Country Focus Report 2023

SOUTH SUDAN

Mobilizing Private Sector Financing for Climate and Green Growth

AFRICAN DEVELOPMENT BANK GROUP
GROUPE DE LA BANQUE AFRICAINE DE DÉVELOPPEMENT

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AfCFTA	African Continental Free Trade Area
AEO	African Economic Outlook
AES	Alternative Education System
AFD	Agence Française de Développement
AfDB	African Development Bank
AFOLU	Agriculture, Forestry and Other Land Use
AIDI	Africa Infrastructure Development Index
CBD	Convention on Biological Diversity
CFR	Country Focus Report
COVID-19	Coronavirus Disease 2019
DFIs	Development Finance Institutions
DPs	Development Partners
DSA	Debt Sustainability Analyses
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GGI	Green Growth Index
GGGI	Global Green Growth Institute
GHG	Greenhouse gas
GoSS	Government of South Sudan
IMF	International Monetary Fund
IUU	Illegal, Unreported, and Unregulated
kWh	kilowatt hours
LoC	Lines of Credit
LUCF	Land Use Change and Forestry
MDBs	Multilateral Development Banks
MII	Mo-Ibrahim Index
M-SMEs	Micro and Small to Medium Enterprises
MtCO2e	Metric Tons of Carbon Dioxide
NAPA	National Adaptation Program of Action
NbS	Nature-based Solutions
NDC	Nationally Determined Contribution
NDS	National Development Strategy
PPP	Public-Private Partnership
SDR	Special Drawing Rights
SoEs	State-owned Enterprises
SNDC	Second Nationally Determined Contribution
tCO2e	Tons of Carbon Dioxide
TDB	Trade and Development Bank
TVET	Technical and Vocational Education, and Training

TYDP	Ten-Year Development Plan
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
$	United States Dollar
WB	World Bank

Somalia

KEY MESSAGES

Macroeconomic Performance and Outlook

South Sudan's economic growth contracted by 2.9% in 2021/22 against a contraction of 4.9% in 2020/21. This was due to floods, a decline in oil production, and the effects of the COVID-19 pandemic. The industry sector was the leading contributor to the real GDP growth contraction in 2021/22. On the demand side, the growth contraction was driven by net exports. GDP growth is projected at 0.4% 2022/23 and will recover to 4.6% in 2023/24, driven by increased domestic oil production and improved global oil prices. Downside risks to the growth outlook include disruptions to the peace process, climate change, and the impact of Russia's invasion of Ukraine on food prices.

Macroeconomic fundamentals displayed a mixed performance in 2021/22. Inflation declined to 0.9% in 2021/22 from 43.5% in 2020/21, driven by reduced monetization of the fiscal deficit and tight monetary policy. The fiscal deficit increased to 6.6% of GDP in 2021/22 from 3.7% in 2020/21, owing to higher public spending. The current account deficit improved to 1.4% of GDP in 2021/22 from 4.9% of GDP in 2020/21 due to the reduction in financial transfers to Sudan, under the Transitional Financial Arrangement for oil transit fees.

On the social front, flooding, drought, and conflict have worsened poverty indictors. Poverty increased to 82% in 2021 from 78.2% in 2020 due to COVID-19, and an estimated 6.64 million people needed emergency food assistance in 2022 due to flooding, conflict, and drought. Contraction in economic activity due to COVID-19 is expected to increase the unemployment rate, which stood at 21% during in 2021, with the youth from 15-24 years of age accounting for 50% of the unemployed.

Private sector financing for climate change and green growth

The government of South Sudan has demonstrated its strong commitment towards green growth and climate action. Under the overall Vision 2040, South Sudan adopted several climate change policies, notably the Environmental Policy (2015-2026), which led to the preparation of the National Adaptation Program of Action (NAPA) in 2016, the first Nationally Determined Contribution (NDC) in 2017, and the comprehensive Agriculture Master Plan (2015-2040), and subsequently the Second Nationally Determined Contribution (SNDC) Report in 2021. However, this political commitment needs to be translated into action through strengthening cross-sectoral coordination, which will contribute towards mobilising additional private sector finance. The country needs to move further and implement these frameworks while also ensuring strong horizontal and vertical integration.

South Sudan's fragile environment is driven by a lack of socioeconomic infrastructures; other macroeconomic determinants, such as human development indicators and high public debt, remain the key barrier and driver of the financing gap. In addition, South Sudan continues to struggle with mobilizing innovative instruments (green finance, carbon market, debt-climate swaps, climate-related debt, natural capital accounting) to access climate financing funds. This calls for an urgent mobilization of domestic resources as well as private financing. Furthermore, South Sudan must consider revising existing policies and introducing new policies to liberalize the energy sector to attract private investments. Thus, developing tailor-made policies such as feed-in tariffs for specific renewable energy technologies to attract private sector investment and finance in renewable energy could be beneficial.

Between 2011 and 2020, South Sudan mobilized $1.78 billion in climate finance, or approximately 1.74% of its needs as assessed by the AfDB. The gap, estimated at an average of $0.17 million per year, could be bridged through greater private sector mobilisation. Assuming public contributions remain stable over the next few years, the current private sector contribution must be increased by at least ten times to cover the country's entire needs.

To encourage greater mobilisation of resources from the private sector at national, regional, and international level, South Sudan must build the technical capacity of its experts in the technical/financial structuring of climate projects, on the one hand, and improve the business environment by establishing and strengthening an incentive-based regulatory, institutional and governance framework, on the other hand. Multilateral banks and development finance institutions can support South Sudan in this regard. For instance, the African Development Bank could assist South Sudan in delivering capacity building and support the country to access its managed and external climate finance resources such as the Green Climate Fund, the Global Environment Facility, the Climate Investment Facility, and the Adaptation Fund.
South Sudan continues to struggle with mobilizing additional financing, but the integration of numerous innovative financing tools, including green bonds, carbon markets, debt-for-nature swaps and blend financing, current developments in the financial markets represent clear opportunities for South Sudan to improve the mobilization of the financing needed to implement actions for green, sustainable and inclusive growth.

Natural capital for climate finance and green growth

Natural capital plays a major role in the economies of East Africa especially renewable natural capital. Natural capital over the last quarter century has not kept pace with the population, so the per capita level of such wealth has declined. If this is to be reversed in the coming years, action will have to be taken to prevent the loss of forest ecosystems and marine biodiversity, as well as harness the returns from these systems in a sustainable manner. More can also be done to exploit clean energy resources.

The role of non-renewable assets in South Sudan is very significant, particularly oil, with an estimated $42 billion in reserves, on the estimates of 2018, making up 47% of all the country's natural capital. South Sudan's political instability, driven by years of conflict, has led to negative socioeconomic impacts and mismanagement of extractive rents (i.e., capturing, allocating and distributing). For instance, total natural resource rents decreased from 45.8% of GDP in 2010 to 11.2% in 2015 due to a reduction in oil rents. Furthermore, illicit flows, transparency and accountability remain among the key challenges facing South Sudan. It was ranked consistently at the bottom of Transparency International's annual corruption perception surveys, reflecting the challenges with corruption in the country. Thus, ensuring transparency and accountability in the management of oil resources is essential.

For cropland and pastureland, more goods and services can be generated in value terms by investing in new technologies, as well as extending the value chains. A significant amount of the forests of South Sudan are on communal land, so there is a need to actively involve local communities in the management of forest resources and land-use decision making.

The channels for increasing the returns from natural capital without damaging the base that provides these returns include both domestically and internationally driven actions. On the former, South Sudan has noted the importance of good governance in managing the returns from natural capital and in bringing together physical and human capital to add value to exports where opportunities are available. On the latter, there is a special role for making greater use of international agreements on climate change and biological diversity to finance higher returns from the substantial endowments of natural assets in the region that can serve the global goals in these areas.

In addition, accessing international mechanisms to market carbon credits at higher prices will significantly increase unit rents. For tourism, the aim should be to increase total income, with an emphasis on ecotourism. In South Sudan, ecotourism can offer an additional source of income for local communities, create jobs, and contribute to national income while promoting conservation efforts. Despite this potential, the sector continues to be hindered by limited infrastructure and insecurity. Areas where this is being developed on the continent are mainly in East Africa.

The analysis has been based on data collected by the World Bank for major categories of assets, but the coverage of all forms of natural capital is incomplete. Work is needed to estimate the value of renewable energy sources such as sunshine, wind, and hydro, as well as landscapes and biodiversity.

I INTRODUCTION

This Country Focus Report (CFR) for South Sudan reviews the role of the private sector in financing climate change and green growth. It also explores the scope for harnessing natural capital to finance adaptation and mitigation to climate change and to promote green growth. It aims to replicate at the country level the analyses carried out at the continental level in the African Development Bank's main African Economic Outlook (AEO) report for 2023 as well as for the regional level, the East Africa Regional Economic Outlook for 2023. Both reports have focused on the theme of mobilizing private sector financing of climate and green growth.

This CFR is structured as follows. Section 1 covers the Introduction. Section 2 discusses South Sudan's recent macroeconomic performance and outlook. Section 3 discusses the private sector financing for climate and green growth in South Sudan. Section 4 discusses the role of natural capital in climate finance and green growth in South Sudan. Section 5 draws some policy recommendations for the government, the donors' community, the domestic and international private sector, and developed country governments, and Section 6 offers some concluding remarks.

II SOUTH SUDAN'S ECONOMIC PERFORMANCE AND OUTLOOK

2.1 Recent macroeconomic and financial developments

Economic growth and drivers: Real GDP contracted by an estimated 2.9% in 2021/22 from a contraction of 4.9% in 2020/21 driven by the oil sector (Table 1 and Annex 1). Production in the oil sector declined to 156,000 barrels/day in 2021/22 from 169,000 barrels/day in 2020/21 as floods damaged some oil fields. The industry sector was the leading contributor to the real GDP growth contraction (-0.6% age points) in 2021/22, driven by the decline in oil production. The agriculture sector, which contributed -0.1% age points to the growth contraction, was affected by floods, and drought. On the demand side, the growth contraction was driven by net exports (-1.3% age points) due to lower oil production.

