An Agenda for Sustainable Development: The Role of Strategic Impact Assessment in Promoting Namibia's Transition to a Green Economy

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An Agenda for Sustainable Development: The Role of Strategic Impact Assessment in Promoting Namibia's Transition to a Green Economy

Philip Mensah, Eric Yankson, and Derrick Frimpong Buabeng

Abstract Strategic impact assessment (SIA), also known as strategic environmental assessment (SEA), is a systematic approach to decision-making that considers the dimensions of a green economy transformation for sustainable development. Although, Namibia has made significant strides to attain the United Nations Sustainable Development Goals (UN-SDGs) 5, 13 and 15 i.e. gender equality, climate action and life on land respectively, the country seems to be struggling to meet the other aspects of the SDG targets. The chapter reviews relevant documents and analyzes results to identify the strengths, weaknesses, opportunities and threats of the current impact assessment methodologies, in the context of the UN-SDGs. Followed by a qualitative research approach, utilizing a case study design and purposive sampling technique. The target population comprised personnel from the National Environmental Affairs, Development Planning Commission, and Lands and Resettlement Authority in Namibia, key exploration of stakeholders in SEA administration. Data collection involved conducting in-depth interviews with six officers, two from each institution, using semi-structured interview guide. The findings show that Namibia undertook a voluntary SEA between 2008 and 2013, although it is not yet a legal mandate. It is evident that the drivers of SEA legislation have the potential to a green economy transformation for sustainable development with 64.3% SDG index score and 89.7% spillover score in Namibia. The level of this SDG achievement indicates the country's commitment to SIA in land use and spatial planning policies, plans and programs for sustainable development. The research also identifies potential improvements and recommendations for a more robust impact assessment

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framework in guiding sustainable development. Enhanced stakeholder engagement, integrated social and economic aspects more effectively, strengthened the capacity of governments and stakeholders, and encouraged the use of SIA as a tool for development policies, plans and programs (PPPs). The study concludes that SIA plays a crucial role in guiding green economy transformation for sustainable development and that improvements can be made to enhance its effectiveness in promoting sustainable development.

Keywords Agenda · Green economy · Sustainable development · Land use and spatial planning · Strategic impact assessment · Strategic environmental assessment · Policies · Plans and programs · Namibia

1 Introduction: "An Agenda for Sustainable Development"

In the twenty-first century, sustainable development has emerged as a paramount global concern that encompasses three pillars: economic growth, environmental justice and social equity i.e. prosperity, planet and people respectively (UN-SDGs 2021). This multifaceted challenge has prompted nations worldwide to reevaluate their development models and prioritize sustainable practices through research. Namibia, a country located in the southwestern corner of Africa, is no exception to this global imperative. The nation's developmental ambitions are inextricably linked to the urgent need for an economically viable, environmentally sustainable and socially equitable future. This chapter thus contributes to the discourse on sustainable development research by focusing on the role of SIA as a crucial instrument for fostering environmental consciousness and economic resilience. This is particularly evident in Namibia, where the transition to a green economy stands as a paramount objective for ensuring long-term sustainability and prosperity. According to Sachs et al. (2023), the adoption and acceptance of the UN-SDGs of Agenda 2030 aimed to achieve the slogan "leave no one behind" (LNOB) by accomplishing 17 goals aligned with the three sustainable pillars (see Fig. 1). Nevertheless, inefficient growth in a single nation can undermine even the most well-intentioned initiatives for sustainable development in other regions, ultimately leading to an unsustainable planet.

The SDGs, which are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity, are the goals that the United Nations (UN) is working on in Namibia (UN 2023b). According to the United Nations Development Programme (UNDP), these goals are interconnected, and addressing them requires effective partnerships, building on the experience and resourcing strategies of partnerships (UNDP 2023). Namibia has made significant strides in reducing poverty and improving access to education, and the country has also taken bold steps including the adoption of renewable energy sources to address climate change (Nangolo 2023). However, there are still challenges that impede progress, such as high levels of inequality and limited access to decent housing (UN-SDGs 2021; Sachs et al. 2023). The country faces unsustainable development challenges, and addressing

Fig. 1 The 17 UN SDGs. *Source* Modified from UN SDG Knowledge Platform (2023)

these issues requires a comprehensive research approach that considers the interconnectedness of the three SDG pillars: people, prosperity, and planet (UN-SDGs 2021).

Sustainable development is universally relevant, but its level varies by location, direction, and evolution (see Fig. 2). Thus, countries are positioned differently on the sustainability continuum, with developed economies prioritizing goals like reducing greenhouse emissions while developing economies focus on issues like food provision and poverty eradication (UN-SDGs 2021). The COVID-19 pandemic has underscored the dynamic nature of sustainable development, where economic recovery may sometimes come at the expense of the environment (Jensen et al. 2021). Namibia possesses a unique opportunity to build a sustainable future through research because it is characterized by a delicate ecological balance and a unique blend of natural beauty and extraordinary natural resources including pristine landscapes, diverse wildlife, and renewable energy potential (UN-SDGs 2021). Its landscapes span from the arid deserts of Namib to the lush green banks of the Okavango River, teeming with diverse flora and fauna that best represent the chosen case study in sub-Saharan Africa.

