



Beyond GDP: A Systematic Scoping Review of New Perspectives on Economic Success in Neoclassical and Ecological Economics in Sub-Saharan Africa

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Abstract

As Sub-Saharan Africa (SSA) faces multiple development challenges, the adequacy of traditional economic indicators, such as Gross Domestic Product (GDP), has increasingly been questioned. This study critically examines the limitations of GDP as a measure of economic success and explores alternative frameworks from neoclassical and ecological economics that may offer more comprehensive insights for sustainable development in SSA. The aim is to compare and assess theoretical and practical perspectives beyond GDP and to propose a multidimensional approach that incorporates ecological health, social well-being, and economic stability. Methodologically, the study employs a systematic review of literature from both ecological and neoclassical economic traditions, focusing on how each defines success, sustainability, and growth. To assess relevance and applicability to the SSA region, the analysis includes only studies from SSA, examining theoretical critiques, empirical trends, and case studies. The results show that neoclassical economics emphasizes market efficiency, aggregate output, and consumption, while largely overlooking environmental degradation and socio-economic inequality. Ecological economics, by contrast, stresses ecosystem health, intergenerational equity, and biophysical limits—principles that are particularly relevant to SSA's socio-environmental context. In conclusion, GDP alone is not an adequate measure of economic success in SSA. A combination of neoclassical and ecological economics is recommended to strengthen economic planning, resilience, and policy. For SSA to align with planetary boundaries and human well-being, it is necessary to move beyond GDP as a development metric.

Keywords:

gross domestic product; neoclassical economics; ecological economics; economic indicators; poverty and inequality

1. Introduction

Gross Domestic Product (GDP) remains the core quantitative measure used worldwide to evaluate economic growth. However, recent literature argues that GDP is un-

suitable as the primary measure of economic performance in the modern world [1–4], since it accounts only for the market value of goods and services produced. It overlooks important issues such as income distribution, unpaid labor, environmental degradation, and social well-being, all of

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which are essential to measuring genuine economic development [3]. A successful economy is generally understood to reflect a country's economic progress, with progress serving as a critical determinant of economic success [1–6]. In the African context, a successful economy must also account for structural factors such as resource endowments, institutional capacity, technology adoption, and social inclusion, which together shape the development path and the distribution of its benefits [2]. Africa's integration into global trade and financial networks interacts closely with domestic economic policy, jointly shaping the opportunities and constraints that influence national and regional development outcomes [5]. International economic activity is therefore both a signal of and a contributor to, economic development.

Economists commonly classify countries or regions according to their economic conditions. Countries with high levels of economic success, typically measured by GDP per capita, are regarded as economically developed, while those with lower levels of economic success or growth are considered developing or emerging [5–7]. Sub-Saharan Africa is generally placed within the latter category. Despite decades of development assistance, the region continues to experience low economic growth and a persistent failure to meet basic human needs, driven primarily by poverty, high inequality, and limited prospects for improved living standards in many parts of the region [3].

The failure of an economy to achieve and sustain adequate levels of satisfaction, wealth, and welfare is often described as a form of uneconomic development. Development projects frequently overlook both poverty and inequality, contributing to widespread dissatisfaction with neoclassical economic thought. Addressing developmental needs in developing countries, while ensuring ecological sustainability, requires a shift in regional policymaking [8]. To evaluate economic success more comprehensively, this study conducts a systematic scoping review to identify indicators of economic well-being that extend beyond purely financial measures.

From a neoclassical perspective, economic success is understood as national output per capita in value terms, traditionally measured through GDP and the corresponding national income accounts [4]. Orach [1] defines economic success as the sustained increase, over several decades, in a nation's income per capita, production, and purchasing power, measured in absolute terms [1,5–7], adding that “booming” economies tend to be stable and open, with favorable long-term prospects, and that capi-

tal accumulation, household organization, and strong, consistent institutions are viewed as fundamental drivers of this success. Economic success, as a quantitative concept, differs from wealth, which incorporates qualitative dimensions and concerns the overall well-being of a society. Gross National Product (GNP) has long served as an indicator of economic success; a World Bank study of over 100 countries between 1950 and 1990 found that countries such as South Africa, and the Central African Republic never sustained average annual growth rates above 3% [2,8,9].

A key consideration in assessing economic success is the long-run steadiness of growth rather than the achievement of an extraordinary “boom.” Countries rarely sustain positive growth for more than a decade, and the few that do often experience a subsequent “bust.” Economic success as a concept has gained traction in political discourse, with elites often promoting policies focused on income per capita rather than overall quality of life or living standards [10]. In recent years, Sub-Saharan African countries have experienced an average annual growth rate of 1.7%; yet none is regarded as economically successful. This is largely attributed to limited structural transformation, weak productivity growth, inadequate productive employment, commodity dependence, insufficient industrial diversification, and persistent poverty and inequality. This has direct implications for governments’ capacity to fund the infrastructure needed to enhance the social, political, and economic well-being of citizens. Although economic growth remains the predominant indicator of economic success, reservations can nonetheless be raised regarding the continued use of GDP as its primary measure [1,2,10,11].

Economic success is generally understood as a country’s ability to increase wealth and prosperity for its citizens, traditionally measured through GDP within neoclassical economics. This critical discussion identifies various limitations of using GDP as a single indicator of economic progress (Table 1), concluding that it is necessary either to adopt a new measure that allows economic success to be assessed from a broader perspective, or to extend GDP with ecological and social indicators.

This study examines the foundations of neoclassical and ecological economics before addressing the possibilities and challenges of transformation in Sub-Saharan Africa. The analysis is based on a systematic scoping review covering the period from 2022 to 2025, following the PRISMA-ScR model.

Table 1: Neoclassical vs. ecological economics approaches to economic success in Sub-Saharan Africa.

Criteria	Neoclassical Economics	Ecological Economics
Core Focus	GDP growth, efficiency, and utility maximization.	Sustainability, ecological limits, and intergenerational equity.
View of Nature	Treated as an externality or a factor of production.	Seen as foundational to economic systems and human well-being.
Measurement of Success	Quantitative measures (GDP, income, consumption levels).	Qualitative and quantitative measures (HDI, GPI, ecological footprint, well-being indicators).
Treatment of Externalities	Often internalized through market-based mechanisms.	Recognized as systemic and requiring structural regulation.
Human Well-being	Linked to income, employment, and market participation.	Linked to health, environment, equity, and social cohesion.
Policy Emphasis	Market liberalisation, fiscal discipline, and investment incentives.	Environmental protection, inclusive governance, and sustainable development policies.
Approach to Resources	Exploitation based on market demand and supply.	Conservation and regeneration of natural capital.
Long-term Vision	Growth-centric, with a focus on the short to medium term.	Resilience- and sustainability-centric, with a long-term orientation.
Development Strategy in the SSA Context	Export-oriented, capital-intensive, industrial modernisation.	Localised, agroecological, community-based development.
Limitations in SSA	Ignores ecological degradation, social inequality, and informal economies.	Sometimes lacks concrete implementation frameworks and political traction.
Implications for Policy in SSA	Focuses on GDP rankings and economic indicators to attract donors and investment.	emphasizes inclusive metrics for policy planning, ecological thresholds, and sustainability.