Monetary policy and inflation: To contain inflation, the Central Bank sustained its tight monetary policy stance in 2021/22 by maintaining the reserve ratio at 20% since January 2022. Reduced monetization of the fiscal deficit and lower food prices reduced inflation to an estimated 0.9% in 2021/22 from 43.5% in 2020/21. Money supply grew by 47% in 2021/22 compared to 35% in 2020/21, driven by net foreign assets. High lending rates (averaging 12% in 2022) remained a challenge for capital investment. Inflation is projected to increase to 16.5% in 2022/23, driven by higher food prices and disruption of supply chains in part due to drought and the Russian invasion of Ukraine[1] (Box 1). In this context, on 11th January 2023, the Central Bank announced that it will maintain a tight monetary policy stance, including keeping the reserve ratio at 20% and the Central Bank rate at 12% per annum.

Fiscal and current account balances: The fiscal deficit increased to 6.6% of GDP in 2021/22 from 3.7% in 2020/21, owing to higher public spending. The fiscal deficit was financed by domestic and external borrowing. South Sudan's overall and external public debt remains sustainable but with a high risk of debt distress. The present value of public debt to GDP was estimated at 53.8% in 2021/22, above the 30% threshold under the baseline scenario, with debt service-to-revenue ratio increasing to 36.9% in 2021/22 from 16.9% in 2020/21 against the 14% threshold. The current account deficit improved to 1.4% of GDP in 2021/22 from 4.9% of GDP in 2020/21 due to reduced financial transfers to Sudan under the Transitional Financial Arrangement for oil transit fees. The SDR allocation (3.8% of GDP) boosted international reserves.

Financial sector: High lending rates continued to affect lending to the private sector. Nonetheless, credit to the private sector increased to 16% of GDP in September 2022 against 6% in 2021 as the Central Bank maintained its reference policy rate at 15% . The non-performing loans ratio stood at 14% of total gross loans in December 2022 up from 9% in December 2021, against the 20% statutory

Real GDP contracted in 2020/21 and 2021/22 due to reductions in oil production and impacts of climate change.

[1] *Algeria, China, Egypt, Eswatini, Namibia, Nigeria and South Africa entered a reservation and proposed ''Russia-Ukraine Conflict".*

Table 1: Macroeconomic Indicators for South Sudan

Variables	2017/18	2018/19	2019/20	2020/21	2021/22(e)	2022/23(p)	2023/24(p)
Real GDP Growth	-2.4	3.4	12.9	-4.9	-2.9	-0.4	4.6
Real GDP Growth per Capita	0.1	2.9	11.4	-6.2	-4.4	-2.0	2.9
Inflation	125.8	48.9	33.6	43.5	0.9	16.5	10.9
Overall Fiscal Balance, Including Grants (% GDP)	-3.4	-1.0	-9.9	-3.7	-6.6	3.0	6.8
Current Account (% GDP)	-2.6	-0.7	-19.7	-4.9	-1.4	7.0	6.6

Source: Data from domestic authorities; estimates (e) and prediction (p) based on authors' calculations. AfDB Statistics Department, April 2023

GDP growth is projected to contract by 0.4% in 2022/23 and recover to 4.6% in 2023/24.

requirement due to high spread and income losses. However, the interest rate spread stood at 17.75% in November 2022, compared to 15% in the previous years, reflecting limited competition in the banking sector.

Poverty and social sector indicators: Poverty remains high despite the down tick from 82% in 2018 to 76.4% in 2022 due to several shocks including COVID-19. During2020-2021, an estimated 6.64 million people needed emergency food assistance in 2022 due to flooding, conflict, and drought. Contraction in economic activity was due to COVID-19, which increased the unemployment rate, standing at 21% in 2021, with the youth from 15-24 years of age accounting for 50% of the unemployed. COVID-19 containment measures, such as school closures, affected education outcomes in the country with one of the lowest adult literacy rates worldwide at 34.5% in 2022.

2.2 Outlook and Risks

Economic growth: GDP growth is projected to contract by 0.4% in 2022/23 and recover to 4.6% in 2023/24, driven by increased domestic oil production and improved global oil prices. The oil sector will drive growth on the supply side, with private consumption and investment leading growth on the demand side.

Monetary policy and inflation: Inflation is projected to increase to 16.5% in 2022/23 and 10.9% in 2023/24, reflecting higher food prices and disruption of supply chains in part due to drought and Russia's invasion of Ukraine. Furthermore, delays in supplying seeds and other farm inputs to the agriculture sector following the recent flooding could hold back food production and aggravate food inflation.

Fiscal and current account balances: The fiscal deficit is projected to improve to a surplus of 3.0% and 6.8% of GDP in 2022/23 and 2023/24, respectively, due to fiscal consolidation and improved global oil prices, although lower tax revenue mobilization could hold back poverty-reducing and growth-enhancing public expenditure. Although still at high risk of debt distress, public debt is expected to remain sustainable, and decrease in 2022/23 and 2023/24, due to the fiscal surplus. The current account balance is projected to improve to a surplus of 7.0% and 6.6% of GDP in 2022/23 and 2023/24, respectively, reflecting improved oil export revenues. Reserves will be bolstered by inflows including the IMF's $114.8 million under the Food Shock Window of the Rapid Credit Facility, which aims to stabilize the balance of payments.

Risks: South Sudan's main tailwinds include the gradual transition to political stability, recovery in oil production, higher oil prices in part due to Russia's invasion of Ukraine, and ongoing public financial management reforms. The headwinds comprise disruptions to the ongoing peace processes, climate change, spikes in COVID-19 infections, and heavy reliance on oil exports amid fluctuations in oil prices. South Sudan should benefit from the uptick in oil prices because of Russia's invasion of Ukraine but soaring global food prices could increase inflation, considering the country's dependence on food imports (about 70%). A tight monetary policy could hold back growth in private sector credit and impede private sector development and job creation.

Box 1: Impact of Russia's Invasion of Ukraine on South Sudan

Transmission channels. The main transmission channels and effects on South Sudan's economy are through increased global fuel and food prices. This is due to the country's high dependence on the oil sector accounting for over 75% of GDP, 98% of total revenues and 95% of total export earnings. Similarly, the country relies heavily on imported foods from its neighbouring countries - Uganda and Kenya.

Impacts:

Commodities, energy, and food prices. Although South Sudan does not trade directly with Russia or Ukraine, it relies on grain imports from Kenya and Uganda, who import from the two conflict-affected countries. Rising food prices, notably wheat and maize in source markets, has negatively affected domestic prices in South Sudan, thus increasing inflation (projected at 16.5% in 2022/23), food insecurity and humanitarian needs (estimated at $1.5 billion or 30% of GDP). On the other hand, increased oil revenues, resulting from oil prices (oil sector accounts for 75% of GDP, 98% of total revenues and 95% of total export earnings), will improve the current account surplus (projected at 3% of GDP in 2022/23) and boost foreign reserves (estimated at 0.7 months of imports in 2022/23). In addition, high commodity prices will also increase market confidence, with a potential increase in foreign direct investment (estimated at $44 million in 2022/23) in the oil sector. Nonetheless, soaring fuel prices will put pressure on the existing fuel price control (South Sudan Pound 500-600), which might not keep pace with the fuel inflation in the short-term, increasing domestic fuel pump prices and affecting transport costs.

Debt. Over 78% of South Sudan's debt is denominated in foreign currency notably the US dollar. This debt is subject to rising US dollar rates, in addition to the debt that is contracted under variable interest rates. As the US dollar strengthens and interest rates rise this will be passed on through interest payments (12%) on the national budget. However, an increase in crude oil prices will help to reduce the risk of default as it provides an additional foreign exchange for debt servicing.

Poverty and humanitarian assistance. South Sudan has been confronted with serious humanitarian challenges driven by climate change-induced natural disasters and conflicts, which are negatively impacting poverty levels. Rising domestic inflation in South Sudan, disruptions of supply chains at markets (including Kenya and Uganda) adjusted to global food inflation, could increase the humanitarian bill and poverty as 6.4 million people need humanitarian assistance.

Policy Response. The Bank of South Sudan has maintained its tight monetary policy stance to curb inflation and currency depreciation. While the policy helped to reduce local food prices, South Sudan Pound (local currency) continued to depreciate.

III. PRIVATE SECTOR FINANCING FOR CLIMATE AND GREEN GROWTH IN SOUTH SUDAN

3.1 The imperative for green growth and the role of private sector financing

Green growth and climate action are important for South Sudan to achieve the National Development Goals enshrined in Vision 2040

South Sudan is highly vulnerable to climate change, which is manifested through frequent droughts, floods, and infestations of locusts. Floods and locust infestations have negatively affected the country's agricultural productivity, with most people depending on agriculture for subsistence. In addition, social inequalities remain a concern. South Sudan's access to safely managed pipe-borne water is almost non-existent, estimated at 3% nationally and 8% in urban areas. In addition, poverty and unemployment in 2021 stood at 82% and 21%, respectively.

