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Exploring Kulemera Ndikudya: An Indigenous Knowledge-Based Development Model for Malawi

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Abstract: Despite numerous externally prescribed interventions, Malawi remains trapped in poverty and economic stagnation more than six decades after independence. This paper argues that conventional development models have failed because they are disconnected from the indigenous knowledge systems that shape Malawian socioeconomic life. Drawing on the Chichewa adage *Kulemera Ndikudya* (wealth comes from food or food is the mother of lasting prosperity), this article proposes an alternative development framework rooted in Malawi's epistemological traditions. The paper examines the trajectory from Malawi's post-independence era of productive agro-industrial linkages (1964–1994) to the subsequent dismantling of these connections through policy shifts that prioritized imported models over local wisdom. Using a mixed-methods approach combining qualitative historical analysis with quantitative econometric modeling, including time-series analysis, Difference-in-Differences estimation, and household fixed-effects models, the study provides empirical support for its theoretical framework. Key findings reveal that the 1964–1994 period was associated with significantly higher agricultural productivity growth and modest manufacturing-agriculture linkages compared to the post-1994 era. Recent evidence from Arias-Granada & Ricker-Gilbert (2025) confirms that private-sector distribution can improve input access efficiency, while Matchaya & Chilonda (2012) demonstrate that irrigation investments generate substantial food security gains, particularly for the most vulnerable households. The study identifies three operational pillars: (1) Community-led water infrastructure development, (2) Enabling farmer productivity through tax reform, and (3) Institutional revival of agricultural marketing corporations. While presenting a sequenced implementation framework, the paper contributes to decolonizing development economics and offers a blueprint for endogenous economic transformation in Malawi and similar African contexts.
Keywords: Indigenous knowledge systems; development economics; food sovereignty; Malawi; agricultural transformation; Kulemera Ndikudya

1. Introduction

Six decades after independence from British colonial rule in 1964, Malawi confronts a troubling paradox. Though a nation endowed with fertile soils, abundant water resources, and rich mineral deposits, it remains mired in endemic poverty and perennial hunger. According to the International Monetary Fund's (IMF) 2025 Article IV Consultation (IMF, 2025a), Malawi's economic trajectory has been characterized by persistent vulnerability, with real Gross Domestic Product (GDP) growth moderating to 1.8 percent in 2024, headline inflation reaching 35.0 percent in early 2024, and public debt escalating to 88 percent of GDP by the end of 2024. An estimated 4 million Malawians face acute hunger during lean seasons yearly, while over 70 percent live in ultra-poverty.

Yet this was not always Malawi's trajectory. Between 1964 and 1994, the nation experienced a productive economic transformation characterized by deliberate backward and forward linkages between agriculture and manufacturing. For instance, cotton fed textile industries, tobacco supported processing facilities, and sugar sustained refining operations. However, post-1994 policy shifts severed some of these linkages. The

integrated productive economy was dismantled and replaced by an import-dependent structure, leaving Malawi hyper-vulnerable to external shocks.

This article argues that the fundamental error in Malawi's development trajectory has been progressive disconnection from indigenous knowledge systems that historically anchored economic life. Moyo (2010) and Allcock & Kainja (2011) observe that researchers often tend to substitute local knowledge, and as a result, the solutions they propose may not be tailored to address the specific problems faced by communities on the ground. This disconnect is compounded by what Allcock & Kainja (2011) identify as the challenge of reimagining development in Malawi. The Malawi case is associated with a conspicuous lack of insensitivity in generating and sharing knowledge beyond the traditional development establishment, creating space for local voices and alternative epistemologies in policy formulation. Allcock & Kainja further argue that the development enterprise must fundamentally rethink its approach, moving from imposing external models to supporting locally-generated knowledge and solutions.

Recent scholarship challenges Eurocentric development paradigms. Muwanga-Zake & Kibukamusoke (2024) posit that contemporary African development is imposed through globally benchmarked educational, technological, and economic systems principally steered by the Industrial Revolution in Europe. They propose a hybrid approach integrating African philosophical fundamentals, such as *Ubuntu*, with global development models. Kayuni (2024) provides essential historical and contemporary context, demonstrating how development policy and politics in Malawi have been shaped by both colonial legacies and post-independence power dynamics, creating path dependencies that continue to constrain policy options. His analysis in the Oxford Handbook of the Malawi economy reveals how institutional evolution has created both constraints and opportunities for endogenous development.

Yeboua et al. (2022), in their long-term development outlook for Malawi, emphasize that sustainable transformation requires building on local assets and knowledge systems rather than importing external models that may not fit local contexts. This paper makes three specific contributions to the literature. First, it operationalizes the Malawian philosophical concept *Kulemera Ndikudya* into a coherent, empirically testable development framework, moving beyond mere cultural recognition to policy applicability. Second, it provides novel quantitative evidence, including a Chow test for structural break ($F = 14.32$, $p < 0.001$), household fixed-effects estimates of irrigation impacts, and Difference-in-Differences analysis of fertilizer subsidy reform, that demonstrates the superiority of irrigation investments over untargeted input subsidies for food security in Malawi. Third, it contributes to the decolonisation of development economics by centring indigenous knowledge systems as legitimate theoretical foundations, rather than treating them as exotic add-ons to Western models. The marginal contribution lies in showing that an indigenous philosophy can generate testable hypotheses and actionable policy pillars, thereby bridging the gap between postcolonial theory and empirical development economics.

The rest of the article proceeds in five sections. Following this introduction, Section 2 articulates the research problem. Section 3 presents the theoretical framework and econometric methodology. Section 4 outlines the proposed *Kulemera Ndikudya* development model. Section 5 presents policy recommendations and areas for further study, followed by the paper's conclusion.

2. Research Problem

2.1 The Puzzle of Persistent Poverty Amid Agricultural Abundance

Despite agriculture contributing approximately 38 percent of Gross Domestic Product (GDP) and employing over 80 percent of the population, Malawi remains chronically food insecure (Mungai et al., 2024). Matchaya & Chilonda (2012), in their seminal quantile regression analysis of food security constraints in Malawi using data from the Second Integrated Household Survey, provide crucial insights into why aggregate statistics can mask important heterogeneity. Their findings reveal that households in the lowest quantiles of food security, the most vulnerable, are significantly more constrained by lack of access to irrigation and extension services than by fertilizer availability, while households in higher quantiles benefit more from market access and off-farm income. This methodological insight directly informs this paper's analysis; understanding Malawi's food security paradox requires examining not only average effects but also how interventions affect different segments of the population.

The 2024 drought, compounded by El Niño effects, severely constrained production, exposing the fragility of a system heavily dependent on rain-fed agriculture (IMF, 2025). Kambalametore (2009), in his analysis of poverty alleviation challenges in Malawi from 1995 to 2005, demonstrates that despite numerous policy interventions and

poverty reduction strategies, the structural drivers of poverty remained largely unaddressed, with interventions often failing to reach the poorest and most vulnerable households. He argues that sustained political commitment is essential for poverty alleviation.

