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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, reliance on traditional economic indicators such as Gross Domestic Product (GDP) has been questioned. This study critically examines the limitations of GDP as a measure of financial success. It explores alternative frameworks from neoclassical and ecological economics that may provide more comprehensive insights for sustainable development in SSA. The aim is to compare and assess theoretical and practical views beyond GDP and to propose a multidimensional approach that includes ecological health, social well-being, and economic stability. Methodologically, the study uses a qualitative review and comparative analysis of key literature in both environmental and neoclassical economic schools, concentrating on how each defines success, sustainability, and growth. To study the relevance and applicability to the SSA region, the analysis includes studies only from the SSA to look at the theoretical critiques, empirical trends and case studies. The results show that neoclassical economics highlight more on market efficiency, aggregate output and consumption. Degradation of the environment and socio-economic inequalities are largely ignored. Meanwhile, ecological economics stresses the health of the ecosystem, intergenerational equity, and biophysical limits. These are principles that are important to the SSA's socio-environment. In conclusion, GDP on its own is not a good measure of economic growth in SSA. A combination of neoclassical and ecological economics is recommended to help economic planning, resilience and policies. In order to allow SSA to be in line 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

Highlights of the Study

- GDP remains inadequate for capturing sustainability, equity, and well-being in Sub-Saharan Africa.
- Neoclassical economics prioritizes growth and efficiency but largely overlooks ecological limits.
- Ecological economics emphasizes ecosystem health, intergenerational equity, and biophysical constraints.

- Alternative indicators (HDI, GPI, ecological footprint) offer broader measures of economic success.
- Integrating neoclassical efficiency with ecological sustainability improves development planning.
- Moving beyond GDP can align African development pathways with planetary and social boundaries.

1. Introduction

To evaluate economic growth, the Gross Domestic Product (GDP) worldwide is the core quantitative unit measure used. Literature in the present-day submits that it is unsuitable to use GDP as the primary measure of financial performance in the modern world [1]-[4]. GDP only accounts for the market value of goods and services produced. It ignores the important issues such as distribution of income, unpaid labour, the degradation of the environment, and social well-being, which are very necessary to measure the real economic development [3]. When the economy is successful it shows the progress of a country's economic development, where progress is a critical determinant of financial success [1]-[6]. In the context of Africa, the idea of a successful economy must involve structural factors such as resource endowments, capacity of the institutions, adoption of technologies, and social inclusion. These will together profile the development path and distribution of benefits in an impartial manner [2]. The integration of Africa into the global networks of trade and finance relays with domestic economic policies. These policies will shape the opportunities and constraints that influence prosperity of both the national and regional development outcomes [5]. The international economic activities that take place usually show economic success and as a result contributes to the economic development.

Many economists classify countries or regions based on their economic conditions. Countries with high economic success, typically measured by gross domestic product (GDP) per capita, are regarded as economically developed. In contrast, those with low economic success or growth are considered developing or emerging [5-7]. Sub-Saharan Africa is generally categorised within the latter groups. However, despite decades of developmental policy assistance to Sub-Saharan Africa, the region still suffers from low economic growth and a failure to meet basic human needs. The leading causes are poverty, high levels of inequality, and a poor outlook on life in many parts of the world, especially within Sub-Saharan Africa [3].

The failure of an economy to attain and sustain optimal levels of satisfaction, wealth, and welfare is often seen as an uneconomic form of success. Development projects frequently overlook both poverty and inequality, leading to widespread discontent with neoclassical economic thought. Addressing developmental needs in developing countries and ensuring sustainability within the ecological context of derived needs requires a shift in policymaking in the region [8]. To evaluate economic success more comprehensively, a systematic scoping review is conducted to identify indicators that measure economic well-being beyond just the financial aspect.

Economic success, in the neoclassical perspective, is viewed as national output per capita in value terms, traditionally measured through gross domestic product (GDP) and construction of the corresponding national income accounts [4]. Orach [1] defines economic success as the continuous increase over several decades of a nation's income per capita, additional production and buying power, measured in absolute terms [1], [5-7]. Therefore, adding that "booming" economies tend to be stable and open with favourable long-term prospects, view capital accumulation and household organisation as fundamental economic factors and also point toward powerful and consistent institutions as virtuous mechanisms. Financial success as a quantitative concept is different from wealth, which incorporates qualitative factors and concerns the overall well-being of a society. Gross National Product (GNP) has long been used as an indicator of economic success. A case study of over 100 countries over the period 1950-1990, the World Bank reveals that current nation states like Bosnia and Herzegovina, South Africa, and the Central African Republic never accumulated average growth rates higher than 3% annually [2], [8], [9].

A key element considered in analysing economic success is long-run steadiness of growth rather than the achievement of an extraordinary "boom". States rarely get positive growth for more than 10 years. The few that did experience a "bust" shortly. Economic success as a concept has gained currency in the political arena, with the relevant elite promoting economic policies with the focus on income per capita rather than overall quality of life or living standards [10]. In recent years, Sub-Saharan Africa countries have experienced an average annual growth rate of 1.7%. Yet, none of these is regarded as economically successful for the reasons outlined in the regional focus section of the study [7]-[11]. This has direct implications for the economy's ability to fund the government expenditure required to develop the necessary infrastructure to enhance the social, political, and economic well-being of the citizenry. As economic growth remains the most predominant indicator of economic success,

reservations can, however, be raised regarding the use of GDP as a measure for economic success [1], [2], [10], [11].

In his book *Beyond GDP: The Need for New Perspectives on Economic Success in Neoclassical and Ecological Economics in Sub-Saharan Africa*, Jan Philipp Dietz states that economic success is generally understood as a country's ability to increase wealth and prosperity for its citizens, traditionally measured by the gross domestic product (GDP) in neoclassical economics. The critical discussion reveals various limitations of using GDP as a single indicator of economic progress (Table 1). It is, therefore, necessary either to choose a new measure that enables economic success to be assessed from a broader perspective or to extend the GDP by ecological and social indicators.

The foundations of neoclassical and ecological economics, while subsequently addressing the possibilities and challenges of a transformation in Sub-Saharan Africa. The issues presented are based on a systematic scoping review covering the period from 2022 to 2025. The PRISMA-ScR model was applied in this analysis. How natural situations of the countries influenced economic development, and how a country's economic development impacts the population's quality of life, were the two questions that guided this analysis.

