



COVID-19 recovery

► KEY MESSAGES

- **Before the COVID-19 pandemic, investment in adaptation to climate change was low compared to investment in mitigation.** In light of the economic crises and the disruption to livelihoods caused by the pandemic, it is important to emphasize the idea of resilience and to contemplate new, “green” pathways to growth.
- **Key common principles that define and govern the “green growth” approach to development include:** sustained economic growth; resource-use efficiency; climate change response through adaptation and mitigation; creation of decent green jobs; and human well-being and social inclusiveness.
- **In this chapter, the use of an Intervention & Investment Impact Model (I3M)** developed by the economics consultancy Vivid Economics and the Oxford University Economic Recovery Project models and analyses the prospects for several kinds of green economic activity and job creation in four African countries (the Democratic Republic of the Congo, the Arab Republic of Egypt, the Republic of Kenya, and South Africa).
- **Amongst economic activities that OUERP and partners indicated as presenting a high potential for leveraging green economic growth, two were prominent in all country case studies: agriculture, and natural capital services.**



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Agriculture is a dominant sector in the economies of most African countries, accounting for 30–40 percent of GDP and providing jobs for over two-thirds of Africa's population. A focus on natural capital has the potential to bring economic, social and environmental benefits, creating jobs rapidly and safeguarding communities against climate change.

- **Investing stimulus packages wisely in sustainable growth, supported by finance from foreign governments and international organizations, could deliver the triple dividend** of economic, social, and environmental gains needed to lay the base for a successful and resilient economic recovery for the economies of Africa.

“

The time to move forward on adaptation is now. In the run up to COP26, we need to translate our ambitions into firm action, planning, financing and implementation.”

H.E. Mark Rutte, Prime Minister of the Kingdom of the Netherlands

High-Level Dialogue “An adaptation acceleration imperative for COP26”, September, 2021

GREEN ECONOMIC RECOVERY AND GROWTH IN AFRICA

Globally, the unprecedented economic challenges of COVID-19 are being addressed by a combination of fiscal and monetary interventions as indicated in the macroeconomics chapter. As countries have begun to emerge from the depths of the health crisis, fiscal spending has again been the favored economic policy lever, this time to support long-term recovery by stimulating new jobs and enabling a return to pre-COVID-19 levels of economic growth. Only a small share of the fiscal stimulus packages is explicitly green. Yet recent global economic analyses show that green spending can secure both greater growth and a greener future. These estimates on whether recovery packages will accelerate or retard progress on climate change, also emphasize the importance of front-loading resource mobilization to be able to invest in these sectors.¹ The availability of fiscal resources to invest in a green recovery remains a critical limitation for African countries, with recovery spending lagging compared to OECD countries. Additional resources, either through grants and concessional funding, or through market-based mechanisms, have been limited.

Key common principles that define and govern the “green growth” approach to development include: sustained economic growth; resource-use efficiency; climate change response through adaptation and mitigation; the creation of decent green jobs; and human well-being and social inclusiveness.²

Before the pandemic, investment in climate adaptation was still low compared to mitigation as indicated in the Finance chapter. It should now be prioritized. Climate-proofing developmental gains is crucial for economic growth and the eradication of poverty, as discussed in the following GCA recent reports:

- **The report *Adaptation Finance in the Context of COVID-19***, developed in partnership with Climate Policy Initiative (CPI), had two objectives: first, to understand how adaptation finance flows could be affected by the pandemic and beyond; and second, to outline opportunities for stakeholders to identify and implement interventions that support a resilient recovery. The report highlights opportunities for increasing adaptation investment

in the period of COVID-19 recovery, and proposes strategies for development finance institutions (DFIs) and governments to promote climate resilience. It also describes financial instruments that can be leveraged for recovery and resilience, and highlights the critical role of overseas development assistance (ODA) in financing climate adaptation, particularly for highly climate-vulnerable developing countries.³

- **The report *A Green and Resilient Recovery for Latin America***, developed in partnership with the Government of Mexico and CELAC (*Comunidad de Estados Latinoamericanos y Caribeños*), analyzed COVID-19 recovery packages and climate regulations in the Latin American region, providing a pathway for their sustainable and resilient recovery.⁴

In an effort to inform government policy and strategies on how green investments can bolster a short-term economic recovery from the pandemic in Africa while also catalyzing long-term economic prosperity and advancing progress towards key climate commitments and the SDGs, the United Nations Economic Commission for Africa (UNECA), in partnership with Oxford University Economic Recovery Project (OUERP), Smith School of Enterprise and the Environment (SSEE) and the economics consultancy Vivid Economics, reviewed the COVID-19 recovery fiscal stimulus expenditures in selected African countries, analyzed their immediate benefits, and proposed ways to enable their sustainable green economic growth. Selected countries include the Democratic Republic of the Congo, Egypt, Kenya and South Africa.