However, like many other nations, Namibia faces critical challenges in terms of economic development, environmental conservation and social inclusion. Thus, its journey towards sustainable development is a testament to the dynamics or nuances inherent in such a transformation (UN-SDGs 2021). In other words, Namibia's commitment to enhancing the livelihoods of its citizens, particularly in informal settlements within urban areas, underscores the need for inclusive and equitable

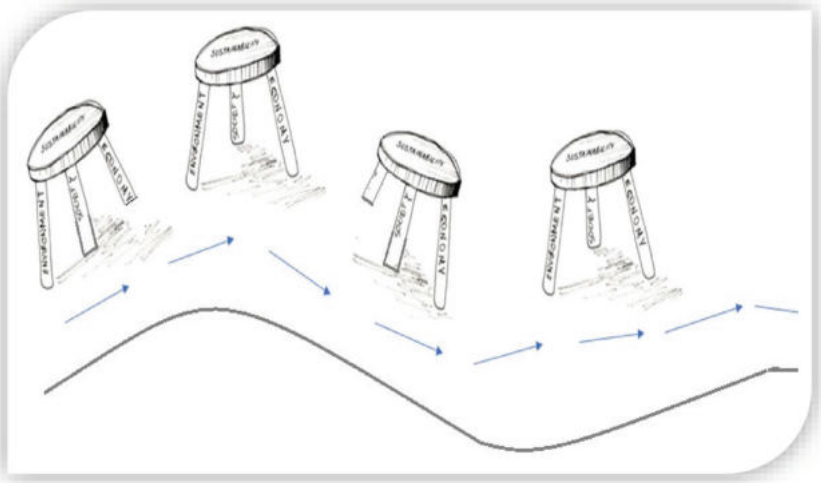

Fig. 2 The universal, dynamic, location-dependent and evolutionary nature of sustainable development. *Source* Modified from Ibeh and Walmsley (2021)

development strategies. Cities are central to the 2030 Agenda for Sustainable Development, and making cities and human settlements inclusive, safe, resilient and sustainable is a key aspect of SDG 11 (UN-SDGs 2021). Moreover, existing literature, while insightful, often lacks a comprehensive analysis of the nexus between sustainable development and the green economy in many parts of the Global South, leaving a significant gap in our understanding of this pressing concern. In this chapter, we delve into the multifaceted issue of sustainable development and its impacts on the environment, exploring its ramifications for one of the most promising and relevant paradigms of our time i.e. the role of SIA on a green economy transformation for sustainable development agenda. Although the green economy is a subset of achieving the universal sustainable development goals known as the agenda for sustainability (UN-SDGs 2021), it represents a crucial aspect of the broader sustainability agenda.

Therefore, the primary objective of this chapter is to unpack the relationships between sustainable development and the green economy, highlighting the role of SEA in promoting sustainable economic development. To achieve this objective, the research addresses the following questions: What is the current state of Namibia's green economy transition and its challenges? What tools and frameworks are used for SIA in Namibia, and how effective are they? What international case studies offer models for SIA in Namibia? What recommendations support SIA integration for sustainable development and the green economy transition in Namibia? By exploring these questions, the chapter utilizes documentary review and exploration of stakeholders via interviews, specifically six officers from three pubic ministries i.e. two staff members in each SEA administration. The ultimate goal is to deepen

our understanding of the complex interplay between sustainable development and a green economy transformation, guiding us toward a more sustainable and responsible approach to land use and spatial planning PPPs.

In the pages that follow, we unpack the concepts, challenges, opportunities, and potential solutions to safeguarding our green economy for generations to come i.e. the global call for sustainable development using SEA as the methodological framework. In the context of Namibia, data for the paper was collected through secondary literature, institutional instruments, reports, and in-depth interviews with selected government agencies purposely to comprehend how SEA is influencing land use and spatial planning PPPs. Its analysis also draws on the challenges and prospects for transition which could serve as the roadmap for a green economy and sustainable development elsewhere other than Namibia. Therefore, the sections that follow provide insights into how strategic assessments can be leveraged to support sustainable land use and spatial planning PPPs in Namibia.

2 Strategic Environmental Assessment Framework

The concept of SIA is a powerful tool for incorporating ecological issues into PPPs that guide nations worldwide to a green economy (Fischer and González 2021). This approach helps to ensure that development projects consider the environmental consequences of their actions and promote sustainable practices (Broman and Robèrt 2017). By integrating sustainable development into PPPs, countries can work together to address environmental challenges and promote a more sustainable future (UNDP 2023). SIA offers a structured method for decision-making that considers the economic, environmental and social impacts of a project or policy. It involves identifying potential impacts, assessing their significance and implementing measures to mitigate or address these impacts (Fischer and González 2021). This process helps to ensure that development projects are designed and executed in a manner that promotes sustainable development, meets the needs of present generations without compromising the ability of posterity to satisfy their own needs, and contributes to the achievement of the UN SDGs (Sachs et al. 2023).

In the United States for instance, the national environmental policy act (NEPA) was signed into law on January 1, 1970. This legislation mandates that before making decisions, government agencies evaluate how their proposed actions may affect the environment (George et al. 2020). The practice of evaluating the environmental impact of projects has evolved since the introduction of the NEPA. The SEA emerged as an extension of environmental impact assessment (EIA) which has been effective in enhancing development project outcomes for over four decades now (Fischer and González 2021). However, the Organization for Economic Co-operation and Development (OECD), noted that the application of EIA in developing countries has faced challenges, as it tends to restrict strategic options and increase risks of environmental degradation and unsustainable outcomes (OECD 2012). Many developing countries have historically overlooked ecological issues in their development paths. As a result,

SEA is now recognized and promoted as an assessment tool that is applied to strategic decision-making (Islam and Zhang 2018).