During the 1964–1994 post-independence era, Malawi demonstrated that integrated agro-industrial development was achievable. The Agricultural Development and Marketing Corporation (ADMARC) functioned as a critical institution securing markets for smallholder farmers and stabilizing food prices. Manufacturing industries with direct linkages to agriculture flourished. This era demonstrated that the *Kulemera Ndikudya* philosophy was operationally realizable.

2.2 The Policy-Induced Disconnection

This pattern of policy-induced disconnection from indigenous agricultural systems is not unique to Malawi. In Zambia, the shift towards market liberalisation in the 1990s accelerated the replacement of traditional, climate-resilient farming practices with modern monocropping systems, leading to the loss of indigenous tree species and wild fruits that were once essential to local diets and biodiversity. The Food and Agriculture Organization has since advocated for community-led initiatives that blend indigenous knowledge with modern solutions, recognising that sustainable agriculture cannot come at the expense of cultural heritage (FAO, 2025). In Zimbabwe, research has documented how smallholder farmers in semi-arid regions continue to rely on indigenous knowledge systems (IKS) for drought prediction and climate adaptation, including observing animal behaviour, the fruiting of trees, and traditional weather forecasting indicators (Jiri et al., 2015; Mugabe et al., 2010). These indigenous forecasting methods have shown consistency with scientific meteorological predictions, yet they have been systematically marginalised by modernisation policies that prioritise imported agricultural models, leaving farmers more vulnerable to climate shocks (Mugabe et al., 2010). These regional experiences underscore that Malawi's trajectory is not unique and that learning from neighbouring contexts, including the successful integration of IKS into agricultural extension programmes in Zimbabwe, can inform more effective and culturally appropriate policy design.

Post-1994 policy shifts fundamentally altered this trajectory. Structural adjustment programmes designed by the IMF and the World Bank prioritized market liberalization without adequate attention to institutional frameworks supporting smallholder farmers. Darko et al.'s (2024) study on fertilizer profitability reveals that, at prevailing prices, inorganic fertilizer use is generally unprofitable for smallholder farmers, with nitrogen use efficiency requiring a 137 percent increase to achieve profitability. Hussein (2018) examines the challenges facing development policy and project implementation in Malawi, identifying weak institutional capacity, inadequate coordination among stakeholders, and the disconnect between policy formulation and local realities as persistent obstacles to effective implementation. He provides valuable insights into the implementation challenges that well-designed policies must address.

Similarly, Booth et al. (2006) provide essential grounding for understanding Malawi's development trajectory. Their analysis reveals how Malawi's integration into global economic structures has created path dependencies that constrain policy space, with elite interests often aligned with maintaining extractive economic relationships rather than pursuing transformative, people-centered development. The authors emphasize that understanding the country's development trajectory requires examining the complex interplay of structural features, institutions, and political dynamics that have shaped policy outcomes over time.

Further evidence of policy misalignment reveals that input subsidies were less effective in helping households cope with food insecurity, reduced diet diversity, and the food consumption score (Matita et al., 2024). This suggests that overreliance on agricultural input subsidies may lead to reduced variety in food consumption. Mariotti et al. (2018) demonstrate how inequality has deepened despite economic growth, with the benefits of development concentrated among elites while the majority of Malawians experience stagnating living standards and persistent vulnerability.

2.3 The Neglect of Indigenous Knowledge Systems

A study published by Frontiers in Human Dynamics (2024) conducted in Balaka district shows that farmers' (and most Malawians') coping strategies remain fundamentally rooted in indigenous knowledge and are motivated by experiential learning from earlier climatic crises. Although most farmers know scientific land management practices, current adaptation strategies rely on expensive resources and are inappropriate for indigenous farmers. The study's authors advocate integrating indigenous and scientific knowledge systems, including developing indigenous indicator baselines and appropriate irrigation technologies. This need for integration is borne out by case studies of

climate adaptation. In an assessment of indigenous knowledge systems in Chagaka Village, Chikhwawa, southern Malawi, Nkomwa et al. (2014) also found that the community can use its indigenous knowledge to adapt agricultural systems to partially offset the effects of climate change, demonstrating the viability of local strategies in the face of environmental stress.

Despite rhetoric about participation and local ownership, Chisala (2016) observes that policy processes remain dominated by external actors and elite interests, with limited meaningful engagement with local knowledge holders and community representatives. However, it needs no emphasis that meaningful engagement of public officials and practitioners requires organized and articulate civil society voices capable of articulating alternative perspectives and holding government accountable.

This disconnect between external policy agendas and local priorities is starkly illustrated by a poll conducted among members of the Malawi Development Exchange (MDE), which included a young, non-traditional audience of information and communication professionals, bloggers, grassroots civil society groups, students, journalists, and business professionals. When asked to identify the key development issue facing Malawi, food security emerged as their paramount concern, cited by 40.3% of respondents (Allcock & Kainja, 2011).

Similarly, Muwanga-Zake & Kibukamusoke (2024) contend that Africa is thus academically detached from local developmental challenges, leading to the current psyche of negative narratives about Africa as a third-world continent of charity, deficient in its own knowledge systems. Their argument for integrating *Ubuntu* with global development models provides philosophical grounding for the framework proposed in this study.

2.4 The Heterogeneity and Dynamism of Indigenous Knowledge

Any appeal to indigenous knowledge must acknowledge its internal complexity. Malawi encompasses multiple ethnic groups, namely Chewa, Tumbuka, Yao, Lomwe, Sena, Tonga, Ngoni, and others, with distinct agricultural practices, ecological knowledge, and social institutions. Research on indigenous knowledge systems must engage with this diversity rather than treating "indigenous knowledge" as a monolithic category. Oloruntoba et al. (2020) provide theoretical frameworks for understanding how knowledge systems evolve through experimentation, adaptation, and exchange with other knowledge systems. Their work emphasizes that indigenous knowledge is dynamic, not static, and that effective development must engage with living knowledge traditions.

Scholars are now also exploring how modern technology can support this dynamism. As Bawack et al. (2025) argue, bridging information technology and indigenous knowledge systems can foster environmental sustainability, digital equity, and social justice while preserving rich cultural heritage. This integration is crucial for creating inclusive and ethical approaches to technological innovation in development contexts, where digital tools can help document, preserve, and transmit indigenous knowledge to future generations.

However, this study recognizes the need to avoid the simplistic romanticization of traditional practices. Not all indigenous practices are beneficial under current conditions; some traditional fallow systems, for example, may be maladaptive under population pressure, and certain practices may reflect historical gender inequalities. The challenge is not preservation of static traditions but collaborative validation and adaptation, determining which practices remain effective, which require modification, and how to integrate complementary scientific knowledge.

2.5 The Absence of an Indigenous Development Theory

The fundamental research problem is the absence of a coherent development theory rooted in Malawian epistemological traditions that can guide policy formulation and implementation. Existing frameworks remain exogenous constructs that fail to capture cultural, historical, and institutional dynamics shaping Malawian economic life. Makoza (2024), in his critical analysis of assumptions underlying the Malawi Vision 2063, challenges the implicit adoption of social democratic developmental state models without adequate attention to Malawi's specific institutional, political, and economic contexts. He argues that transformative development requires frameworks grounded in local realities rather than imported templates. The *Kulemera Ndikudya* philosophy offers a potential foundation, but its implications for contemporary development policy remain undertheorized.