2. Methodology

This study employs a scoping review methodology, following the PRISMA-ScR guidelines, to systematically search the literature and synthesize themes relevant to measuring economic success in Sub-Saharan Africa. The review focuses primarily on neoclassical economic perspectives, while also exploring the policy implications, measures, and definitions arising from the ecological economics approach. Sub-Saharan Africa, home to over one billion people, continues to face persistent social, economic, and political challenges.

To examine these challenges within the African context, a systematic scoping review was conducted following the guidelines of the PRISMA extension for scoping reviews (PRISMA-ScR). The systematic literature search and selection processes were structured in accordance with the PRISMA 2020 statement.

GDP, the principal index used in neoclassical economics, is often criticized for reflecting economic output rather than economic success. Common criticisms include

its failure to account for external costs such as environmental damage and the social and health consequences of production and consumption, as well as its inability to capture economic welfare. GDP also fails to indicate economic conditions such as poverty or unemployment, nor does it reveal the distribution of income. In Sub-Saharan Africa specifically, GDP is still often regarded as the most suitable measure of development, even as social and ecological factors receive comparatively little attention within growth strategies. Accordingly, several case studies focused on Sub-Saharan Africa suggest looking beyond GDP toward the paradigm of ecological economics.

2.1. Research Questions

The diminishing effects of positive growth on human well-being, and the enduring consequences of resource depletion and pollution, remain poorly understood. Recognizing that no single metric can fully capture economic success, the research question is accordingly divided into two parts: which factors best define the substance of economic

success, and which indicators serve as the most effective tools for measuring those factors?

2.2. Literature Search Strategy

Initial scoping and pilot searches, yielding almost 20,000 hits, were conducted across major online academic databases to identify relevant literature. Searches were limited to peer-reviewed publications in English. The final full-text search was conducted on 15 April 2025 in the Scopus database, using the keyword string (“economic success” OR “success* economic*”) AND “Sub-Saharan Africa” for the years 2022 to 2025. An additional search without time restrictions was conducted on Google Scholar, and snowballing of references and citation searches was carried out using Web of Science and Google Scholar. This systematic scoping review, following the PRISMA-ScR framework, examined the prevalent research methods, thematic foci, and types of literature on economic success in Sub-Saharan Africa (SSA) between 2022 and 2025.

2.3. Inclusion and Exclusion Criteria

A systematic scoping review (SSR) was conducted in accordance with the PRISMA-ScR guidelines. A total of 7764 records on economic success in Sub-Saharan Africa (SSA) between 2022 and 2025 were identified from Scopus (2486), Web of Science (1732), PubMed (964), Google Scholar (2312), and other sources (270). After removing 1764 records (duplicates = 1024; automated exclusions = 218; other reasons = 522), 6000 records were screened, of which 5600 were excluded.

Subsequently, 400 reports were sought for retrieval, of which 54 could not be retrieved, leaving 346 reports assessed for eligibility. Based on the inclusion criteria—empirical evidence on economic success, a focus on models, indicators, or dimensions, alignment with the research objectives, inclusion of only English language, and the 2022–2025 timeframe—and the exclusion criteria—lack of coherent evidence, purely conceptual or review studies, misalignment with the objectives, geographical irrelevance, meta-analyses, a citation threshold below 0.01 per year, and technical reports—320 reports were excluded (no coherent evidence = 102; conceptual/review = 64; not aligned = 58; geographically irrelevant = 41; meta-analyses = 27; low citations = 18; technical reports = 10).

Of the 346 reports initially retained for content analysis, studies were categorised into Africa (128), SSA (70), economic success approaches (37), indicators (32), dimensions (25), models (11), and economic development (4). Further screening based on the predefined inclusion and exclusion criteria reduced the final sample to 26 studies,

with a citation threshold of 0.01 citations per year applied as an additional screening benchmark (Figure 1).

2.4. Study Screening and Selection

The study screening and selection process followed the PRISMA-ScR framework (Figure 1). A total of 7764 records were initially identified through database searches, and no additional records were obtained from registers. Before screening, 1764 records were removed, including duplicates ($n = 1024$), records marked as ineligible by automated tools ($n = 218$), and records removed for other reasons ($n = 522$), resulting in 6000 records screened based on titles and abstracts.

Following the screening stage, 5600 records were excluded as irrelevant to the study's objectives and scope. Of the remaining 400 reports sought for retrieval, 54 could not be obtained, leaving 346 reports assessed for eligibility through full-text review.

During the eligibility assessment, 320 reports were excluded for reasons including a lack of coherent empirical evidence on economic success ($n = 102$), purely conceptual or review studies ($n = 64$), lack of alignment with the research objectives ($n = 58$), geographical irrelevance to Sub-Saharan Africa ($n = 41$), exclusion of meta-analyses ($n = 27$), citation thresholds below 0.01 per year ($n = 18$), and technical reports ($n = 10$). Following final screening and eligibility assessment, 26 studies met the inclusion criteria and were included in the systematic scoping review. Figure 2 presents a detailed PRISMA-ScR flow diagram illustrating the processes of identification, screening, eligibility assessment, and inclusion.

2.5. Data Extraction

Data extraction focused on information relevant to economic success in Sub-Saharan Africa. The eligibility criteria were applied to the search results, and the extracted information was compared to identify the limitations of GDP as the standard framework for measuring economic success in Sub-Saharan African countries, and to propose a framework for analyzing economic success from an ecological economics perspective.

Systematic scoping reviews are designed to capture the full breadth of literature on a given topic. A list of search topics and associated keywords was constructed, with the main keywords including “economic success,” “metrics of progress,” “GDP,” “GPI,” “HDI,” “ecological economics,” “development,” “developing countries,” “low-income countries,” “Sub-Saharan Africa,” and the names of individual Sub-Saharan African countries. Search terms varied across databases: Scopus

avored “low-income countries,” while Web of Science favored “developing countries.

2.6. Data Synthesis

Data synthesis reveals the complex relationship between resource management, governance, and macroeconomic outcomes in Sub-Saharan Africa, providing a critical foundation for identifying region-specific indicators of economic success. Suitable measures for monitoring economic performance across historical periods, such as the colonial period between 1913 and 1950, are particularly important, as reflected in the disaggregated evolution of per capita output during that period. This historical perspective helps illuminate patterns and challenges that remain relevant to both ecological and neoclassical economics today.