The measures for green economic growth include energy, transport, and other sectors where greenhouse emissions can be reduced. Other measures would support the adaptation and resilience of African economies to climate change. Amongst economic activities that OUERP and partners indicated as presenting a high potential for leveraging green economic growth, two were prominent in all country case studies: agriculture, and natural capital services. Agriculture is a dominant sector in the economies of most African countries, accounting for 30–40 percent of GDP and providing jobs for over two-thirds of Africa’s population. A focus on

natural capital has the potential to bring economic, social and environmental benefits, creating jobs rapidly and safeguarding communities against climate change.^{5,6,7} In addition, the energy sector is also a critical platform for investment. Even when its contribution in terms of jobs or value addition directly from energy may be less, it is a key mobilising factor in developing all sectors.

Our analyses show that there is a clear and strong co-dependency between agriculture, natural capital and climate change. Natural capital management provides a great variety of critical services to agriculture. Among them, for example, are ecosystem services (i.e., water, soil, nutrients, etc.) and regulating environmental conditions (i.e., physical protection against natural hazards like floods, tsunamis or wild fires, purifying water, etc.). On the other hand, we found that poor agricultural practices and management reduce the availability and quality of natural capital, which in turn may create a spiral of degradation of both natural capital and agricultural activities. Both sectors are extremely vulnerable to climate change. Climate change accelerates the depletion of natural capital and ecosystem services by altering major geophysical conditions—average surface temperatures, ocean temperatures, precipitation patterns, the oxygen

content and acidity of seawater—too quickly for natural systems to adapt. When these changes reach thresholds that ecosystems can no longer sustain, natural capital and ecosystem services often degrade along a nonlinear path.⁸

The sustainable use of natural capital, particularly to address vast adaptation needs through nature-based solutions (NbS), and the adaptation of the agricultural sector to cope with current and future climate change impacts are vital for Africa's recovery and for resilient green economic growth.

This chapter reviews the opportunities and recommendations developed by OUERP and partners, for green economic growth particularly in the natural capital and agriculture sectors, which may benefit immensely from climate adaptation initiatives and yield the triple dividends of economic, social and environmental benefits much needed by the continent. It summarizes the analysis from 4 original papers with a focus on the modeling approach used; the impacts of the pandemic and the policy responses it elicited; the expected benefits from green growth spending; and recommendations for agriculture and natural-capital related sectors as well as priorities in the four selected countries. The full papers can be found on the OUERP website.⁹



Photo: MagnificalProductions/iStock

MODELING APPROACH

Aiming to estimate the direct and indirect economic impacts of different stimulus packages, the analysis used the economic model *Intervention & Investment Impact Model (I3M)*. The modeling approach is composed of four steps:

1. Coordinate background policy analysis:

mapping of existing COVID-19-related spending policies for years 2020 and 2021, the policies included rescue-type spending such as household and job support programmes, as well as non-targeted business support. To consider recovery-type investment policies, a set of reference investments across core sectors was established. Vivid Economics designed a series of indicative green recovery policies to form a potential green recovery package. This package is tailored to the national context, while drawing on international best practice for designing green stimulus policies. These policies are categorized as recovery policies (incentive measures and investment measures) and rescue measures (temporary liquidity measures, temporary life and livelihood measures, and temporary tax and payment relief measures). They are analysed with regard to their:

- potential environmental impact: GHG emissions and air pollution reduction, and conservation and sustainable use of natural capital;
- potential social impact: wealth-inequality mitigation, quality of life increase, rural livelihood improvement; and
- potential economic impact

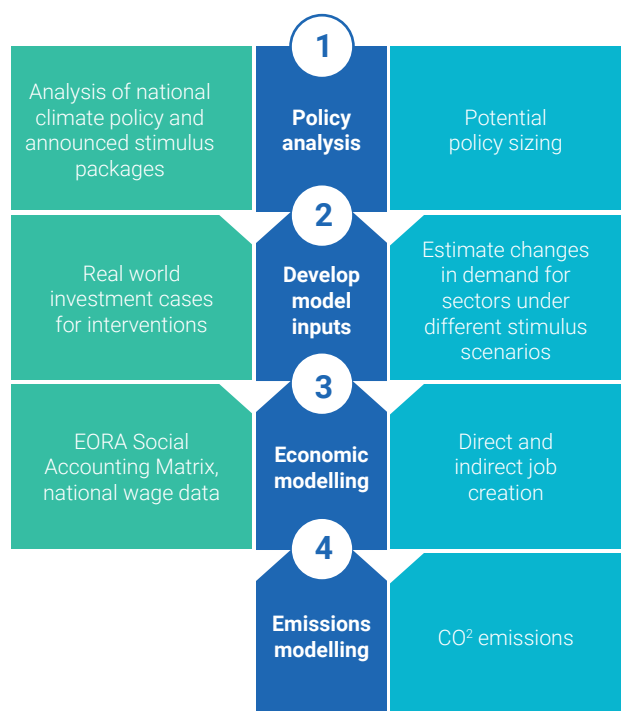
2. Develop model inputs: translating interventions into ‘shocks’ for use in the I3M model and changing model shocks in sectoral final demand.