The European Union (EU) directive for SEA stipulated that 80% of EU member states should incorporate SEA into national legislation by 2004, and many international development organizations have subsequently encouraged the practice of SEA worldwide. SEA is now conducted formally in more than 60 countries, and legislation is being formulated in various developing countries to integrate SEA into their policy-making and planning processes (OECD 2012). The need for sustainable or green economies is emphasized, with SEA playing a role in evaluating environmental aspects of socio-economic development towards ensuring sound environmental management. It is noted that a green economy involves changes in production and consumption patterns, emphasizing efficient use of natural resources, preservation of environmental quality, and addressing social inequities (Cooper et al. 2020). In response to the global push for green economy development, various initiatives and institutional frameworks have emerged within international and national political economies as the core principles of sustainable development i.e. SIA framework (Wanner 2015).

In Africa, a green economy aims to achieve inclusive economic growth through sustainable infrastructure investments, efficient resource utilization, food security enhancement, and resilience building against natural disasters through SIA legislation (African Development Bank 2018; Fischer and González 2021). African countries including Rwanda, Ethiopia, Kenya, and South Africa are actively pursuing green growth strategies to address resource efficiency, ecological concerns and social equity (Cooper et al. 2020). The United Nations Economic Commission for Africa (UNECA), stated that Rwanda and Ethiopia in particular are committed to comprehensive green growth strategies, and they are among the fastest-growing economies in Africa (UNECA 2023). Namibia is also committed to building a sustainable future aligned with various initiatives and institutional frameworks. This paper thus delves into understanding the pivotal role of SIA in promoting Namibia's transition to a green economy for sustainable development.

Globally, it is increasingly becoming evident that the philosophy for SIA legislation on a green economy promotes long-term sustainable development. Namibia, a nation endowed with a wealth of natural resources, holds enormous potential to pioneer this transition within the African context. Thus, the nexus between the drivers of SIA and the green economy has significant implications for sustainable development in the country (see Fig. 3). This paper presents a review of SIA legislation in Namibia within the context of the UN SDGs. This serves as an assessment of the obstacles in the way of accomplishing the SDGs and an examination of the potential benefit that might result from using best practice SIA as a tool to help Namibia achieve the SDGs (see Table 1).

Table 1 presents a summary of how Namibia is fairing concerning the 17 SDGs, adopted from the 2023 UN SDGs report. According to Sachs et al. (2023), out of the 17 goals, Namibia is only on course to maintain or meet Goals 5, 13 and 15 i.e. gender equality, climate action and life on land respectively. Despite some improvements, Namibia is behind other countries in most other aspects of the SDGs.

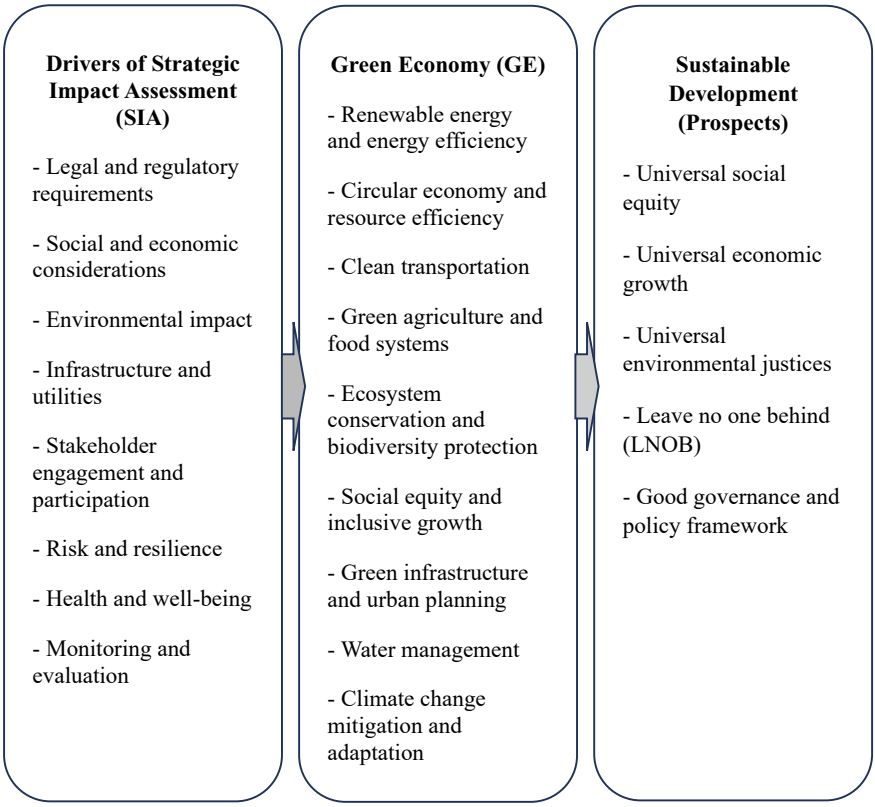

Fig. 3 Nexus and implications on sustainable development in Namibia. *Source* Authors' construct based on reports, literature and interviews

Contrary to the UN slogan of LNOB, Namibia seems to be struggling to meet various SDG targets due to militating factors. These include data issues, conflict, governance issues and weak institutions, finance, climate change, demographics and migration (Ibeh and Walmsley 2021). According to the 2023 UN-SDGs report, Namibia ranks 109 out of 166 nations with a 64.3% SDG index score and 89.7% spillover score which shows a good positive correlation between the development of SIA legislation and green economy transformation for sustainable development (Sachs et al. 2023). This implies that in order to integrate the SDGs with the SIA process, the three-dimensional pillars—which define goals, design procedures, create deadlines, and formulate and carry out choices to reach targets for the proactive creation of attainable sustainable outcomes—are necessary. This means making certain that plans, policies, and programs are in line with the SDGs' ambition for transformative change. As a result, activities to meet targets for socio-economic goals, environmental betterment and restoration are in line with the targeted results of SIA.