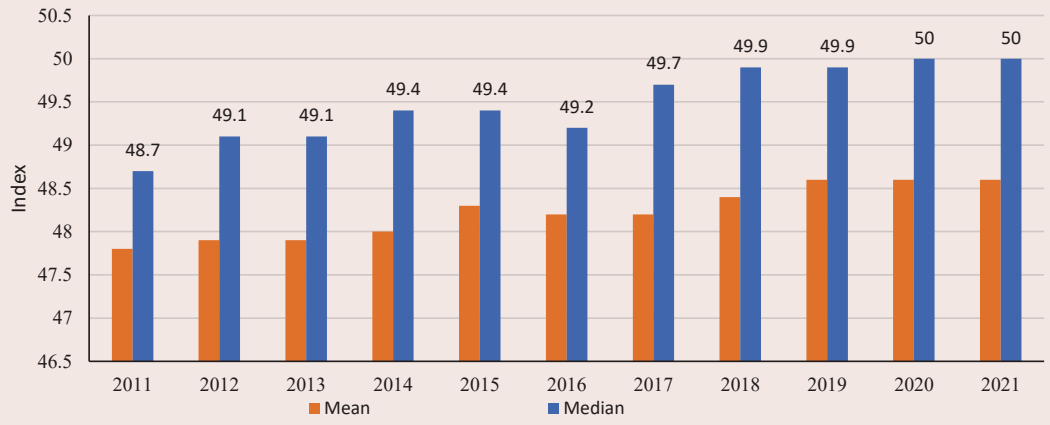
The government of South Sudan has demonstrated its strong political commitment towards green growth and climate action. Under the overall Vision 2040, South Sudan adopted several climate change policies, notably the Environmental Policy (2015-2026), which led to the preparation of the National Adaptation Program of Action in 2016, the first Nationally Determined Contribution (NDC) in 2017, the comprehensive Agriculture Master Plan (2015-2040), and subsequently the Second NDC Report in 2021. These documents recognize the importance of climate change and green growth and their impact on the economy and call for efficient use of the country's resources in an environmentally friendly manner.

Data on private sector financing for green growth is limited. This is partly due to the country's small private sector landscape, with an estimated 30,000 companies comprising mainly micro, small-medium-enterprises, business associations and cooperatives, among others. The private sector faces several bottlenecks, such as inadequate infrastructure, skills shortages, capacity to develop bankable climate finance proposals and limited access to capital. However, several sectors have the potential for private investment besides the oil sector, such as agriculture, telecommunications, renewable energy, road transport, and industrial diversification. Nonetheless, South Sudan's annual financing gap to achieve its climate and green growth ambitions is estimated at $9.2 billion over 2020-2030. Climate adaptation and mitigation needs are significant in various sectors, notably agriculture, livestock, energy, and disaster risk management among others.

South Sudan's Green Growth Index (GGI) remained relatively stable, averaging 48.2 between 2011-2021, increasing from 47.9 in 2011 to 48.6 in 2021 (Figure 3.1). Furthermore, South Sudan has been amongst Africa's highest-performing countries on green growth since independence, with a mean index of 48.2

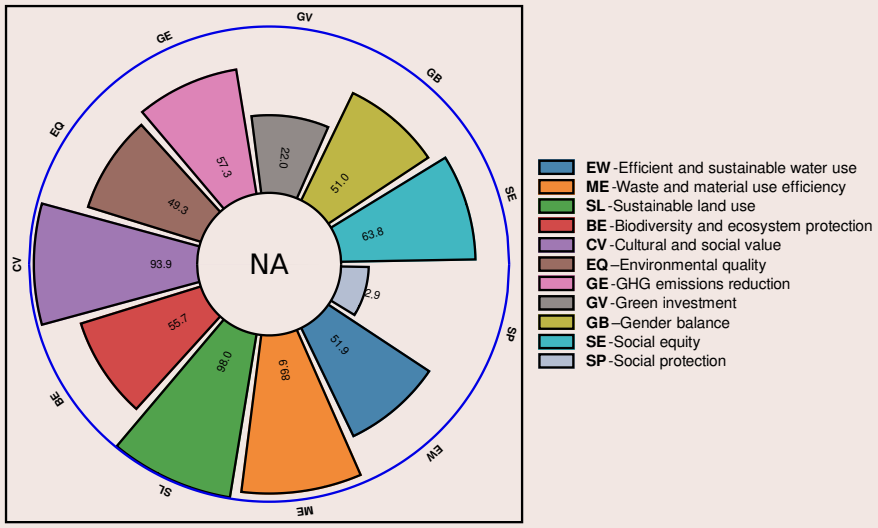
in 2021. Greenhouse gas (GHG) emissions are low due to low levels of industrialization, but the capacity to implement climate-change related policies is also limited. South Sudan's GGI is mainly driven by high performance on sustainable land use, cultural and social value, and waste and material use efficiency (Figure 3.2). South Sudan, however, underperforms in relation to social protection and green investment. Commitment and actions to reduce GHG emissions and ensure a low-carbon development pathway is outlined in its NDC (2021). Accordingly, full implementation of the NDC can reduce an estimated 109.87 million tons of carbon dioxide equivalent (tCO2e) and sequester 45.06 million tCO2e by 2030.

Figure 3.1: Green growth index (GGI) in South Sudan, 2011-2021



Source: World Bank 2021

Figure 3.2: Components of South Sudan's GGI



3.2 Private sector finance flows, gaps and needs for green growth and climate finance in South Sudan

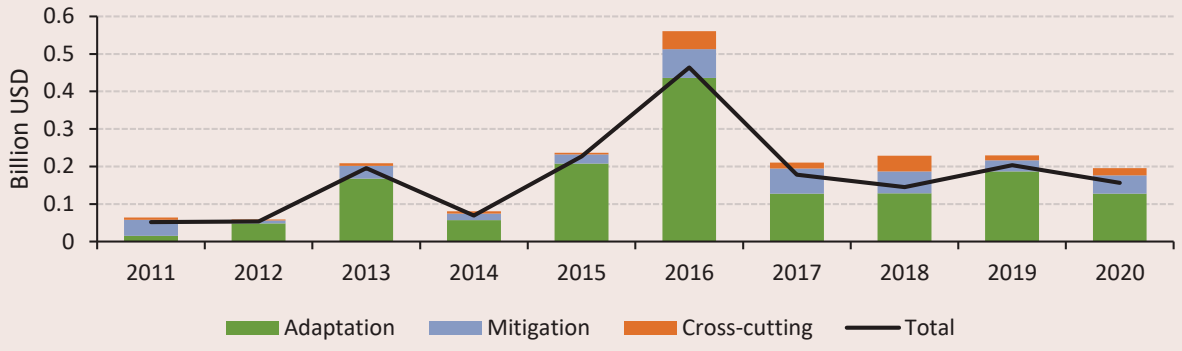
3.2.1 Current flows of finance

The largest flows of funds for climate change in South Sudan are public finance, with private finance accounting for only 3.5% of total climate finance.

South Sudan's domestic private sector landscape is small, with an estimated 30,000 companies registered according to the Directorate of Business Registration at the Ministry of Justice in 2022. These companies are comprised mainly of micro, small, and medium enterprises, business associations and cooperatives. The private sector faces several bottlenecks such as inadequate infrastructure, skills shortages, capacity to develop bankable climate finance proposals, and limited access to capital and high lending rates, which hold back its contribution to economic transformation including financing climate and green growth. The challenge compounds as commercial banks (comprising 30 commercial banks, including eight foreign banks) in South Sudan are reluctant to lend to businesses and prefer to conduct foreign exchange transactions. State-owned banks are more likely to risk lending to local businesses.

The public sector remains the main financier of climate finance in South Sudan. Total climate finance stood at $182.9 million in 2019/20, of which 96.5% came from public finance and 3.5% from private finance. Most private sector finance flows have been channeled to the oil sector. The oil sector accounts for over 75% of GDP and 90% of the government's revenue. Thus, foreign investment has been highly concentrated in the oil sector. Foreign direct investment (FDI) was affected by insecurity following the outbreak of civil war in 2016, with leading investors fleeing South Sudan. According to IMF (2022), FDI in the oil sector increased to $48 million in 2021-2022 from $47 million in 2020-2021. Furthermore, the government mobilized $1.78 billion between 2011-2020 from developed countries for climate finance. It is worth noting that during this period, climate finance inflows ranged from $58.7 million in 2011 to $156.5 million in 2020 (Figure 2). However, the government has acknowledged the importance of private sector development and economic diversification and has begun streamlining the regulatory environment and investment process to facilitate this growth.

Figure 3.3: South Sudan's climate finance inflows, $ billion



Note: The total amount of climate finance inflows corresponds to the sum of the values of mitigation and of adaptation, minus the cross-cutting value.
Source: AfDB staff computations based on OECD data.

Sustainable management of key resources in South Sudan, such as land and water, is a key enabler for green growth. The agriculture sector is critical to poverty alleviation as it remains the main source of livelihood for over 80% of the population. Due to their dependency on climate variability, agriculture, forestry and other land use and water are the most vulnerable sectors to the effects of climate change. Funding from the private sector is perceived to be low, partly due to a lack of data, the small-scale and bankability of projects. However, investments into these sectors have been made mostly by multilateral development institutions. For instance, the African Development Bank's support to these sectors amounted to $133 million. Furthermore, capacity building and technical assistance in planning, policy formulation, budgeting, and raising climate awareness are still largely driven by grants/donor funding. There is a need to develop more sustainable programs in this area that do not crumble as soon as donor funding is exhausted.

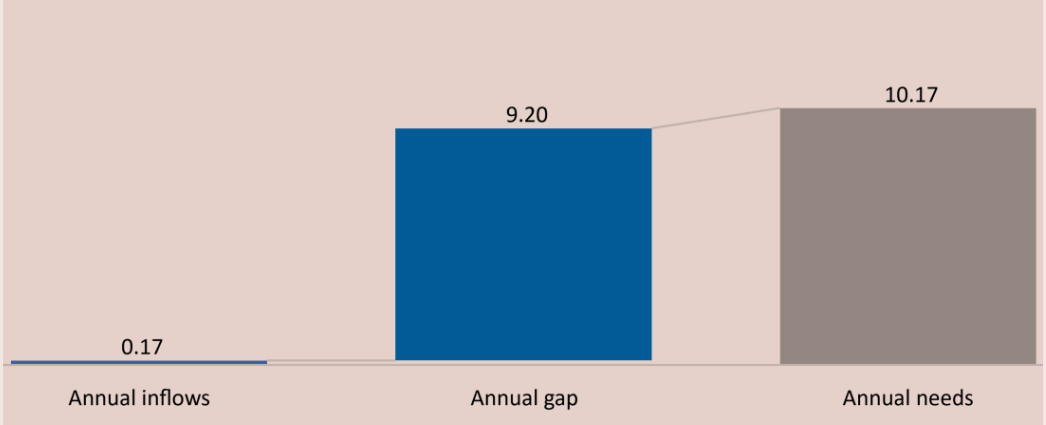
3.2.2 Private sector finance needs for the future

According to the government's Second NDC Report produced in September 2021, the country's financing needs for climate change and green growth are estimated at around $102.127 billion over 2020-2030.