2.7. Validation and Replicability

The search strategy, specifying MeSH terms, keywords, and Boolean operators (e.g., (“Economic Success” OR “Economic Development”) AND (“Sub-Saharan Africa” OR “SSA”) AND “Neoclassical Model” AND “Ecological Economics”), was clearly reported to support transparency, replicability, and reporting quality.

Validating replicability requires that at least one independent researcher apply the same search strategy to verify that the results obtained are consistent with the original findings. Forward and backward citation tracking of relevant studies can further improve the rigor of the search results. The number of studies screened, assessed for eligibility, and ultimately included in the review must be recorded, along with the reasons for inclusion and exclusion at each stage, to demonstrate the extent of the evidence identified and reviewed.

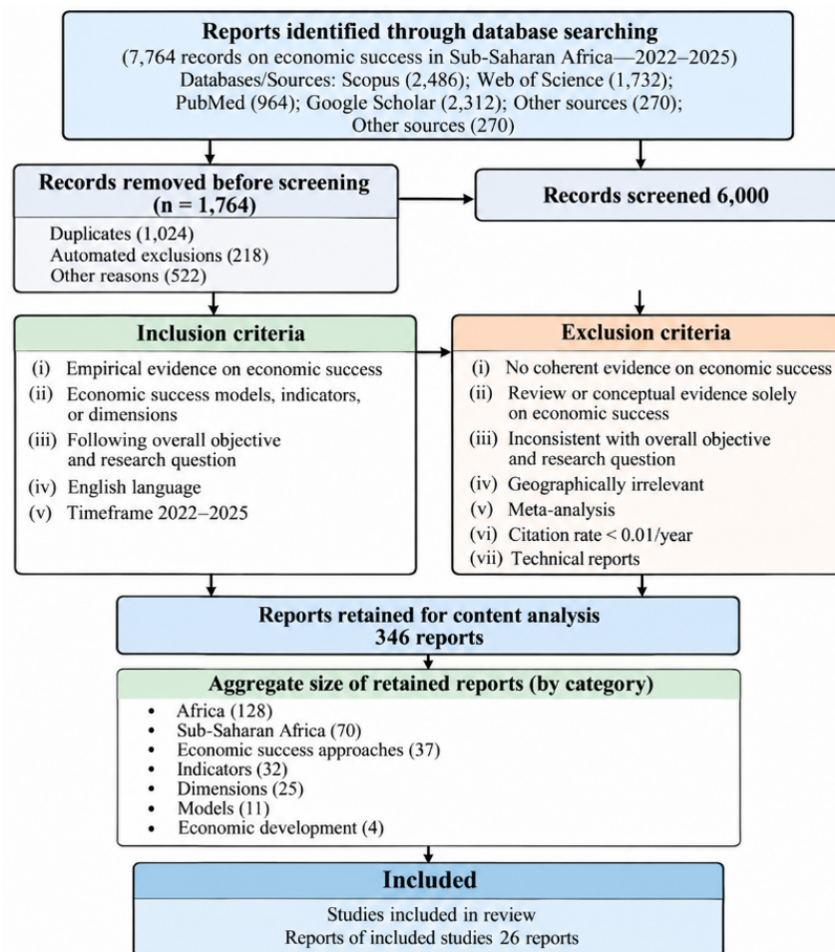


Figure 1: PRISMA-ScR inclusion and exclusion framework used for screening and selecting studies on economic success in Sub-Saharan Africa (2022–2025).

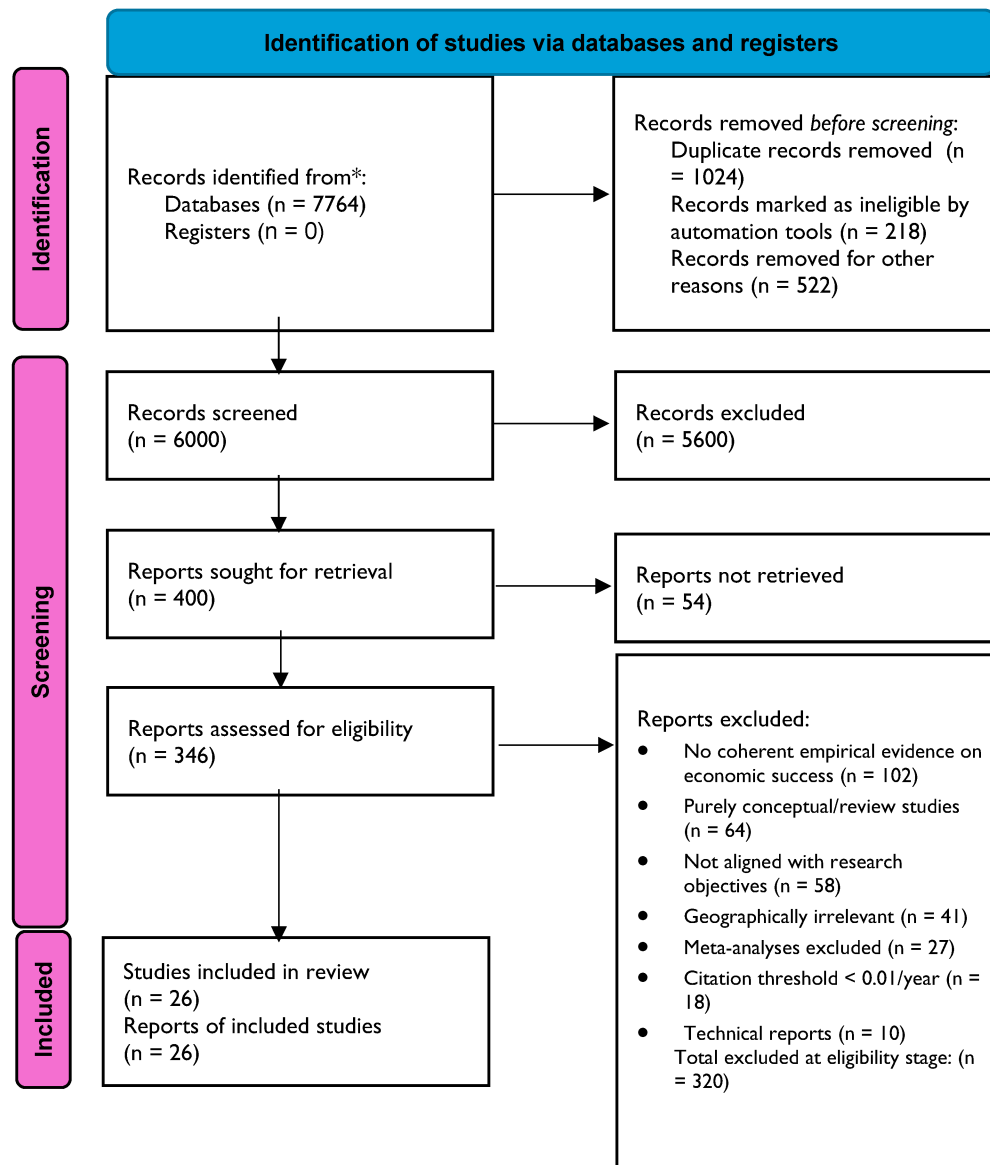


Figure 2: PRISMA-ScR flow diagram illustrating the identification, screening, eligibility assessment, and inclusion process of studies on economic success beyond GDP in Sub-Saharan Africa. A total of 7764 records were identified through database searches, with 26 studies ultimately included in the systematic scoping review following screening and eligibility assessment procedures.