3. Conduct economic modelling: estimation of the direct and indirect economic impacts of the different stimulus scenarios. The shocks are applied to the model to estimate the direct and indirect economic impacts of the different

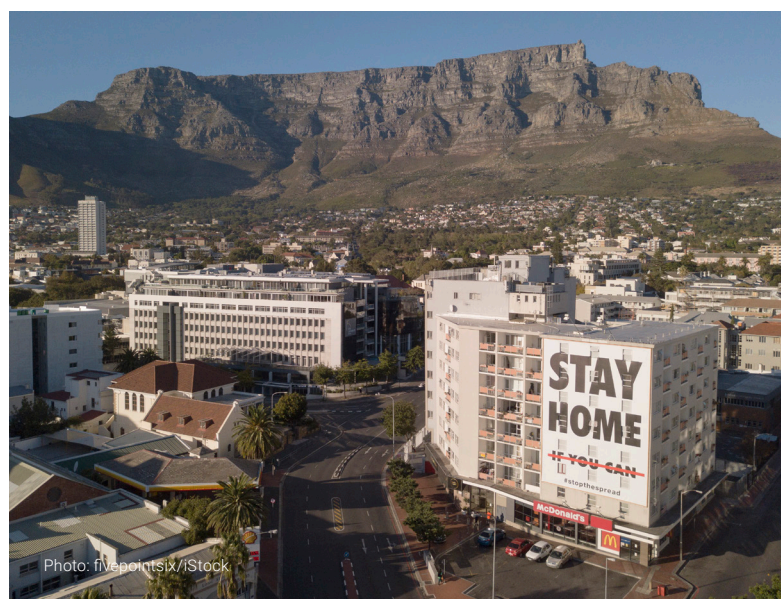
stimulus scenarios. The direct economic impacts are those within the sector where demand has changed. For example, an increase in demand for solar power will directly increase jobs in the renewable energy sector, and indirectly bring upstream supply chain impacts.

4. Conduct emissions modelling: demonstration of the CO₂ emissions mitigation benefits of a green recovery.

Figure 1: Overview of modelling approach



Dark blue boxes summarize the steps in the analysis, green boxes indicate inputs at each stage, and light blue boxes indicate outputs.



COVID-19, FISCAL STIMULUS AND GREEN ECONOMIC GROWTH IN SELECTED AFRICAN COUNTRIES

Democratic Republic of the Congo

COVID-19 impacts and policy responses

The economy of the Democratic Republic of the Congo (DRC) is heavily reliant on metal and mineral exports. With the volatility in commodity prices as well as mobility restrictions imposed by the pandemic, the country's exports were deeply impacted, reducing taxation revenue by 46% in 2020. Pre-pandemic, the country's economy was forecast to grow 5.4% in 2020; instead, its GDP contracted by 2.2% (or 1.7% according to domestic estimates).¹⁰ Before the pandemic, the DRC already faced one of the highest poverty rates and lowest energy access rates in the world. Due to the disruptions of COVID-19, poverty increased appreciably: 6.2 million new people (7% of the population) now face acute food insecurity.¹¹

DRC has only 0.1 physicians per 1,000 people (compared to the global average of 1.6 physicians per 1,000 people), with health expenditure of just \$30.72 per capita. Hence, the country was unprepared to deal with the magnitude of the pandemic's health impacts, which were further worsened by a new Ebola outbreak in April 2020 and a second wave of COVID-19 in late 2020.¹² Limited fiscal space and strong reliance on international support resulted in a constrained response to the pandemic. As of March 2021, the DRC had spent only \$11 per person to contain the crisis, compared to an average in advanced economies of ~\$11,000 per person and ~\$640 per person in emerging market and developing economies.

International assistance has been crucial in the DRC's response to the pandemic, which has benefited significantly from concessional finance given by institutions such as the IMF and the AfDB

among others. The country devoted CDF 1.9 trillion (USD \$928 million) to short-term rescue measures and CDF 93 billion (USD \$47 million) to longer-term recovery measures.¹³ Although these figures are small by value, the government has responded to the crisis with new spending priorities. Most spending has been oriented to reinforce the healthcare system for handling COVID-19, to support macro-economic stability and economic recovery, and to reinforce social security, particularly for vulnerable populations. The environmental characteristics of the initiatives covered by the stimulus package are unclear and, to date, green recovery spending has been almost zero.

Moving towards green and resilient economic growth

The DRC holds the African Union presidency, and is well positioned to establish itself as a global leader on climate and environmental sustainability. Alongside benefits to the country's reputation in the international sphere, green stimulus measures are a promising option for short-term job creation and the economic recovery of the DRC.