These resources will be used to address climate adaptation and mitigation across various sectors, including agriculture, livestock, fisheries, forests, disaster risk management. But access to conventional capital continues to be a challenge for both local and foreign businesses due to the country's newly independent financial sector. South Sudan's commercial banks are risk-averse and unwilling to lend to early-stage ventures as the nascent regulatory environment does not offer sufficient protection to lenders. Most banks are centered in urban areas such as Juba and Wau, Malakal, Bor, and Rumbek, and have limited presence in rural areas, due to poor socioeconomic infrastructure.

South Sudan's annual financing gap to achieve its climate and green growth ambitions is estimated at $9.2 billion over 2020-2030 (Figure 3). Climate adaptation and mitigation needs are significant in various sectors notably agriculture, livestock, and disaster risk management. South Sudan is the country with the highest mitigation needs in East Africa, at 75% of the total mitigation needs.

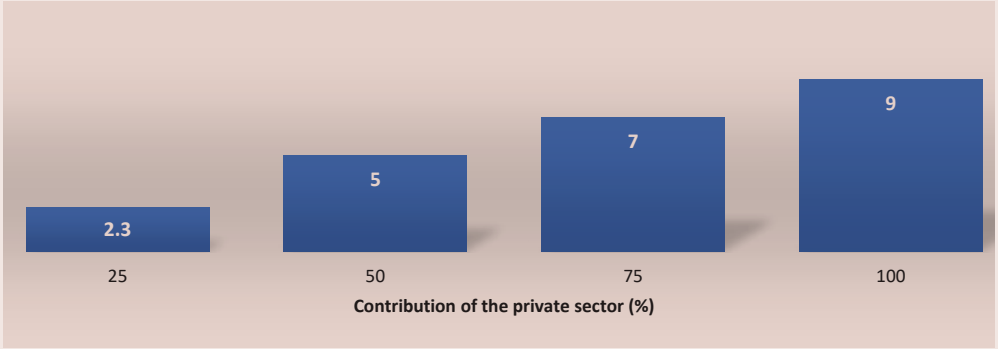
Figure 3.4: Annual climate finance gaps, $ billion



Source: AfDB staff computations based on AEO (2023), Africa NDC Hub, Integral Consult and OECD data

Looking ahead, private sector contribution to climate change in South Sudan is likely to range between 25-75% amidst political uncertainty and global economic challenges. In a conservative scenario, a 25% contribution will mean that the private sector would need to increase its annual contribution by $2.3billion (32% of GDP), whereas a 50% contribution, a moderate scenario, means that the annual private sector financing contribution would need to increase to $5 billion (65% of GDP). A financing contribution of 75%, an ambitious scenario, will further increase the private sector financing to $7 billion (97% of GDP) (Figure 4). As shown, the private sector gap as a percentage of the gross domestic product is significant, thus the need for additional support specially from the international private sector.

Figure 3.5: Private sector annual contribution $ billion



Source: AfDB staff computations based on AEO (2023)

Investment in sustainable infrastructure, such as energy systems and transport, is a key priority to the government for climate finance needs. According to the government's Second NDC Report, the electricity sector is estimated at $201.5 million and $4.6 billion, respectively, by 2020-2030. On the other hand, about $117 million is required for the water adaptation strategy during the same period. Meanwhile, the financing cost required for adaptation and to address some of the health-related needs, including the eradication of water-borne diseases, is estimated at $20 million by 2030.

3.2.3 Emerging innovative private sector financing mechanisms for green growth and climate action

New innovative instruments for mobilizing private sector finance towards green growth and climate action in South Sudan are yet to be expedited.

South Sudan continues to struggle with the mobilizing of innovative instruments (green finance, carbon market, debt-climate swaps, climate-related debt, natural capital accounting) to access climate financing funds. This is partly due to the nature of the private sector in the country, comprising mainly micro and small to medium enterprises (MSMEs). National climate fund, national capital accounting, and financial intermediation, among others, are potential areas for resource mobilization. In addition, South Sudan faces several challenges to capitalize on the innovative sources of financing. Among the key challenges include institutional capacity weaknesses to mainstream climate change into policies and prepare bankable proposals for access to finance. Therefore, there is a need to provide technical support to enable relevant ministries and institutions to develop climate change financing policies and strategies, and climate finance proposals. Nonetheless, South Sudan could develop tailor-made policies such as feed-in tariffs for specific renewable energy technologies to attract private sector investment and finance in renewable energy. Table 2 summarises the emerging innovative private sector financing instruments for green growth and climate action that could potentially be used in South Sudan.

Table 2: Innovative instruments used to mobilise private sector finance in South Sudan

	Type of instruments			
	Green and sustainable finance e.g., Sustainable bonds, sustainability-linked loans/bonds, social bonds	Blended financing instruments e.g., guarantees, first loss	Private equity and venture capital	Carbon markets
Current performance	South Sudan is yet to expedite the use of different sustainable finance mechanisms for mobilising private sector finance.	South Sudan is not yet one of the destinations of blended financing from international actors.	South Sudan has not yet benefited from this instrument.	South Sudan has one of the world's largest wetlands, within huge carbon sequestration potential.
Contextual challenges to scaling up in South Sudan	Market conditions, policy Insufficient working of regulation and governance Smaller ticket-size project opportunities Limited technical capacity	Absence of conducive supporting frameworks for the use of blended finance instruments across. The limited technical capacity blending of finance, at all levels in South Sudan.	Shallow domestic financial markets and unfunctional financial sectors limit the use of this instrument.	As indicated above, there is a significant market potential.
Key factors enabling successful use of the instrument	Increased domestic mobilization through domestic private sector could potentially be used to mobilise sustainable finance in domestic currency. Regulatory and policy frameworks are required to capitalise on the opportunities.	Government commitment to use public fund to finance climate action. This potential could only be realized when ensuring transparency in public fund management.	Potential exists provided the authorities initiate and implement enabling presence of regulatory frameworks that encourage innovation.	The high potential for emission reductions and emission removals in South Sudan. South Sudan could learn from existing strong experience in Africa in the development of carbon projects. Establishing the African Carbon Markets Initiatives could allow South Sudan to build on these experiences to expedite the use of these schemes to mobilise additional climate finance.

South Sudan has several investment opportunities in green development sectors, notably in agriculture, renewable energy, and green industrialization.

3.3 Opportunities and barriers to mobilising private sector finance for green growth and climate action

3.3.1 Opportunities for private sector investments

There are several sectors in South Sudan with potential for private investment and business development, besides the oil sector, such as agriculture, telecommunications, renewable energy, road transport, and industrial diversification, among others.

Agriculture. Agriculture remains an underdeveloped sector in South Sudan with considerable potential. Roughly half of the country's land is arable, but the effects of war and minimal investment have left crop yields vulnerable to climate conditions and natural disasters. Most agriculture is subsistence farming (employing 60% of the youth) with little commercial activity; these crops could benefit significantly from modern technologies and crop management practices. Investments in commercial agriculture, mechanization, input supply, technical assistance, and out-grower schemes would help develop the industry and provide greater food security. But key

challenges include (i) inefficient land registration and management practices; (ii) non-existent or weak infrastructure such as water, electricity and accessible roads; (iii) lack of enabling policies and well-capacitated institutions; (iv) insufficient access to quality agricultural inputs (seeds, fertilizer, pesticides, animal feeds and veterinary inputs), as well as improved production technology and capabilities; (v) limited information and research; and (vii) cumbersome import and export procedures.

Renewable energy. South Sudan has vast potential sources of electricity generation comprising fossil and renewables. Today most energy needs are met by biomass. The main potential site for hydropower is on the Nile with an estimated capacity of 2,590 megawatts. Given its location, South Sudan has abundant geothermal resources—though no conclusive studies have been conducted. With the lowest per capita electricity consumption (averaged only 39 kilowatt hours (kWh) of electricity consumed per capita for the entire year of 2014[2]) in Africa, South Sudan's energy industry is sorely in need of development and investment. South Sudan's electricity grid reaches only 1% of the population. Firewood and charcoal serve as the primary means to heat and cook for 96% of the population, presenting an opportunity for solar energy and other low-cost renewables.

Telecommunication. As South Sudan develops, a strong telecommunications sector is increasingly important for industry and government. From 2021, the sector gained momentum with the introduction of the Country Mobile money, which has created more employment for the youth. In addition, there is also a Fiber Optic internet connection between Uganda and Juba, which is currently managed by Liquid Telecom.

Industrial diversification. Though small, South Sudan's manufacturing sector has potential for growth. A handful of medium-sized to large, formal, and largely foreign-owned manufacturers are located around Juba, producing beer, soda, honey, cosmetics, soap, plastic tanks, maize flowers, and bottled water for the domestic market. They employ 100-300 workers each. A vibrant, broadly based industrial sector will offer opportunities for diversifying and transforming South Sudan's economy. However, the country lacks adequate industrial policy frameworks.