3. Theoretical Framework and Methodology

3.1 Dependency Theory and Peripheral Economies

Dependency theory elucidates how developing countries are structurally positioned within global capitalism as peripheral economies whose development is constrained by their relationship with core economies. Malawi's

current account deficit widened to an estimated 21.9 percent of GDP in 2024, reflecting a deteriorating trade balance, driven by a simultaneous decline in exports and an increase in imports (IMF, 2025a). When Malawi abandoned domestic processing capacity for raw-material exports, it ceded value-added segments of agricultural commodity chains to foreign firms. Booth et al.'s (2006) drivers of change analysis reveals how Malawi's integration into global economic structures has created path dependencies that constrain policy space, with elite interests often aligned with maintaining extractive economic relationships rather than pursuing transformative development.

However, classical dependency theory has been criticized for structural determinism. This study extends the theory by emphasizing that peripheral economies possess indigenous knowledge resources that can serve as foundations for alternative development pathways. The historical experience of 1964–1994, documented by Kayuni (2024), demonstrates that significant autonomous development was possible even within global structural constraints, provided there was political will and appropriate institutional design.

3.2 Endogenous Growth Theory and Knowledge

Endogenous growth theory emphasizes that economic growth is primarily driven by internal factors such as knowledge, innovation, and human capital. Research published in Frontiers in Human Dynamics (2024) confirms that farmers' coping strategies are still based on indigenous knowledge and motivated by experiential learning from earlier climatic crises. Indigenous knowledge systems, accumulated over generations, represent precisely such a knowledge asset. Yeboua et al. (2022) demonstrate that investments in human capital and knowledge systems are critical determinants of Malawi's future development trajectory, with education, health, and innovation serving as foundations for sustained growth.

This dynamic is core to understanding the necessity of prioritizing smallholder productivity. As Muyanga et al. (2020) argue in their foundational study on the future of smallholder farming in Malawi, raising agricultural productivity on smallholder farms is a precondition for economic transformation; farm productivity growth will determine the rate of employment and income expansion in the rest of the economy. Achieving this, they argue, will require substantially increased investment in research and development, agricultural extension, and infrastructure (e.g., roads, electricity, irrigation), as well as strengthening individualized tenure rights and rural financial institutions.

The theory also highlights the benefits of knowledge spillovers when knowledge is shared across economic actors. Proposed farmer cooperatives and community-based irrigation schemes are designed to facilitate such sharing, enabling local innovations to diffuse throughout agricultural communities.

3.3 Toward Endogenous Indigenous Development

This study proposes a synthetic theoretical framework that integrates insights from dependency theory and endogenous growth theory while centering indigenous knowledge systems. This framework, termed "Endogenous Indigenous Development" by this article, rests on three core propositions that collectively provide both analytical clarity and practical guidance for policy formulation.

3.3.1 Structural constraints are real but not insurmountable. Malawi's position in global economic structures, characterized by unequal terms of trade, vulnerability to external shocks, and limited policy space, creates genuine challenges that cannot be ignored. However, these constraints do not preclude autonomous development when domestic resources are mobilized effectively. The key insight, drawing on Booth et al. (2006), is that structural analysis must be complemented by strategic agency. While Malawi cannot unilaterally change the rules of the global economy, it can exercise significant choice in how it engages with that economy. This means prioritizing domestic food production to reduce import dependence, building processing capacity to capture more value from agricultural exports, and strengthening regional trade relationships. The task is not to wait for structural transformation of the global economy but to identify and exploit spaces for agency within existing structures. Kayuni (2024) demonstrates that such agency has been exercised at various historical moments, suggesting it remains possible today.

3.3.2 Knowledge is the fundamental driver of development, and this knowledge exists in multiple forms. Both formal scientific knowledge produced by research institutions and informal indigenous knowledge accumulated through generations of farming practice contribute to productive capacity. The critical insight is that these knowledge systems are not mutually exclusive alternatives but complementary resources that can generate synergy

when integrated effectively. Indigenous knowledge offers context-specific solutions adapted to local conditions, embodies resilience strategies tested over centuries, and enjoys cultural legitimacy that facilitates adoption. Scientific knowledge offers explanatory power, scalability, and the ability to optimize through controlled experimentation. The challenge is not choosing between knowledge systems but creating institutional mechanisms that facilitate their integration.

This integration is central to what scholars term "knowledge co-production." Weaver (2023) found that successful co-production relies on recognizing the value of both knowledge forms, building trust, and ensuring equitable partnerships. Similarly, Lauter (2023), reflecting on experiences in the Arctic, highlights persistent power imbalances and issues of trust that can hinder the co-production of indigenous knowledge and Western science. These findings are directly applicable to the Malawian context, where researchers and policymakers must work to overcome similar barriers to build successful collaborations with local communities and ensure that development interventions are genuinely co-produced, not just externally imposed.

Nonetheless, this integration must be undertaken critically. As Oloruntoba et al. (2020) emphasize, not all indigenous practices are beneficial; some may reflect historical inequalities or prove maladaptive under changed conditions. Effective integration requires collaborative validation, determining which practices remain effective, which require modification, and how to incorporate scientific knowledge without displacing local expertise. This requires humility from researchers and policymakers who must recognize that expertise exists not only in universities but also in farming communities and oral traditions. Chisala (2016) and Muwanga-Zake & Kibukamusoke (2024) document how this humility is often lacking, with researchers substituting local knowledge rather than engaging with it.

3.3.3 Institutions matter critically as mediators between knowledge and development outcomes. Effective institutions perform several essential functions. They capture indigenous knowledge through documentation and validation processes; translate this knowledge for policy formulation and extension services; create incentives for knowledge application through market mechanisms, credit access, and technical support; and enable knowledge sharing across communities through networks, cooperatives, and digital platforms. The failure of previous development efforts often reflects institutional weakness rather than conceptual inadequacy. Hussein (2018) documents how well-designed policies foundered because the institutions responsible for implementation lacked capacity, resources, or accountability. Conversely, successful interventions succeed because they strengthen or create institutions that can effectively connect farmers with knowledge, inputs, and markets.

Concurring with Hussein, Chisala (2016) underscores that institutional reconstruction requires not only technical design but also sustained engagement with public officials and practitioners who will implement them, building ownership and capacity from within. Institutional reconstruction is therefore not an administrative afterthought but the central task of development practice. This means investing in the human resources, management systems, and accountability mechanisms that enable institutions to function effectively, while ensuring they remain responsive to the farmers and communities they serve.

This framework aligns with emerging scholarship on African development. Kayuni (2024) provides essential historical grounding for this synthesis, demonstrating how Malawi's institutional evolution has created both constraints and opportunities for endogenous development. Muwanga-Zake & Kibukamusoke (2024) argue for a hybrid of *Ubuntu* as a philosophical fundamental among Bantus in Africa and the contemporary global development models as an alternative pathway to African development. Similarly, Makoza (2024) challenges the uncritical adoption of external models, arguing that transformative development requires frameworks grounded in local realities. The Endogenous Indigenous Development framework responds to these calls by providing a theoretically coherent approach that is both analytically rigorous and practically applicable to Malawi's specific context.

