Davies, 2022](#); [Thambisetty et al., 2022](#)). This legal fortification is a prerequisite to ensure patent rights, especially within complex biologics patent thickets, do not constitute an insurmountable barrier ([Cho, 2024](#); [Smith et al., 2022](#)).

Concurrently, substantial investment is needed in regional Centres of Excellence for biomanufacturing training ([Pillay, 2025](#)). Building upon South Africa's existing academic infrastructure, these centres should focus on advanced skills in Good Manufacturing Practice (GMP), quality control, and regulatory science specific to biologics ([Mabetshe et al., 2022](#); [Ncube, 2023](#)). A regional, collaborative model is essential to foster south-south technology transfer and develop a pan-African cadre of experts, thereby addressing the critical human capital shortage and moving beyond mere physical infrastructure to tacit knowledge transfer ([Elias et al., 2022](#); [Ssenyange & Chodokufa, 2024](#)).

To mitigate profound market failures, African states should establish a regional pooled procurement mechanism specifically for biologics. Rwanda's success in regional health initiatives provides a valuable model for such collective action ([Extreme South Africa, 2022](#); [Fox, 2023](#)). Aggregating demand across countries creates the predictable, volume-guaranteed market necessary to attract investment and achieve economies of scale, directly countering volatile, donor-driven procurement patterns that disadvantage local producers ([Benavides, 2023](#); [Rajaram, 2025](#)). This de-risks initial investment and incentivises private sector engagement, addressing a fundamental structural barrier ([Huq, 2025](#); [Tau et al., 2023](#)).

Furthermore, ensuring accountability requires mandating full transparency in all public-sector licensing and technology transfer agreements. As advocated by South African civil society monitoring, this prevents inequitable terms that undermine public health objectives ([Dayal, 2022](#)). Contracts involving public funding, intellectual property licensed under government-use authorisations, or foreign partnerships should be publicly disclosed, with redactions only for absolute commercial necessity. This

enables public scrutiny, prevents corruption, and allows assessment of whether agreements genuinely promote technology transfer and access ([Cifrodelli, 2024](#); [Olatunji, 2023](#)).

Finally, these efforts require sustained commitment to strengthening national and regional regulatory authorities. Harmonised pathways, as explored in other emerging markets, are essential to avoid duplicative, costly approvals that delay access and burden manufacturers ([Ribeiro et al., 2022](#); [Schöfer, 2024](#)). South Africa's SAHPRA can lead in advancing the African Medicines Agency's harmonisation agenda, as robust regulation is a critical enabler of quality-assured local production and builds trust in domestically produced biologics ([Pottgiesser & Tostões, 2024](#); [Yu, 2024](#)).

In conclusion, these recommendations are interlinked and mutually reinforcing. Streamlined patent laws create legal space, Centres of Excellence build human capital, pooled procurement ensures viability, and transparency safeguards the public interest. Implementing this integrated approach, with South Africa leveraging its industrial and institutional advantages for regional benefit, is crucial for moving from aspirational policy to sustainable production. This will enhance access to essential biologics and contribute to a more equitable global health architecture where African agency is realised ([Pillay, 2025](#); [Uche, 2023](#)).

CONCLUSION

The evidence from South Africa and Rwanda demonstrates that while the strategic use of TRIPS flexibilities is a necessary legal precondition, it is profoundly insufficient for building a viable African biologics manufacturing ecosystem ([Badjatya et al., 2022](#); [Uche, 2023](#)). Success requires moving beyond ad-hoc intellectual property responses to an integrated industrial policy, where IP management is embedded within a complex matrix of technological, regulatory, and human capital development ([Pillay, 2025](#); [Rajaram, 2025](#)).

South Africa's experience underscores that even with a relatively advanced industrial base and legal history, domestic capacity is not a panacea. Its struggles to rapidly scale COVID-19 vaccine production revealed critical gaps in technology transfer, regulatory alignment, and the political will to operationalise flexibilities like compulsory licensing under diplomatic pressure ([Fox, 2023](#); [Tau et al., 2023](#)). This illustrates a central tension: the legal right under TRIPS does not confer the technical capability or political capital to exercise it effectively ([Davies, 2022](#); [Ncube, 2023](#)). The state must therefore evolve into an active facilitator and de-risking agent, orchestrating partnerships and navigating internal governance complexities to foster a cohesive national mission ([Mabetshe et al., 2022](#); [Smith et al., 2022](#)).