Table 1 The 17 SDGs and levels of achievement in Namibia

S/N	Goal	Level of SDG attainment	Empirical facts
1	No poverty	Decreasing but major challenges remain	Poverty headcount ratio at $2.15/day
2	Zero hunger	Stagnating but significant challenges remain	Prevalence of undernourishment
3	Good health and well-being	Moderately improving but challenges remain	Maternal mortality rate
4	Quality education	Moderately improving but challenges remain	Participation rate in pre-primary organized learning
5	Gender equality	On track to maintaining SDG achievement	Demand for family planning satisfied by modern methods
6	Clean water and sanitation	Stagnating but significant challenges remain	Population using at least basic drinking water services
7	Affordable and clean energy	Stagnating but significant challenges remain	Population with access to electricity
8	Decent work and economic growth	Stagnating but significant challenges remain	Adjusted gross domestic product (GDP) growth
9	Industry, innovation and infrastructure	Moderately improving but challenges remain	Rural population with access to all-season roads
10	Reduced inequalities	Trend information unavailable	Gini coefficient
11	Sustainable cities and communities	Decreasing but major challenges remain	Proportion of urban population living in slums
12	Responsible consumption and production	Moderately improving but challenges remain	Municipal solid waste
13	Climate action	On track to maintaining SDG achievement	CO_2 emissions from fossil fuel combustion and cement production
14	Life below water	Stagnating but significant challenges remain	Mean area that is protected in marine sites important to biodiversity
15	Life on land	On track to maintaining SDG achievement	Mean area that is protected in terrestrial sites important to biodiversity
16	Peace, justice and institutions	Decreasing but major challenges remain	Homicides
17	Partnerships for the goals	Stagnating but significant challenges remain	Government spending on health and education

Source Authors' construct based on the 2023 UN-SDGs report reviewed

Existing institutional reports, legislative instruments and literature reviewed do not explicitly address the presence of SIA or SEA frameworks within Namibia's existing PPPs for green economy transformation and sustainable development in land use and spatial planning. This reality notwithstanding, it is evident that Namibia is actively engaged in initiatives that are aligned with the principles of SEA. These include the following: legal basis for SEA; terms of reference (ToR); choice of consultants; screening and scoping; participation and public consultation; presentation of SEA; alternatives and cumulative effects; synergies and antagonisms; period, timing and duration for conducting an SEA; the strategic perspective; the influence of SEA; contentious issues; mitigation, monitoring and sustainability issues; and costs (Hipondoka et al. 2016; Ibeh and Walmsley 2021). These principles of SEA underpin the strengths, weaknesses, opportunities and threats discussed in the next section, its role in a green economy transformation and sustainable development agenda.

3 Trends in Green Economy for Sustainable Development

Namibia is transitioning towards a green economy, with various policies and initiatives implemented by the government to promote sustainable development and reduce environmental risks (Lubinda 2015). Key aspects of this transition include policies and initiatives, renewable energy adoption, waste management, and sustainable agriculture. According to the International Labour Organization (ILO), the Namibian government has identified green jobs as a strategic pillar for job creation in the revised Namibian employment policy, launched in October 2013 (ILO 2014a). The World Economic Forum (WEF), affirmed that the policy aims to create increased and decent employment opportunities in the green economy. Namibia is exploring the potential of renewable energy sources such as hydrogen, to grow its economy and reduce its emissions by 91% (WEF 2021). The country is also working on improving the renewable energy value chain in the Southern African region (Lubinda 2015). The government is focusing on improving waste management practices, intending to reduce environmental pollution and promote sustainable development (Lubinda 2015). Sustainable agriculture is another aspect of the green economy in Namibia, with the potential for further growth in the future (Lubinda 2015). However, during the transition process, Namibia faces various challenges and barriers such as the need for a behavior change and increased responsibility in using natural resources sustainably (Lubinda 2015). Additionally, the country needs to address structural challenges and constraints to achieve sustainable growth and diversification opportunities (Growth Lab 2023).