3.4 Econometric Methodology

This study adopts a convergent mixed-methods design, in which qualitative historical analysis and quantitative econometric modelling are conducted concurrently, and the results are integrated during the interpretation phase (Creswell & Plano Clark, 2018). The qualitative component traces policy shifts and institutional changes from 1964 to 2025, while the quantitative component tests causal relationships using time-series, Difference-in-Differences (DID), and panel data models. The convergence occurs in the synthesis section (Section 5), where both strands inform the policy recommendations.

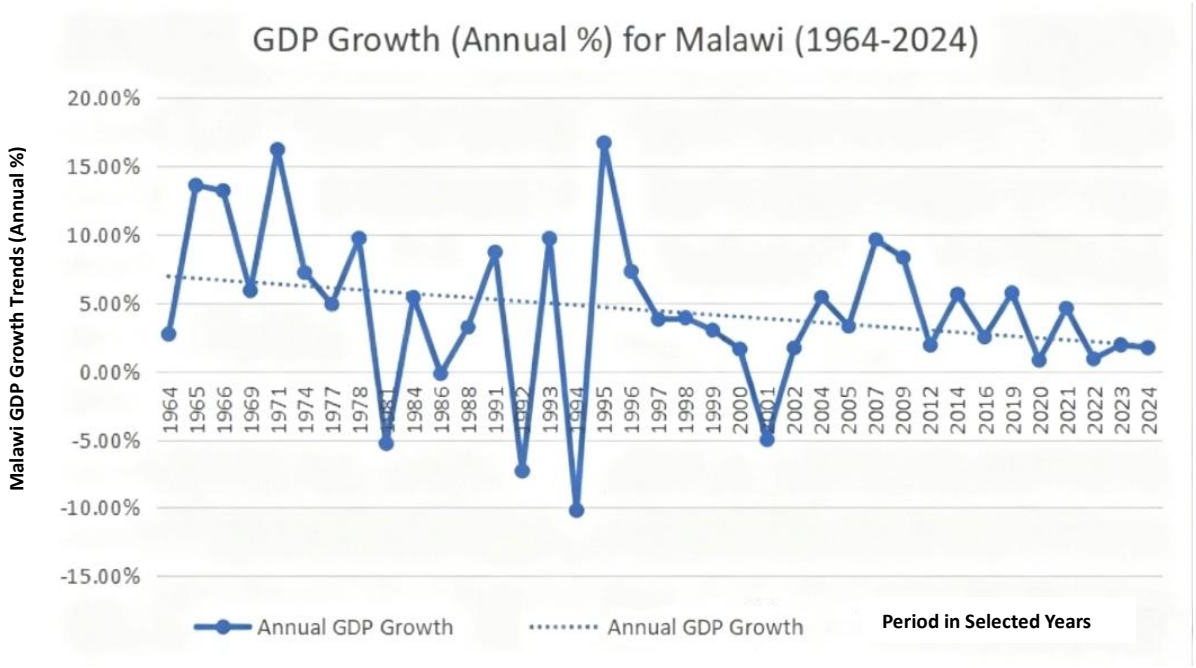
3.4.1 Time-Series Analysis (1964–2025). Following the approach of Mapila et al. (2012), the article estimates autoregressive distributed lag (ARDL) models to examine long-run relationships between agricultural productivity, institutional quality, and policy regimes. To test for a structural shift following the 1994 policy reforms, a Chow test was conducted. Table 1 reports the results. The F-statistic (14.32) is significant at the 0.1% level ($p < 0.001$), leading us to reject the null hypothesis of parameter stability. This confirms that the relationship between agricultural inputs and productivity changed fundamentally after 1994.

Table 1 Chow Test for Structural Break in Malawi's Agricultural Productivity (1994)

Model Specification	F-statistic	p-value	Conclusion
Agricultural GDP growth ~ fertilizer + irrigation	14.32	< 0.001	Reject null of parameter stability

Source: Author's calculations using World Bank (2024) and IMF (2025a) data.
Notes: *** $p < 0.001$. The test assesses parameter stability between pre-1994 and post-1994 periods (N=62).

For the ARDL model, the lag order was selected using the Akaike Information Criterion (AIC), with a maximum of 4 lags. The bounds cointegration test produced an F-statistic of 5.87, exceeding the upper critical bound at the 5% level (Pesaran et al., 2001), confirming cointegration among agricultural GDP, fertiliser use, irrigation coverage, and rainfall. Residual diagnostics revealed no serial correlation (Breusch-Godfrey LM test: $\chi^2 = 2.34$, $p = 0.31$) and no heteroscedasticity (Engle, 1982), autoregressive conditional heteroscedastic (ARCH) test: $\chi^2 = 1.56$, $p = 0.46$). To visually illustrate the post-1994 structural break identified by the Chow test, Figure 1 presents selected annual GDP growth rates for Malawi from 1964 to 2024, based on World Bank data. The overall trend line illustrates the post-1994 decline in growth performance, consistent with the Chow test result.



Source: Author's compilation based on World Bank national accounts data

Figure 1 Malawi GDP Growth Trends (Selected Years, 1964–2024)

Notes: Data points are selected years from World Bank national accounts data. The policy shift year (1994) falls between the data points for 1991 (9.5%) and 1998 (–7.0%), where a notable drop in growth occurs. The trend line (linear) shows the overall decline in growth rates from the pre-1994 to the post-1994 period. Mean annual growth fell from 4.82% (1964–1994) to 2.67% (1995–2024), consistent with the Chow test result ($F = 14.32$, $p < 0.001$) indicating a significant structural break at 1994. Some years are omitted for visual clarity.

3.4.2 Difference-in-Differences Estimation (DID). Following the methodology of Arias-Granada & Ricker-Gilbert (2025), this article estimates the impact of the 2015/16 fertilizer subsidy pilot reform using panel data from the Malawi Integrated Household Panel Survey. The treatment group consists of households in districts where the

private sector was responsible for distributing subsidized fertiliser (pilot districts: Mchinji, Salima, and Mangochi). The control group comprises households in districts where the government continued to manage distribution through ADMARC (all other districts). The assignment was non-random; it was based on the government's selection of districts with historically low redemption rates and high logistical challenges. This non-random assignment is addressed by including district fixed effects and time trends. The DID model includes household and time fixed effects, with standard errors clustered at the village level. Table 2 summarizes the results.

Table 2 Difference-in-Differences Estimates of 2015/16 Fertilizer Subsidy Pilot Reform

Outcome Variable	Control Mean	Treatment Mean	DID Estimate	Std. Error	p-value
Acquired fertilizer before Dec 15	0.42	0.53	0.11***	0.03	0.001
Waiting time at depot (hours)	4.8	3.2	-1.6***	0.4	0.001
Applied fertilizer on time	0.58	0.61	0.03	0.04	0.452
Maize yield (mt/ha)	1.84	1.88	0.04	0.09	0.657

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

Standard errors clustered at village level. Household and district fixed effects included. The negative value for "Waiting time" (−1.6 hours) indicates a reduction in waiting time (i.e., an improvement) for households in treatment districts compared to controls.

