

Unveiling the Future of Retirement: The Opportunities and Obstacles in Modernizing Pension Schemes Across Africa

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Abstract

This systematic review offers a holistic understanding of the prospects, challenges, and best practices in modernizing pension schemes across Africa. With a rising aging population, pension schemes are vital for financial security, societal well-being, and poverty alleviation. The study addresses literature gaps by exploring economic implications, assessing elderly frailty, and investigating quality of life impacts. Following PRISMA guidelines and using the PICOS framework, multiple electronic databases were searched for papers published between February 2010 and April 2022, focusing on African pension schemes. Thirty-one studies met the eligibility criteria and were included in the analysis. Findings indicate that while pension schemes improve mental health, food security, and societal structures, they face challenges such as data scarcity, financial sustainability, social dynamics, and institutional barriers. Best practices include tailored interventions, financial flexibility, and healthcare integration. This paper uniquely synthesizes multiple disciplines, providing an integrated perspective and filling a significant literature gap. The study introduces models considering economic, psychological, and health-related variables, enhancing theoretical understanding. For practitioners, it offers adaptable best practices for regional and cultural contexts in Africa, including financial diversification, healthcare integration, and legal clarity. The societal impact extends to the elderly, their families, and communities, providing critical insights for policymakers to design effective, sustainable pension schemes to improve the quality of life for Africa's aging population.

Keywords: Pension Schemes, Aging Population, Financial Security, PRISMA, Africa

INTRODUCTION

In an era characterized by an increasingly aging population, pension schemes are gaining recognition as pivotal elements of social welfare and financial security. This is particularly true for Africa, where the demographic landscape is rapidly evolving. Pension schemes in Africa have traditionally been designed to serve the formal sector, and their primary focus has been on leveraging pension fund reserves for infrastructure projects rather than social protection. These contributory pension schemes have been particularly prominent in the public sector and state enterprises. However, the coverage is severely limited, benefiting only a small percentage of the elderly population, specifically those in the formal sector. The average coverage rate for people aged 60 and above is 11.6% (World Bank 2016). Some upper-middle-income countries like Mauritius and Seychelles have implemented universal social pensions. These programs cover all elderly individuals above the pension eligibility age but are relatively expensive, costing between 3% and 4% of GDP. These costs are often inflated before elections, raising concerns about fiscal sustainability (Güven and Leite 2016). The majority of Africa's labour force is in the informal sector, which has been historically neglected by conventional pension schemes. The informal economy contributes about 55% to Africa's GDP and employs 80% of the labour force (Diallo, A., 2017). Despite its size, the informal sector faces numerous challenges, including lack of access to social services like pensions. Attempts to extend formal pension schemes to the informal sector have not been successful. Countries in Africa spend an average of 1.7% of GDP on pensions, which may seem modest but is significant considering the low coverage. The World Bank advocates for a flexible, five-pillar approach tailored to each country's specific conditions (Woodsak, V., & Koch, M., 2010). Experts suggest that a gradual approach, starting with voluntary schemes for informal sector workers, could be more realistic. These schemes should be designed to accommodate the unique characteristics of the informal sector and may require subsidies or incentives (World Development Report 2018). Pension schemes in Africa are at a crossroads. While there is increased

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awareness of the need for broader social protection, the focus remains largely on the formal sector, leaving a large gap in coverage for the informal sector and the elderly. The challenge lies in creating fiscally sustainable pension models that can accommodate the unique characteristics of Africa's labor market and demographics.