3.1 Strategies and Policies for Sustainable Development

Namibia has made significant progress towards sustainable development, with various policies and strategies implemented to promote economic, environmental and social sustainability (UN-SDGs 2021). Key strategies and policies needed to promote sustainable development in Namibia include national development plans, sustainable development goals, partnerships, and international best practices (see Table 2). The fifth National Development Plan (NDP5) focuses on economic progression, social transformation, environmental sustainability, and good governance, which are comprehensively integrated into the SDG pillars of people, prosperity, planet, peace, and partnership (UN-SDGs 2021). Namibia has committed to achieving the SDGs, which are a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity (Nangolo 2023). The country has prioritized the SDG targets for 2030 and is working towards their implementation (Nangolo 2023). Effective partnerships are however needed to address systemic and other development challenges in the nation (UN 2023a). Thus, the UN Partnership Framework for Namibia is an example of a strategic approach for UN cooperation to support sustainable development in the country (UN 2023a). Namibia can learn from international best practices and experiences to promote sustainable development. These include promoting sustainable practices in public procurement, strengthening scientific and technological capacity, and enhancing capacity-building support to developing countries (UNDP 2023). However, the feasibility and effectiveness of these strategies in the Namibian context depend on various factors such as the country's political, economic, and social conditions. Additionally, challenges such as limited access to development assistance, informal settlements, and dissatisfaction with government efforts to promote sustainable agriculture and combat climate change need to be addressed (UN-SDGs 2021; Nangolo 2023).

3.2 Impact of Strategies on Namibia's Economy, Environment and Society

The transition to a green economy in Namibia has the potential to bring about significant economic benefits and opportunities. The green economy is defined as an economy that results in improved human well-being and social equity, while significantly reducing environmental risks (Lubinda 2015). Examples of the green economy in Namibia include sustainable agriculture, the trade of non-timber forestry products, fisheries, waste management, renewable energy and sustainable tourism. Future expansion is possible for these industries, which are also rather eco-friendly (Lubinda 2015). One of the key economic benefits of the transition to a green economy is the potential for job creation and income generation in green sectors. Namibia's updated employment policy specifically "the green jobs" as a strategic pillar for job development, and the need for a broad variety of skills in the context of the green economy

Table 2 Effectiveness of strategies and policies in Namibia

Strategies/Policies	Objectives	Proposed outcomes
National development plan	– Economic progression – Social transformation – Environmental sustainability – Good governance	– Increased gross domestic product (GDP) growth – Reduced poverty and inequality – Improved environmental quality – Enhanced governance and accountability
Sustainable Development Goals	– End poverty – Protect the planet – Ensure peace and prosperity for all	– Reduced poverty and hunger – Sustainable use of natural resources – Peaceful and inclusive societies – Global partnerships for sustainable development
Partnerships	– Address systemic and other development challenges	– Improved coordination and collaboration among stakeholders – Enhanced resource mobilization and allocation – Effective implementation of sustainable development initiatives
Green public procurement	– Enhance capacity – Building support for developing countries	– Increased adoption of sustainable procurement practices – Reduced environmental impact of public procurement activities – Enhanced social and economic benefits for local communities
Scientific and technological capacity	– Develop and implement tools to monitor sustainable development impacts	– Improved data collection and analysis for sustainable development monitoring – Enhanced decision-making and policy formulation based on scientific evidence – Increased public awareness and engagement in sustainable development initiatives

Source: Authors' construct based on empirical and document analyses

both domestically and internationally is rising (ILO 2014b). A green jobs assessment, which will be used to prioritize and inform Namibia's development goals and policy interventions toward better job creation in the transition to a green economy, will give empirical information on the country's potential for creating green employment (ILO 2014a). In addition to job creation, the transition to a green economy can also lead to financial investments that are required to support the growth of green sectors. For example, the Government of Namibia is focusing on the potential of green energy to grow its economy and has pledged to reduce its carbon emissions by 91% over a certain period i.e. the next five years (WEF 2021). This will require significant financial investments in renewable energy infrastructure and other green technologies. However, these investments are expected to yield a positive return on investment in the form of reduced environmental risks, improved human well-being, and sustainable economic growth.

The transition to a green economy, including the promotion of renewable energy and sustainable practices, also has the potential to significantly reduce greenhouse gas emissions and other pollutants in Namibia. This is particularly important given the country's vulnerability to the impact of climate change, as evidenced by exceptional flooding and the negative impact on sustainable development (Herunga 2023). According to the World Wildlife Fund (WWF), the transition to a green economy can have a positive impact on biodiversity conservation and land-use practices in Namibia. For example, sustainable agriculture and land management practices can help preserve natural habitats and protect biodiversity, while also promoting sustainable economic development (WWF 2023). The transition to a green economy can also contribute to the mitigation of climate change and the adaptation to its effects in Namibia. For example, the government is finalizing a national strategy on adaptation and mitigation to climate change, which will help guide the country's efforts to address the impacts of climate change and promote sustainable development (Herunga 2023).

Besides economic and environmental impacts, the green economy can contribute to improvements in public health, access to clean water, and sanitation. For example, Namibia has made progress in providing access to safe drinking water in both rural and urban areas, with an average access rate of 98% (UN-SDGs 2021). The transition to a green economy can further improve access to clean water and sanitation for all citizens. The green economy in Namibia is expected to be inclusive and equitable, addressing poverty and inequality. The transition to a green economy can create opportunities for a wide range of skills within the context of sustainable development, benefiting current and future generations (Lubinda 2015). Thus, the green economy calls for a behavior change and increased responsibility in using natural resources sustainably (Lubinda 2015). This transformation can lead to a more sustainable and equitable society, where all citizens are aware of the importance of preserving the environment and natural resources for sustainable development.