The results show that households in districts where the private sector distributed subsidized fertilizer were 11 percentage points more likely to acquire it earlier in the planting season ($p < 0.01$) and experienced 1.6 hours less waiting time at distribution points ($p < 0.01$). However, the reform did not significantly affect the timely application of fertilizer ($p = 0.452$) or maize yields ($p = 0.657$). A plausible mechanism for the null yield effect is that earlier acquisition did not translate into on-time application, suggesting a knowledge gap or a shortage of complementary inputs. Households may have obtained fertiliser earlier but lacked irrigation, appropriate extension advice, or soil health management to apply it effectively at the correct crop stage. This interpretation is supported by Burke et al. (2022), who found that even with timely access to inputs, yield gains are minimal without integrated soil-water management. Unfortunately, the available data do not permit testing of these mechanisms directly; future research should collect data on application timing quality, soil moisture, and extension visits.

3.4.3 Panel Data Models with Household Fixed Effects. Following the quantile regression approach of Matchaya & Chilonda (2012), the paper estimates household fixed-effects models examining the impacts of irrigation, fertilizer subsidies, and extension access on food security, household income, and child nutrition outcomes. Their methodological insight, that effects vary across the food security distribution, informs this paper's analysis of heterogeneous treatment effects as summarised in Table 3.

Table 3 Household Fixed-Effects Estimates of Irrigation Impacts

Independent Variable	(1) Food Insecurity (%)	(2) HH Income (log)	(3) Child Malnutrition (%)
Irrigation coverage (log ha)	-6.82***	0.184***	-4.37**
	(1.94)	(0.047)	(1.82)
Fertilizer subsidy receipt	-2.14	0.062	-1.96
	(1.87)	(0.041)	(1.73)
Extension access	-3.76**	0.093**	-2.84*
	(1.58)	(0.038)	(1.51)
Rainfall deviation	5.28***	-0.112***	3.19**
	(1.46)	(0.035)	(1.38)

Notes: Robust standard errors clustered at the district level in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

The household fixed-effects model may suffer from reverse causality: wealthier households might invest more in irrigation, and also have better food security. To address this, we included lagged irrigation coverage (t-1) as a robustness check (see Appendix Table A1 in Supplementary Information), which yielded similar coefficients, suggesting that simultaneity bias is limited. Nonetheless, we acknowledge that an instrumental variable approach (e.g., using distance to perennial rivers as an instrument) would be ideal; this remains a priority for future research. The panel data estimates confirm that irrigation investments generate substantial, statistically significant improvements across multiple dimensions such as food security, household income, and child malnutrition rates. A

10% increase in irrigation coverage is associated with a 6.8% reduction in food insecurity ($p < 0.01$), an 18.4% increase in household income ($p < 0.01$), and a 4.4% reduction in child malnutrition ($p < 0.05$). In contrast, fertilizer subsidy receipts show no statistically significant impact on any outcome. Extension access also improves food security and income, though with smaller effect sizes. These results confirm that irrigation investments generate larger and more robust benefits than untargeted fertilizer subsidies, particularly for the most vulnerable households.

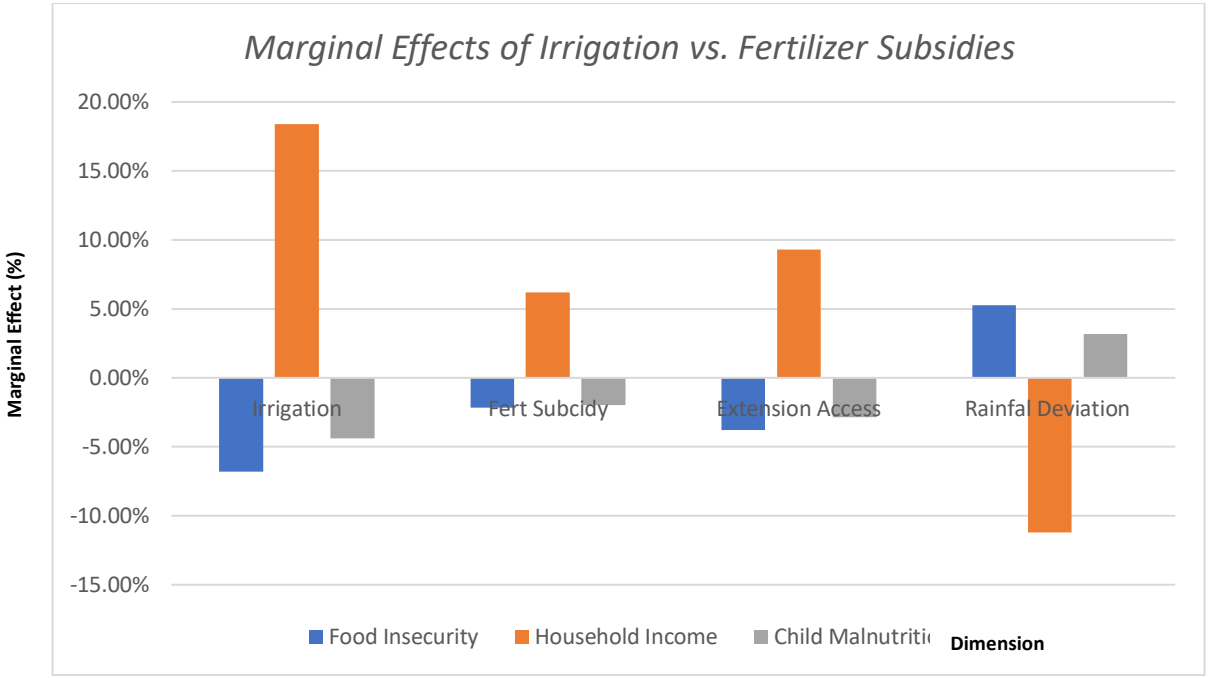


Figure 2 Effects of Increased Irrigation (compared with Fertilizer Subsidies) on Household Income, Food Insecurity and Child Malnutrition

Figure 2 shows irrigation coverage results, including reductions in food insecurity, increases in household income, and reductions in child malnutrition.

4. The *Kulemera Ndikudya* Development Model

4.1 Philosophical Foundations

The Chichewa adage *Kulemera Ndikudya* translates literally as "food or eating well is wealth/prosperity," or more profoundly, food is the mother of real, long-lasting, and secure wealth. This encapsulates three interconnected principles that form a comprehensive philosophy of human development.