The role of pension schemes in Africa has garnered increasing attention, especially against the backdrop of a rapidly aging population and evolving demographic patterns. Notably, pension schemes in Sub-Saharan Africa have been a subject of intense debate among global policy actors, including the World Bank and the International Labour Organization (ILO) (Kpessa and Béland, 2012). Despite the region's unique challenges, pension schemes are increasingly recognized as vital tools for poverty alleviation, improved health, and overall social welfare (Apt, 2012; Lloyd-sherlock, Agrawal, and Gómez-olivé, 2020). The importance of these schemes is even more pronounced given the fragile state of traditional family-based support systems across the continent. Despite the recognized multi-faceted societal role of pension schemes—from poverty reduction to ensuring quality of life in the later years—the subject remains complex and nuanced, influenced by variables such as economic conditions, social policies, and cultural norms. Existing academic investigations into this area have often been fragmented, each focusing on specific aspects or challenges but failing to offer a comprehensive view. For example, Anago's 2021 study concentrates on pension fund investments in infrastructure, Rahman et al. (2022) examines the relationship between disability and quality of life among older adults, and Makiwane et al. (2022) focus on elderly care in South Africa. These studies contribute invaluable perspectives but collectively fall short of providing a holistic understanding of pension schemes in Africa. Moreover, gaps and inconsistencies exist in the current body of literature, including a lack of focus on the macroeconomic impacts of pension schemes and an under-exploration of issues such as frailty among the elderly. Addressing these gaps is the impetus behind this systematic literature review, which aims to provide a holistic understanding of the prospects and challenges facing pension schemes in Africa. Specifically, the study will delve into the economic implications, and the often-neglected issue of frailty among the elderly and scrutinize the contentious subject of pension schemes' impact on the quality of life. Methodologically, the review adopts the PRISMA framework to ensure a rigorous and structured inquiry. The study is guided by three primary questions: 1. What are the key prospects of pension schemes in Africa in terms of providing financial security and income support for the aging population? 2. What are the best practices and strategies observed in successful pension schemes in Africa that contribute to their sustainability and positive outcomes for retirees? And 3. What best practices can be distilled from successful pension schemes in Africa to ensure their sustainability and positive outcomes for retirees? Through synthesizing existing works, identifying key findings, and spotlighting areas for future research, this study aspires to make a substantive contribution to the existing body of literature. It aims to serve as a comprehensive reference for policymakers, researchers, and practitioners.

METHODS

This systematic review is conducted in strict adherence to established protocols, thereby ensuring a structured and unbiased approach to examining the complexities surrounding pension schemes in Africa. We follow the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines, a framework designed to enhance the transparency and consistency of systematic reviews (Page et al., 2021). The adoption of PRISMA checklists serves to mitigate reporting biases and unilateral decision-making throughout the review process, as emphasized by Gurevitch et al. (2018) and Gough, Thomas, and Oliver (2019). Moreover, to formulate focused research questions that guide the review, this study employs the PICOS framework, which considers Participants, Interventions, Comparisons, Outcomes, and Study Design (Amir-Behghadami and Janati, 2020). Through this meticulous approach, the review aims to provide a comprehensive understanding of the opportunities and obstacles inherent in modernizing pension schemes across Africa.

Search Strategy

The search strategy for this systematic review was meticulously devised by the lead author in collaboration with co-authors to ensure both precision and comprehensiveness in the search results. A range of electronic databases were employed for this purpose and the search was guided by specific keyword combinations to capture the nuances of the informal economy and its intersection with pension schemes in low- and middle-income countries as detailed in Table I. Keywords such as "informal economy," "informal sector," and

"informal laborers" were paired with other terms like "social security," "social insurance," "pension," "scheme," "prospects," "challenges," and "retirement," using Boolean operators like 'OR' and 'AND' for a more targeted search. The timeframe for the search spanned from February 2010 to April 2022, thereby providing an extensive yet focused lens through which to understand the opportunities and challenges of modernizing pension schemes across Africa.

Table I: Search Terms

Constructs	Search terms
Pension	"Pension" OR "Scheme" OR "Retirement" OR "Old Age" OR "Elderly Care" OR "Ageing Population" OR "Social Security" OR "Long Lived"
Prospects	"Intervention" OR "Performance Efficiency" OR "Government Support" OR "Effective Fund Management" OR "Enhance Savings" OR "Tax Incentives" OR "Insurance of Benefits"
Challenges	"Cost" OR "Effective Evaluation" OR "Low Coverage" OR "Performance" OR "Non-Payment" OR "Insufficient Funding" OR "Delayed Payment" OR "Weak Enforcement" OR "Misuse of Resources" OR "Lack of Interest" OR "Lack of Knowledge"
Setting*	"Africa" OR "Ghana" OR "Burkina Faso" OR "Cameroon" OR "Cape Verde" OR "Côte D'Ivoire" OR "Gambia" OR "Mauritius" OR "South Africa" OR "Guinea" OR "Guinea-Bissau" OR "Liberia" OR "Mali" OR "Mauritania" OR "Niger" OR "Nigeria" OR "Senegal" OR "Sierra Leone" OR "Togo" OR "Uganda"

Eligibility Criteria

Studies were included if they met the PICOS criteria. Table II below is a detailed description of the inclusion and exclusion criteria.