3.3 Role of Strategic Impact Assessment in Guiding Sustainable Development

The role of SIA in guiding sustainable development is crucial, as it helps to evaluate the environmental consequences of proposed policies, plans, and programs. This ensures they are fully addressed and appropriately managed at the earliest appropriate stage of decision-making, alongside economic and social considerations (UNDP 2013). However, the review of current impact assessment methodologies provides a systematic and transparent approach to evaluating the environmental impacts of proposed PPPs. It also helps decision-makers incorporate environmental and other sustainability objectives in the formulation of these PPPs. Moreover, it facilitates the gathering and analysis of information necessary for sound decision-making including inputs from relevant stakeholders (UNDP 2013). Despite the numerous strengths of SIA, its weaknesses emanate from limited resources and capacity, especially in developing countries when conducting comprehensive impact assessments. There is also lack of stakeholder engagement and participation in the impact assessment process as well as insufficient integration of social and economic aspects in the assessment (Del-Campo et al. 2020). Impact assessment can be effective in guiding policy-making and decision-making processes by providing a comprehensive understanding of the potential environmental, social, and economic impacts of proposed PPPs. These facilitate the evaluation of significant environmental and health effects of strategic options and proposed actions while setting conditions for environmentally sound implementation of strategic decisions (UNDP 2013).

4 Syntheses and Observations

Namibia has undertaken voluntary SEAs between 2008 and 2013, although it is not yet a legal mandate (Hipondoka et al. 2016). Additionally, National Planning Commission (NPC), asserted that the country is finalizing a national strategy on adaptation and mitigation to climate change, which may involve strategic impact assessment (NPC 2023). Therefore, the theoretical value of the interplay between the development of SIA legislation and the green economy transformation for sustainable development in Namibia is compelling. SIA is an important element of Namibian transition to a green economy which ensures the attainment of sustainable development outcomes. For instance, the underpinned study through in-depth interviews revealed the key principles for SIA initiatives (see Table 3).

A correlation was established by the majority of participants between national land use policies and plans, and regional and local plans. Nevertheless, the majority of respondents were unsure of the relationship between land use and spatial PPPs and other sectoral PPPs, such as housing, waste management, forestry, and water supply. Indeed, as espoused by the guidance and principles developed by OECD (2012), this study considered the evolution of horizontal and diagonal tiering to be as important

Table 3 SEA influence on PPP decision-making in spatial planning

Impact	General trends
	The forum for exchanging expert knowledge and receiving technical support for greening land use and spatial policies and plans is offered by SEA
Direct	The possible direct socio-ecological and economic effects of the suggested land use and spatial PPPs are predicted and analyzed by SEA
	SEA aids in the creation of spatial PPPs and land usage that is more ecologically friendly or sustainable
	Opportunities for participation in land use and spatial planning decision-making are provided by SEA to pertinent stakeholders
	For instance, SEA helps to improve both vertical and horizontal tiering in project EIA documents, plans, and land use policies
	Sustainable land use planning and land management are areas in which SEA is progressively raising public awareness and encouraging participation
Indirect	The skills and abilities of individuals and organizations engaged in land use and spatial planning have been improved by SEA
	Effective land use and spatial planning have been facilitated by SEA through improved institutional collaboration, administrative setups and learning
	The land use and spatial planning process now has more social responsibility and transparency because of SEA
	SEA uses local and regional land use planning to safeguard the environment

Source Authors' construct based on analyses of interviews

as vertical tiering if SEA is to have any significant effect. The observation seems to support the claim stated in research by Hipondoka et al. (2016) that Namibian land tenure arrangements make it unlikely that planning policy or regulation will have an impact on spatial, land use and human settlement planning. They said that land-use plans created by approved local planning organizations are sometimes altered by traditional leaders working with self-described planners (see Table 4).

In essence, achieving a green economy necessitates the dedication and involvement of all societal sectors and investors at various phases. Key tools supporting green investment and innovation for the transition to a sustainable economy include planned and incorporated PPPs, strengthen institutional powers and regulatory mechanisms that emphasize the importance of economic system incorporating externalities (Suzaul-Islam and Yanrong 2016). In the pursuit of advancing a sustainable economy, SEA is recognized as having the power to influence the creation of strategic initiatives and PPPs, which holds the potential to positively impact socio-economic and environmental sustainability (Suzaul-Islam and Yanrong 2016). Therefore, the paper established the nexus between SEA and green economy, and their implications on sustainability achievement (see Table 5).

Studies conducted by Gesellschaft für Internationale Zusammenarbeit (GIZ) highlighted the benefits of sustainable economy alteration under three aspects which emphasized that the most dominant sectors in sub-Saharan Africa are natural resource utilization and agriculture initiatives (GIZ 2015). The report affirmed that although

Table 4 Assessing SEA's effects on PPPs, both directly and indirectly

Impact	Measures for assessment
	Sustainability concerns like adaptability and human-ecological systems are incorporated into PPP development by SEA
Direct	The information obtained is accurately reflected and included into the final PPPs through the involvement of stakeholders in SEA
	In order to provide sound transparency and accountability in the planning or implementation of PPPs, SEA provides accurate results in a timely manner
	Monitoring, control, and surveillance (MCS) are among the principles that SEA offers to help with the PPPs' implementation
	Strategies to improve positive outcomes or minimize any negative effects are guaranteed by SEA
	SEA improves environmental and socio-economic conditions or standards of spatial and land use PPPs
Indirect	SEA offers baseline data for usage in succeeding land use and spatial PPP activities
	Better time and cost savings are achieved during the evaluation and decision-making process for subsequent PPPs thanks to SEA
	SEA includes management practices and the overall awareness of the institution's actions on PPPs
	SEA heightens the public consciousness of organizations as a result of the SEA applications

Source Authors' construct based on analyses of interviews

land use and spatial planning PPPs captured green practices and initiatives, unfortunately, there is no specific green policy framework for the achievement of the transition (GIZ 2015). This affirmation led to the investigation of existing land use and spatial planning PPPs in supporting the green economy transformation and their effectiveness in Namibia.