3. Results and Discussion

The results show that neoclassical economics emphasizes market equilibrium, choice rationality, and efficiency, treating resources as interchangeable and viewing free markets as the optimal mechanism for allocating goods and services. Critics argue that alternative perspectives, such as sustainability theory and ecological economics, offer valuable insights precisely because they do not overlook environmental limits and social inequality. While some neoclassical economists maintain that economic growth alone can resolve development challenges while

imposing checks that prevent harm to long-term environmental viability and social equity, the rapid growth observed in SSA continues to shape policy, development planning, budget allocation, and well-being, all of which remain closely tied to steady economic growth [5–7,10, 11].

3.1. Foundational Principles of Neoclassical Economics

Neoclassical economics rose to dominance in the 19th century and has remained a central approach in economic

science and policymaking ever since. It offers a widely accepted, rigorous framework for understanding human behavior and financial systems, forming the basis of academic discussion in SSA and serving as a standard reference for analyzing economic issues and evaluating policy worldwide [4,12,13].

The discipline of neoclassical economics rests on four foundational axioms that have endured systematic testing over time and together explain human choice [14]. The first axiom holds that individuals have well-defined preferences, enabling them to compare options and rank them by desirability. The second holds that people maximize utility when consuming goods or commodities while maximizing disutility when consuming leisure. The third holds that individuals exhibit diminishing marginal returns—for example, the additional satisfaction gained from consuming one extra ounce of orange juice is only a third of the satisfaction derived from the first ounce. The fourth holds that all goods and services are substitutable: if a person achieves optimal utility at a given expenditure with one combination of goods, any alternative combination yielding the same utility must cost at least as much [14–17].

3.2. Critiques of Neoclassical Approaches

Despite its widespread acceptance, neoclassical economics has attracted significant criticism since its inception, with its assumptions of rationality and its mathematical modeling of human behavior regularly challenged. Several reservations concern its assumptions, methods, and values, which have the potential to distort the representation of economic relationships and their implications [18–21]. Critics argue that by prioritizing abstract optimization models, the neoclassical tradition often overlooks the cultural, institutional, and psychological factors that shape economic life, thereby oversimplifying behavior in ways that limit its real-world relevance. Neoclassical economics has nonetheless contributed to understanding the role of prices, supply, and demand in the functioning of markets and the distribution of resources—a distribution mediated through variables such as prices, wages, rents, and interest rates. However, this price-centered view is increasingly contested for failing to account for power dynamics and historical inequalities that shape who controls or accesses resources within an economy.

The significance of economic performance therefore lies in the efficient allocation of resources through the price mechanism, generating a particular pattern of output and income while accounting for scarcity. Scarcity limits the freedom of choice; consequently, economic policy fo-

cuses on ensuring that the price mechanism induces sound decisions that contribute to stability, growth, or redistribution [22–25]. Yet the notion that markets naturally generate “correct decisions” has been disputed, particularly where information asymmetries, externalities, or institutional weaknesses undermine the functioning of competitive markets.

The neoclassical approach addresses scarcity through the choice among alternative actions with differing implications for the allocation of scarce resources; such decisions depend on estimates of utility or satisfaction, synthesized in the demand function, which are treated as ‘objective’ behavior. This assumption of stable and measurable utility is increasingly viewed as unrealistic, particularly in light of insights from behavioral economics showing that preferences are often unpredictable, context-dependent, and shaped by social norms.

Few global economies have sustained growth trajectories comparable to those of Sub-Saharan Africa, where poverty continues to affect many countries. This raises doubts about the effectiveness of applying neoclassical tools to achieve efficient allocation within growth strategies [15,16,18]. In such contexts, structural barriers—including limited diversification, volatile commodity dependence, and weak institutional frameworks—curb the effectiveness of market-oriented policies, suggesting that neoclassical models may overlook the deeper development constraints these economies face.

The neoclassical conception of development is characterized by an ideological perspective that is subsequently rationalized through policies sustaining inequality and failing to serve the interests of the majority within regions such as Sub-Saharan Africa. This position is reflected in the multidimensional challenges affecting such countries, particularly rising poverty and rapid environmental degradation. The continued application of the neoclassical economics framework remains controversial in many instances, often serving as an explanatory theory for the region's modest economic success, while remaining intrinsically limited in its ability to capture well-being or other socio-economic goals such as social justice—making it problematic as a measurement tool.

3.3. Ecological Economics Framework

Ecological economics fundamentally redefines economic value by recognizing the economy as an integral subsystem of the broader ecosystem, with production and consumption systems embedded within the environmental system of flows and stocks.

3.4. Principles of Ecological Economics

Whereas neoclassical economics treats the environment as “natural capital,” ecological economics argues that social and natural environments represent “fund” rather than “flow” resources [14–16,18]. At its core, ecological economics promotes socially responsible behavior, advocating a steady-state economy achieved by reducing material and energy throughput to create an economic system more consistent with Earth's ecosystems and resources, while still maximizing human welfare.

Ecological economics is a transdisciplinary field devoted to integrating and preserving both societal and ecosystem health within the economy. By incorporating ecological principles into economics, it offers a more realistic and sustainable perspective on human prosperity [18,19,22–24].

3.5. Sustainability and Economic Growth

According to ecological economists, environmental sustainability is a predominant policy objective [20,21,25–27]. A sustainable growth paradigm for Sub-Saharan Africa thus emerges as an ecological mandate that prioritizes local and global environmental objectives and protects public health. If Sub-Saharan African economies continue to exceed social and ecological limits, unsustainable development will be reinforced, threatening the persistence of economic growth. Recent years have seen a shift in development discourse towards alternative indicators of success that extend beyond GDP, which fails to account for environmental and social factors or the well-being of Sub-Saharan African citizens.

3.6. Comparative Analysis of Economic Models

Neoclassical economics holds that the operation of natural-economic systems requires adjusting economic forces through sound policies framed within a broadly defined set of rules. Economic development, both theoretically and in practice, thus entails expanding this set of rules so that appropriate adjustments can be pursued, explaining its primary focus on economic growth. The neoclassical framework remains incomplete, largely because it treats the entire domain of economic development as a set of interrelated technical issues that are often taken for granted or only loosely connected to broader concerns of equity, justice, power, or prestige. This narrow framing produces a developmental narrative that prioritizes efficiency over fairness and assumes that social and political complexities will ultimately resolve through market mechanisms,

even though historical experience repeatedly suggests otherwise.