Table II: Description of the Inclusion and Exclusion Criteria

Population	Studies conducted in Africa
Intervention	Any improvement intervention with any currently available device, such as smartphones, tablets to support, educate, assess, and manage pension outcomes. All types of benefits including improving the lives of older people, health benefits, home care benefits, and other reliefs
Comparator	All types of comparators, including usual pension/aged care, retirements, pension, or elderly care or aged including pension, benefits, and challenges.
Outcomes	Prospects of Pension schemes, retirement funds, or insurance funds for retirees and other stakeholders as well as challenges
Study designs	All qualitative, quantitative, and mixed-methodology studies

Data Extraction

In the systematic review, the complete texts of all studies that appeared to meet the eligibility criteria were obtained and rigorously evaluated based on predetermined inclusion standards, as detailed in Table II. Subsequently, a pre-designed data extraction template was employed to cull pertinent information from the studies deemed eligible. This template was structured to capture key variables such as the year of publication, research objectives, study design, as well as the identified prospects and challenges related to pension schemes in Africa. For studies specifically focused on the opportunities and obstacles of these pension systems, additional data was extracted accordingly. The specific queries used for data extraction are elaborated in Table II.

Quality Appraisal

To ensure scholarly rigor in this systematic review, the Drummond checklist was employed as the principal instrument for quality appraisal. The choice was predicated on the checklist's specialized focus on the assessment of the quality of economic evaluations—critical to the topic of pension schemes (Drummond et al., 2005). The Drummond checklist provides a comprehensive evaluation across seven key facets: the research question, methodology, statistical tests, response to research questions, findings, and the contextual relevance in terms of policy and extant literature. The appraisal employs a four-point scale for each category, culminating in a maximum score of 24. The Drummond checklist was adopted for several reasons. First, its nuanced

evaluation criteria furnish a more granulated understanding of the economic implications intrinsic to each study, pivotal for examining pension schemes. Second, the checklist offers a standardized metric, thereby improving the internal consistency across a variety of studies. Studies were stratified into 'good' (18-24 points), 'average' (12-16 points), or 'poor' (4-8 points). For example, Anago's 2021 study scored 20 points, indicative of a strong research design and credible data sources, such as the World Bank's PPI Database and OECD global pension statistics. Conversely, studies like Abel's 2019 research were rated average due to limitations in detailing statistical tests. To preserve the scholarly quality, studies categorized as 'average' or 'poor' were deliberately excluded from the final review.

Table III: Drummond Check List (Drummond Checklist: Yes =4 and No = 0)

<i>S.No</i>	<i>Author and Year</i>	<i>Research Question</i>	<i>Method</i>	<i>Statistical Tests</i>	<i>Answer to Study Question</i>	<i>Results</i>	<i>Context of Policy Relevance and Existing Literature</i>	<i>Total</i>
1	(Amar Hamoudi Duncan Thomas, 2016)	Yes	Yes	Yes	Yes	Yes	No	20
2	(Anago, 2021)	Yes	Yes	Yes	Yes	Yes	No	20
3	(Barker <i>et al.</i> , 2021)	Yes	Yes	Yes	Yes	Yes	Yes	24
4	(Brinda <i>et al.</i> , 2016)	Yes	Yes	Yes	Yes	Yes	No	20
5	(Chepngeno-Langat <i>et al.</i> , 2019)	No	Yes	Yes	Yes	Yes	Yes	20
6	(Di Thiene <i>et al.</i> , 2018)	Yes	Yes	Yes	Yes	Yes	N/A	20
7	(Donkor-Hyiaman and Owusu-Manu, 2016)	Yes	Yes	Yes	Yes	Yes	Yes	24
8	(Du Toit, 2018)	Yes	Yes	Yes	Yes	Yes	No	20
9	(Kollamparambil and Etinzock, 2019)	Yes	No	Yes	Yes	Yes	Yes	20
10	(Kpessa-Whyte and Tsekpo, 2020)	No	Yes	Yes	Yes	Yes	Yes	20
11	(Makiwane, Alubafi and Gumede, 2022)	Yes	Yes	Yes	Yes	Yes	Yes	24
12	(Sanusi and Kapingura, 2021)	Yes	Yes	Yes	Yes	Yes	Yes	24
13	(Stewart Williams <i>et al.</i> , 2020)	Yes	Yes	Yes	Yes	Yes	Yes	24
14	(Xweso, Schenck and Blaauw,	Yes	Yes	No	Yes	Yes	Yes	20
15	(Zelalem and Gebremariam Kotecho, 2020)	Yes	Yes	No	Yes	Yes	Yes	20
16	Abel, (2019)	Yes	Yes	Yes	Yes	Yes	Yes	24
17	Apt, (2012)	Yes	Yes	No	Yes	Yes	Yes	20
18	Asesefa Kisi et al., 2018	Yes	Yes	Yes	Yes	Yes	Yes	24
19	Dhemba, (2013)	Yes	Yes	Yes	Yes	Yes	Yes	24
20	Govender and Barnes, 2014	Yes	Yes	No	Yes	Yes	Yes	20
21	Kpessa and Béland, (2012)	Yes	Yes	No	Yes	Yes	Yes	20
22	Kwena and Turner, 2013	Yes	Yes	Yes	Yes	Yes	Yes	24
23	Lloyd-sherlock, Agrawal and Gómez-olivé, (2020)	Yes	Yes	Yes	Yes	Yes	Yes	24
24	Lloyd-Sherlock, Mincuci, et al., 2012	Yes	Yes	Yes	Yes	Yes	Yes	24
25	Marumoagae, 2017	Yes	Yes	No	Yes	Yes	Yes	20