Road transport. South Sudan has some of Africa's most challenging road infrastructure. The 2020 AIDI ranked South Sudan last in Africa. Only some 200 kilometers of a road to Uganda are paved in the country. About 80% of the population live in rural areas and are primarily engaged in agriculture, which has been identified as a potentially high economic growth sector. However, the road infrastructure is woefully inadequate to support productive agricultural activities, particularly in the north-eastern and southern parts. Airport operations are constrained by ageing infrastructure, despite increasing cargo and passengers. This is coupled with concerns over air safety and inadequate regulation and oversight. Port infrastructure is basic, with limited manual loading and unloading of cargo; lifting equipment is hired locally at a high cost.

Nonetheless, South Sudan could use several instruments to guide its policy options for mobilizing private investment. First, the government needs to ensure long-lasting peace and stability, which is a pre-condition for any business development. Second, the development of renewable energy policies; institutional strengthening and programs including risk mitigation measures to mobilize sustainable infrastructure investment; and development of a pipeline of bankable projects. Lastly, the government could also provide incentives for climate change projects, such as tax exemptions on product and equipment imports, creating a conducive business environment that reduces investment risk and exposure.

[2] *IEA report: OECD/IEA, "2016 Key World Energy Statistics," 2017, 48–57*

3.3.2 Barriers to private sector investments

a. Political instability and conflict

The years of internal political wrangling hindered private investment. South Sudan experienced several conflicts since independence in 2011. These conflicts destroyed socioeconomic infrastructure and compromised implementation of development assistance due to the high risks involved including in terms of physical safety. Such scenario also created poor governance, which in turn limited the country's access to finance.

b. Lack of socioeconomic infrastructure and regulatory frameworks for climate financing

South Sudan's fragile environment, driven by a lack of socioeconomic infrastructure, remains the key driver of the financing gap. In addition, companies cited that other key supply-side constraints include the high cost of energy and political instability. The Country Private Sector Profile (AfDB, 2022) revealed that the drivers of the financing gaps are mainly linked to weak governance, inadequate policy, legal and regulatory frameworks for PPP, weak institutional capacity to manage PPP projects, and insufficient systems, data, and ability capacity to develop and prepare bankable projects. The challenges have been exacerbated by the difficulties businesses face in getting power and financial credit. Improvements were reported in two areas: paying taxes and enforcing contracts. These challenges reflect the urgent need to implement structural reforms including designing targeted policies and strategies that will create a better business environment in South Sudan.

c. Low level of green skills to meet green growth and climate change needs and high public debt

There are other macroeconomic determinants, such as human development indicators hindering private sector investments in the country. The Mo-Ibrahim Index (MII) indicates a drop in score to -1.6 for the business environment from 2011 to 2019.[3] Similarly, during the same period, the score of the Human Development indicators within the MII, which includes access to health, education, social protection, and sustainable development, was low at -0.60. Other constraining factors include but are not limited to, lack of quality infrastructure, gross national income per capita (estimated at $445 in 2022) and quality of public institutions due to limited capacity and skills gaps. Furthermore, South Sudan is at a high risk of debt distress (IMF/WB DSA, 2022) with external public debt being primarily commercial (46% of GDP in 2021), while domestic debt comprises mainly loans from the Central Bank (13% of GDP). Multilateral debt stood at 18% of GDP in the same period. The high risk of debt distress also limits the country's capacity to access international capital markets.

d. Lack of bankable projects and green growth policies

Effective implementation of its climate action and the absence of green growth policies are a concern. The absence of bankable green growth investment projects could also be hindering the development of a detailed green growth strategy and plans to implement them. In addition, the challenge is compounded by the investors' uncertainty regarding exiting strategy, including pulling out their capital, readily available bankable projects, and limited technical know-how for efficient engagement with private investors.

3.3.3 Pathways to mobilizing private sector finance for green growth and climate action in South Sudan

a. Developing domestic financial markets to mobilise domestic finance for green growth

Mobilisation of private sector finance through domestic financial markets reduces currency

[3] *https://mo.ibrahim.foundation/sites/default/files/2020-11/2020-index-report.pdf*

risk; however, South Sudan does not have capital markets, and the financial sector is in the infancy stage. Thus, government reforms in the financial industry, including introducing the capital markets, could pave the way for the mobilization of private sector finance, including for climate change.

b. Increased efforts for domestic resource mobilization and development of appropriate regulations

Innovative financing brings additional resources to bear for development challenges within the context of limited resources. This calls for the urgent mobilization of domestic resources as well as private financing. Furthermore, South Sudan must consider revising existing policies and introducing new policies to liberalize the energy sector to attract private investment. Given that South Sudan is well endowed with abundant natural resources, there are significant opportunities for off-grid hydro and renewable energy systems, which will provide affordable electricity to the vast population of mostly poor people and growing industries. Establishment of natural capital accounting is also critical. In addition, South Sudan needs to develop regulations that are comparable across different green growth sectors including standardization of regulations across sectors and boundaries. Developing monitoring frameworks for green growth is important to allow investors to determine what counts as investments that contribute towards green growth across the country.

South Sudan also made strides to create a conducive environment for private sector investment, including streamlining regulatory frameworks. It adopted the principle of non-discrimination between nationals and foreigners and a legal and institutional framework for competition, following the creation of the Anti-Monopoly and Competition Council in 2013. In addition, the government aims to introduce best practice policy measures to enforce the rule of law and respect for property rights. Promotion of digital entrepreneurship will be critical in creating a business ecosystem that supports firms in generating new products and services. The government, with support from the African Development Bank, is taking measures to prepare the legal and regulatory framework for public-private partnerships to catalyze private investment and finance.

c. Skills and capacity development in green growth

Skills development and know-how remain critical. South Sudan has one of the world's lowest educational indicators. Adult literacy rate (above 15 years) was estimated at 34.5% (10% female) in 2020[4] from 27% [5]. The high illiteracy rate is a product of the civil wars, continued insecurity, inter-ethnic and intra-ethnic conflicts. Low literacy especially among the youth has contributed to youth unemployment which remains high (e.g., Bor – 80%, and 60% - Juba)[6]. The sector has a National General Education Policy 2017-2027. The education system in South Sudan is comprised of pre-primary, primary, secondary, Alternative Education System (AES), Teacher Training, technical and vocational education, and training (TVET) and higher education (University). For instance, the high fragmentation in TVET has affected curriculum development. There is no national TVET curriculum with little standardization. The higher education policies and legal frameworks are also being developed i.e., Policy Higher Education Policy and Science, Technology, and Innovation Policy. In the context of significant institutional capacity gaps, South Sudan needs to invest in knowledge development of green skills and capacities, and ensure that they are integrated into existing institutions, including education institutions and technical vocational centers.

[4] *Education Sector Analysis 2021*
[5] *South Sudan National Bureau of Statistics, 2008*
[6] UNESCO, 2018

d. Support from DFIs and MDBs

Support from DFIs and MDBs is imperative to minimize private sector investment risks to South Sudan. Thus, using de-risking instruments such as credit and risk guarantees are advisable. As alluded to in section 3.2.1, South Sudan has witnessed a surge of private investments into different sectors from its partners including the Bank, following its independence in 2011. Nonetheless, the resumption of internal conflicts led partners, except the Bank, to shift their interventions to humanitarian support. Furthermore, DFIs and MDBs could support South Sudan's financial institutions by facilitating access to the needed lines of credit (LoC) for on-lending to SMEs. For instance, South Sudan could also benefit from the $150 million LoC signed in 2020 between the Eastern and Southern Africa Trade and Development Bank (TDB) and AFD (Agence Française de Développement) to finance green infrastructure in Africa. Furthermore, DFIs and MDBs could help South Sudan's local businesses and government with the required skills and knowledge to prepare and implement green projects. In particular, the Bank could assist South Sudan in delivering capacity building and supporting the country to access African Development Bank-managed and external climate finance resources such as the Green Climate Fund, Global Environment Facility, Climate Investment Facility, and Adaptation Fund. Nonetheless, it is also important to note that the Bank (through the Sustainable Energy Fund for Africa) will provide technical assistance to South Sudan's energy sector to catalyse private sector investments in renewable energy, including solar systems and off-grid solutions.

e. Enhancing stakeholder collaboration

Lastly, engagement and co-financing initiatives between DFIs, MDBs, and the private sector are critical to share risks and financing green projects. For instance, South Sudan is among the beneficiary countries of the Bank's Desert to Power Initiative launched in 2018 to support solar energy development in the Sahel region. The Bank is committed to up to $379.6 million in financing and technical assistance for the facility until 2029.

IV. NATURAL CAPITAL FOR CLIMATE FINANCE AND GREEN GROWTH

4.1 The Evolution of Natural Capital

Natural capital is tracked in three groups: (a) renewable capital, consisting of forest timber, forest non-timber, mangroves, fisheries, protected areas, cropland, and pastureland; (b) non-renewable assets, separated into oil, natural gas, coal, and minerals. In addition, non-measured forms of natural wealth, such as renewable energy potential from solar, wind and hydro-resources, landscapes, and marine assets are also reviewed but qualitatively[7]. The data for (a) and (b) were from the World Bank, covering 1995-2018, while data for South Sudan covers 2011-2018. The findings for East Africa are summarized in Table 3a, with a special section for South Sudan (Table 3b).

Compared to the whole of Africa, the following observations can be made:

- In total natural capital, East Africa is the fourth richest region of the five on the continent – after North Africa, West Africa, Southern Africa and ahead of Central Africa. South Sudan is ranked 7th in renewable and 2nd in non-renewable.

- The renewable assets have increased 3% in total value over the period 1995-2018, which is a little less than that for all of Africa (6%). On the other hand, South Sudan increased the value of renewable resources by 209% between 2011-2018. In per capita terms the decrease in renewable natural capital in East Africa is very similar to that for all of Africa – around 43%. This is mainly the result of declines in almost all categories except mangroves in the sub-region. The largest fall is in the per capita value of cropland. In South Sudan, the increase in per capita terms was 177% between 2011-2018 driven mainly by pastureland.