Such concerns, which constitute the political dimension of development, are often categorized, somewhat paradoxically, as non-economic factors. This analysis extends to position the political dimension within the neoclassical narrative: incorporating politics into the neoclassical model requires acknowledging that markets are embedded within institutions shaped by historical struggles, governance structures, and communal values—elements that directly influence economic outcomes yet cannot be reduced to market equilibria [23–29].

Ecological economics offers a considerably richer theoretical framework for economic development, treating the natural economy as thermodynamically open, with a systematically depleted stock, a necessarily limited flow, and a vital underlying integrity. Without natural resources, production cannot occur; without natural sinks, production cannot safely continue; and without natural capital, reproduction becomes meaningless. All else being equal, the more the natural economy is depleted, the greater the risk of ecological catastrophe [27–30]. This perspective shifts the analytical focus from marginal trade-offs to biophysical limits, emphasizing that long-term development must operate within planetary boundaries and that economic activity is constrained by potentially irreversible ecological thresholds [31–34]. Identifying and characterizing ecological-economic systems capable of sustaining a consistent level of throughput over time provides a valuable starting point for establishing practical policy rules. The neoclassical and ecological perspectives are compared across two regional considerations, forming a conceptual basis for developing indicators beyond GDP.

3.7. Neoclassical vs. Ecological Economics

Neoclassical economics has dominated economic thinking by emphasizing the efficient allocation of scarce resources through markets, assuming rational agents and minimal government intervention, with the model centered on utility maximization, profit maximization, and equilibrium. Ecological economists, by contrast, view the economy as a subset of a fixed ecosystem, arguing that economic growth competes with environmental assets and that equilibrium should be defined not by full employment but by the limits imposed by social and ecological systems. This shifts the focus from GDP toward the development of holistic indicators that preserve natural capital.

3.8. Institutional Economics and Path Dependency

Institutional economics extends beyond the frameworks of ecological and neoclassical economics by introducing a lens that captures the role of history, institutional structures, and path dependency in shaping economic outcomes. Institutions—both formal, such as laws and property rights, and informal, such as social norms and trust—

define the “rules of the game” and critically influence the trajectory of development. Path dependency suggests that past policy choices and institutional practices constrain present opportunities, making it difficult for regions to adopt new economic models even when existing ones are failing [12,13,32]. Development strategies must therefore engage with institutional reform and the broader socio-political context to foster inclusive, resilient, and adaptive economic systems (Figure 3).

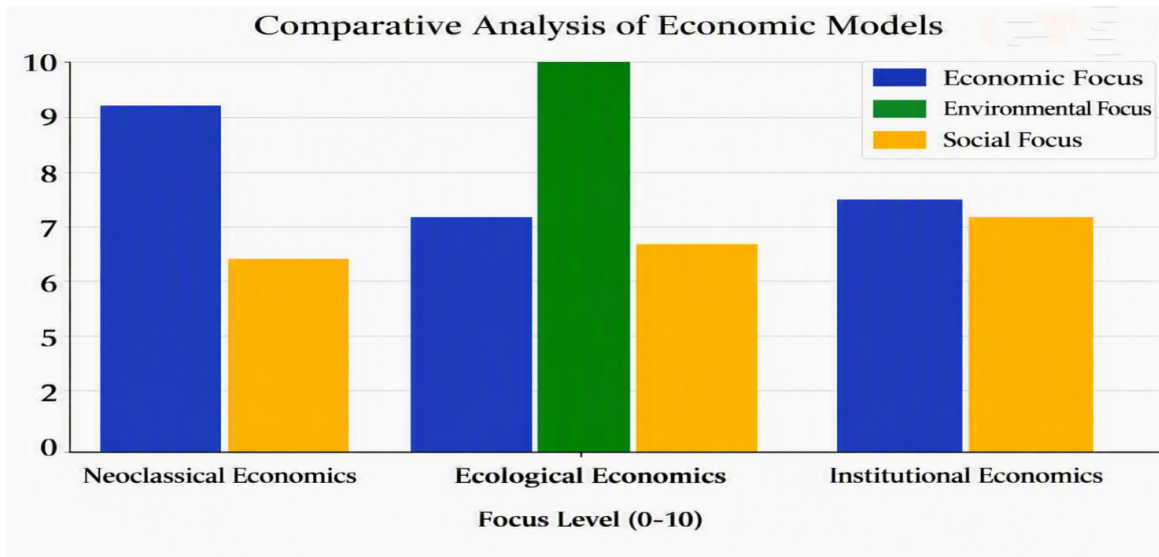


Figure 3: Comparisons of economic models.

3.9. Indicators Beyond GDP

Economic success has conventionally been understood primarily as GDP growth, a single quantitative dimension. However, this notion is increasingly challenged by scholars who emphasize multidimensional and qualitative perspectives. The ecological-economic discourse advocating sustainability extends the critique of GDP in several notable ways: (i) GDP fails to adequately capture long-term well-being and welfare effects; (ii) aggregate measures of natural wealth are not incorporated into national income accounting; and (iii) the depletion of natural capital may reduce intergenerational well-being while still generating a positive GDP signal. Reliance on GDP growth therefore renders the notion of a sustainable outcome—defined as sustained or improved well-being over time—poorly defined.

Given these limitations, several indicators have been proposed to measure economic success more comprehensively, including the Human Development Index (HDI) and the Genuine Progress Indicator (GPI).

3.10. Human Development Index (HDI)

To reflect the importance of people and their capabilities in assessing a country's development, rather than focusing solely on economic growth, the Human Development Index (HDI) was developed. It provides a composite measure of average achievement across three fundamental dimensions of human development: longevity and health, knowledge, and a decent standard of living.

Despite its widespread adoption, the HDI has attracted considerable criticism, and various modifications have since been proposed [1,2,5,9].

Spatial analysis of eHDI and HDI rankings reveals substantial variation, with a marked decline in rankings across the Global North and the Middle East, likely reflecting unsustainable environmental footprints. South America and East and South Asia, by contrast, show substantial improvements in eHDI, suggesting progress toward sustainable development [16]. In this sense, eHDI rankings not only revise global development hierarchies but also represent a paradigm shift toward models that reward

ecological stewardship, resilience, and equitable resource use [1]. Figure 4 presents a cross-sectional comparison of eHDI rankings across countries, illustrating variation in

environmentally adjusted human development following historical trajectories reveal.