26	Matotoka, Nevondwe and Odeku, (2014)	Yes	Yes	No	Yes	Yes	Yes	20
27	Powell, (2012)	Yes	Yes	No	Yes	Yes	Yes	20
28	Rahman et al., 2022	Yes	Yes	Yes	Yes	Yes	Yes	24
29	Ralston et al., (2015)	Yes	Yes	Yes	Yes	Yes	Yes	24
30	Ralston et al., 2018	Yes	Yes	Yes	Yes	Yes	Yes	24
31	Schatz et al., 2016	Yes	Yes	No	Yes	Yes	Yes	20

Source: Authors Own Construct based Drummond Checklist

METHODOLOGICAL FEATURES OF THE STUDIES

The current study employed the PRISMA framework to ensure methodological rigor in conducting a systematic review. The process started with an exhaustive search across three major academic databases, yielding 11,905 records. After duplicate removal, 1,014 unique records remained. Initial screening based on titles and abstracts, guided by the Drummond checklist, eliminated 808 records. The subsequent full-text assessment further refined the list to 31 studies that closely aligned with the study's research questions on pension schemes. This meticulous methodology promises a comprehensive and insightful review while adhering to scholarly standards.

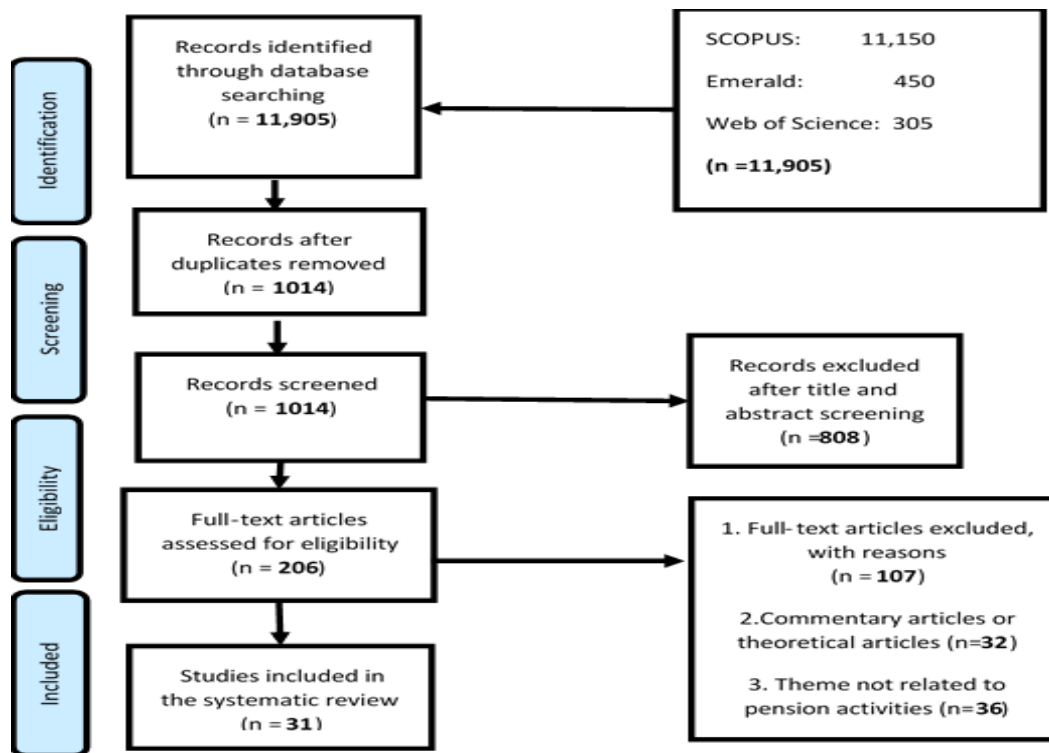


Figure 1: PRISMA Framework Analysis

FINDINGS AND DISCUSSIONS

Table IV illustrates an analysis of the 31 papers which are extensively discussed under the research questions.

What are the key prospects of pension schemes in Africa in terms of providing financial security and income support for the aging population?

The role of pension schemes in Africa extends beyond mere financial security, serving as multi-faceted instruments with broader societal and economic implications. For instance, Apt's 2012 study highlights the growing societal and policy focus on aging, suggesting that well-designed pension schemes can positively influence the psychological well-being of the elderly, allowing them to "age in place." This elevates pension schemes from mere financial safety nets to critical social and psychological instruments. On the practical side, pension schemes serve as essential coping mechanisms for household food security, as demonstrated by Asesefa Kisi et al. (2018) in Ethiopia. This extends the utility of pensions beyond financial instruments to vital social tools that address basic survival needs. Barker et al. (2021) further broadens