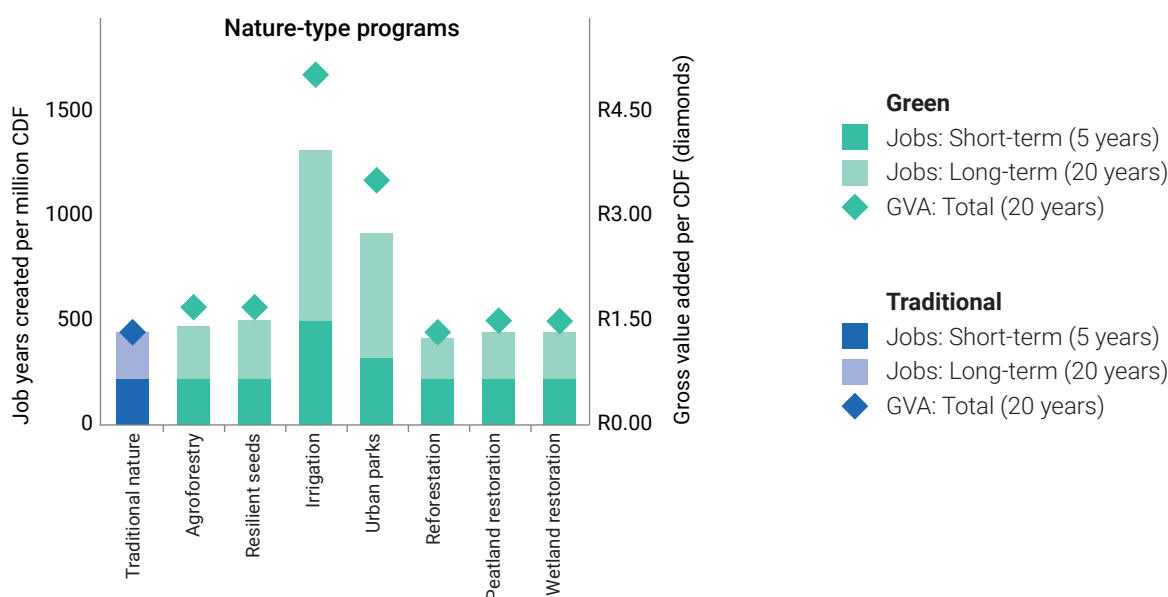
Green and resilient stimulus measures can be one of the DRC's strongest spending options in support of economic recovery in the coming years, boosting both short-term job creation and growth and laying the foundation for future prosperity. The DRC must ensure that domestic institutions are capable of dispersing increased volumes of aid equitably, transparently and diligently. The provision of concessional finance by international partners, particularly through green and resilient assistance, is imperative to significantly uplift the economic, social, and environmental future of the DRC. Natural capital stands out as a potential sector with strong potential to yield triple dividends to the country. Figure 2 shows a subset of potential job creation through green and resilient spending in selected sectors compared to traditional spending.¹⁴



Africa needs and defines adaptation as prosperity. 250 million people will go to bed hungry tonight. 400 million people have no energy. That is what adaptation means for Africa."

Vera Songwe, Executive Secretary, UNECA

Figure 2: Job and Gross Value Added (GVA) impacts of a subset of green spending focused on adaptation and resilience, compared to traditional spending in the Democratic Republic of the Congo. All modelled policies.



Source: modelling output from Vivid Economics

Natural capital

DRC is home to some of the most impressive and abundant natural resources on the African continent, and is one of the richest sites of biodiversity in the world.¹⁵ The country’s natural capital is a major asset and agriculture is a key driver of the economy, with almost two-thirds of the total working population employed in the sector.¹⁶

Natural capital investment supported by international partners is likely to bring large benefits for DRC on economic, environmental and social levels. Alongside a swift expansion of jobs, a rise in economic activities and enhanced living conditions, NbS can generate improvements in air quality and agricultural yields and safeguard communities against climate change, making the DRC more resilient to future shocks.¹⁷ The country should capitalize on its natural resources through programs such as agroforestry, resilient seeds and irrigation, urban park development, peatland restoration, and reforestation.

OUERP’s analysis suggests that natural-capital related investments could be among the top green-related investments that the government could make, with particularly strong impacts for the DRC. Nature-based interventions include restoration of habitats, agricultural interventions that sustainably boost productivity and protect livelihoods, and urban greening. Provided there is appropriate and consultative design, these can be implemented quickly, create low-skilled jobs, and can be one-off investments. They are not susceptible to investment leakage outside of the country, ensuring that stimulus is focused on the domestic economy. These opportunities could act as climate adaptation safeguards, protecting against the impacts of climate change. In doing so, they can also increase the resilience of the economy.

- **Agroforestry:** agroforestry and habitat restoration can decrease the likelihood and severity of droughts by improving soil water retention, slowing water loss, and regulating water flow. Agroforestry practices can also decrease livestock loss due to heat stress, thanks to improved shading.

- Resilient seeds and irrigation:** DRC's agriculture sector is particularly vulnerable to the changing global weather patterns and climate shocks. Policies which build a resilient agriculture can both support jobs today and enable the DRC to better adapt to changing climatic conditions. This includes investments in irrigation and drought-resistant seed technologies that enable farmers and their cultures to withstand droughts. Investments in resilience-focused projects could lead to high economic returns, with CDF1.7 to CDF2 in revenue for every CDF1 spent. These economic benefits would increase farming revenues, enabling farmers to then reinvest into these practices.
- Urban parks:** Kinshasa is the second largest city in Africa and is projected to have a population of at least 20 million by 2030. Urban parks support recreation, health, and well-being, translating into a healthier population, improved human capital, and lower pressure on health services.
- Restoring peatlands:** the process of restoring and conserving peatlands aims to cover bare peat areas with vegetation, blocking drains to raise the water table, and reintroducing mosses and other plants into areas where they have been lost.
- Reforestation:** reestablishing natural forests, planting more native species, or increasing the density or extent of an existing forest. Well-managed, consultative, and participatory reforestation can enhance wildlife habitats, support biodiversity, protect water supplies, develop recreational opportunities, and address numerous issues associated with climate change, including through carbon sequestration.