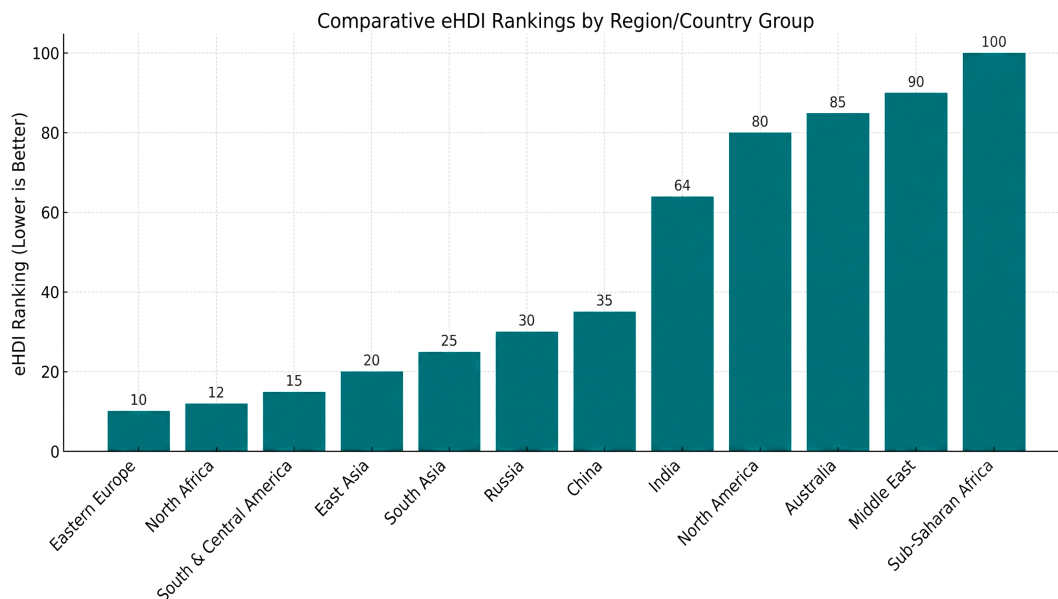


Figure 4: Comparative rankings among countries.

3.1.1. Genuine Progress Indicator (GPI)

The Genuine Progress Indicator (GPI) seeks to distinguish forms of economic growth that enhance welfare from those that do not, differentiating between “good” and “bad” growth [1,11,13]. Originating from the work of Daly and Cobb and sharing a conceptual foundation with the Index of Sustainable Economic Welfare (ISEW), the GPI refines estimates of personal consumption expenditure by weighting them according to an income inequality index that accounts for social costs. It then deducts defensive expenditures—including pollution abatement costs, accident-related spending, and costs arising from environmental degradation and the depletion of natural capital—that diminish both present and future welfare.

The limitations of GDP as a welfare measure are widely recognized. Because GDP treats spending on environmental damage, accidents, and family breakdown as welfare-enhancing, while excluding essential unpaid activities such as housekeeping, it both overstates and understates social well-being in different respects. Although Simon Kuznets, who developed GNP in 1932, explicitly stated that these aggregates were not measures of welfare, subsequent reliance on them delayed the development of more comprehensive indicators. From the 1960s onward, criticism mounted, and efforts to supplement or

revise GDP accelerated. In particular, the 2009 Commission on the Measurement of Economic Performance and Social Progress (CMEPSP) advocated more suitable alternatives, including the Measure of Economic Welfare (MEW), ISEW, GPI, and the Happy Planet Index (HPI), all of which aim to capture societal welfare and sustainability more effectively [17].

Growing concern over social and environmental issues has increased interest in the GPI as a well-being indicator [17]. While several individual U.S. states have developed GPI estimates to examine the balance between welfare-enhancing and welfare-reducing economic activities, a centralized database remains unavailable. Because the components of GPI are often more difficult to quantify in monetary terms than the variables comprising GDP—particularly those associated with environmental destruction and social deterioration—a detailed understanding of these challenges is necessary to avoid reducing GPI to a simple economic indicator, which would compromise its broader purpose [6,7,10].

3.1.2. Environmental Sustainability Indicators

Sustainability measures focus on addressing the long-term pressures facing humanity and meeting the basic needs

for survival and well-being during economic development and growth. GNP and GDP remain among the most widely used sustainability indicators [23]. This reflects an effort to shift attention from flow-based measures of production toward stock-based evaluations of a nation's capacity to sustain welfare across generations, incorporating manufactured, human, and natural capital into a single framework [12]. The UNDP, World Bank, and OECD place strong emphasis on subsidies in this context. Environmental sustainability can be expressed through the relationship between inclusive wealth and GDP—that is, the proportion of capital goods that can be maintained while sustaining desired welfare levels. As concerns over climate change, poverty, and natural resource depletion continue to rise, economists are paying increasing attention to this measure [23].

Metrics such as ecological footprint, carbon intensity, biodiversity loss, and material consumption rates are among the sustainability indicators that offer a more realistic picture of long-term viability than GDP alone. Several cases have highlighted instances where economic growth masks underlying environmental degradation or social vulnerability [12].

3.13. Policy Implications

The challenges facing SSA, including sustained growth alongside continuing socio-economic difficulties, suggest that development is best understood as economic growth combined with the provision and availability of genuine opportunities and capabilities rather than growth alone [10–18]. The transmission mechanisms linking resources and revenues in the region pose significant challenges to resource-based policymaking, though technological and behavioral factors should also be taken into account.

Active integration of ecological economic approaches into development is essential, through frameworks that address both social and natural dimensions. This conceptual scope allows for a comprehensive evaluation of sustainable development, recognizing the varied nature of production and employment, and enables estimation of the full consequences of resource-use decisions [15,16,18,19,22].

In the region, the aspiration for accelerated, widely distributed, and lasting development benefits has warranted close examination and informed recent policy shifts. The adoption of a full green economy and sustainable development agenda reflects this orientation [12–27]. Political economy analyses of the intersections between growth, social welfare, and ecological security have demonstrated the contested and evolving nature of the de-

velopment record, with its relevance and appeal evident in its prescriptive implications [9].

3.14. Integrating Ecological Economics into Policy

Integrating ecological economics into policy is a key challenge for sustainable development and governance [23, 24]. Moving toward a sustainable economy requires appropriate payment structures and the use of markets to incentivize behaviors consistent with long-term ecological sustainability. Social capital, poverty, and inequality also shape health outcomes and environmental attitudes [23]. Policies that account for the needs of society as a whole, alongside diverse intellectual approaches, can help reduce undesirable societal rigidity [27].

Economic models that incorporate appropriate incentives can encourage individuals to adopt more environmentally responsible behaviors. In low- and middle-income countries, conditional cash transfers represent a strategy for increasing the uptake of health-promoting interventions and encouraging structural change within health systems [25]. Achieving sustainable development requires a careful balance between productive economic growth and the protection of ecological assets. This requires coordinated cross-sector policy that treats ecological limits as foundational constraints rather than external considerations, ensuring that long-term environmental integrity is not sacrificed for short-term economic gains [29,30,35].

3.15. Challenges in Policy Implementation

Shifting from GDP, the traditional measure of economic success, toward sustainability-aligned indicators raises significant challenges for policy implementation in SSA. These challenges span institutional, socio-economic, and financial dimensions.