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 maximisation	Sustainability, ecological limits, and intergenerational equity
View of Nature	Treated as an externality or factor of production	Seen as foundational to economic systems and well-being
Measurement of Success	Quantitative (GDP, income, consumption levels)	Qualitative and quantitative (HDI, GPI, ecological footprint, well-being indicators)
Treatment of Externalities	Often internalised through market-based mechanisms	Recognised 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, 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, often short to medium term	Resilience- and sustainability-centric, long-term oriented
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	Focus on GDP rankings, economic indicators for donor and investment appeal.	Emphasises inclusive metrics for policy planning, ecological thresholds, and sustainability

2. Methodology

A systematic search of literature and synthesis of themes following guidelines of PRISMA-ScR. It was used to measure economic success systematically in Sub-Saharan Africa using a scoping review methodology. The main issue that this review discussed was that of neoclassical economic views. It also explores implications of policy, measures and definitions that arise from the approach of ecological economics. Sub-Saharan Africa, which is the second-largest continent with over one billion people, remains with key persistent issues, including social, economic and political dilemmas.

African context. To achieve this, a systematic scoping review is conducted following the guidelines of the PRISMA extension for scoping reviews (PRISMA-ScR). The systematic literature search and the selection process are structured according to the PRISMA 2020 statement.

The neoclassical economics index, GDP, is often criticised for not being an indicator of economic success but only of economic output. Criticism includes the lack of consideration of external costs, such as environmental damage

and social and health problems resulting from production and consumption processes, and the inability of GDP to capture economic welfare. Furthermore, GDP does not indicate economic capacities in terms of, for example, poverty or unemployment, nor does it reveal the distribution of income. In particular, in Sub-Saharan Africa, GDP is often still perceived as the most suitable measure of development. At the same time, social and ecological factors tend to receive less attention in the context of growth strategies. Therefore, in the broader context of economic success, several case studies focusing on Sub-Saharan Africa suggest looking beyond GDP and turning to the paradigm of ecological economics.

2.1 Research Questions

The tapering effects of positive growth on human well-being and the enduring consequences of resource depletion and pollution remain elusive. Recognising that a single metric cannot capture economic success, the research question consequently bifurcates into: which factors best define the substance of financial success, and which indicators serve as the most effective tools to measure those factors?

2.2 Literature Search Strategy

Initial scoping and pilot searches of almost 20,000 hits were conducted through major online academic databases to identify relevant data and literature. Searches were limited to peer-reviewed publications in English, French and Portuguese. The final full-text search was conducted on 15th April 2022 on 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 was conducted on Google Scholar without the specified time limits. Snowballing of references and citation searches was conducted using Web of Science and Google Scholar. The scoping review was a systematic literature review following the PRISMA-ScR system to examine 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 7,764 records on economic success (2022–2025) within Sub-Saharan Africa (SSA) were identified from Scopus (2,486), Web of Science (1,732), PubMed (964), Google Scholar (2,312), and other sources (270). After removing 1,764 records (duplicates = 1,024; automated exclusions = 218; other reasons = 522), 6,000 records were screened, of which 5,600 were excluded.

Subsequently, 400 reports were sought for retrieval, with 54 not retrieved, leaving 346 reports assessed for eligibility. Based on the inclusion criteria—empirical evidence on economic success, focus on models, indicators, or dimensions, alignment with research objectives, inclusion of all languages, and the 2022–2025 timeframe—and exclusion criteria—lack of coherent evidence, purely conceptual or review studies, misalignment with objectives, geographical irrelevance, meta-analyses, 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).

Although 246 reports were initially retained for content analysis and categorized into Africa (128), SSA (70), economic success approaches (37), indicators (32), dimensions (25), models (11), and economic development (4), further screening and quality appraisal reduced the final sample to 26 studies included in the review. A citation threshold of 0.01 per year was applied as a quality benchmark (Figure 1).

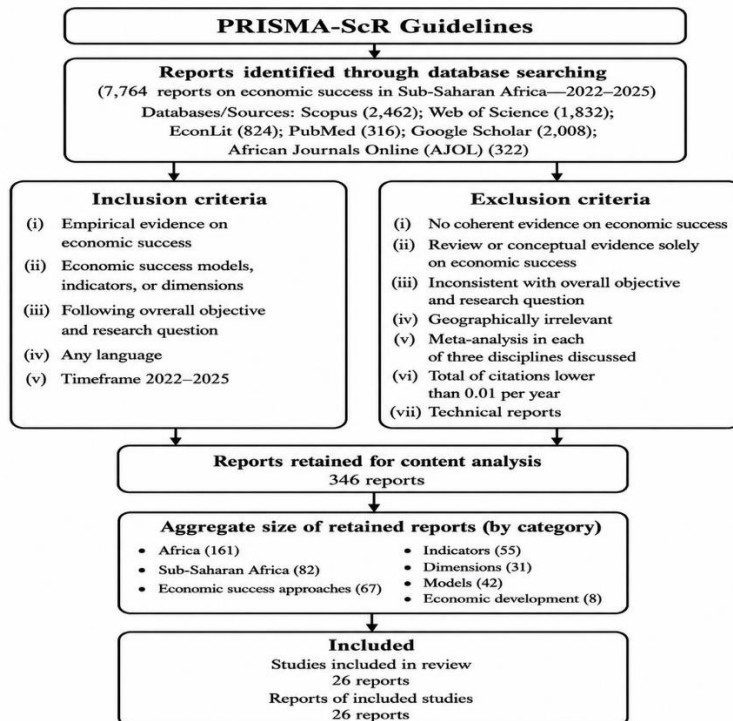


Figure 1. PRISMA-ScR inclusion and exclusion framework used for screening and selecting studies on economic success in Sub-Saharan Africa (2022–2025).

2.4 Study Screening and Selection

The study screening and selection process followed the PRISMA-ScR framework (Figure 1). A total of 7,764 records were initially identified through database searches, while no additional records were obtained from registers. Before screening, 1,764 records were removed, including duplicates ($n = 1,024$), records marked as ineligible by automated tools ($n = 218$), and records removed for other reasons ($n = 522$). This resulted in 6,000 records being screened based on titles and abstracts.

Following the screening stage, 5,600 records were excluded for being irrelevant to the study objectives and scope. Subsequently, 400 reports were sought, of which 54 could not be retrieved. The remaining 346 reports were assessed for eligibility through full-text review.