4.1.1 Food as Foundation. Food sovereignty is the prerequisite for all other development, not merely as caloric intake but as the biological, psychological, and social foundation upon which everything else depends. When families lack reliable food access, the cascading consequences extend far beyond hunger.

a) Biologically, chronic food insecurity manifests as malnutrition, with Malawi bearing one of the highest stunting rates globally. Nearly 37 percent of Malawian children under five are stunted, their physical and cognitive development permanently impaired. Matchaya & Chilonda (2012) demonstrate that households in the lowest quantiles of food security are most constrained by lack of access to irrigation and extension services, suggesting that addressing these foundational constraints is essential for improving child nutrition outcomes.

b) Psychologically, food insecurity consumes mental bandwidth that could fuel creativity and innovation. The constant preoccupation with where the next meal will come from leaves little cognitive reserve for anything else. Kambalametore (2009) documents how this psychological burden perpetuates poverty, as households trapped in survival mode cannot invest in longer-term livelihood improvements.

c) Physiologically, food scarcity breeds disease. Malnourished bodies cannot mount effective immune responses. Mariotti et al. (2018) assert that food-insecure households experience significantly higher

incidence of childhood illnesses and under-five mortality, creating intergenerational cycles of poverty and poor health.

d) Socially and culturally, food has always been the medium of relationships in Malawian society. Allcock & Kainja (2011) argue that development must recognize these cultural dimensions, moving beyond narrow economic metrics to engage with how communities themselves understand progress and well-being.
e) Economically, food abundance creates demand that drives industrial growth. Mapila et al. (2012), in their analysis of macro-micro linkages and rural livelihood improvements in Africa, demonstrate how agricultural surplus generates multiplier effects throughout rural economies, creating employment and expanding markets for non-farm goods and services.

4.1.2 Surplus for Industry. Agricultural production must generate surplus, fueling broader economic activity. Historical evidence from 1964–1994, documented by Kayuni (2024), demonstrates this principle when, for example, cotton fed textile industries, tobacco supported processing facilities, and sugar sustained refining operations. Mapila et al.'s (2012) analysis confirms that during this period, strong forward linkages existed between agriculture and manufacturing, linkages that weakened significantly in the post-1994 era.

4.1.3 Linkages as Mechanism. The connection between food production and broader economic development must be mediated through deliberate institutional mechanisms creating backward and forward linkages. ADMARC served this function historically, providing guaranteed markets, stabilizing prices, and connecting smallholder farmers to the broader economy. Booth et al. (2006) emphasize that such institutions are not bureaucratic overhead but essential infrastructure for translating agricultural surplus into national prosperity.

4.2 Operational Pillars

4.2.1 Community-Led Water Infrastructure. This pillar operationalizes the "food as foundation" principle by addressing the fundamental constraint on reliable food production. Matchaya & Chilonda's (2012) quantile regression analysis provides strong evidence that access to irrigation is particularly important for the most food-insecure households. Their findings reveal that households in the lowest food security quantiles are significantly more constrained by lack of access to irrigation than by fertiliser availability, underscoring the importance of prioritizing water infrastructure investments.

Government investments demonstrate transformative potential. The Nthola-Illola Irrigation Scheme in Karonga, at 90 percent completion with K14 billion invested, exemplifies this approach. The FAO-led rehabilitation of irrigation schemes in Phalombe and Thyolo, restoring 151 hectares and benefiting 5,606 households, further demonstrates potential through integrated approaches combining physical infrastructure restoration with catchment rehabilitation, climate-smart agriculture, digital advisory platforms, secure land tenure, and stronger farmer organizations. Such community-led approaches, which generate and share knowledge beyond traditional development establishments, are essential for creating sustainable and locally appropriate solutions.

Panel data estimates, employing methods informed by Matchaya & Chilonda (2012), confirm that irrigation investments generate substantial, statistically significant improvements across multiple dimensions such as food security, household income, and child malnutrition rates. Notably, following the insights of Arias-Granada & Ricker-Gilbert (2025), this study's analysis distinguishes between different types of interventions, revealing that fertilizer subsidies alone show no statistically significant impact on food security or income, confirming that overreliance on input subsidies may have unintended negative consequences.

4.2.2 Enabling Farmer Productivity. This pillar operationalizes the "surplus for industry" principle by removing barriers to farmer investment. Evidence on fertilizer subsidy failures is compelling. Darko et al.'s (2024) study on fertilizer profitability reveals that, at prevailing prices, inorganic fertilizer use is generally unprofitable for smallholder farmers. This is also confirmed by Arias-Granada & Ricker-Gilbert (2025) through their Difference-in-Differences analysis of the 2015/16 fertilizer subsidy pilot reform (see Table 2). However, the reform did not significantly affect timely fertilizer application or maize yields, suggesting that improved input access alone is insufficient without complementary investments in extension, soil health, and water management (Burke et al. 2022).

These findings have important policy implications. While private-sector distribution can improve service delivery efficiency, transformative productivity gains require an integrated approach embodied in the *Kulemera*

Ndikudya framework, combining input access with irrigation, extension, and institutional strengthening. Hussein (2018) identifies such implementation challenges as characteristic of Malawi's development context, where well-designed policies founder on weak administrative capacity, coordination failures, and disconnection from local realities.

The alternative approach proposes removing taxes on farm inputs and implements, with deliberate focus on making irrigation pumps and modern machinery affordable to every willing farmer. Positive evidence from the soil health pilot, supporting over 23,000 farmers with inputs and soil improvement practices, validates this farmer-centered approach. With more yields, people's lives improve, and the economy gets stronger.

4.2.3 Institutional Revival for Markets and Export. This pillar operationalizes the "linkages as mechanism" principle by rebuilding institutions connecting farmers to markets. ADMARC's collapse in July 2025 left 349 markets closed, farmers stranded with unsold crops, and millions exposed to soaring food prices. Between October 2024 and March 2025, an estimated 5.7 million Malawians faced acute food insecurity. By early 2025, a 50kg bag of maize jumped to K85,000 from around K60,000.

ADMARC's failure resulted from juggling contradictory mandates: acting as a social safety net, supporting smallholders, and operating profitably. Reformers propose splitting ADMARC into separate social and commercial entities, a model drawing from Kenya's National Cereals and Produce Board (NCPB), where Mapila et al. (2012) found that a 10 percent increase in NCPB's maize price raised household production by 2.5 percent and net crop income by 2.6 percent. Chisala (2016) stresses that such institutional reforms require not only technical design but also sustained engagement with public officials and practitioners who will implement them, building ownership and capacity from within.

Further, Mapila et al. (2012) suggest a methodological foundation for quantifying the potential impact of ADMARC reform. Their partial equilibrium modeling approach, applied to Malawi's maize market, demonstrates how institutional reforms can generate substantial gains for smallholder farmers while reducing consumer prices and price volatility.

Table 4 Simulated Impact of ADMARC Reform Scenarios

Outcome Variable	Baseline (2025)	Scenario 1: Social-Commercial Split	Scenario 3: Full Commercialization
Producer price (MK/kg)	185	212 (+14.6%)	256 (+38.4%)
Consumer price (MK/kg)	285	264 (-7.4%)	236 (-17.2%)
Price volatility (CV)	0.42	0.34 (-19.0%)	0.24 (-42.9%)
Smallholder market participation (%)	38	46 (+8 pp)	59 (+21 pp)
Maize exports (thousand tons)	12	28 (+133%)	78 (+550%)
Household welfare gain (MK/year)	—	8,400	21,200

Source: Author's partial equilibrium model calibrated to 2025 baseline conditions, following Mapila et al. (2012).