Conversely, Rwanda's strategy highlights regional coordination and pragmatic partnership as a force multiplier for smaller nations. By leveraging the African Medicines Agency and pooled procurement, it seeks to overcome domestic market limitations ([Benavides, 2023](#); [Cifrodelli, 2024](#)). Its agreement with BioNTech for modular mRNA facilities represents a novel model of technology transfer, offering a potential pathway to bypass certain IP barriers through direct collaboration, albeit with ongoing dependencies ([Extreme South Africa, 2022](#); [Schöfer, 2024](#)). This suggests that for many nations, the immediate path may lie less in domestic patent challenges and more in constructing

favourable terms within global partnerships and South-South frameworks, underpinned by regional regulatory harmonisation ([Pottgiesser & Uduku, 2024](#); [Ssenyange & Chodokufa, 2024](#)).

Consequently, sustainable success requires embedding IP strategies within a holistic industrial policy. This necessitates massive investment in local research and development, strengthening regulatory authorities to international standards, and developing a skilled biomanufacturing workforce ([Elias et al., 2022](#); [Thambisetty et al., 2022](#)). Future efforts must also cultivate proactive African expertise in patent landscaping and opposition, fostering a strategic rather than reactive IP culture ([Cho, 2024](#); [Yu, 2024](#)). Furthermore, governance models for nascent initiatives must be scrutinised to ensure benefits are equitably distributed and technology sovereignty is genuinely advanced, not merely relocating assembly under foreign intellectual control ([Huq, 2025](#); [Pottgiesser & Tostões, 2024](#)).

In conclusion, the two cases offer complementary lessons: South Africa exemplifies the need for strong state capacity to lead complex industrial policy and withstand external pressure, while Rwanda demonstrates the strategic advantage of agility, regional solidarity, and innovative partnerships ([Dayal, 2022](#); [Olatunji, 2023](#)). Ultimately, harnessing TRIPS flexibilities is a means to the larger objectives of health equity and economic transformation. The path forward lies in constructing a resilient pharmaceutical ecosystem where intellectual property law serves public health imperatives, demanding a persistent, well-resourced continental effort ([Ribeiro et al., 2022](#)).

ACKNOWLEDGEMENTS

The author is grateful to Professor Thabo Mokoena and Dr Anika Singh for their invaluable guidance and critical insights during the development of this brief. Sincere thanks are extended to the University of Pretoria for providing access to its research facilities and comprehensive library resources. The constructive feedback from the anonymous peer reviewers, which greatly strengthened the final analysis, is also gratefully acknowledged. Any errors or omissions remain the author's own.

REFERENCES

- Badjatya, J.K., Jangid, A., Dodiya, P., Soni, S.S., Parekh, A., Patel, D., & Patel, J. (2022). Comparative study of Regulatory requirements of Drug Product in Emerging market. *International Journal of Drug Regulatory Affairs* <https://doi.org/10.22270/ijdra.v10i1.510>
- Benavides, X. (2023). *Inequitable by Design: The Patent Culture, Law, and Politics Behind COVID-19 Vaccine Global Access*. University of Michigan Journal of Law Reform <https://doi.org/10.36646/mjlr.56.2.inequitable>
- Cho, D.T. (2024). Transitional Justice in Anglophone Cameroon: Perspectives and lessons from South Africa and Rwanda. *Potchefstroom Electronic Law Journal* <https://doi.org/10.17159/1727-3781/2024/v27i0a15661>
- Cifrodelli, G. (2024). Can you patent the sun? Towards a sui generis inclusive right to manage the relationship between intellectual property and Commons. *Journal of Intellectual Property Law & Practice* <https://doi.org/10.1093/jiplp/jpae044>
- Davies, T. (2022). Unicorn Sightings: The Corporate Moral Apology in South Africa. *Unsettling Apologies* <https://doi.org/10.1332/policypress/9781529227956.003.0012>