During the eligibility assessment stage, 320 reports were excluded for several reasons, including 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 ($n = 10$). After the final screening and eligibility assessment, 26 studies met the inclusion criteria and were included in the systematic scoping review. Figure 2 presents the detailed PRISMA-ScR flow diagram illustrating the identification, screening, eligibility, and inclusion processes.

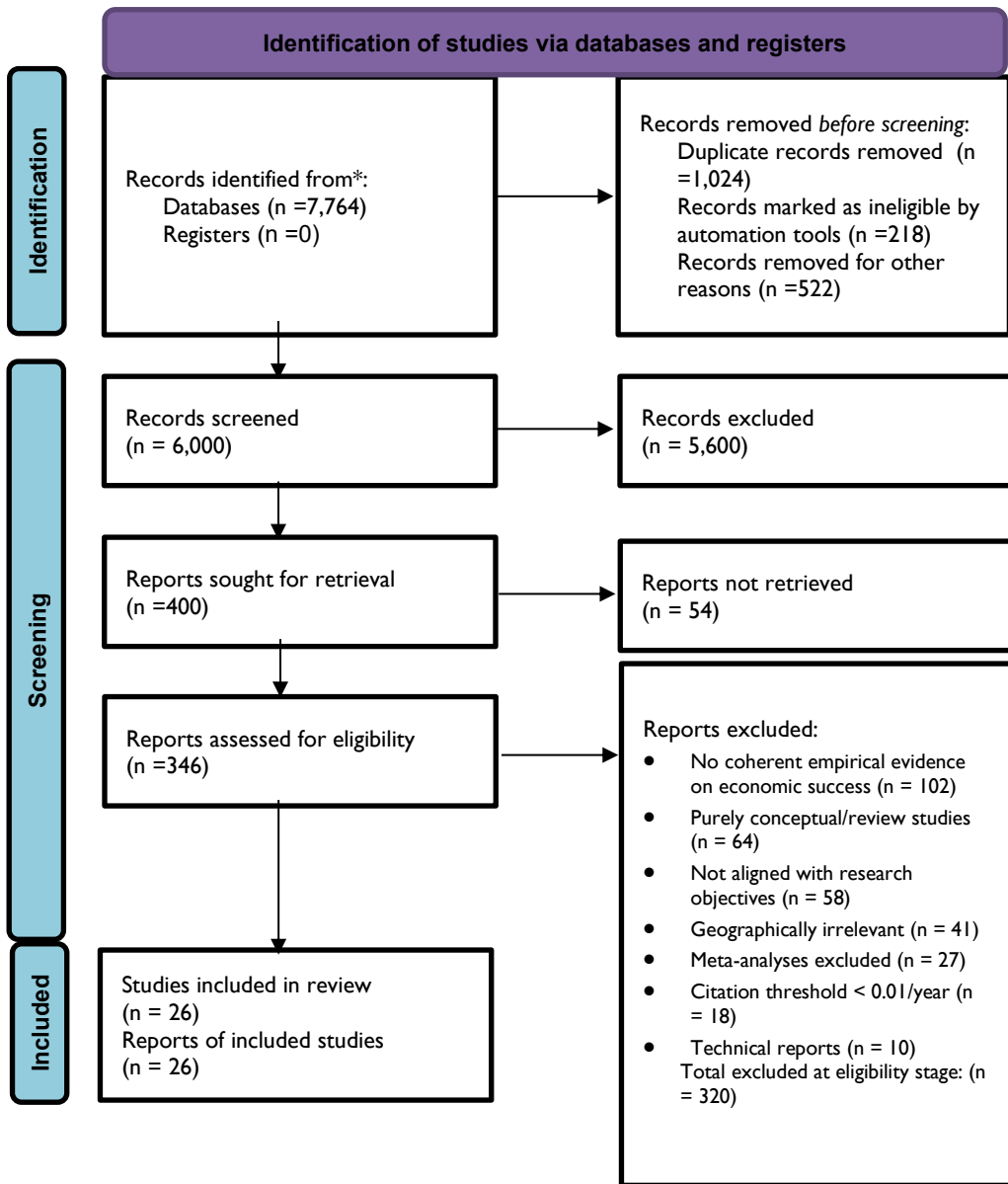


Figure 2. PRISMA-ScR flow diagram illustrating the identification, screening, eligibility assessment, and inclusion process of studies on economic success beyond GDP in Sub-Saharan Africa. A total of 7,764 records were identified through database searches, with 26 studies ultimately included in the systematic scoping review following screening and eligibility assessment procedures.

2.5 Data Extraction

Data extraction focused on information about economic success and sub-Saharan Africa. The eligibility criteria were reapplied to the search results. The gathered information was compared to identify the limitations of GDP as the standard framework for measuring the economic success of countries in sub-Saharan Africa, and to propose a framework that analyses economic success from an ecological economics perspective.

Systematic scoping reviews are designed to capture the breadth of literature on a given topic. A list of search topics and associated keywords was constructed; the main keywords included “economic success”, “metrics of progress”,

“GDP”, “GPI”, “HDI”, “ecological economics”, “development”, “developing countries”, “low-income countries”, “sub-Saharan Africa” and the names of countries in sub-Saharan Africa. Synonyms were different in specific databases. Scopus favoured “low-income countries”, while Web of Science favoured “developing countries”.

2.6 Data Synthesis

Data synthesis in Sub-Saharan Africa shows the complex relationship between resource management, governance, and macroeconomic outcomes, providing a critical foundation for getting the relevant, region-specific indicators of economic success. Suitable measures used to monitor performance of the economies in historical eras like the colonial rule between 1913 and 1950 are very important. This can be backed when we recall the disintegrated evolution insights of per capita output within that period. This will help to understand the previous patterns and challenges currently related to both the ecological and neoclassical economics fields.

2.7 Validation and Replicability

The search strategy specifying MeSH terms, key words and Boolean operators (e.g. (“Economic Success” or “Economic Development”) AND (“Sub-Saharan Africa” or “SSA”) AND “Neoclassical Model” AND “Ecological Economics”) must be reported clearly [12]. was done to allow improved reporting, transparency and for replicability to be validated.

Replicability validation requires an independent researcher at least one to apply the search in order to verify that original results are consistent with what they get when they run the search. The other thing that can improve the rigour of search results is the forward and backward citation tracking of relevant studies. The number of published studies screened, those assessed for eligibility and are also included in the review must be recorded. The reasons at each stage for addition and exclusion must be recorded as this will show extent of evidence identified and reviewed.