- East Africa is much less endowed with non-renewable capital than the continent. It had only $168 of such capital per capita in 2018 compared with $1,084 for Africa. There has been a large percentage increase in non-renewable assets (primarily metals and minerals) in the sub-region but that has come from a very low base.

- An indicator of sustainable growth proposed in the AEO report is to increase natural capital in per capita terms. In this respect, South Sudan has met that. It had an increase over the period 2011-2018 of 409%. The East Africa region has not met that. The region had a decline from 1995 to 2018 of 42%. Hence, it has done much worse than the continent, which experienced a decrease in per capita natural wealth of 21%.

[7] *The World Bank data can be accessed at: Explore data (worldbank.org). The study covers 146 countries. It excludes those with no data, mainly small island states. In Africa, Djibouti is the only country excluded from the list.*

Table 3a: Evolution of Natural Capital in East Africa: 1995-2018

	Total $ Mn 2018			Per Capita $ 2018		
East Africa	**1995**	**2018**	**% Increase**	**1995**	**2018**	**% Increase**
Renewable natural resources	452,150	464,505	3%	20,671	11,746	-43%
Forests, timber	96,886	93,880	-3%	3,745	2,120	-43%
Forests, ecosystem services	33,997	35,213	4%	1,333	746	-44%
Mangroves	397	770	94%	14	15	3%
Fisheries	631	608	-4%	21	11	-47%
Protected areas	52,603	62,994	20%	1,959	1,338	-32%
Cropland	176,906	159,659	-10%	9,980	5,090	-49%
Pastureland	90,760	111,381	23%	3,619	2,427	-33%
Sub-soil assets	**523**	**7,558**	**1346%**	**25**	**168**	**564%**
Oil	0	17	n.a	0	0	n.a
Natural gas	0	459	n.a	0	8	n.a
Coal	33	227	594%	1	4	266%
Metals and minerals	490	6,855	1299%	24	156	542%
Total	**452,672**	**472,063**		**20,696**	**11,915**	**-42%**

Table 3b: Evolution of Natural Capital in South Sudan: 2011-2018

	Total 2018 $ Mn			Per Capita $ 2018		
South Sudan	**2011**	**2018**	**% Increase**	**2011**	**2018**	**% Increase**
Renewable natural resources	16,960	52,389	209%	1,726	4,773	177%
Forests, timber	7,252	7,098	2%	738	647	-12%
Forests, ecosystem services	9,709	16,897	40%	988	1,539	56%
Mangroves	0	0	n.a	0	0	n.a
Fisheries	0	0	n.a	0	0	n.a
Protected areas	n.a	n.a	n.a	n.a	n.a	n.a
Cropland	n.a	5,147	n.a	n.a	469	n.a
Pastureland	n.a	23,247	n.a	n.a	2,118	n.a
Sub-soil assets	**0**	**44,064**	**n.a**	**n.a**	**4,015**	**n.a**
Oil	0	44,046	n.a	n.a	4,013	n.a
Natural gas	n.a	n.a	n.a	n.a	n.a	n.a
Coal	n.a	0	n.a	n.a	0	n.a
Metals and minerals	0	18	n.a	0	1.7	n.a
Total	**16,960**	**96,453**		**1,726**	**8,788**	**409%**

Source: World Bank 2021

The decline in renewable natural capital has focused on forests, cropland, and pastureland. However, there are three trends to consider: a change in the land areas under each category, the unit income that these lands provide and the sustainability of these rents (measured in terms of the lifetime of the return). This deconstruction is important because it directs the policymakers on where action is needed to increase the value of natural capital. For South Sudan, there is need to put in place strategies for value addition to raw materials before export to the value of its natural capital.

Regarding South Sudan, data from the World Bank revealed that the agricultural land (cropland and pastureland) declined to 282,510 km² in 2018 from 284,979 km² in 2011, representing only a 0.9% decline. The focus will therefore need to be on the value of the land. There is considerable variability in the value of natural capital in the form of cropland and pastureland across the region. In Burundi in 2018, it was $3,194/ha; in Rwanda, it is much higher at $15,557/ha; in Tanzania it was $1,962/ha; and in Uganda it was $3,092/ha.

The other category of capital that is undervalued is forestry. As noted in the AEO 2023 report, the efficiency of sequestering carbon in terrestrial ecosystems (particularly forestry) can be increased. By choosing more selective land use and land management methods to increase GHG storage without compromising the use of forests for productive purposes, the amount stored can be increased globally around 20% . Much of this gain is in a few countries; of the ones in Africa with the greatest gap between the actual carbon sequestration and potential sequestration are Burundi, Gambia, and Uganda, two of them located in East Africa. In addition to increasing carbon storage, however, increasing the price received by these countries from the storage is critical. Ways of doing that are discussed in the next section.

The AEO 2023 report noted that the categories of natural capital evaluated do not cover all sources of such capital on the continent. Africa benefits particularly from sunshine, wind, and hydro resources that can generate clean energy. South Sudan has significant potentials for renewable energy resources, which can contribute to increasing local energy and to the low carbon pathway. The climate landscape, fauna and flora form a strong basis for tourism. The contribution of natural capital to the flows of goods and services from all these sources of natural wealth, however, is not estimated, which then underestimates their contribution to the economy. In East Africa, the role of tourism is particularly important. A report from the World Tourism Council, contribution of tourism in South Sudan is estimated to grow to 4.1% by 2024 from 1.8% in 2013. Other contributions of natural wealth, such as solar or hydro in generating electricity, have not been estimated either and should be done as a matter of urgency.

An important component of the natural capital of South Sudan is the fishery sector wealth, which has not been covered in the wealth accounts prepared so far. South Sudan has a vast wetland area measuring over 29,000 km², with an additional 26,000 km² during the rainy season. As the AEO 2023 notes, capture fishery provides protein, minerals, and micronutrients for over 400 million people on the continent and employs around 13 million people. There is concern, however, on over-exploitation of the wild stocks, which are decreasing. Key factors contributing to overfishing in Africa are overcapacity; illegal, unreported, and unregulated (IUU) fishing activities; poor resource governance; and insufficient knowledge and misperception.

South Sudan's oil reserves, estimated at 3.75 billion barrels, comprise the third-largest oil reserves in Sub-Saharan Africa after Nigeria and Angola. Most of the oil fields in South Sudan are in the northern parts such as Upper Nile State and Unity State. As eluded in chapter 2, the sector is a key driver of

economic growth, revenue collection, export, and foreign exchange earnings. However, 90% of the oil and gas reserves remain untapped.[8]

Furthermore, South Sudan has abundant mineral wealth (gold, uranium, diamond, mica, limestone, aggregate materials such as granites, kaolin, copper, chromium, zinc, tungsten, and iron ore), much of it yet to be quantified. Most mineral production is on a small-scale basis, and is focused on gold. The sector sustains more than 500,000 people in South Sudan, including artisanal and small-scale mining companies and their dependents. Artisanal gold mining is a major economic activity, especially in rural areas, and takes place in six of ten states and approximately 25 counties.

Strengthening natural resources governance is important in improving the contribution of natural capital to South Sudan's development.

4.2 Opportunities for Enhancing the Contribution of Natural Capital in South Sudan

The channels for increasing the returns from natural capital without damaging the base that provides these returns include both domestically and internationally driven actions. On the former, the importance of good governance in the management of the returns from natural capital and in bringing together physical and human capital to add value to exports where opportunities are available cannot be overemphasized. On the latter, there is a special role for making greater use of international agreements on climate change and biological diversity to finance higher returns from the substantial endowments of natural assets in the region that can serve the global goals in these areas.

South Sudan still faces significant policy and regulatory gaps related to the management and governance of natural capital resources. These gaps have contributed to a range of issues, including weak governance, environmental degradation, and conflict over natural resources. Some key policy and regulatory gaps related to the country's natural resources include: (i) weak legal and institutional frameworks (e.g. weak implementation, overlapping mandates, etc.); (ii) weak enforcement mechanisms including lack of trained personnel; (iii) limited community engagement; and (iv) inadequate management of natural resources revenue. Despite these challenges, the government developed several policies including the Forestry Policy and Strategy and the Environmental Management Act; establishment of community forests and the promotion of community-led conservation efforts; establishment of the National Revenue Authority to improve transparency in revenue collection, among others.

To address these challenges, significant reforms are required. The reforms should be geared towards adopting best-practice institutional arrangements to ensure the separation of various organizations' policy, regulatory and commercial responsibilities. This separation will not only ensure efficiency and smooth operations across the value chain, it will also reduce conflicts of interest and boost investor confidence as well, especially in cases where foreign investors are involved in strategic joint ventures with state-owned enterprises. Furthermore, realistic policies that allow strategic partnerships with state-owned enterprises and foreign investors are critical.

South Sudan's political instability, driven by years of conflict, has led to negative socioeconomic impact and mismanagement of extractive rents (i.e., capturing, allocating and distributing). For instance, total natural resource rents decreased from 45.8% of GDP in 2010 to 11.2% in 2015 in part because of the reduction in oil rents from 45.8 to 8.5% of GDP during the same period following political instability. Illicit flows, transparency and accountability remains amongst the key challenges facing South Sudan. It has ranked consistently at the bottom of Transparency International's annual corruption perception surveys, reflecting the challenges with corruption in the country.

[8] *https://www.fdiintelligence.com/content/feature/the-promise-of-oil-and-gas-in-south-sudan-81521*

According to the Financial Action Task Force report (2021), illicit financial flows amounted to $36 billion between 2016-2020. Corruption has played a significant role in undermining the capacity of the state to meet the core socio-economic needs of citizens, such as healthcare, education, and other sustainable development goals, with poor and extremely poor citizens including women and children disproportionately affected.