this perspective by introducing a frailty index, suggesting that pension schemes could evolve into health-adjusted financial instruments. As a result of incorporating health metrics, pensions can offer more personalized and effective support. However, the effectiveness of pension schemes is not universal. Dhemba's 2013 study warns that despite these provisions, poverty remains persistent among the elderly in countries like Lesotho, South Africa, and Zimbabwe. This calls for an interdisciplinary approach that incorporates pension schemes into broader poverty alleviation strategies. Adding another layer of utility, Donkor-Hyiaman and Owusu-Manu (2016) explore the possibility of utilizing pension benefits for housing investments in Ghana, offering a diversified role for pension schemes as financial planning tools. The societal ripple effects of pension schemes are also noteworthy. Chepngeno-Langat et al. (2019) show that pensions often benefit secondary beneficiaries like grandchildren, pointing to the need for policy considerations that account for this multiplier effect within communities. On the macro-level, however, Sanusi and Kapingura (2021) found limited evidence to suggest that pension funds significantly impact broader economic growth, indicating that while crucial for individual financial security, their influence on economic development may be limited. Finally, the international context cannot be ignored. Powell (2012) reminds us that African pension schemes are part of a larger global context influenced by global aging trends and economic conditions. Therefore, the design and reform of pension systems should be robust, adaptable, and future-proof, considering these global contexts. The prospects for pension schemes in Africa are complex and multi-dimensional. While they serve critical roles in financial security, social safety, and even health, their effectiveness is conditioned by a range of factors, from health status to persistent poverty. This necessitates a comprehensive, adaptive, and globally-informed approach to policy design and implementation.

What are the best practices and strategies observed in successful pension schemes in Africa that contribute to their sustainability and positive outcomes for retirees?