3. Results and Discussion

Results show that market equilibrium, choice rationality, and efficiency were highlighted by neoclassical economics. Resources are viewed as being interchangeable and an optimal for allocating goods and services which promotes free markets. Critics argue that other perspectives like theories of sustainability and ecological economics are good because they do not overlook environmental limits and social inequalities. Some neoclassical economists are of the belief that economic growth will tackle development problems and put in checks the growth that may harm environmental long-term viability and social equity. The rapid growth in SSA, has an impact on policies, development plans, allocation of the budget and the well-being, which is connected to the steady growth of the economy. [5]–[7], [10],[11].

3.1 Foundational Principles of Neoclassical Economics

Neoclassical economics rose to dominance in the 19th century. Until now, it has been an approach that has remained central in economic science and the preparation of policy. A generally accepted rigorous framework that helps understand the behaviour of humans and financial systems is the neoclassical economics framework. It provides the basis of academic discussion in SSA and plays the role of a standard reference used in the analysis of economic issues and policy assessments around the world[4],[12],[13].

The discipline of neoclassical economics has four foundational axioms that completely explain human choice and have endured over time, systematic testing [14]. According to the first axiom, individuals have preferences that are well-defined, which helps them to compare options and have a ranking of desirability. People, when consuming leisure maximise disutility, meanwhile they maximise utility when they consume goods or commodities. This is according to the second axiom. According to the third axiom, individuals exhibit diminishing marginal returns; for example, the additional fulfilment derived from consuming one extra ounce of orange juice equals a third of the satisfaction from the first ounce. The fourth axiom maintains that all goods and services are interchangeable, meaning that if a person gets the most excellent utility at a given expense with a particular set of goods, then any other combination giving the same utility must be at least equally costly[14]–[17].

3.2 Critiques of Neoclassical Approaches

Despite its extensive acceptance, neoclassical economics has attracted significant criticism since its origins; its assumption of rationality is regularly challenged, as is its mathematical modelling of human behaviour. Several reservations surround its assumptions, methods and values, capable of potentially altering the representation of economic relationships and their assumed implications[18]–[21]. Critics argue that by prioritising abstract

optimisation models, the neoclassical tradition often overlooks the cultural, institutional and psychological factors that shape economic life, thereby simplifying behaviour in ways that limit real-world relevance. Neoclassical economics' achievements include an understanding of the role of prices and supply and demand in the functioning of markets and in the distribution of resources. The distribution of resources is the axiomatic function of economics, primarily when expressed in material or financial terms. Distribution is mediated through quantities such as price, wage, rent and interest, but these ultimately resolve to prices of goods and services. However, this price-centred 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 via the price mechanism, generating a particular pattern of output and income, and any such allocation must take account of scarcity. Scarcity limits the freedom of choice; consequently, economic policy is concerned with ensuring that the price mechanism induces the correct decisions, ultimately contributing to the objectives of 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 of alternative actions with differing implications for the allocation of scarce resources; such decisions depend on estimates of utility or satisfaction, which are synthesised in the demand function and constitute ‘objective’ behaviour. This assumption of stable and measurable utility is gradually viewed as not being realistic, especially given contemporary insights from behavioural economics showing that preferences are often unpredictable, context-dependent and influenced by social norms.

Few global economies have achieved same pillarized growth, with some, such as those of Sub-Saharan Africa, having been in existence for some time. Poverty is damaging many Sub-Saharan countries. The application of neoclassical tools in order to achieve efficient allocation of growth strategies is cast in doubt in this respect[15],[16],[18]. In such circumstances, structural barriers such as limited diversification, volatile commodity dependence, and weak institutional frameworks curb the effectiveness of market-oriented preparations, suggesting that neoclassical models may overlook the deeper development constraints these economies face.

An ideological perspective characterises the neoclassical economic conception of development, which is subsequently rationalised through policies that sustain inequality and do not serve the interests of the majority within regions such as Sub-Saharan Africa. The position is reflected in the multidimensional issues affecting such countries, particularly the growth in poverty and the rapid degradation of the environment. The application and continued use of the neoclassical economics framework are controversial in many instances, often considered an explanatory theory for why the region’s economic successes remain modest. It is also intrinsically limited in its ability to describe well-being or other socio-economic goals, such as social justice, and is therefore problematic in measurement.

3.3 Ecological Economics Framework

Ecological economics fundamentally redefines economic value by recognising that the economy is an irrevocable subsystem of the broader ecosystem. The production and consumption systems are embedded within the environmental economic system of flows and stocks.

3.4 Principles of Ecological Economics

Whereas neoclassical economics views the environment as “natural capital”, ecological economics argues that social and natural environments represent “fund” as opposed to “flow” resources[14]–[16],[18]. The core of ecological economics lies in promoting socially responsible behaviour. It advocates 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 maximising human satisfaction.

It is a transdisciplinary field which is devoted to the integration and preservation of both societal and the health of the ecosystem within the economy. Ecological economics integrates the principles of ecology into economics, therefore providing a viewpoint that is realistic and sustainable on human prosperity[18],[19],[22]–[24].

3.5 Sustainability and Economic Growth

Sustainability of the environment, according to ecological economists, is a predominant policy objective[20],[21],[25]–[27]. A sustainable growth paradigm for Sub-Saharan Africa thus emerges as an ecological mandate to prioritise local and global environmental objectives and protect public health. If Sub-Saharan African economies continue to exceed social and ecological limits, external forces propagate unsustainable development and threaten the persistence of economic growth. Recent years have seen a shift in development discourse towards alternative indicators of success 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 contends that the operation of natural-economic systems requires adjustment to economic forces through sound economic policies framed within a broadly defined set of rules. Economic development, both theoretically and in practice, merely entails taking the steps necessary to expand the set of rules so that the appropriate adjustments can be sought, hence the primary focus on economic growth. The neoclassical script is incomplete mainly because it encompasses the entire domain of discourse on economic development as a tissue of interrelated technical entities that, for the most part, are either taken for granted or barely linked to broader issues of equity, justice, power, or prestige. This narrow framing results in a developmental narrative that emphasises efficiency over fairness, and which assumes that social and political complexities will ultimately resolve themselves through market mechanisms, even though historical experience repeatedly suggests otherwise.

Such issues, which form the political dimension, are ironically categorised as non-economic factors. The analysis has been expanded to position the political dimension within the neoclassical narrative. Including politics into the neoclassical model requires acknowledging that markets are entrenched within institutions shaped by historical struggles, governance structures, and communal values elements that directly influence economic outcomes yet cannot be condensed to market equilibria [23]-[29].