Photo: Petri Oeschger/iStock

Arab Republic of Egypt

COVID-19 Impacts and policy responses

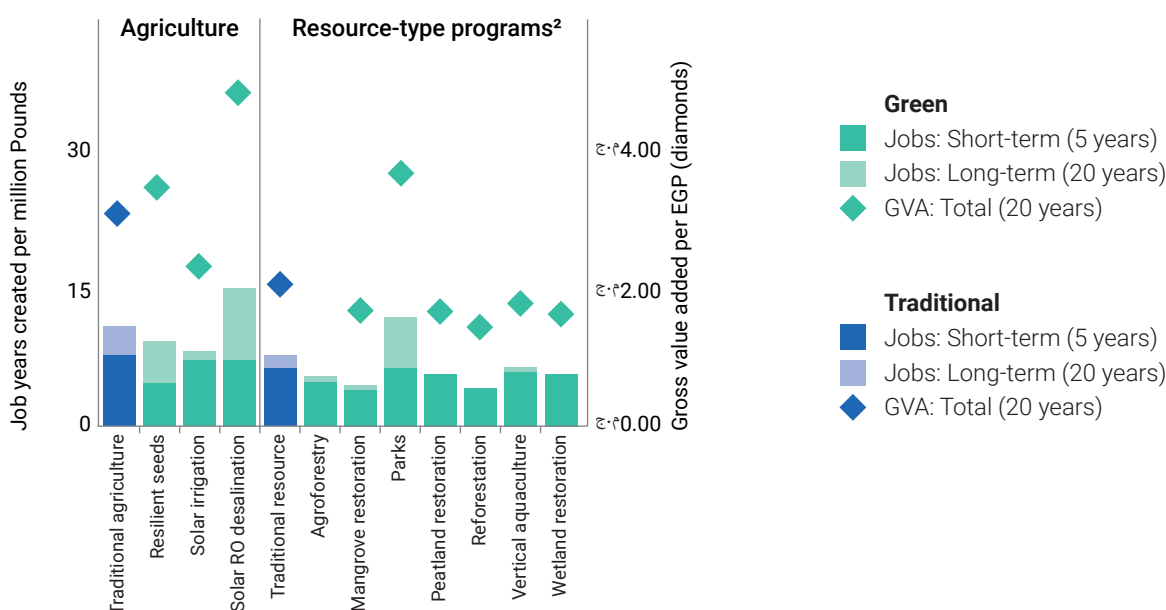
Once known as one of the fastest growing economies in Africa and the Middle East, Egypt has seen its economy hit by COVID-19 impacts just as the reforms of the two previous decades were set to begin paying off.¹⁸ The combination of the partial lockdown and the collapse of the tourism sector caused a contraction in GDP of 1.7% in the second quarter of 2020.¹⁹ The slowdown in economic activities triggered an increase in unemployment, which went from 7.7% to 9.6% between the first and second quarters of 2020—2.7 million jobs were lost during the second quarter of 2020 alone.²⁰

In order to reverse this slide, the Government of Egypt has put in place measures to attract investments that encourage job creation and improve the living standards of the country’s large and growing population. To that end, policymakers are working to cut red tape, reduce debt, leverage investments in the infrastructure sector and develop human capital and social protections.²¹ In 2020 Egypt allocated 3.8% of GDP to COVID-19-related spending, with 0.4% of GDP for long-term recovery spending,

compared to the G20 (excluding the EU) average of 18.5% of GDP for COVID spending and 2.3% for recovery, and, in low- and middle-income countries (LMICs), 10.6% of GDP spent on the pandemic and 1.6% for recovery. The major share of this spending is a fiscal stimulus package of EGP 110 billion to support the healthcare system, as well as social programs, announced in March 2020.²² Although this fiscal stimulus package provided the immediate support needed to control socioeconomic shocks, little or no spending covered by this initiative was explicitly green. On the contrary, from this package, EGP 3.5 billion was allocated to extend natural gas pipelines and EGP 5 million was used to support the aviation and tourism industries.

Notwithstanding this, in September 2020 Egypt issued \$750 million in green bonds, of which \$500 million was used for funding five key green projects: one desalination plant, three wastewater treatment facilities, and one monorail project.²³ Preventing a water crisis is a top priority for the government and funding new desalination plants and wastewater treatment facilities will support Egypt become more resilient to climate change impacts and ensure the availability of water resources to people and for economic activities.

Figure 3: Job and Gross Value Added (GVA) impacts of a subset of green spending focused on adaptation and resilience, compared to traditional spending in the Arab Republic of Egypt. All modelled policies.



Source: Modelling output from Vivid Economics

Moving towards green and resilient economic growth

The rise in unemployment, combined with school closures, is likely to increase underemployment and force people into working in 'the wrong' jobs.²⁴ These impacts are likely to disproportionately affect young people²⁵ and, without a more skilled labor force, the country is at risk of facing a severe social and economic crisis in the long term. Recovery policies in Egypt should prioritize the creation of jobs, particularly for the youth and in the formal sector. Along with job creation, Egypt must provide support for the education and training of young adults, with a specific focus on preparing them for the green jobs of the future. Furthermore, it is vital to enable access to finance for green start-ups and Micro, Small, and Medium enterprises (MSMEs) to create more opportunities for young Egyptians, as well as to sustainably boost the country's economy. The figure below shows a subset²⁶ of potential job creation through green and resilient spending in selected sectors compared to traditional spending.