The sustainability and effectiveness of pension schemes in Africa hinge on a multifaceted set of variables ranging from data availability to financial stability and social dynamics. The need for robust data collection is emphasized by Brinda et al. (2016), as a lack of it complicates the design of targeted interventions such as those needed for geriatric mental health. Meanwhile, studies like those by Abel (2019) and Chepngeno-Langat et al. (2019) underline the complex social impacts of pensions, including unintended consequences like reduced employment in pension-receiving households and redistribution of benefits within families. These studies collectively suggest that policymakers must navigate a complex social landscape when designing pension schemes. Financial sustainability, particularly in the face of challenges like the COVID-19 pandemic, is another critical element. Anago's 2021 study calls for designing pension schemes with long-term economic viability, suggesting the need for flexible exit strategies and financial safeguards. This is complemented by Apt's 2012 study, which emphasizes the need for a policy reorientation towards aging issues for pension schemes to be truly effective. Legal complexities, as illuminated by Marumoagae (2017) and Matotoka et al. (2014), also present barriers to effective pension schemes. Ambiguities in legal interpretations can result in protracted battles that make pension schemes cumbersome and less effective. Therefore, judicial clarification and possibly future litigation are necessary to establish a solid legal basis for pension schemes. On the inclusivity front, studies by Ralston et al. (2015) and Zelalem and Gebremariam Kotecho (2020) stress the need for pension schemes that account for factors like gender, socio-economic status, and geography. The link between health and pensions is another significant concern; research by Barker et al. (2021) and Lloyd-Sherlock et al. (2012) suggests that an integrated approach combining financial support with health promotion strategies could offer a more holistic

solution. The work by Donkor-Hyiaman and Owusu-Manu (2016) extends the utility of pension schemes to financial planning tools, suggesting they can be used for housing investments in Ghana. This diversification can make pension schemes more attractive and encourage higher participation rates, contributing to their sustainability. The best practices for the sustainability and effectiveness of pension schemes in Africa encompass robust data collection, an understanding of social dynamics, financial and legal safeguards, inclusivity, and an integrated approach to health and financial well-being. Policymakers need to consider these multifaceted factors and adapt strategies that are both locally relevant and globally informed to ensure that pension schemes are robust, adaptable, and future-proof.

What best practices can be distilled from successful pension schemes in Africa to ensure their sustainability and positive outcomes for retirees?

The landscape of pension schemes in Africa is complex yet promising, serving a multifaceted role that extends beyond mere financial assistance. Well-designed pension schemes can significantly influence mental health and general well-being among the elderly, as highlighted by Apt's 2012 study. Additionally, they can act as critical social instruments, providing a buffer against food insecurity in households, as noted by Aseseffa Kisi et al. in 2018. This reiterates the point that pension schemes are not just financial tools; they serve broader societal needs. Some studies, like that by Barker et al. in 2021, even suggest the integration of healthcare measures like frailty indices into pension schemes. This innovative approach opens the possibility for these schemes to evolve into health-adjusted financial instruments that adapt to the changing needs of retirees. However, the effective implementation and sustainability of pension schemes are not without challenges. Data scarcity, particularly in low and middle-income countries, complicates the formulation of targeted interventions, as emphasized by Brinda et al. in 2016. Financial sustainability is another concern, especially in light of unexpected global events like the COVID-19 pandemic. This calls for the design of pension schemes that are economically viable in the long term, incorporating flexible exit strategies and financial safeguards. Moreover, there is a need to understand the complex interplay of labour market and social dynamics when formulating these schemes, as revealed by studies like that of Abel in 2019. Drawing from these various insights, several best practices emerge for creating more sustainable and effective pension schemes. These include the need for tailored policy reforms that take into account the dual role of pension schemes in financial and psychosocial well-being. Financial flexibility, enabled by safeguards and adaptable strategies, is crucial for the long-term sustainability of these schemes. Technological incorporation, like that seen in Kenya's Mbao Pension Plan, can enhance the accessibility and inclusiveness of these schemes, especially for marginalized communities. Furthermore, an interdisciplinary approach that incorporates insights from economics, sociology, and public health can lead to more robust and comprehensive pension schemes. Lastly, there needs to be a nuanced understanding of global contexts, including aging trends and economic conditions, to ensure that these pension schemes are adaptable and future-proof.