Ecological economics provides a much richer theoretical framework for economic development: it considers the natural economy as thermodynamically open, with a stock that is systematically depleted, a flow that is necessarily limited, and a vital integrity. Without natural resources, production cannot happen; without natural sinks, production cannot safely continue; and without natural capital, reproduction is meaningless. Other things being equal, the more the natural economy is depleted, the greater the chance of ecological catastrophe [27]-[30]. This perspective shifts the analytical focus from marginal trade-offs to biophysical limits, emphasising that long-term development must operate within planetary boundaries and that economic activity is constrained by irreversible ecological thresholds [31]-[34]. The methods for identifying and locating ecological-economic systems capable of sustaining a consistent level of throughput over time are obviously a good starting point for establishing practical rules. The neoclassical and ecological perspectives are compared through two regional considerations, forming a conceptual basis for developing indicators beyond GDP.

3.7 Neoclassical vs. Ecological Economics

Neoclassical economics has dominated economic thinking, emphasising the efficient allocation of scarce resources through markets, assuming rational agents, and minimising government intervention. The model concentrates on utility maximisation, profit maximisation, and equilibrium. Meanwhile, ecological economists suggest that the economy is a subset of the fixed ecosystem. They postulate that the growth of the economy competes with environmental assets. Equilibrium is called not at full employment but within the limits that are forced by the social and ecological system. Focus, therefore, moves from GDP to the development of holistic indicators that preserve natural capital.

3.8 Institutional Economics and Path Dependency

Institutional economics looks beyond the frameworks of ecological and neoclassical economics. It introduces a lens that matches the role played by history, structures within institutions and path dependency in determining 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 activities coerce present opportunities, making it difficult for regions to adopt new economic models, even when current ones are failing[12],[13],[32]. As such, development strategies must

engage with institutional reform and the socio-political context to foster inclusive, resilient, and adaptive economic systems (Figure 3).

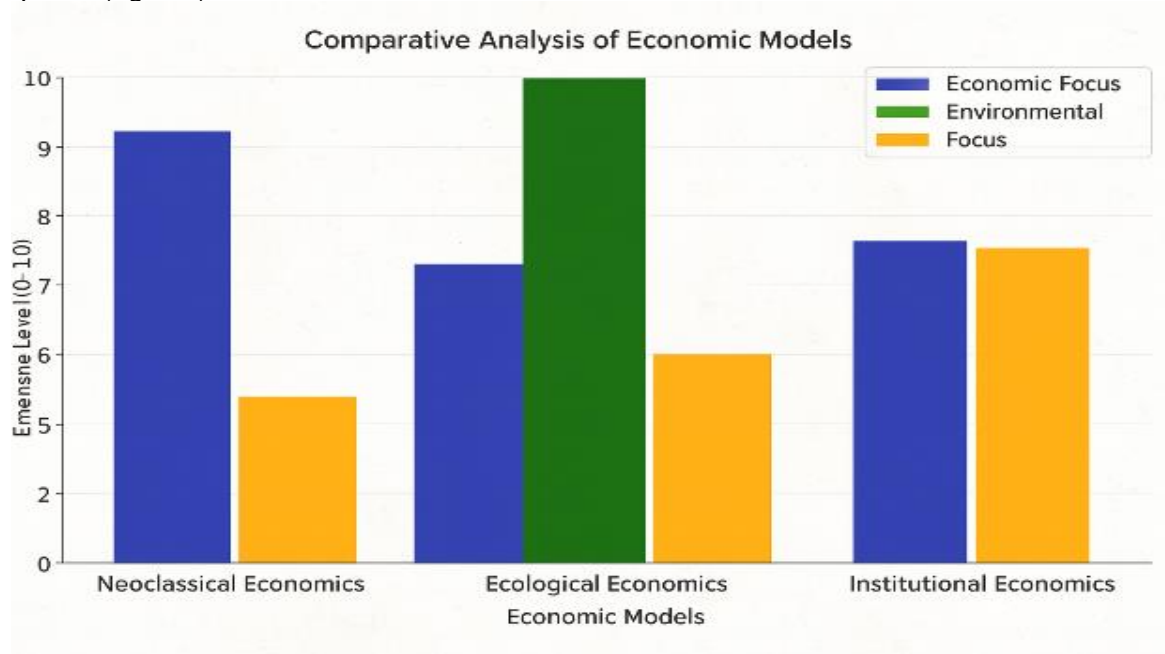


Figure 3. Comparisons of economic models.

3.9 Indicators Beyond GDP

Economic success has conventionally been understood primarily as GDP growth, a single quantitative dimension. However, this idea is challenged by literature activists who emphasise multidimensional and qualitative perceptions. The ecological-economic discourse that champions sustainability extends the critique of GDP in several notable ways: (i) GDP incompetently captures long-term well-being and welfare effects, (ii) aggregate quantities of natural wealth are not combined in national income accounting, and (iii) the depletion of natural capital may reduce intergenerational well-being but can generate a positive GDP signal. The reliance on GDP growth therefore, renders a sustainable outcome defined as sustained or improved well-being over time vague.

Given these limitations, several indicators have been proposed to measure aggregate economic success. The Human Development Index (HDI) and the Genuine Progress Indicator (GPI) are some of these indicators.

3.10 Human Development Index (HDI)

To show how important people and their abilities are in assessing a country's development, rather than focusing solely on economic growth, an indicator known as the Human Development Index (HDI) emerged. To have a merged measure of average achievement in human development: endurance and health, knowledge, and a decent standard of living, which make up the three fundamental scopes the HDI is used.

The HDI attracts disapproval, and various modifications have been made, despite its widespread adoption [1],[2],[5],[9].

Spatial analysis of eHDI and HDI rankings shows widespread variation. There is a huge decline in rank in the Global North and the Middle East. This can be indicated by the unsustainable environmental footprints. South America and East and South Asia display huge improvements in eHDI, which would suggest that, in sustainable development, there is progress [16]. In this sense, predictable understandings of eHDI not only revise the global development hierarchies. It acts as a paradigm shift toward models that reward ecological stewardship, resilience, and equitable resource use [1]. Historical trajectories covering three decades reveal differing patterns in the relationships between eHDI and HDI (Figure 4).