Agriculture and water

Agriculture accounts for 11% of national GDP and 29% of jobs. It is concentrated largely in the Nile basin area, which is highly vulnerable to the negative impacts of climate change.²⁷ Investments in sustainable large-scale projects to bolster water supply, including desalination plants and wastewater treatment plants for water reuse, increase the circularity of water in intensely farmed areas, providing resilience to climate shocks and enabling the continuity of the activities of the sector in adverse scenarios. These capital-heavy efforts should be complemented with incentives to improve micro-level irrigation efficiency and solar-powered irrigation.²⁸

As an emerging agro-industry, biofertilizers can also deepen the circular economy, limit waste generation, and catalyze enterprise in the local community, with significant job creation. The viability of biofertilizer investment is showcased by the success of Baramoda, an Egyptian company transforming agricultural waste into biofertilizers.²⁹



Photo: Aleksandar Todorovic/Shutterstock

Republic of Kenya

COVID-19 Impacts and policy responses

The Kenyan economy was hit hard in 2020 by the COVID-19 pandemic. On a macroeconomic level, the mobility restrictions imposed by COVID-19 impacted the country’s export, tourism and remittance inflows.³⁰ GDP decreased by 5.5% in the second quarter of the year—the first quarter of negative growth in 8 years,^{31,32}—and the second wave of the pandemic in December 2020 induced even deeper economic distress. A national survey revealed that 22% of households (10.7 million Kenyans) reported increased food insecurity during the lockdown.³³ The World Bank estimates that additional two million people have fallen into poverty.³⁴

In response to COVID-19, in 2020, Kenya spent ~\$10 per person, compared to an average in advanced economies of ~\$11,000 per person and ~\$640 per person in emerging market and developing economies. The bulk of announced spending in Kenya is contained in a KES 38 billion package released in May 2020,³⁵ which targeted direct cash transfers to the vulnerable, liquidity support measures for businesses and major industries, and healthcare spending.

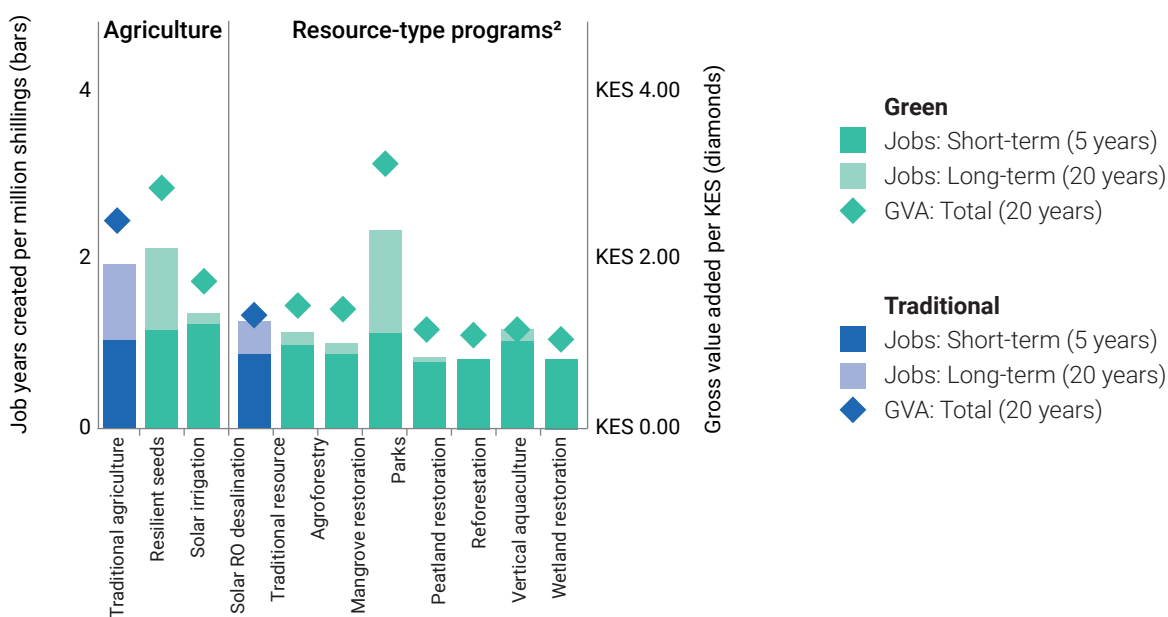
Kenya spent a higher proportion of recovery funds on green initiatives than most nations, with more than KES 4 billion of its recovery package being directed to explicitly green initiatives, including funding for wildlife conservation, reforestation, and flood control. Nevertheless, significant green opportunities still remain uncaptured.³⁶

Moving towards green and resilient economic growth

Debt constraints, low credit ratings and limited fiscal space have restricted Kenya’s ability to fund sufficient levels of rescue or recovery spending. The provision of concessional finance by international partners, including foreign governments and multilateral organizations, is imperative to significantly reshape the economic, social and environmental future of the Kenyan population. In response, Kenya must ensure that domestic institutions are capable of dispersing increased volumes of aid equitably, transparently and diligently.