Recommendations

The study reveals the complex and multifaceted roles that pension schemes play in Africa. Far from being mere financial safety nets, these schemes serve a range of functions—psychological, social, and even health-related—that contribute to the well-being of the elderly. The findings corroborate the notion that pension schemes are not merely fiscal instruments but complex social tools that intersect with multiple dimensions of human life, from mental well-being as outlined in Apt (2012) to food security as highlighted by Aseseffa Kisi et al. (2018). Innovative approaches like the integration of a frailty index in pension schemes (Barker et al., 2021) indicate that there's room for adaptability and nuanced understanding in the design and implementation of pension systems. These innovations offer pathways for making pensions more responsive to the diverse and changing needs of the aging population, thereby enhancing their effectiveness and relevance. The societal impacts of pension schemes extend beyond the primary beneficiaries, often trickling down to secondary beneficiaries such as grandchildren (Chepngeno-Langat et al., 2019). This redistributive effect suggests a broader societal benefit and implies that the success of pension schemes should not be evaluated solely through the lens of individual financial security but should also consider their broader societal impact. While pension schemes are essential, they are not a panacea for the challenges associated with aging and poverty (Dhemba, 2013). They exist within

a larger ecosystem that includes other social security provisions, and their effectiveness is subject to various limitations, including health status (Ralston et al., 2018). This calls for an integrated and interdisciplinary approach to social policy formulation and implementation. Best practices for ensuring the sustainability and effectiveness of pension schemes emerge clearly from the reviewed studies. These include the need for diversified utility, as pensions can also serve as financial planning tools (Donkor-Hyiaman and Owusu-Manu, 2016); and the necessity to design pension schemes in a globally contextualized manner, taking into account global aging trends and other international variables (Powell, 2012).

Table IV: Analysis of Selected Papers

S.No	Topic	Year/Author	Method	Region	Prospects	Challenges	Best Practices and Strategies
	Health, Social, and Economic Variables Associated with Depression Among Older People in Low and Middle Income Countries: World Health Organization Study on Global AGEing and Adult Health	(Brinda <i>et al.</i> , 2016)	Employed computerized algorithms for depression diagnoses and multivariate logistic regression models for risk estimates.	Six large Low and Middle Income Countries (LMICs)	Determination of geriatric depression prevalence and its associations with socioeconomic factors in LMICs. - Identification of risk factors for geriatric depression, enabling targeted interventions.	Relative absence of health safety nets in LMICs, making socioeconomically disadvantaged older people more vulnerable to depression and Lack of large-scale, nationally representative studies in LMICs.	Suggested the necessity of population-based public health interventions and policies tailored to LMICs and Highlighted the importance of considering socioeconomic inequalities when addressing geriatric depression
	Unintended Labor Supply Effects of Cash Transfer Programs: New Evidence from South Africa's Pension	Abel, 2019	Analysis of nationally representative panel data	South Africa	Reduction in employment probability due to presence of pension recipients in households	Limited evidence of pensioners enabling employment through childcare	Consider income effects on labour supply, explore employment dynamics
	Endogenous Co-Residence and Program Incidence: South Africa's Old Age Pension	Amar Hamoudi Duncan Thomas, 2016	Not specified	South Africa	Not specified	Not specified	Not specified
	Financing Long-term Infrastructure Post-COVID-19: Is Pension Funds an Option for Africa?	Anago, 2021	Multi-method approach, literature review, documentary research	Africa	Sustaining infrastructure financing, alternative financial means	Financial strain due to COVID-19, slow growth in Africa	Expert analyses, suitable investment vehicles, flexible exit strategy
	Aging in Africa: Past Experiences and Strategic Directions	Apt, 2012	Literature review, discussion	Africa	Development of aging agenda, efforts by civil society and governments to promote aging in place	Initial lack of importance given to aging issues in policy dialogue and planning	Enhancing awareness, promoting aging in place policies
	Household Food Insecurity and Coping Strategies Among Pensioners in Jimma Town, South West Ethiopia	Asesefa Kisi <i>et al.</i> , 2018	Cross-sectional study, Statistical Analysis using EPi-Data version 3.1 and SPSS Version 20.0	Jimma Town, Ethiopia	Household food insecurity, coping strategies	Prevalence of food insecurity, educational attainment, family size	Addressing educational attainment, family size, coping strategies
	Developing and evaluating a frailty index for older South Africans - Findings from the HAALSI study	Barker <i>et al.</i> , 2021	Cross-sectional study, frailty index calculation, Cox proportional hazards models	Rural South Africa	Predicting mortality using frailty index, improving health and well-being of older South Africans	Limited utility in resource-poor settings due to the number of measures needed	Considering frailty index for mortality prediction, improving healthcare for older South Africans
	Unravelling the wider benefits of social pensions: Secondary beneficiaries of the older persons cash transfer program in the slums of Nairobi	Chepngeno-Langat <i>et al.</i> , 2019	Examination of cash reallocation by recipients of the Kenyan Older Persons Cash Transfer Program	Nairobi slum communities, Kenya	Redistribution of cash to secondary beneficiaries (grandchildren, children), potential societal impact	Variation in cash sharing, role of older people in supporting wider kin networks	Recognize broader societal impact of social pensions, invest in social pension programs