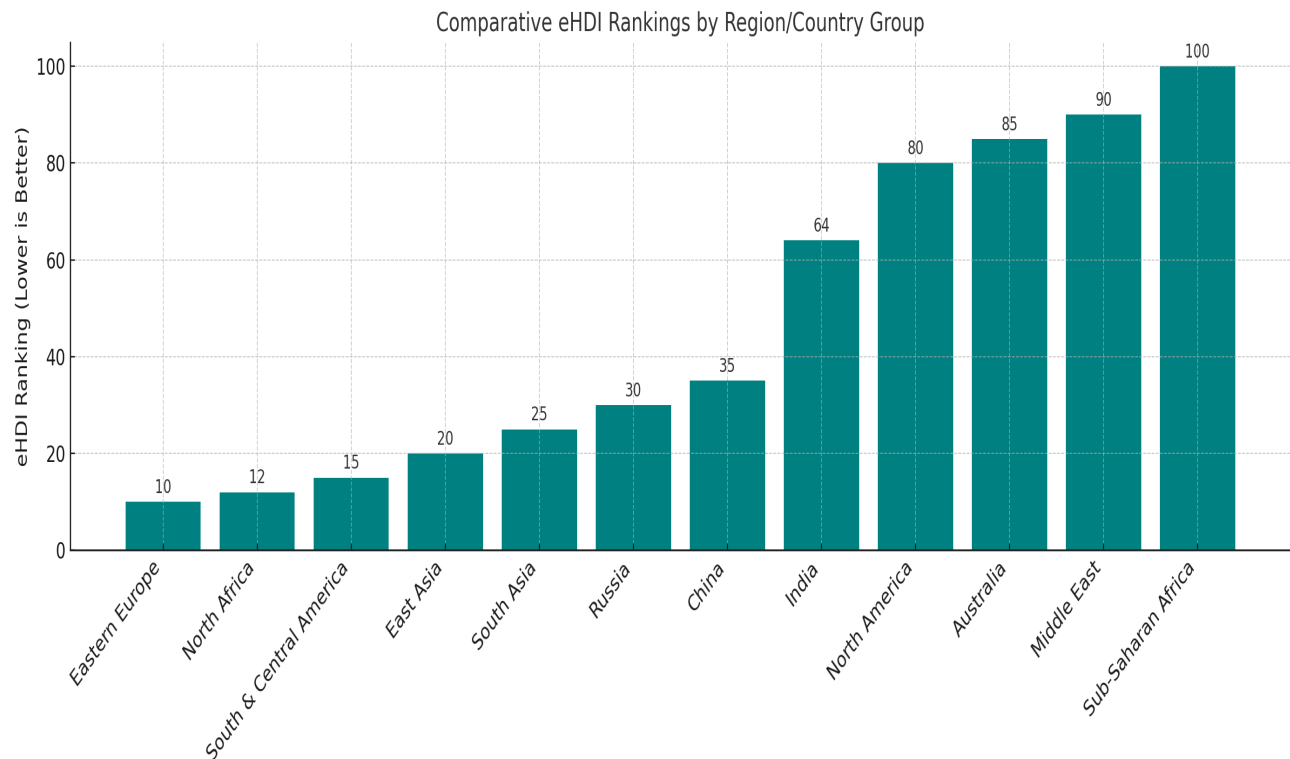


Figure 4. Comparative rankings among countries.

3.1 | Genuine Progress Indicator (GPI)

The Genuine Progress Indicator (GPI) seeks to measure those forms of economic growth that enhance welfare and exclude those that do not, thereby differentiating between good and bad growth [1], [11], [13]. Originating from Daly and Cobb, who shared a conceptual foundation with the Index of Sustainable Economic Welfare (ISEW), GPI refines estimates of personal consumption expenses 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 from environmental degradation and natural capital reduction that diminish both contemporary and future welfare.

The limitations of GDP as a welfare measure have been widely recognised. Because GDP treats spending on environmental damage, accidents, and family breakdown as welfare-enhancing while excluding essential unpaid activities such as housekeeping, it both exaggerates and minimizes social well-being in different respects. Although Simon Kuznets, who developed GNP in 1932, clearly stated that these aggregates were not welfare indicators, subsequent dependence on them delayed the development of more comprehensive measures. From the 1960s onwards, disapproval mounted and efforts to supplement or modify GDP accelerated. In particular, the 2009 Commission on the Measurement of Economic Performance and Social Progress (CMEPSP) advocated more appropriate alternatives. These include Measures 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].

Rising concern about social and environmental issues has increased interest in GPI as a well-being indicator [17]. While several individual US states have developed GPI estimates to explore the balance between welfare-enhancing and welfare-reducing economic activities, a centralised database remains unavailable. As the components of GPI are often more challenging to quantify in monetary terms than the variables that comprise GDP data 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 and thereby compromising its broader purpose [6],[7],[10].

3.12 Environmental Sustainability Indicators

Sustainability measures focus on securing the long-term tasks that subject humanity and people to stress and that meet the basic needs for survival and well-being during economic development and growth. The Gross National Product (GNP) and GDP are among the most widely used sustainability indicators [23]. This approach reflects an effort to shift attention away 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 focus strongly on subsidies, emphasising their importance. Environmental sustainability can be expressed as the ratio between inclusive wealth and GDP, the proportion of capital goods that can still be maintained by the desired welfare levels. As climate change threats, poverty, and natural resource depletion rise, the attention of economists is growing [23].

Metrics such as ecological footprint, carbon intensity, loss of biodiversity, and material consumption rates are some of the sustainability indicators. They offer a more realistic picture of long-term viability than GDP alone. Some cases were highlighted by economic growth, which masks environmental degradation or social vulnerability [12].

3.13 Policy Implications

The challenges that SSA faces, such as sustained growth and continuing socio-economic challenges, show that the major interpretation of development is growth of the economy and not just the presentation or availability of opportunities and capabilities [10]-[18]. The transmittal mechanisms, together with the resources and revenues in the region, pose a big challenge to the resource rule. But the technological and behavioural traits signify that they should be considered as well.

An active integration is very necessary in the approach of the ecological economy to development through frameworks that are social and natural. The conceptual scope allows a complete evaluation of development that is sustainable, and is able to recognise the different nature of production and employment. It should be able to estimate the full consequences of decisions on how to use resources [15],[16],[18], [19],[22].