Kenya should urgently invest in a sustainable economic recovery plan that prioritizes natural capital solutions. This plan should be based on the existing national green framework for growth and development, and should be capable of strengthening the country’s directives for green economic growth.

Figure 4: Job and Gross Value Added (GVA) impacts of a subset of green spending policies focused on adaptation and resilience, compared to traditional spending measures in the Republic of Kenya. All modelled policies.



Source: modelling output from Vivid Economics

Figure 4 shows a subset³⁷ of potential job creation through green and resilient spending in selected sectors compared to traditional spending.

Natural capital

Kenya relies heavily on natural resources, including for the agricultural sector, which contributes to roughly 33% of GDP and more than 40% of employment;³⁸ as well as the drastically hit travel and tourism sector, which contributes to 8.8% of GDP and 8.3% of employment.³⁹ Investments in nature-based solutions have the potential to reinvigorate the tourism and travel industry. They can bring economic, social, and environmental benefits, creating jobs rapidly and safeguarding communities against climate change.⁴⁰ Kenya should capitalize on NbS through programs such as agroforestry, reforestation, resilient seed and irrigation programs, and the development of urban parks.

- **Agroforestry:** agroforestry and habitat restoration can decrease the likelihood and severity of droughts by improving soil water retention, slowing water loss, and regulating water flows. Through improved shading, agroforestry efforts can also decrease livestock loss due to heat stress.
- **Reforestation:** well-managed, consultative and participatory reforestation can enhance wildlife habitats, support biodiversity, protect water supplies, develop recreational opportunities, and thereby address multiple climate hazards.
- **Resilient Seeds and Irrigation:** investments in irrigation and drought-resistant seed programs enable farmers to better withstand droughts and could lead to high economic returns, with KES1.7 to KES2.8 in revenue for every KES spent. These economic benefits would increase farming revenues, enabling farmers to then reinvest into these practices, further enhancing their benefits.
- **Urban parks:** Green spaces support recreation, health and wellbeing, translating into a healthier population, improved human capital, and lower pressures on health services. They can also make cities more attractive to tourists and business travellers, enhancing Nairobi's position as an international business centre.

South Africa

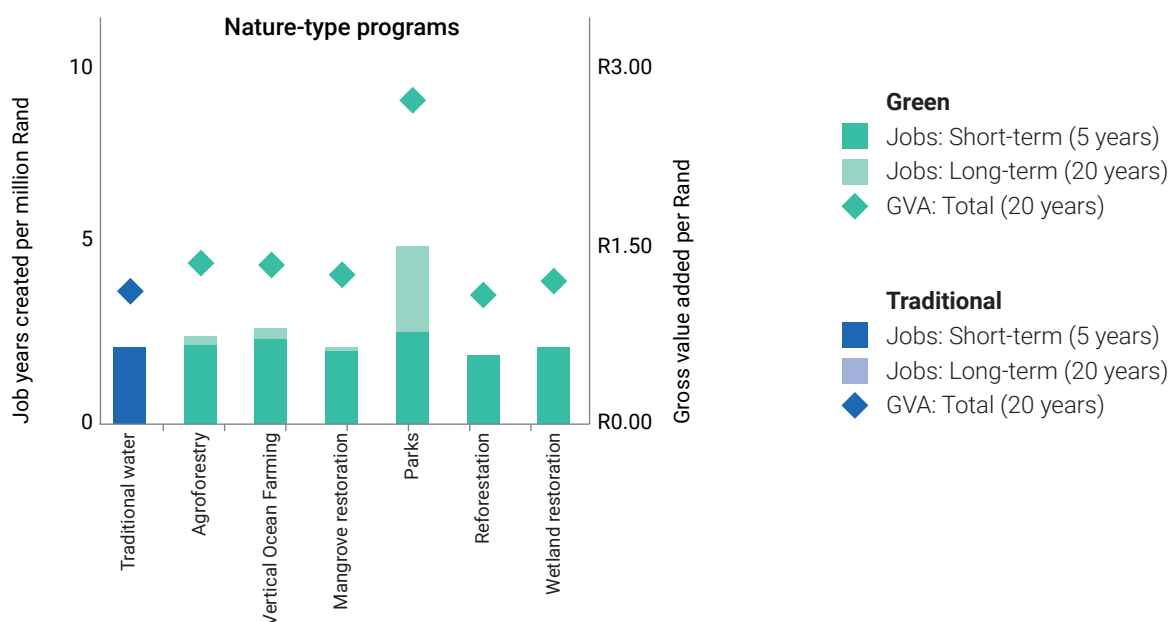
COVID-19 impacts and policy responses

Preexisting economic fragility and persistent inequality intensified the impacts of COVID-19 in South Africa. The country recorded an economic contraction of 8.0% in 2020 and an unemployment rate ballooning to 37%.⁴¹ The pandemic has pushed thousands of families below the poverty line, particularly households headed by women, black households, and those with lower levels of education.⁴² The second wave in December 2020 created even stronger socio-economic adversity. Economists predict that the country may not fully recover until 2025.⁴³