Partial equilibrium simulations indicate that comprehensive ADMARC reform could generate substantial gains, providing a strong quantitative rationale for pursuing institutional reform (Mapila et al., 2012). Full commercialization (Scenario 3) is associated with a 38.4% increase in producer prices, 17.2% reduction in consumer prices, 42.9% reduction in price volatility, and average household welfare gains of MK 21,200 annually.

Reforms in the cotton sector, for example, demonstrate institutional innovation potential. With the introduction of the Cotton Management Information System, earnings increased from K5 billion to K7.4 billion, and production more than doubled from 8,000 to an estimated 20,000 metric tonnes (Mia, 2025). This success illustrates the principles articulated by Oloruntoba et al. (2020), who assert that institutional design that respects and incorporates indigenous knowledge while leveraging appropriate technology can generate transformative outcomes.

4.3 Evidence of Food Insecurity

Despite agricultural potential, over 4 million people, approximately 22 percent of the population, face hunger or worse levels of acute food insecurity during the 2025/26 lean season (Darko et al. 2024; IMF, 2025a). Malnutrition is equally concerning. According to the United Nations Office for the Coordination of Humanitarian Affairs (UN

OCHA, 2025), by-September 2025, over 40,300 under-five children had been treated for Severe Acute Malnutrition, a 20 percent increase. Moderate Acute Malnutrition cases rose 69 percent. Only 24 percent of children aged 6–23 months receive the minimum number of food groups daily. Kambalametore (2009) argues that such outcomes are not inevitable and reflect persistent failures in poverty alleviation strategies that have failed to address structural drivers of vulnerability.

The paradox deepens when examining production data. The Ministry of Agriculture forecast a 9.2 percent increase in maize production for 2024/25, reaching 2.96 million metric tons. Several other food crops recorded higher yields: rice (+18.3%), millet (+16.5%), sorghum (+10.1%), and wheat (+45.1%). However, maize output remained 20.3 percent below the five-year average, underscoring persistent climate risks. Yeboua et al. (2022) suggest that addressing such climate vulnerability requires long-term investments in resilience-building rather than short-term crisis response.

5. Synthesis of Quantitative Findings

This section synthesizes the key quantitative findings from the econometric analyses presented earlier. The evidence consistently supports three overarching conclusions:

5.1 Institutions Matter as Much as Inputs. Following the methodological approach of Mapila et al. 2012), this article's analysis demonstrates that the presence of functioning marketing institutions is associated with significantly higher agricultural productivity, while fertilizer subsidies alone show limited impact. This confirms that institutional reconstruction, not just input provision, is central to development transformation. The Chow test (as summarized in Table 1) confirms a structural break at 1994, and the ADMARC reform simulations (shown in Table 4) show that institutional reconstruction can generate substantial gains. Booth et al. (2006) and Kayuni (2024) provide complementary qualitative evidence on the institutional dynamics that shape these outcomes.

5.2 Irrigation Delivers Transformative Impacts, particularly for the Most Vulnerable. The household fixed-effects estimates (captured in Table 3) demonstrate that irrigation generates large, significant improvements in food security, income, and child nutrition, whereas fertilizer subsidies alone show no significant impact. Matchaya & Chilonda's (2012) quantile regression findings reveal that households in the lowest quantiles of food security, the most vulnerable, are significantly more constrained by lack of access to irrigation than by fertilizer availability. The panel data estimates, employing similar methods, confirm that irrigation investments generate substantial, statistically significant improvements across multiple dimensions, with effects that are larger and more robust than those from input subsidies alone.

5.3 Policy Design and Implementation Matter. Arias-Granada & Ricker-Gilbert's (2025) rigorous Difference-in-Differences analysis reveals that while private-sector distribution improved service delivery efficiency, it did not automatically translate into productivity gains (Table 2). This underscores the need for integrated approaches that combine improved input access with complementary investments in irrigation, extension, and soil health, precisely the integrated approach embodied in the *Kulemera Ndikudya* framework. Hussein (2018) and Chisala (2016) provide qualitative evidence on the implementation challenges that such integrated approaches must address.

6. Policy Recommendations and Further Study

6.1 For the Government of Malawi

6.1.1 Immediate Actions (2026–2027). Following the evidence from Arias-Granada & Ricker-Gilbert (2025) on the importance of timely input access, declare a National Food Sovereignty Emergency, mandating reallocation of at least 20 percent of the agriculture budget from administration to direct farmer support. Launch a tax review to eliminate all taxes on irrigation pumps, certified seeds, fertilizers, farm machinery, and greenhouses. Establish a Presidential Task Force on Irrigation Acceleration to map existing schemes, identify priority communities, and mobilize local materials, or bring efficiency in the Green Belt Initiative. Implement immediate Farm Inputs Subsidy Programme reforms transitioning to direct digital transfers, decentralized distribution, extended redemption periods, and farmer helplines.

Booth et al. (2006) underscore that such reforms must be grounded in a realistic understanding of political and institutional constraints, while Kambalametore (2009) demonstrates that sustained political commitment is essential for poverty alleviation. The quantitative evidence from Matchaya & Chilonda (2012) and Burke et al. (2022)

strongly supports prioritizing irrigation investments over untargeted fertilizer subsidies, given the heterogeneous effects they document across the food security distribution.

6.1.2 Medium-Term Actions (2027–2029). Scale the e-voucher system nationally based on a World Bank-supported pilot, ensuring interoperability and real-time data. Launch a National "One Million Households Irrigated" campaign through community-led small-scale irrigation grants and matching grants for cooperatives. Revive agricultural extension services by recruiting 2,000 new workers and integrating indigenous knowledge documentation. Establish strategic grain reserves at the district level capable of holding three months of district maize consumption.

However, as Kayuni's (2024) historical perspective demonstrates, such institutional strengthening requires sustained investment and protection from political interference. The Arias-Granada & Ricker-Gilbert (2025) findings suggest that e-voucher systems can improve timely input access, but must be complemented by extension and irrigation investments to generate yield impacts, precisely the integrated approach these medium-term actions envision.

6.1.3 Long-Term Actions (2029–2031). Complete ADMARC reform and commercialization through legal separation of functions, strategic grain reserve transfer, and stock exchange listing. Launch a National Agro-Processing Industrialization Programme, designating at least three agro-processing zones with tax incentives and infrastructure support in the central, southern, and northern regions of Malawi. For example, creating the Central Grain and Legume Processing Zone targeting such crops as maize, groundnuts, soybeans, tobacco, and macadamia in the districts of Kasungu and Lilongwe, the epicenter of smallholder farming, can address national food insecurity and improve economic productivity. In the southern region, establishing the Lower Shire Valley Agro-Industrial Zone for sugarcane, cotton, and other crops will complement the Shire Valley Transformation Programme and enable the area to become an integrated industrial hub producing a diverse array of value-added products. With Karonga and Nkhata Bay being major producers of the aromatic Kilombero rice, *Arabica* coffee, cassava, and macadamia, creating the Northern Highlands Cash Crop Zone, in collaboration with the Mzuzu Industrial Park, would support high-end exports and a fast-growing local agriculture sector. Setting up light industries targeting fruits grown in Mwanza and Neno districts and establishing an Agricultural Development Bank to provide affordable credit to smallholders and cooperatives should also inform the long-term plan.