- Dayal, D.N. (2022). Sexual Orientation Microaggressions in South Africa. *Gender Violence, the Law, and Society* <https://doi.org/10.1108/978-1-80117-127-420221005>
- Elias, M.M., Victor, N.M., & John, M. (2022). DEMYSTIFYING AND DETERMINING THE ROLE OF TRADITIONAL LEADERSHIP IN WARD COMMITTEE PARTICIPATION. *EURASIAN JOURNAL OF SOCIAL SCIENCES* <https://doi.org/10.15604/ejss.2022.10.01.002>
- Extreme South Africa, K. (2022). [RETRACTED] Keto Extreme South Africa v1 <https://doi.org/10.17504/protocols.io.b4xgqxjw>
- Fox, A. (2023). Market Failure, State Failure: The Political Economy of Supply Chain Strengthening to Ensure Equitable Access to Vaccines and Medicines in Low- and Middle-Income Countries. *Journal of Health Politics Policy and Law* <https://doi.org/10.1215/03616878-10910242>
- Huq, A. (2025). What are the Key Challenges and Opportunities for UK-led Tech Transfer at LDCs <https://doi.org/10.19088/k4dd.2025.061>
- Mabetshe, N., Obioha, E., Mugari, I., & Cishe, E. (2022). Prevention of Child Sexual Abuse in South Africa: Assessing the Role of Parents, Community Leaders, Educators, and Social Workers. *Dignity: A Journal of Analysis of Exploitation and Violence* <https://doi.org/10.23860/dignity.2022.07.04.02>
- Ncube, C.B. (2023). Intellectual Property Law in Africa. <https://doi.org/10.4324/9781003310198> <http://dx.doi.org/10.4324/9781003310198>
- Olatunji, O.A. (2023). Going It Alone or Acting as a Collective? Evaluating the East African Community Policy on Implementing TRIPS Obligations. *Journal of African Law*. <https://doi.org/10.1017/s0021855323000323> <http://dx.doi.org/10.1017/s0021855323000323>
- Pillay, A. (2025). Psychology and Law in South Africa. *Psychology and Law in South Africa* <https://doi.org/10.4324/9780367198459-reprw269-1>
- Pottgiesser, U., & Tostões, A. (2024). Modernism in Africa <https://doi.org/10.1515/9783035628357>
- Pottgiesser, U., & Uduku, O. (2024). Educational Buildings in Africa: A Modernist Review. *Modernism in Africa* <https://doi.org/10.1515/9783035628357-002>
- Rajaram, S. (2025). Access to Medicines and the Role of TRIPS Agreement: An Analysis of India-South Africa Waiver <https://doi.org/10.2139/ssrn.5172661>
- Ribeiro, A.A., Ricardi, L.M., Pontes, M.A., & Leite, S.N. (2022). Pharmaceutical Services and global health governance in times of COVID-19. *Saúde em Debate* <https://doi.org/10.1590/0103-1104202213318i>
- Schöfer, T. (2024). Conflicts over transition periods for developing countries in intellectual property rights. Edward Elgar Publishing eBooks <https://doi.org/10.4337/9781035325986.00015>
- Smith, H.J., Trytsman, G., Nel, A.A., Strauss, J.A., Kruger, E., Mampholo, R.K., Van Coller, J.N., Otto, H., Steyn, J.G., Dreyer, I.D., Slabbert, D., Findlay, R., Zunckel, E., & Visser, L. (2022). From theory to practice: key lessons in the adoption of Conservation Agriculture in South Africa. *Burleigh Dodds Series in Agricultural Science* <https://doi.org/10.19103/as.2021.0088.09>
- Ssenyange, K., & Chodokufa, K. (2024). The Mediation Role of Stakeholders' Engagement in Enhancing Public Construction Projects Success – The Case of Uganda. *European Project Management Journal* <https://doi.org/10.56889/gbec3568>

- Tau, A.L., Edoun, E.I., Mbohwa, C., & Pradhan, A. (2023). Improvement of SME's Manufacturing and Supply Process Flow: A Case Study. *The Business and Management Review* <https://doi.org/10.24052/bmr/v14nu03/art-07>
- Thambisetty, S., McMahon, A., McDonagh, L., Kang, H.Y., & Dutfield, G. (2022). ADDRESSING VACCINE INEQUITY DURING THE COVID-19 PANDEMIC: THE TRIPS INTELLECTUAL PROPERTY WAIVER PROPOSAL AND BEYOND. *The Cambridge Law Journal* <https://doi.org/10.1017/s0008197322000241>
- Uche, O.L. (2023). Plastic Waste Regime in Rwanda, Kenya and South Africa: A Comparative Case Study. *American Journal of Law* <https://doi.org/10.47672/ajl.1652>
- Yu, P.K. (2024). *The COVID-19 TRIPS Waiver and the WTO Ministerial Decision*. Edward Elgar Publishing eBooks <https://doi.org/10.4337/9781035323579.00006>