In the region, the eagerness for accelerated, widely distributed, and lasting releases of key development benefits warranted its examination. These helped in informing the recent policy shifts. The adoption of the full green economy and sustainable development agenda is a reflection of this orientation [12]-[27]. Political economy analyses of intersections between growth, social welfare, and ecological security have demonstrated the embattled, elated, and nature of the development record. Its relevance and appeal are seen by the prescriptive implications [9].

3.14 Integrating Ecological Economics into Policy

The integration of ecological economics into policy is a key challenge for development that is sustainable and governance [23],[24]. To move towards a sustainable economy, consideration of appropriate levels of payment and the use of markets to incentivise behaviours consistent with long-term ecological sustainability are needed. Social capital, poverty, and differences also shape health outcomes and environmental attitudes [23]. Policies that take into account the needs of societies as a whole and the influence of intellectual approaches can help reduce unwanted societal rigidity [27].

Individuals can be encouraged to adopt more environmentally responsible behaviours when the economic models used include incentives. In low- and middle-income countries, connecting conditional cash transfers is a strategy to increase the uptake of health-promoting interventions and to encourage structural changes in health systems [25]. A careful balance is needed for sustainable development to lead to productive economic growth and the protection of ecological assets. To achieve this balance, the cross-sector policy must be coordinated, and recognise ecological limits as foundational constraints rather than exterior considerations. This will ensure that long-term environmental integrity is not forgone for short-term economic gains [29-30, 35].

3.15 Challenges in Policy Implementation

The shift from the traditional measure of economic success, which is GDP, to indicators that are sustainability-aligned brings up outstanding challenges in the application of policy in SSA. These challenges cut across many dimensions, namely, institutional, socio-economic and financial scopes.

A governance framework that has the capacity to coordinate different stakeholders involved is institutionally

demanded for very effective adoption. Strict focus on government restraint disregards essential state capacities development, even though economic performance is what is mainly supported by proper governance[22]. To reflect Africa's economic realities, the regional governments must also use their modelling tools precisely to reflect this. Presently, many models used in macroeconomics do not accommodate the complex and diverse structure of many economies in Africa[20],[25],[26].

3.16 Socio-Economic Factors in Sub-Saharan Africa

Poverty in SSA affects at least 70% of the population, and it also tends to be more severe in this region than in other regions[19]. An inequality averaging about 10% beats that of other parts of the world. Along with these factors, there are high unemployment rates, war, conflict, and the AIDS epidemic. Unemployment rates are very high for most of the population, even if the informal sector provides some employment opportunities and income. War and conflict have led to the mass movement of people and have stopped economic progress in many countries. In the 1990s, the AIDS epidemic affected the population and caused a considerable reduction in economic growth. The prevailing cultural view of the region's natural resources is supported by spiritual attachments, which are seldom considered alongside the economic wealth generated from exploiting those resources. Alternative methods from neoclassical economics have to be developed for most of these countries to generate employment, economic growth, and poverty reduction. Development models of these countries could be transformed by ecological economics, which offers hope of interpreting the complex interconnected risks, uncertainties, and contradictions of the 21st century[14].

3.17 Poverty and Inequality

Poverty and inequality are among the most apparent indicators of the shortfall of GDP as a measure of economic success in Africa, where extreme poverty can remain intractable despite dramatic growth in per capita income[25]. A variety of approaches have been developed in the literature to 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 the suggestion is not invariant and depends on a variety of factors. The widely-noted growth renaissance in Sub-Saharan Africa and the recent commodity shock from falling oil prices have revived debates over the link between growth and poverty and the role of inequality as a mediating factor. Trade openness and policy credibility have also been implicated as important variables, especially among the poorest countries [20],[21].

Inequality poses a challenge to neoclassical growth theory and the Washington Consensus, which are consistent with a sustainable economic policy commitment only in the context of eventual convergence and shared prosperity. In Sub-Saharan Africa, growth episodes are often associated with substantially rising inequality and entrenched poverty. Africa's non-development emerges as an ordered process rather than a period of stagnation. This suggests that it is not only anti-poverty programmes that need to be reassessed, but the whole paradigm of economic development. The distribution and incidence of poverty are also clearly related to the region's culture and institutions, with deeply-held traditional views of social, economic and political organisation emerging in a surprisingly orthodox interpretation of the role of women in society. These views conflict with the philosophical imperatives behind the Millennium Development Goal gender equality targets and continue to limit the region's market potential and opportunities for profitable private-sector development, while simultaneously hampering the effectiveness of government, donor and NGO responses to poverty and deprivation[23]. Economic success must therefore be compatible with the region's diverse and distinctive social frameworks.

3.18 Cultural Perspectives on Economic Success

The meaning of success differs culturally; it is often understood as "meeting expectations" or "taking care of people" [12],[23]. Economic success closely relates to the values a culture promotes; thus, it is essential to examine the cultural perceptions prevalent in a specific region. In many societies, success is rooted in communal obligations, social cohesion, and collective well-being rather than purely individual achievement, shaping how people engage in economic activities and measure their own progress. A country's accrued wealth and opportunity landscape, entwined with cultural factors, also strongly influence economic success[20],[21],[26],[27].

Economic ethos is usually in line with the region's cultural values. Sub-Saharan Africa is inclined towards a more commendation-oriented and cosmopolitan economic success ethos. These stresses enhancing social connections and meeting expectations of the society. It is necessary to compare these perspectives with the ones under ecological and neoclassical economics. Alternative indicators beyond GDP are therefore important to explore because most

nations want economic success over a broader conception of success.

3.19 Institutional Capacity and Governance

Some factors such as structures of governance and the quality of institutions affecting economic success in Sub-Saharan Africa are neglected despite being very key. For example, when weak institutions exist there is lack of enforcement of regulations and also limited bureaucratic capacity which in turn affects the implementation of strategies of poverty-reduction. Domestic entrepreneurship and foreign direct investment are deterred by rife corruption, instability politically and a rule of law that is weak. This leads to a sequence of underdevelopment [3],[8].

3.20 Future Directions in Economic Measurement

Environmental degradation is a serious threat to the ecosystem, on the other hand malnutrition, poor health systems and a lack of education are the reality on the ground for many people. These two issues make an intersection of the current economic systems [23],[35].