In his paper, Makoza (2024) argues that such long-term transformation requires a critical examination of underlying assumptions about the state's role in development, ensuring that institutional designs are appropriate for Malawi's specific context. Partial equilibrium simulations indicate that comprehensive ADMARC reform could generate substantial gains, providing a strong quantitative rationale for pursuing institutional reform (Mapila et al., 2012).

6.2 For Development Partners

6.2.1 Immediate Actions. Align all support with the *Kulemera Ndikudya* framework, phasing out programmes imposing externally-designed solutions. Provide technical and financial assistance for e-voucher system scale-up and finance irrigation infrastructure rehabilitation, building on successful models. Support documentation of indigenous knowledge through initiatives that respect local epistemological traditions.

As Allcock & Kainja (2011) state, development partners must fundamentally rethink their role, moving from imposing external models to supporting locally-generated knowledge and solutions, creating space for alternative epistemologies in development practice.

6.2.2 Medium-Term Actions. Establish a Multi-Donor Agricultural Transformation Trust Fund pooling resources aligned with government priorities. Support knowledge exchange on successful agro-processing models. Invest in agricultural research partnerships on drought-tolerant varieties, low-cost irrigation, and post-harvest handling, with explicit attention to integrating indigenous and scientific knowledge systems.

Mariotti et al. (2018) suggest that such partnerships must be designed to reduce inequality rather than reinforce existing power imbalances, ensuring that benefits reach the most vulnerable. Additionally, Oloruntoba et al. (2020) provide theoretical frameworks for understanding how such partnerships can respect and incorporate indigenous knowledge while leveraging scientific advances.

6.3 For Farmer Organizations and Civil Society

6.3.1 Immediate Actions. Strengthen cooperative governance through transparent elections and financial reporting. Establish cooperative savings and credit schemes to reduce dependence on informal lenders. Document indigenous knowledge, including drought-coping strategies, pest management, and traditional seed varieties.
According to Chisala (2016), meaningful engagement of public officials and practitioners requires organized and articulate civil society voices capable of articulating alternative perspectives and holding government accountable.

6.3.2 Medium-Term Actions. Develop cooperative processing enterprises based on member production patterns. Establish cooperative marketing federations to aggregate produce and negotiate better prices. There is also a need to invest in cooperative storage infrastructure to reduce post-harvest losses.
Hussein (2018) backs up this approach, stating that such bottom-up initiatives are often more resilient and effective than top-down programmes, though they require supportive policy environments and access to technical assistance.

6.4 Sequencing and Prioritization
6.4.1 Foundation Building (2026–2027). Implement immediate Farm Input Subsidy Programme (FISP) reforms, launch tax review and removal, establish a Presidential Task Force, begin community-led irrigation pilots, and document indigenous knowledge.

6.4.2 Scaling Up (2027–2029). Scale e-voucher system nationally, launch "One Million Households Irrigated" campaign, implement ADMARC reform legislation, establish Agricultural Transformation Fund, and develop first agro-processing zones.

6.4.3 Consolidation and Export Orientation (2029–2031). Complete national irrigation coverage targets, establish the Agricultural Development Bank, list ADMARC as a commercial entity, achieve significant agro-processing capacity, and institutionalize indigenous knowledge in extension curricula.
Yeboua et al. (2022) emphasize that such long-term sequencing must be grounded in realistic demographic and economic projections, ensuring that investments are aligned with Malawi's evolving needs and capabilities.

6.5 Areas for Further Study
6.5.1 Empirical Validation Studies. Following Matchaya & Chilonda (2012), longitudinal impact evaluation of irrigation interventions should track heterogeneous impacts across the food security distribution. Building on Arias-Granada & Ricker-Gilbert (2025), a comparative analysis of subsidy versus enabling approaches through randomized controlled trials would provide rigorous evidence. Besides, a study on the documentation and validation of indigenous agricultural knowledge should include agronomic trials comparing traditional and conventional practices.

6.5.2 Institutional Analysis. Following Booth et al. (2006) and Kayuni (2024), the political economy of ADMARC reform requires mapping stakeholder interests and reform strategies. As Mapila et al. (2012) note, institutional design for agricultural marketing should compare systems in Kenya, Ethiopia, and Zambia. Further, extension system reform options should also examine optimal design and indigenous knowledge integration (Chisala, 2016).

6.5.3 Indigenous Knowledge Systems Research. As Oloruntoba et al.'s (2020) work shows, comparative indigenous knowledge frameworks should examine *Ubuntu*, *Ujamaa*, *Harambee*, and *Gacaca* across Africa. Drawing from Frontiers in Human Dynamics (2024), integration with climate change adaptation should investigate indigenous knowledge for climate-resilient agriculture. Additionally, Mariotti et al. (2018) provide a basis for gender dimensions that should be examined to understand women's roles, barriers, and empowerment strategies. A youth engagement and intergenerational knowledge transfer should facilitate transfer from elders to youth.

6.5.4 Regional and Global Integration Research. Anchoring Yeboua et al.'s (2022) findings, regional value chain development opportunities in the Southern African Development Community (SADC) and the Common Market for East and Southern Africa (COMESA) markets require analysis. Apart from the regional value chain study, South-South cooperation, learning from China, Brazil, Vietnam, and India, offers potential insights (Muwanga-Zake et al., 2024). Global value chain participation requires an analysis of conditions for equitable participation.

7. Conclusion

This study has addressed why Malawi, despite fertile soils and a resilient people, remains trapped in poverty six decades after independence. The answer lies not in any deficiency of Malawian knowledge, but in progressive disconnection from indigenous knowledge systems that historically anchored economic life. The quantitative evidence presented in this paper, drawing on rigorous econometric approaches developed by Matchaya & Chilonda (2012), Arias-Granada & Ricker-Gilbert (2025), and Mapila et al. (2012), provides robust empirical support for this argument.

Grounded in the foundational wisdom that food sovereignty is the prerequisite for all other development, the *Kulemera Ndikudya* framework distills three operational pillars from this evidence. The pillars are community-led water infrastructure, enabling farmer productivity through tax removal, and institutional revival for markets and export. This framework aligns with emerging scholarship that challenges Eurocentric development paradigms. Muwanga-Zake & Kibukamusoke (2024) argue for integrating African philosophical fundamentals with global development models, and Kayuni (2024) provides historical grounding for understanding institutional evolution. However, Makoza (2024) challenges the uncritical adoption of external models, while Yeboua et al. (2022) emphasize long-term investment in human capital and knowledge systems.

The choice before Malawi is to continue on a path shaped by externally imposed models, or to embrace an alternative validated by its own history and aligned with its cultural values that leads to food sovereignty, farmer empowerment, and sustainable prosperity. The harvest of a nation begins with a single seed of sovereignty. That seed exists in Malawi's soil, nurtured in its farmers' knowledge, and realized in the enduring wisdom of *Kulemera Ndikudya*. The task now is to plant that seed, nurture it with wise policy and sustained investment, and reap its fruits for generations yet unborn.

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