Effective adoption requires a governance framework capable of coordinating diverse stakeholders. A narrow focus on limiting government intervention risks overlooking the essential state capacities needed for development, even though sound governance remains central to strong economic performance [22].

Regional governments must also refine their modeling tools to more accurately reflect Africa's economic realities. Many macroeconomic models currently in use fail to accommodate the complex and diverse structure of African economies [20,25,26].

3.16. Socio-Economic Factors in Sub-Saharan Africa

Poverty affects at least 70% of the population in SSA and tends to be more severe than in other regions [19]. Inequality in the region averages roughly 10% above that of other parts of the world. Alongside these factors, high unemployment, conflict, and the AIDS epidemic have taken a considerable toll. Unemployment remains high for much of the population, even as the informal sector provides some employment and income. Conflict has driven mass displacement and stalled economic progress in many countries, while the AIDS epidemic of the 1990s caused a substantial reduction in economic growth. The region's natural resources are also often viewed through a lens of spiritual attachment, which is rarely considered alongside the economic wealth generated from their exploitation. Alternative approaches to neoclassical economics are needed for many of these countries to generate employment, economic growth, and poverty reduction. Ecological economics offers a promising avenue for transforming development models by helping to interpret the complex, interconnected risks, uncertainties, and contradictions of the 21st century [14].

3.17. Poverty and Inequality

Poverty and inequality are among the clearest indicators of GDP's shortcomings as a measure of economic success in Africa, where extreme poverty can persist despite dramatic growth in per capita income [25]. A range of approaches in the literature explore the complex interactions between growth, inequality, and poverty reduction. These broadly support the neoclassical hypothesis that growth tends to benefit the poorest groups in society, although this relationship is not consistent and depends on a variety of factors. The widely noted growth renaissance in Sub-Saharan Africa, together with the recent commodity shock from falling oil prices, has revived debate over the relationship between growth and poverty and the mediating role of inequality. Trade openness and policy credibility have also been identified as important variables, particularly among the poorest countries [20,21].

Inequality poses a challenge to neoclassical growth theory and the Washington Consensus, both of which are consistent with sustainable economic policy only under conditions of eventual convergence and shared prosperity. In Sub-Saharan Africa, episodes of growth are often accompanied by substantially rising inequality and entrenched poverty, such that the region's lack of development appears as an ordered process rather than mere stagnation. This suggests that it is not only anti-poverty pro-

grams that require reassessment, but the entire paradigm of economic development.

The distribution and incidence of poverty are also closely linked to the region's culture and institutions, with deeply held traditional views of social, economic, and political organization reflected in a notably orthodox interpretation of women's role in society. These views conflict with the philosophical goals underlying the Millennium Development Goal on gender equality and continue to constrain the region's market potential and opportunities for profitable private-sector development, while also undermining the effectiveness of government, donor, and NGO responses to poverty and deprivation [23]. Economic success must therefore be defined in ways that are compatible with the region's diverse and distinctive social frameworks.

3.18. Cultural Perspectives on Economic Success

The meaning of success varies culturally and is often understood as “meeting expectations” or “taking care of people” [12,23]. Because economic success is closely tied to the values a culture promotes, it is essential to examine the cultural perceptions prevalent in a given region. In many societies, success is rooted in communal obligation, social cohesion, and collective well-being rather than purely individual achievement, shaping how people engage in economic activity and measure their own progress. A country's accumulated wealth and opportunity landscape, intertwined with cultural factors, also strongly influences economic success [20,21,26,27].

Economic values tend to align closely with a region's cultural norms. Sub-Saharan Africa is inclined toward a more communal and relational conception of economic success, emphasizing social connection and the fulfillment of societal expectations. Comparing this perspective with those underlying ecological and neoclassical economics is therefore instructive; alternative indicators beyond GDP are especially important to explore, given that most nations pursue economic success within a broader conception of what success means.

3.19. Institutional Capacity and Governance

Structures of governance and the quality of institutions, though often overlooked, are key factors shaping economic success in Sub-Saharan Africa. Where institutions are weak, poor enforcement of regulations and limited bureaucratic capacity undermine the implementation of poverty-reduction strategies. Widespread corruption, political instability, and a weak rule of law further deter

domestic entrepreneurship and foreign direct investment, contributing to a cycle of underdevelopment [3,8].

3.20. Future Directions in Economic Measurement

Environmental degradation poses a serious threat to the ecosystem, while malnutrition, weak health systems, and inadequate education remain persistent realities for many people. These two sets of challenges intersect within current economic systems [23,35].

This dual challenge demonstrates that GDP, as a traditional economic indicator, is insufficient to capture the full scope of human well-being and ecological sustainability, both of which are inherently multidimensional [33–35]. Developing a genuinely alternative environmental economics approach requires first revisiting the fundamental question of why economics exists: its primary challenge is to solve the problem of allocating scarce means among competing ends, whether at the level of individuals, social groups, or humanity as a whole. Most economies aim to increase aggregate production over time, treating economic growth as the fundamental indicator of success and GDP as the objective benchmark of human progress and development. The essential question, therefore, is how the neoclassical view of economic progress and achievement can be revised within a Social-Ecological Systems (SES) context. Virtually every aspect of an economy—output, consumption, and investment—carries social and ecological consequences, and within an SES framework, the concepts of investment in physical, social, and natural capital need to be reconsidered. Sustainable development can be achieved only when economic growth becomes consistent with maintaining the integrity of critical global biophysical systems. Ecological economics offers a foundation for a less extractive politics and economic organization, and the resulting shift will require moving beyond GDP as the primary indicator of economic success.

3.21. Innovative Metrics for Economic Success

Economic success is conventionally measured through GDP. The literature raises numerous concerns about GDP as an indicator of success, including its exclusion of non-market transactions and its indifference to sustainability and well-being [1–3,8]. As a result, GDP offers only a partial, and often misleading, depiction of societal progress, privileging short-term production increases while obscuring long-term environmental degradation, social inequality, and declining quality of life. To address this gap, a scoping review was conducted following PRISMA-ScR

guidelines. This methodological approach ensures a systematic mapping of the existing evidence, enabling identification of conceptual gaps, emerging trends, and the extent to which ecological economics has been operationalized in the development of alternative economic indicators across different contexts.