Namibia, like many other countries, may have implemented or planned various PPPs to support the green economy. These initiatives are usually based on the guidelines, precepts and performance standards of good practices for SEA such as those set forth by international standards (see Table 6). An analytical template that focuses on important aspects of SEA quality such as procedural compliance, technical quality and influence, utility and benefits, are part of the assessment technique. The findings indicated unclear legal basis for SEA in Namibia i.e. Namibia's environmental management act (EMA) does not explicitly mention SEA but clause 23 and 24 stipulate that PPPs must prepare environmental plans in the approved format and with the prescribed content.

The commencement of the environmental management act, 2007 and the refinement of listed activities for EIA regulations were announced in the Namibian government gazette number 4872 (Republic of Namibia 2007). However, it did not prescribe the format and manner for SEA regulations. The gazette specified the list of activities that may not be undertaken without an environmental clearance certificate and

Table 5 Principles of green economy for universal sustainability

Aspect of SEA	Principles of green economy	Sustainability achievement
Economic	– Acknowledges natural capital and principles – Establishes decent and green jobs – Integrates growth and economic development models – Facilitates resource and energy efficiency – Takes externalities internally	– Reduced poverty and inequality – Enhanced economic growth and employment, leading to skill development – Creation of new markets, trade balances and specialization – Enhanced energy security, competitiveness and productivity
Social	– Reduces poverty and improves livelihoods—Ensures well-being, social protection and access to essential services – Promotes socially inclusive, democratic, stable, accountable, transparent or participatory decision-making – Ensures and equitable, fair and just society	– Reduced poverty and inequality – Reduced social inequality – Enhanced job opportunities – Enhanced skill development through training – Better condition of public services – Improved health outcomes
Environmental	– Protects biodiversity and ecosystem – Invests in and sustains natural capital – Recognizes and respects planetary boundaries and ecological limits – Advances international environmental sustainability goals such as SDGs	– Reduced greenhouse gas and other emissions – Sustainable natural assets and resource management – Adaption to climate change and resilience to hazards – Enhanced environmental quality

Source Authors' construct based on analyses of interviews

the EIA regulations under the environmental management act, 2007 (MET 2013). The weaknesses in the studied SEA imply that the people who commissioned the SEA were either unaware of these fundamental guidelines for establishing terms of reference or gave them scant consideration. It is apparent that majority of the SEA that were assessed lacked a clear knowledge of the functions, possibilities, and modes of action of SEA as well as how it ought to be used to assist in decision-making. Therefore, when MET promulgates SEA laws, it is imperative that it start a program to raise awareness among pertinent national government offices (the source of the majority of PPPs) and the incorporated Namibian environmental assessment consultant sectors.

Table 6 Namibia's green economy supporting policies

SEA and publication data	Proponent	Focus of PPP
Windhoek and townlands 2011	City of windhoek	**Zoning**: addressed over a ten-year period the criteria for the city's development ambitions
Millennium challenge account (MCA) Namibia compact 2008	MCA Namibia	**Program**: encouraged the creation of a grant proposal for a five-year program in Namibia with the goal of lowering poverty by promoting economic growth
Combatting bush encroachment for Namibia's development (CBEND) 2009	National planning commission and desert research foundation of Namibia	**Program**: evaluated the amount of energy produced by the invading bush that has taken over most of central Namibia in an attempt to increase rangeland productivity. It is anticipated that a single power plant will produce roughly 0.25 megawatts (MW) of energy; its feasibility will improve the upscaling to 120 and 300 power plants
Karas integrated land use plan (KIRLUP) 2011	Ministry of lands and resettlement (MLR) and GIZ	**Zoning**: tied to a regional land use zoning; evaluated the KIRLUP's recommendations and ideas, encompassing the creation of sustainable solutions and determining the ability of the area's natural resources to create the land uses that most closely match the potential
Integrated coastal zone management of the erongo-kunene regions 2008 and 2012 (revised)	Namibian coast conservation and management (NACOMA) at directorate of environmental affairs (DEA)/Ministry of environment and tourism (MET)	**Policy**: sought to direct and assist in shaping decisions on matters pertaining to land use planning (MLR), development planning (Regional Council), and biodiversity conservation (MET) in the coastal areas of the Kunene and Erongo Regions. A few marine-related concerns were also covered, including oil spills and whale conservation