4.2.1 Non-Renewable Resources

South Sudan has abundant mineral wealth (gold, uranium, diamonds, tungsten, mica, limestone; aggregate materials such as granites, kaolin, copper, chromium, zinc, tungsten, and iron ore), much of it yet to be quantified. Most mineral production is on a small-scale basis, focused on gold. The sector sustains more than 500,000 people in South Sudan, including artisanal and small-scale mining companies and their dependents. Artisanal gold-mining is a major economic activity, especially in rural areas, and takes place in six of ten states and approximately 25 counties. Despite this potential, an enabling environment for mineral exploration is lacking. The government should ensure consistent implementation of oil sector policy, legal, and regulatory frameworks; strengthen institutions for oil revenue management and environmental protection; and achieve oil revenue stabilization and future generation funds.

For non-renewable natural capital, the AEO 2023 report notes that revenues from the extractive sector contribute greatly to many African countries' private and public finances. At the same time, these countries need to ensure that they receive a fair share of resource rents from these resources and effectively manage the revenues; the negotiated royalty rates for example are often too low. However, obtaining a "fair share" of the revenue from non-renewable resources does not guarantee economic development if the revenues are not well spent. There are issues of corruption and weak institutions in mineral-rich countries so such countries in Africa and elsewhere in the developing world tend to experience low growth and high poverty rates. For East Africa, these issues are less important than for other regions on the continent, where the value of the stocks of such assets are much larger. None of the countries in this sub-region could be considered rich in extractive resources, except for South Sudan, which, on the estimates for 2018, has $42 billion in oil reserves, making up 47% of all its natural capital. The recommendations from the AEO 2023 report for ensuring a fair share of rents for the state and for ensuring transparency, efficiency, and good governance in managing them are clearly valid for South Sudan. For the other states, with small but important amounts of minerals, the same strictures apply to the management of those sectors.

4.2.2 Renewable Resources

Renewable resources are at the heart of sustainable development in East Africa. Several ways in which they can be exploited more effectively and yet sustainably have already been touched upon. Regarding cropland and pastureland, East Africa has not experienced a large expansion in the areas of such land over the last quarter century (unlike some other parts of the continent and other developing countries).[9] There may be potential for making a small increase if this can be done without deforestation, to add to the stock of land that can generate a long-term income flow. The main effort, however, will have to be to raise unit value from the land, by moving up the value chain for the agri-food system.

Forest area has declined in most countries. The greatest was in Uganda (28%), followed by Tanzania (15%), Rwanda (9%), Kenya (8%). In South Sudan, there has been no extension on the forest land area which was estimated at 7,157 hectares in 2020 (Annex 1), although rents

[9] In Rwanda, there was a steep decline in land under agriculture between 1991 and 2002 but land in 2018 is like that in 1992. In Uganda and Tanzania land under agriculture increased 18% while in Burundi and Kenya it changed very little.

from forests were estimated at 2.6% of GDP in 2015. Nonetheless, data from the International Tropical Timber Organization and FAO showed that South Sudan, from 2012 to 2018, was a net importer of wood products with a total negative trade balance of $10.9 million[10]. Countries, where there has been a decline, will need to reverse it through conservation measures as well as replanting and recovery where appropriate. The AEO 2023 report proposes several measures in this regard. Indeed, there is evidence that some countries in the sub-region have begun to reforest in the last few years. South Sudan, as a significant part of the forests is on communal land, there is a need to actively involve the local communities in the management of the forest resources and land-use decision making. It is also important to invest in institutions, technical logistics and human resources to conduct national forest inventories to better quantify and understand the potentials, values, and allowable removals of forest products as well as better guidance on their replenishment in plantations or natural settings with exotic or indigenous species.

At the same time as taking this route, countries in the sub-region can also increase participation in the voluntary market for biodiversity and carbon, where new opportunities are arising. Among these is an ambitious new Post-2020 Global Biodiversity Framework, which aims to scale up ecosystem restoration, reduce the extinction risk of species, and protect 30% of land, freshwater and marine areas by 2030. The AEO 2023 report notes that for Africa to benefit from such arrangements, an Africa Biodiversity Fund may need to be established. Other source of funding includes the Convention on Biological Diversity (CBD), and the United Nations Framework Convention on Climate Change funds. Thus, development of human capacity is essential to mobilize these resources. Many project developers that offer a range of greenhouse gas emission offsets have emerged. Many of these are nature-based solutions (NbS) related to forestry and land use, agriculture and soil sequestration, and blue carbon. These credits would expand the voluntary market greatly, so the countries in East Africa should prepare themselves to be part of the growth by developing new offsets and ensuring the integrity of the certification of voluntary carbon markets.

Regarding other forms of natural capital, the roles of fisheries and landscapes (for tourism) have been noted. As alluded to before, South Sudan has significant fishery resources as the wetland area between the communities of Bor and Malakal, known as the Sudd swamps, hosts over 100 species of fish. The potential for fish catches in the flood plains and swamps is estimated between 100,000 and 200,000 tons a year (FAO, 2020). The untapped fishery resources are a source of food and income which can bring much-needed change and reduce poverty, but fishing communities cannot still exploit these resources to their economic benefit. The lack of supply routes allowing the transportation of fresh fish from the fishing sites to far market locations remains one of the main challenges for the fishing sector. Thus, investment in aquaculture, support development of fishing communities, infrastructure development, notably fishing ports, among others, is critical. Furthermore, addressing knowledge gaps of fishery resources, including catches, species involved, fish biology and potential for resource utilization remains critical.

To exploit landscapes more effectively for tourism, countries are looking to develop ecotourism further. As the AEO 2023 report notes, the potential for ecotourism in Africa is significant but not fully realized. Properly utilizing it could yield considerable economic and social benefits for local communities while safeguarding natural resources. While specific data on the revenue generated by ecotourism in Africa are not readily available, there is evidence that ecotourism is growing in Africa. The significant ecotourism sites in East Africa include the Maasai Mara National Reserve in Kenya, Serengeti National Park in Tanzania,

[10] https://www.itto.int/biennal_review/?mode=searchdata

Bwindi Impenetrable Forest in Uganda, and the Volcanoes National Park in Rwanda. South Sudan has a rich cultural heritage, with diverse ethnic groups and traditional practices, thus investment in cultural tourism can involve deepening cultural heritage sites, promoting cultural festivals and events, and developing community-led tourism initiatives. Community-based tourism can involve initiatives such as homestays, community tourism projects and cultural exchange programs. Due to South Sudan's rich ecosystem, ecotourism is an area of high potential to attract eco-tourists interested in nature conservation and sustainability. To enable development of the tourism industry in South Sudan, investment in infrastructure such as accommodation facilities and transport infrastructure, is key. Investment in tourism training and capacity building can also help to develop a skilled workforce in the industry such as tourism operators and guides.

Other means for making natural capital more productive in East Africa could include capturing more value of the goods and services generated by the natural capital. Although attempts to do this by enforcing local content requirements in products have not been so successful, there are opportunities for increasing value added through strategic partnerships with state-owned enterprises and foreign investors, fostering innovation, and creating a conducive environment for African-owned firms to emerge and thrive. Apart from local content, AEO 2023 also recommends countries to explore franchising agreements with foreign firms to complement existing local content policies and requirements, especially where capacity (both technical and financial) is lacking. Recent studies have shown the potential for franchising to be huge. Yet, many countries have overlooked it on the African continent.

V. CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Conclusion

South Sudan's economic performance has been derailed by the decline in oil production, floods, and the effects of the COVID-19 pandemic. As a result, GDP contracted by 2.9% in 2021/22 against a contraction of 4.9% in 2020/21. The economic growth outlook will be contingent upon the risks of persistent political uncertainty, climate change, and Russia's invasion of Ukraine.

Mobilising finance for green growth and climate action in South Sudan to meet its estimated needs will require the private sector to play a major role. With an estimated annual financial gap of $9.94 billion over 2020-2030, South Sudan urgently needs to implement policy measures to achieve its climate and green growth ambitions as outlined in the Second NDC. Actions should be taken to leverage the opportunities for private sector investments to adapt and mitigate climate change, while reducing the barriers to private sector investments. This will involve tapping into the emerging innovative private sector financing mechanisms for green growth and climate action.

Natural capital also plays a major role in climate finance and green growth. Renewable natural capital plays a major role in the economies of East Africa. Natural capital in South Sudan has grown in per capita terms over recent years. It had an increase over the period 2011-2018 of 409%. The role of non-renewable assets in South Sudan is very significant, particularly oil, with an estimated $42 billion in reserves, on the estimates of 2018, making up 47% of all its natural capital. Thus, ensuring transparency and accountability in management of oil resources is essential.

Below is a set of policy recommendations for different sets of stakeholders with indications of whether these should be implemented in the short-term [S], medium-term [M] or long-term [L].

5.2 Policy recommendations for macroeconomic performance and outlook

5.2.1 National Government

[S] Government of South Sudan (GoSS) should ensure efficient coordination between fiscal and monetary policies and enhanced social safety net programs that are targeted to those who need them most.

[S] GoSS to strengthen debt management capacity, fiscal discipline, and financial sector regulation; improve tax collection, public financial management, trade facilitation, and increase foreign exchange reserves.

[S, M, L] GoSS to ensure lasting peace as a pre-condition to sustainable development and inclusive growth.

5.2.2 DFIs and MDBs

[S, M, L] MDBs and DFIs to continue providing capacity-building and technical assistance on macroeconomic issues including budget, preparation, execution, and control.

[S, M, L] MDBs and DFIs to support GoSS's quests for economic diversification away from oil to reduce dependency and risks of exogenous shocks. Thus, continued efforts to implement its PFM 11+2 priorities is crucial.

5.2.3 Domestic and international private sector

[S, M, L] Domestic and international private sector should build partnerships with government to finance development projects using PPP modalities. This partnership should give priority to infrastructure projects (i.e., energy projects) to catalyze green growth and sustainable development.