3.22. The Role of Technology in Economic Analysis

Technology plays an increasingly important role in economic growth in Africa. While other theories linking economic growth and technology tend to focus on average income growth, this paper argues that income distribution must also be considered when examining the role of technology. Overall, the sample statistics show that inequality increased and growth declined after 1974. These findings suggest that the type of technology adopted matters, playing a pivotal role in whether economic growth translates into equitable development, rather than simply reflecting the scale or quantity of adoption. Growth emerged as the most significant contributor to inequality, alongside the intensity of technology and changes in labor and capital, which had the greatest effect on inequality reduction across the full sample [9]. Decomposition of the effects of growth and technology suggests that labor-intensive technologies are the primary driver of changes in inequality across Africa. Further research opportunities have been discussed elsewhere [7,13,32]. Future studies could examine the role of digital technologies, automation, and green technologies in shaping both growth and equity, providing a basis for policies that simultaneously promote productivity and inclusive development. Another promising direction for future research is the development of indicators that combine ecological, social, and economic dimensions (Table 2). Such innovations could help redefine economic success and guide policy decisions that balance growth with justice and environmental stewardship [5].

3.23. Policy Implications and Implementation

The findings of this study indicate that development planning in Sub-Saharan Africa (SSA) should shift from GDP-centered approaches toward integrated frameworks that incorporate economic efficiency, environmental sustainability, and social well-being [2,4,26]. Governments and regional institutions should institutionalize multidimensional indicators—such as the Human Development Index (HDI), Genuine Progress Indicator (GPI), Measure of Economic Welfare (MEW), and Inclusive Wealth Index (IWI), alongside ecological sustainability indicators—within national planning systems, budgeting processes,

and policy evaluation frameworks [1,4,30]. Strengthening national statistical systems and sustainability accounting mechanisms will be critical for generating reliable socio-

economic and environmental data to support evidence-based decision-making [16,21].

Table 2: Comparison of GDP, HDI, and GPI in the Sub-Saharan Africa context.

Indicator	What It Measures	Advantages in SSA	Disadvantages in SSA
GDP (Gross Domestic Product)	Market value of all final goods and services produced within an economy.	Simple, widely used, and comparable across countries. Useful for tracking short-term economic growth and fiscal capacity. Influential for investment, donor funding, and macroeconomic planning.	Ignores income inequality, poverty, and the informal economy prevalent in SSA. Excludes environmental degradation and resource depletion. Treats social and ecological damage as positive economic activity.
HDI (Human Development Index)	Composite index of health (life expectancy), education, and income.	Captures social dimensions of development beyond income. Highlights disparities in health and education outcomes. More closely aligned with human well-being goals in SSA.	Limited sensitivity to environmental sustainability. Masks intra-country inequalities common in SSA. Relies partly on GDP, inheriting some of its limitations.
GPI (Genuine Progress Indicator)	Adjusted economic welfare accounting for social and environmental costs and benefits.	Accounts for inequality, unpaid labor, and environmental degradation. Distinguishes welfare-enhancing from welfare-reducing growth. Conceptually well-suited to sustainability challenges in SSA.	Data-intensive and difficult to compute in SSA contexts. Limited standardization and cross-country comparability.

Policy implementation should prioritize green industrialization, renewable energy transitions, climate-smart agriculture, and inclusive governance mechanisms that simultaneously address poverty, inequality, unemployment, and ecological degradation [18,29,31]. Improved coordination among ministries responsible for finance, agriculture, environment, and social development is essential to ensure policy coherence and the integration of sustainability considerations [14,27]. Furthermore, investment in digital technologies, geospatial monitoring systems, artificial intelligence, and institutional capacity-building can strengthen long-term resilience, productivity, and ecological stewardship across SSA economies [16,33,34].

3.24. Future Research Directions

Future research should focus on developing and validating context-specific, multidimensional indicators of economic success for Sub-Saharan Africa (SSA). While GDP remains widely used, there is a clear need for integrated frameworks that simultaneously capture ecological sustainability, social well-being, institutional quality, and economic resilience. Comparative empirical studies ex-

amining the applicability of indicators such as the Genuine Progress Indicator (GPI), Human Development Index (HDI), Inclusive Wealth Index (IWI), Measure of Economic Welfare (MEW), and ecological footprint metrics across SSA countries would be highly valuable for policy development.

Further studies should also examine how governance systems, digital transformation, climate-smart technologies, and green economic transitions influence inclusive development outcomes in SSA. Longitudinal and mixed-methods research approaches are recommended to better understand the dynamic relationships among poverty, inequality, environmental degradation, and economic growth. Future work should also explore integrating Social-Ecological Systems (SES) frameworks, artificial intelligence, geospatial analytics, and sustainability modeling into economic planning and decision-making processes. Strengthening regional databases and institutional capacity for sustainability accounting will likewise be essential for improving the implementation and monitoring of alternative economic indicators beyond GDP across Africa.

4. Conclusions

This systematic scoping review demonstrates that GDP alone is not an adequate measure of economic success in Sub-Saharan Africa, as it overlooks inequality, social well-being, environmental degradation, and long-term sustainability. The findings show that neoclassical economics, with its focus on growth, market outcomes, and efficiency, does not provide a complete account of the region's development outcomes. Ecological economics, by contrast, offers a complementary perspective that incorporates intergenerational equity, human well-being, and the limits of the ecosystem.

Alternative indicators such as HDI and GPI better capture these multidimensional realities, although data and institutional limitations constrain their application in SSA. The study concludes that a hybrid framework combining neoclassical efficiency with ecological sustainability is necessary to guide policy, strengthen resilience, and align development pathways in Sub-Saharan Africa with planetary boundaries and inclusive human development.

List of Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
CMEPSP	Commission on the Measurement of Economic Performance and Social Progress
eHDI	Environmental Human Development Index
GDP	Gross Domestic Product
GNP	Gross National Product
GPI	Genuine Progress Indicator
HDI	Human Development Index
HPI	Happy Planet Index
ISEW	Index of Sustainable Economic Welfare
IWI	Inclusive Wealth Index
MeSH	Medical Subject Headings
MEW	Measure of Economic Welfare
NGO	Non-Governmental organization
OECD	organization for Economic Co-operation and Development
PRISMA-ScR	Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews
SES	Social Ecological Systems
SSA	Sub-Saharan Africa
SSR	Systematic Scoping Review
UNDP	United Nations Development Programme

Author Contributions

Conceptualization, methodology, and software: T.M., M.J., J.S.M., Y.U., and P.C.; Formal analysis: T.M., M.J., J.S.M., Y.U., and P.C.; Investigation, resources, data curation, writing—original draft preparation, writing—review and editing, visualization, and supervision: F.K. and P.C. All authors have read and agreed to the published version of the manuscript.

Availability of Data and Materials

Data sources are publicly available through media reports, government reports, and research publications.

Conflicts of Interest

The authors declare no conflicts of interest.

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AI Declaration

ChatGPT (GPT-5.5) and Grammarly (current web editor) were used solely to improve sentence coherence, clarity, and grammar. No generative AI tools were employed for data analysis, interpretation, or the creation of original scholarly content in this manuscript. The authors take full responsibility for the accuracy, originality, integrity, and scientific content of the manuscript.

Standards of Reporting

This systematic scoping review was conducted and reported in accordance with the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines.

Supplementary Materials

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