Rescue spending has totaled 11.5% of GDP in 2020, compared to an average of 14.2% of GDP across the G20 countries. During the same period, 0.3% of GDP was earmarked for recovery, compared to the average of 2.1% among G20 countries (excluding the EU) and 1.6% in low- and middle-income countries (LMICs). It is likely that low recovery spending has so far been driven partly by the continuing prevalence of the virus, as well as by a lack of affordable borrowing options. In 2020, South Africa announced spending of more than ZAR 630 billion (\$44 billion) to alleviate socioeconomic disruptions caused by the pandemic. The country used ZAR 612 billion (\$42 billion) to bolster the healthcare system and prevent virus transmission, as well as to provide tax deferrals and loan guarantees to businesses, and direct payments and unemployment insurance to individuals. Also among these measures was a deferral of carbon tax payments. Only ZAR 18 billion (\$1 billion) was directed to economic recovery measures.

An Economic Reconstruction and Recovery Plan, aiming to achieve economic recovery largely through infrastructure investment, was announced in October 2020.⁴⁴ Details on the implementation of the plan are still scarce. However, it clearly entails a greener approach to forthcoming investments in the transportation, energy, sanitation and agriculture sectors.

Figure 5: Job and Gross Value Added (GVA) impacts of a subset of green spending, focused on adaptation and resilience, compared to traditional spending in South Africa. All modelled policies.



Source: modelling output from Vivid Economics

Moving towards green and resilient economic growth

Pairing green and resilient investments with health and education infrastructure programs, as well as with initiatives that support the agriculture sector to become more sustainable and resilient to shocks, will increase the effectiveness and sustainability of these investments. Alongside these, extensive skills training programs in green business and services could reduce unemployment by empowering the local labor force to meet the needs of large-scale green investment programs. Figure 5 shows a subset⁴⁵ of potential job creation through green and resilient spending in selected sectors compared to traditional spending.

Natural capital

NbS can sustainably boost agricultural productivity, protect assets and livelihoods, enable urban greening and support the conservation of the environment and biodiversity in South Africa. Alongside adaptation and resilience benefits, the implementation of NbS can create quick-entry jobs and bring returns for the badly hit travel and tourism sector, increasing the resilience of the economy to future shocks. Investment in natural capital and green spaces could therefore yield significant economic, environmental

and social benefits for South Africa. The country should capitalize on NbS through programs such as agroforestry, wetland and mangrove restoration, reforestation and vertical ocean farming.

- **Agroforestry:** agroforestry and habitat restoration can decrease the likelihood and severity of droughts by improving soil water retention, slowing water loss, and regulating water flow. Agroforestry efforts can also decrease livestock loss due to heat stress, through improved shading.
- **Wetland restoration and mangrove restoration:** rehabilitation of mangroves and wetlands stabilizes coastlines, buffers against extreme weather events, and reduces the risk of soil erosion.
- **Reforestation:** well-managed, consultative, and participatory reforestation can enhance wildlife habitats, support biodiversity, protect water supplies, develop recreational opportunities, and address numerous issues associated with climate change.
- **Vertical ocean farming:** supply chain interventions combining plants (seaweed and sea vegetables), fish, and mollusks into the same farming system can improve food security and resilience to food shortages and disruptions. They diversify production and can shorten the length of supply chains.



Photo: Adeyinka Yusuf/iStock



There are fantastic initiatives across the [African] continent to enable communities to adapt in the face of climate change.”

Alok Sharma, President of COP26

Leader's Dialogue on the Africa Covid-Climate Emergency,
April, 2021

CONCLUSION

As the examples of the four focus countries in this chapter show, COVID-19 has caused a severe disruption to the countries of Africa, with huge consequences for both lives and livelihoods. Further, the absence of much fiscal space to generate remedial measures has meant that African countries have been able to spare only a small fraction, when measured per person of the population, of the sums spent in the developed world and in low- and middle-income countries elsewhere in the world on relieving economic distress and providing safety nets.

But in the present crisis there is also a window of opportunity. As the nations of Africa seek to rebuild their economies, a new policy orientation emphasizing green and sustainable growth can not only boost the economy and create jobs on a large scale, it can also make the continent more resilient against the long-term challenges of climate change. Key common principles that define and govern the “green growth” approach to development include: sustained economic growth; resource-use efficiency; climate change response through adaptation and mitigation; creation of decent green jobs; and human well-being and social inclusiveness.

These country case studies have a significant percentage of their populations involved in and a significant share of their GDP generated by agriculture and related activities, which are themselves greatly dependent on a stable environment and healthy and sustainable ecosystems. As they seek to rebuild after the pandemic and also to restructure their economies in the face of climate change, focusing on adaptation and natural-resource management can have many beneficial effects, among them the large-scale creation of sustainable “green jobs” and the climate-proofing of past, present and future gains from development.

The needs and possibilities of each country are slightly different, and a key finding is that under the broad rubric of green growth there is considerable room for the generation of particular portfolios of policy options tailored to each case. The provision of concessional finance by international partners, including foreign governments and multilateral organizations, is imperative for a successful COVID-19 recovery for Africa and also to significantly reshape the economic, social and environmental future of the continent.