5.2.3 Domestic and international private sector

[S, M, L] Support the GoSS to explore funding from international environmental and climate change funds to buttress public and private investments in agricultural value chain development.

5.3 Policy recommendations for private sector financing for climate change and green growth

5.3.1 National Government

[S] Ensure vertical and horizontal coordination by national-level institutions responsible for facilitating the implementation of green growth and climate action frameworks.

[S] Develop a supportive policy framework and define the specific contributions of the private sector in national development strategies.

[M, L] Mainstream green skills development into education institutions to ensure a continuous supply of green skills to enable the transition to green growth.

[M] Develop multistakeholder platforms that link domestic private sector with other international actors such as MDBs, DFIs and international private sector that are sources of private sector finance.

[M] Develop targeted green growth strategies for private sector to help mobilize internal and external financing.

[M] Develop a list of bankable investments which articulate the proposed climate action projects, their viability, timelines, costs and return on investments, which private sector investors (local and international) can easily access and select.

5.3.2 DFIs and MDBs

[S, M] Assist in designing suitable instruments for mobilizing finance for regions in conflict or those emerging from conflict such as security-indexed financing.

[S] Provide capacity development through technical assistance to support bankable green project preparation and design for access to climate finance from international climate funds.

5.3.3 Domestic and international private sector

[M, L] Collaborate with the GoSS, MDBs, DFIs, and other private sector actors to identify key risks and propose ways of addressing these investment risks.

5.3.4 Developed country governments

[S] As shareholders of MDBs and DFIs, developed country governments should incentivize these institutions to invest in measures to reduce risk when financing green growth in South Sudan and providing additional capital to these institutions.

5.4 Policy Recommendations for increasing the contribution of natural capital to climate finance and green growth

5.4.1 National Government

[S] Improve governance including promoting and enforcing stricter policies and regulations protecting forests and preventing illegal logging. Sustainable forestry practices such as selective logging practices and reforestation should also be promoted through instruments such as performance bonds for forest lessees. Furthermore, there is a need to develop forest and land use policies to guide the sustainable exploitation of forest and natural resources.

[S, M] Build transparent and accountable institutions to govern natural resources and guard against corruption, and illicit trade and financial flows.

[S, M] Adhere to the Extractive Industries Transparency Initiative in the management of oil contracts and allocation of oil revenues to contain corruption and enhance public finance management.

[S, M] Develop policies and instruments to support local content and value addition for extractive resources. This in turn will help to increase the value of natural capital as well as creating jobs and wealth.

[S, M] Continue investing in human capital across the value chain and build international negotiation capacity. This should also include training on data collection for better valuation and measurement of natural capital, including implementing and integrating the natural capital and ecosystem services into the standard system of national accounts.

5.4.2 DFIs and MDBs

[S, M] DFIs and MDBs should support South Sudan in ensuring that the extraction of all natural resources is guided by an environmental impact assessment and strategic environmental assessment to ensure that appropriate environmental and social safeguards are in place.

5.4.3 Domestic and international private sector

[S, M] Domestic and international private sector actors should work together with the GoSS in renewable energy to exploit the potential for such energy at a much faster rate.

5.4.4 Developed country governments

[S, M] Development partners and the GoSS should work together to exploit international agreements in several areas. These may include the creation of a single market for the trade of emissions credits (under Article 6 of the Paris International Agreement), which will raise the price of carbon credits in the forests; and increased participation in the voluntary market, where new opportunities are arising through the Post-2020 Global Biodiversity Framework.

[S, M] Development partners should support South Sudan, including through TA, to explore climate finance and carbon markets to harness carbon credit opportunities.

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ANNEX 1: SOUTH SUDAN SELECTED INDICATORS

Indicators	Unit	2010	2015	2018	2019	2020	2021	2022 (e)	2023 (p)	2024 (p)
National Accounts										
GNI at Current Prices	Million US $	...	11,642	4,886	5,015	4,985	5,052	...	...	...
GNI per Capita	US$	...	1,040	470	480	470	470	...	...	...
GDP at Current Prices	Million US $	...	15,326	3,118	4,044	5,352	5,935	7,871	7,012	7,077
GDP at 2010 Constant prices	Million US $	16,800	10,630	8,459	8,747	9,875	9,391	9,123	9,090	9,511
Real GDP Growth Rate	%	...	-0.2	-2.4	3.4	12.9	-4.9	-2.9	-0.4	4.6
Real per Capita GDP Growth Rate	%	...	0.0	0.1	2.9	11.2	-6.2	-4.3	-1.9	2.9
Value Added: Mining and quarrying	Million US $	...	732	1,425	1,509	1,433	1,945	2,867	...	...
Value Added: Mining and quarrying	% GDP	...	4.9	30.6	28.4	21.4	37.7	59.9	...	...
Value Added: Fishing	Million US $	...	...	...	...	...	...	...	...	...
Value Added: Fishing	% GDP	...	...	...	...	...	...	...	...	...
Prices and Money										
Inflation (CPI)	%	...	52.8	125.8	48.9	33.6	43.5	0.9	16.5	10.9
Exchange Rate (Annual Average)	local currency/US$	...	3.6	141.7	158.0	165.9	309.4	535.7	716.6	792.0
Government Finance										
Total Revenue and Grants	% GDP	...	16.5	49.3	48.3	36.0	37.0	28.2	35.7	31.7
Total Expenditure and Net Lending	% GDP	...	33.2	52.7	49.3	45.9	40.7	34.8	32.7	24.9
Overall Deficit (-) / Surplus (+)	% GDP	...	-16.7	-3.4	-1.0	-9.9	-3.7	-6.6	3.0	6.8
External Sector										
Terms of Trade Growth	%	...	...	...	...	...	...	...	...	...
Current Account Balance	Million US $	...	255	-81	-28	-1,054	-291	-110	491	467
Current Account Balance	% GDP	...	1.7	-2.6	-0.7	-19.7	-4.9	-1.4	7.0	6.6
Debt and Financial Flows										
Debt Service	% exports	...	...	...	...	...	...	...	...	...
External Debt	% GDP	...	...	...	...	...	...	...	...	...
Net Total Financial Flows	Million US $	...	1,651	1,570	1,685	1,815	2,100	...	...	...
Net Official Development Assistance	Million US $	...	1,675	1,578	1,677	1,821	2,108	...	...	...
Net Foreign Direct Investment	Million US $	...	0	60	-232	18	68	...	...	...
Demography										
Total Population	Millions	9.7	11.2	10.4	10.4	10.6	10.7	10.9	11.1	11.3
Population Growth Rate	%	5.3	-0.2	-2.5	0.5	1.5	1.3	1.5	1.6	1.7
Urban population	% of total	18.5	20.0	24.4	25.3	25.9	26.6	27.3	28.0	28.7
Life Expectancy at Birth	Years	54.8	55.6	56.0	55.9	55.5	55.0	55.6	56.5	57.1
Fertility Rate	births per woman	5.4	4.9	4.7	4.6	4.5	4.5	4.3	4.3	4.1
Poverty and Income Distribution										
Pop. living below national poverty line	% of total population	...	...	...	...	...	...	...	...	...
Population living below $2.15 a day	% of total population	...	...	...	...	...	...	...	...	...
Gini Index	%	...	...	...	...	...	...	...	...	...
Labor Indicators										
Labor Force participation (total)	%	71.1	70.8	70.6	70.6	69.9	70.3	70.9	71.2	...
Labour Force participation (youth)	%	63.8	62.2	61.2	60.8	60.2	60.1	61.1	61.6	...
Unemployment rate (total)	%	12.1	12.3	12.2	12.2	13.7	13.5	13.0	12.7	12.5
Unemployment rate (youth)	%	18.6	19.0	18.8	18.6	20.9	19.9	19.2	18.8	18.4
Natural Resources rents										
Total natural resources rents	% GDP	45.8	11.2	...	...	...	...	...	...	...
Oil rents	% GDP	45.8	8.5	...	...	...	...	...	...	...
Natural gas rents	% GDP	...	...	...	...	...	...	...	...	...
Mineral rents	% GDP	...	0.0	...	...	...	...	...	...	...
Forest rents	% GDP	...	2.6	...	...	...	...	...	...	...
Coal rents	% GDP	...	...	...	...	...	...	...	...	...
Natural Capital Renewable Resources										
Arable land	1000 hectare	…	2,537.9	2,396.7	2,394.7	2,394.7	...	...	...	...
Agricultural land	1000 hectare	…	28,392.1	28,251.0	28,251.0	28,251.0	...	...	...	...
Other land	1000 hectare	...	27,646.7	27,784.8	27,784.9	27,785.0	...	...	...	...
Forest land	1000 hectare	…	7,157.0	7,157.0	7,157.0	7,157.0	...	...	...	...
Planted Forest	1000 hectare	…	187.9	187.9	187.9	187.9	...	...	...	...
Annual freshwater withdrawals, total	% of internal resources	...	2.5	2.5	2.5	...	...	...	...	...
Total Fisheries Production	metric tons	...	37,020.0	32,022.0	32,027.0	30,030.0	...	...	...	...
Climate Finance and Green Growth										
Total Climate Finance*	Million US $	...	...	...	...	183.0	...	...	...	...
Green Growth Index**	%	...	...	...	...	…	...	...	...	...

Source : AfDB Statistics Department: African; IMF: World Economic Outlook,April 2023 and International Financial Statistics, April 2023; AfDB Statistics Department: Development Data Portal Database, April 2023. United Nations: OECD, Reporting System Division.Notes: … Data Not Available (e) Estimations (p) ProjectionsLast Update: June 2023 Source: Climate Policy Initiative (www.climatepolicyinitiative.org)**Source: Global Green Growth Institute (GGGI). The scores for the Green Growth Index range from 1 to 100, with 1 having the lowest or very low performance and 100 having*

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