Source Authors' construct based on empirical and document analyses

5 Implications and Conclusion

The shift to a green economy has the ability to mitigate risks to the economy, society, and environment while also enhancing all economic sectors in a sustainable manner. Such a shift is pertinent for Namibia, a nation that is extremely sensitive to the effects of climate change because it depends heavily on the natural environment for its survival. The study's findings demonstrate that Namibia's SIA laws have a great deal of promise for greening the country's economy. Therefore, it is crucial that policymakers implement plans that may both help address the dangers and vulnerabilities and help capitalize on the possibilities and strengths. Thus, the potential improvements or recommendations for a more robust impact assessment framework in guiding sustainable development entail four main ways. First, it is important to enhance stakeholder engagement and participation in the impact assessment process to ensure a more inclusive and transparent approach (Del-Campo et al. 2020). Second, the social and economic aspects should be integrated more effectively in the assessment, recognizing the interdependence between environmental, social, and economic factors (OECD 2012). Third, the capacity of governments and stakeholders should be strengthened to conduct comprehensive impact assessments, especially in developing countries (Del-Campo et al. 2020). And finally, the use of strategic impact assessment should be promoted as a tool for development PPPs, recognizing its potential benefits in promoting sustainable development (UNDP 2013). In conclusion, SIA plays a crucial role in guiding sustainable development by evaluating the environmental consequences of proposed PPPs. However, there are strengths and weaknesses in current impact assessment methodologies, and improvements can be made to enhance the effectiveness of impact assessment in guiding policy-making and decision-making processes. By addressing these weaknesses and implementing the recommended improvements, the impact assessment framework can become more robust and effective in promoting sustainable development.

References

African Development Bank Group (2018) Private sector green growth strategies from Rwanda and Ethiopia are models to emulate

Broman GI, Robèrt KH (2017) A framework for strategic sustainable development. J Clean Prod 140:17–31

Cooper A, Mukonza C, Fisher E, Mulugetta Y, Gebreeyesus M, Onuoha M, Okereke C et al (2020) Mapping academic literature on governing inclusive green growth in Africa: geographical biases and topical gaps. Sustainability 12(5):1956

Del-Campo AG, Gazzola P, Onyango V (2020) The mutualism of strategic environmental assessment and sustainable development goals. Environ Impact Assess Rev 82:106383

Fischer TB, González A (2021) Strategic environmental assessment: a conceptual framework for enhancing development project outcomes. Environ Impact Assess Rev 86:106502. https://doi.org/10.1016/j.eiar.2020.106502

George TE, Karatu K, Edward A (2020) An evaluation of the environmental impact assessment practice in Uganda: challenges and opportunities for achieving sustainable development. Heliyon 6(9)
Gesellschaft für Internationale Zusammenarbeit (2015) Benefits of a green economy transformation in sub-Saharan Africa, Namibia
Growth Lab (2023) Promoting sustainable and inclusive prosperity in Namibia. Harvard University
Herunga U (2023) Statement to the eighteenth session of the commission on sustainable development (CSD-18). Republic of Namibia, Ministry of Environment and Tourism
Hipondoka MHT, Dalal-Clayton DB, Van Gils H (2016) Lessons learnt from voluntary strategic environmental assessments (SEAs) in Namibia. Impact Assess Proj Apprais 34(3):199–213. https://doi.org/10.1080/09640568.2015.1126929
Ibeh C, Walmsley B (2021) The role of impact assessment in achieving the sustainable development goals in Africa. In: IAIA21 smartening impact assessment in challenging times. International Association for Impact Assessment (IAIA) 2021 conference, pp 1–15. https://doi.org/10.17868/77131
International Labour Organization (2014a) Namibia: job creation in the green economy
International Labour Organization. (2014b) Namibian employment policy
Islam T, Zhang Y (2018) Strategic environmental assessment in developing countries: a review. Environ Impact Assess Rev 68:1–11. https://doi.org/10.1016/j.eiar.2017.10.001
Jensen N, Kelly AH, Avendano M (2021) The COVID-19 pandemic underscores the need for an equity-focused global health agenda. HumIties Soc Sci Commun 8(1)
Lubinda H (2015) Namibia's green economy: policies, practices and initiatives. University of Namibia Press, Windhoek
Ministry of Environment and Tourism (2013) Environmental management act
Nangolo J (2023) The level of implementation of sustainable development goals in Namibia towards the 2030 sustainable development. Electr Mark Manag Namib Botsw Hitachi Energy
National Planning Commission (2023) Draft III national monitoring and evaluation policy for Namibia
Organization for Economic Co-operation and Development (2012) Strategic environmental assessment and land use planning: an international evaluation
Republic of Namibia (2007) 2007. Government gazette of the Republic of Namibia, Environmental Management Act
Sachs JD, Lafortune G, Fuller G, Drumm E (2023) Implementing the SDG stimulus. In: Sustainable development report
Suzaul-Islam MD, Yanrong Z (2016) Strategic environmental assessment and sustainable development: climate change perspective. J Earth Sci Clim Chang 7(12):1000379
United Nations (2023a) Namibia's second voluntary national review report on the implementation of the sustainable development goals towards Agenda 2030
United Nations (2023b) Our work on the sustainable development goals in Namibia: how the UN is supporting the sustainable development goals in Namibia
United Nations Development Programme (2013) Strategic environmental assessment: good practice guidance for development co-operation
United Nations Development Programme (2023) Annual report 2023. Retrieved from https://www.undp.org/publications/undp-annual-report-2023
United Nations Economic Commission for Africa (2023) Enabling measures for an inclusive green economy in Africa
United Nations Sustainable Development Goals (2021) Namibia's progress towards sustainable development
Wanner M (2015) The political economy of the green economy: a global perspective. In: The green economy. Springer, Berlin, pp 1–18. https://doi.org/10.1007/978-3-319-06376-2_1
World Economic Forum (2021) Namibia's energy transition: moving from policy to climate action
World Wildlife Fund (2023) Sustainable agriculture in Namibia. Retrieved from https://www.worldwildlife.org/places/namibia