These dual issues show that GDP a traditional economic indicator is insufficient as it doesn't get the full scenario of human well-being and ecological sustainability which is multidimensional in nature [33, 34, 35]. The first step in creating an different environmental economics is to revisit the fundamental question of why economics exists. The primary challenge of economics is to solve the problem of assigning scarce means to many ends if it is to serve society. This challenge remains, whether economic concerns individuals, social groups, or humanity as a whole. Most economies aim to increase combined production over time, and economic growth is considered the fundamental indicator of success, with GDP serving as the objective benchmark of human progress and development. Therefore, the essential question is how the neoclassical view of economic progress and achievement can be revised within a Social Ecological Systems (SES) context. Virtually all aspects of an economy, output, consumption, and investment, can be regarded in terms of social and ecological consequences. Within an SES context, the concepts of investment in physical, social, and natural capital necessity to be revisited. Only when economic growth becomes consistent with maintaining the integrity of critical global biophysical systems will the goal of sustainable development be reached. Ecological economics offers a basis for nonaggressive politics and economic organisation, and the rescaling it requires will entail moving beyond GDP as the primary indicator of financial success.

3.21 Innovative Metrics for Economic Success

Economic success is conventionally measured by the gross domestic product (GDP). Many issues attached to GDP as an indicator of success are debated in the literature, including the absence of non-market transactions and the indifference of sustainability and well-being[1]–[3],[8]. As a result, GDP provides only a partial and often misleading depiction of societal progress, privileging short-term production increases while obscuring long-term environmental degradation, social inequality, and declines in quality of life. To provide an answer, a scoping review was conducted by PRISMA-ScR guidelines. This methodological approach ensures a methodical mapping of the existing evidence, enabling the identification of conceptual gaps, emerging trends, and the extent to which ecological economics has been operationalised in the development of other economic indicators across different contexts.

3.22 The Role of Technology in Economic Analysis

Technology plays a progressively important role in economic growth in Africa. Yet while other theories linking economic growth and technology emphasize the growth of average income as a focal point, this paper argues that income distribution must also be taken into account when considering the role of technologies. Overall statistics in the sample show that after 1974 there was an increase in inequality and a decline in growth. These findings show that the type of technology used matters and plays a pivotal role in whether equitable development is as a result of economic growth and not just the quantity or scale of adoption. The most significant variables after statistical analysis were growth; which is a key contributor to inequality. The intensity of technology, the changes in labour and capital have the most effect in inequality-reduction across the full sample [9]. In Africa, labour-intensive technologies are the primary driver of inequality changes in Africa, as suggested by decomposition of the effects of growth and technology. Further opportunities for future research are also discussed in the following articles [7],[13],[32]. In future studies, the role of digital technologies, automation, and technologies that are green could be discovered. This can help in shaping both growth and equity, providing a basis for policies that concurrently promote productivity and inclusive development. Another area for future research could be the development of indicators that combine dimensions such as the ecological, social, and economic (Table 2). Such innovations can aid the redefinition of success in economic terms, directing policy decision-making that will balance growth with justice and environmental

stewardship [5].

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	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Ignores income inequality, poverty, and informal economies dominant 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	<ul style="list-style-type: none"> • Captures social dimensions of development beyond income • Highlights disparities in health and education outcomes • More aligned with human well-being goals in SSA 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Accounts for inequality, unpaid labour, and environmental degradation • Distinguishes welfare-enhancing from welfare-reducing growth • Conceptually well-suited to sustainability challenges in SSA 	<ul style="list-style-type: none"> • Data-intensive and difficult to compute in SSA contexts • Limited standardisation and cross-country comparability •

3.23 Policy Implications and Implementation

The findings of this study indicate that development planning in Sub-Saharan Africa (SSA) should transition from GDP-centred approaches toward integrated frameworks that incorporate economic efficiency, environmental sustainability, and social well-being [2], [4], [26]. Governments and regional institutions should institutionalise multidimensional indicators such as the Human Development Index (HDI), Genuine Progress Indicator (GPI), Measure of Economic Welfare (MEW), Inclusive Wealth Index (IWI), and 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 for evidence-based decision-making [16], [21].

Policy implementation should prioritise green industrialisation, renewable energy transitions, climate-smart agriculture, and inclusive governance mechanisms that address poverty, inequality, unemployment, and ecological degradation simultaneously [18], [29], [31]. Improved coordination among ministries responsible for finance, agriculture, environment, and social development is essential to ensure policy coherence and integration of sustainability [14], [27]. Furthermore, investments in digital technologies, geospatial monitoring systems, artificial intelligence, and institutional capacity-building can improve 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 need for integrated frameworks that simultaneously capture ecological sustainability, social well-being, institutional quality, and economic resilience. Comparative empirical studies examining 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 relevant to policy.

Further studies should also investigate 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. In addition, future work should explore integrating Social-Ecological Systems (SES) frameworks, artificial intelligence, geospatial analytics, and sustainability modelling into economic planning and decision-making processes. Strengthening regional databases and institutional capacities for sustainability accounting will also be essential for improving the implementation and monitoring of alternative economic indicators beyond GDP in Africa.

4. Conclusion

Using GDP alone in Sub-Saharan Africa as a measure of economic success is not adequate, as shown by this systematic scoping review. This is so because inequality, social well-being, environmental degradation and sustainability that is long-term are overlooked when using this measure. According to the findings, neoclassical economics does not give a full account of the region's development outcomes. The focus of neoclassical economics is on growth, outcomes of the market and efficiency. Meanwhile, another branch of economics, known as ecological economics, offers a varying perspective as it includes the combination of intergenerational equity, human well-being and the limitations 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 joining neoclassical efficiency with ecological sustainability is necessary to guide policy, enhance resilience, and align development paths in Sub-Saharan Africa with earthly boundaries and inclusive human development.

List of abbreviations

GDP – Gross Domestic Product
GNP – Gross National Product
HDI – Human Development Index
eHDI – Environmental Human Development Index
GPI – Genuine Progress Indicator
HPI – Happy Planet Index
MEW – Measure of Economic Welfare
ISEW – Index of Sustainable Economic Welfare
IWI – Inclusive Wealth Index
OECD – Organisation for Economic Co-operation and Development

SES – Social Ecological Systems
SSA – Sub-Saharan Africa
UNDP – United Nations Development Programme
PRISMA-ScR – PRISMA extension for Scoping Reviews
SSr – Systematic Scoping Review
CMEPSP – Commission on the Measurement of Economic Performance and Social Progress
NGO – Non-Governmental Organisation

Author Contributions

Conceptualisation, methodology, 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, visualisation, 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 and government reports and research publications.

Conflicts of Interest

The authors declare no conflict of interest.

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Standards of Reporting

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AI-Declaration

ChatGPT and Grammarly 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 the responsibility for all content.

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