Implications of Study to Literature, Policy Relevance, Practice and Social Impact

The study contributes to the theoretical understanding of pension schemes as multidimensional constructs. It challenges the traditional economic view of pensions as merely financial instruments and introduces a more nuanced, holistic framework that incorporates psychological, social, and health dimensions. The incorporation of health-adjusted financial instruments and frailty indices into pension schemes opens avenues for more sophisticated theoretical models that can account for individual variability in health and well-being. This study bridges gaps between multiple fields—economics, social work, public health, psychology—thereby enriching the existing literature and offering a comprehensive lens for future research on pensions. While the study draws from diverse sources, it also highlights areas where the literature is lacking, such as the macro-economic impacts of pension schemes, suggesting directions for future research. **Holistic Policy Design:** The findings call for a holistic approach in policy formulation, one that considers the multi-faceted roles of pension schemes. Policymakers should look beyond financial security to include aspects like mental well-being, food security, and health-adjusted benefits. The study underscores the need for policies to be designed with an understanding of global aging trends and economic conditions, ensuring that they are robust and adaptable. **Innovative Solutions:** Practitioners can glean insights on incorporating predictive health measures into pension schemes, thereby making them more personalized and effective. The redistributive effect of pensions suggests that community-based solutions could be a practical way to maximize the societal impact of these schemes. **Enhanced Quality of Life:** Understanding the multifaceted role of pension schemes can lead to more effective programs that enhance the quality of life for the elderly and their communities. The study shows that the benefits of pension schemes often extend beyond the primary beneficiaries, having a multiplier effect that can contribute to broader societal well-being.

Limitations and Future Directions

A primary constraint of this research is its concentrated examination of Africa. While this approach offers significant revelations regarding the intricate dimensions and roles of pension systems in an African milieu, extrapolating these findings to regions characterized by distinct socio-economic and cultural nuances may not be straightforward. Though the research ambitiously straddles diverse domains such as economics, mental health studies, and public health, the challenges of melding methodologies and theoretical frameworks from these varied disciplines could circumscribe the depth of scrutiny in each area. Furthermore, our reliance on extant academic literature and reports introduces potential biases, as these sources may be confined by their respective methodological approaches, data accessibility, or participant pools. For instance, research anchored in cross-sectional data might overlook the enduring ramifications of pension systems, while insights from qualitative probes could be missing broader statistical generalizability. Another limitation is the study's primary focus on momentary observations, which might not encapsulate the evolving character of pension systems and their longitudinal effects. Factors such as shifting socio-political dynamics, exemplified by global events like the COVID-19 pandemic, can considerably influence the efficacy and pertinence of pension strategies. Despite shedding light on the personal and societal consequences of pension systems, the research exhibits a palpable gap in its macro-economic examination, especially in exploring the nexus between pension systems, investment trends, and overarching economic progression. Owing to the restricted applicability of the study's conclusions beyond the African context, upcoming research endeavours could gain from cross-national investigations that scrutinize pension systems across a diverse array of countries and cultural settings, thereby offering a more internationally encompassing viewpoint. Additionally, to tackle the study's limitations regarding the evolving attributes of pension systems, longitudinal inquiries are warranted. These would provide a more exhaustive understanding of the long-lasting impacts and viability of pension arrangements. Furthermore, it would be beneficial for subsequent studies to adopt an integrative framework that amalgamates variables from economic, psychological, and healthcare domains, aiming for a more comprehensive grasp of how pension systems influence various aspects of life. In terms of empirical contributions, research that employs policy experiments can yield crucial insights into the most efficacious elements or traits of pension systems for realizing specific goals, such as enhancing psychological wellness or ensuring food security. Lastly, due to the noticeable absence

of macro-economic considerations in the existing literature, future scholarly work should aim to explore the broader economic ramifications of pension systems. This could include their influence on investment landscapes, contributions to economic expansion, and interplay with fiscal policy measures.

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