

Waking the sleeping giant

Development pathways for the Democratic Republic of the Congo to 2050

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Despite its abundant natural resources, the Democratic Republic of the Congo (DRC) ranks near the bottom in various human and economic development indicators and its average income is about 40% of its value at independence in 1960. Using the International Futures modelling platform, this report presents the DRC's likely human and economic development prospects to 2050 on its current trajectory. Thereafter, the report models various complementary scenarios that explore the impact of sectoral improvements on the country's future.

Key points

- ▶ Bad governance, cronyism and corruption are holding back developmental progress.
- ▶ Despite its huge natural resources the Democratic Republic of the Congo (DRC) ranks near the bottom in various development indicators and poverty is widespread.
- ▶ The average income is about 40% of its value at independence in 1960. On the current development trajectory, the projected income per capita by 2050 is almost the same as its value in the 1970s.
- ▶ Despite being the country with the largest available farmland in Africa, the DRC has not achieved food independence and malnutrition is widespread.
- ▶ The huge infrastructure deficit, especially transport infrastructure and electricity supply, is impeding higher productivity and growth.
- ▶ Low completion rates and quality are some of the challenges facing the education system. There is a disconnect between this system and the needs of the labour market.
- ▶ Congolese have little access to basic healthcare, mainly due to lack of funding of the sector, mismanagement, shortage of qualified medical staff and high cost of healthcare.
- ▶ The high fertility rate is constraining the prospects for human development.
- ▶ The DRC has not made progress in transforming its economy. Exports are poorly diversified and almost exclusively consist of primary products that remain subject to volatile global commodity markets.

Recommendations

The government of the DRC should:

- ▶ Promote good governance and strong institutions, i.e. transparency and accountability, tackle corruption and strengthen the judiciary system.
- ▶ Improve domestic revenue mobilisation and public financial management.
- ▶ Remedy the infrastructure deficit, especially the provision of basic infrastructure such as roads, rail, electricity, safe water supply and sanitation, and ICT infrastructure.
- ▶ Improve human capital by enhancing the quality and quantity of education along with the quality of the health system and access to affordable healthcare.
- ▶ Address rapid population growth by improving female education, access and use of modern family planning methods.
- ▶ Improve agricultural production by investing in more productive and resilient seed varieties, fertilisers and other agricultural technologies. This should be accompanied by broad and consensual land reforms to address land disputes and protect the rights of vulnerable farmers.
- ▶ Spur economic transformation for a more resilient economy. The starting point for the government is to improve the regulatory and legal environment along with a stable political and security climate to stimulate non-mining private investment, especially manufacturing investment.

Introduction

The Democratic Republic of the Congo (DRC) is the second-largest country in Africa after Algeria in terms of territory and the third most populous country in Africa after Nigeria and Ethiopia. It has a surface area of 2.3 million km² and a population of more than 85 million.¹ The country is particularly known for its abundant and diverse mineral resources, extensive navigable waterways, vast hydroelectric potential and its arable land estimated at 80 million hectares. It possesses about 50% of the global reserves of cobalt, 25% of the world's diamond reserves and large reserves of Coltan.²

With these immense and enviable natural resources, one would expect the DRC to be among the richest economies and even one of the locomotives of economic growth in Africa. However, the reality is quite different.

The country is a classic case of what is called the 'paradox of plenty'. Indeed, the DRC ranks near the bottom in various human and economic development indicators.

It was unable to fulfil any of the Millennium Development Goals (MDGs) by 2015³ and remains a low-income country with one of the lowest GDP per capita in the world. More than 70% of the population lives in extreme poverty and the country ranks 179th of 189 countries on the Human Development Index.⁴ For most of its recent history, the country has been plagued by persistent political instability, violent conflict involving foreign and local armed groups and poor governance.

The first peaceful transfer of power in the country's history offers hope for stability – a key condition for growth and development

Even though the DRC is portrayed as a post-conflict country, considerable parts of the country and millions of Congolese are still coping with violent conflict daily, including large parts of North Kivu, South Kivu, Ituri, Haut-Uele and Tanganyika provinces. Consequently, the country continues to face an acute and complex humanitarian crisis.

According to the UN Office for the Coordination of Humanitarian Affairs (OCHA), the DRC is currently home to five million internally displaced people, the largest in Africa. It also hosts 538 000 refugees from neighbouring countries and has the second-largest number of people in acute food insecurity in the world with 15.6 million people affected while 4.7 million people suffer from acute malnutrition.⁵

In sum, the DRC faces numerous development challenges. There are, however, reasons to expect a better future. The first peaceful transfer of power in the country's history offers hope for national and regional stability – a key condition for inclusive sustained growth and development.

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The new president, Félix Tshisekedi, has promised major reforms and policies to transform the country's image of poverty, conflicts and diseases into a flourishing economy and a conducive place for investment. In his speech during the 'Makutano Forum' that took place in September 2019 in Kinshasa, President Tshisekedi promised to set the country on a path of sustained economic growth. He pointed out that, 'DRC has for a long time been termed as a giant with clay feet, however, the country is now standing and ready to move forward.'⁶

This report first presents the likely human and economic development prospects of the DRC to 2050 on its current trajectory. The analysis of the Current Path is followed by a set of complementary scenario interventions that explore the impact of sectoral improvements on the future of the country that may help the authorities to achieve their long-term development targets.

The report uses the International Futures (IFs) forecasting platform (see Box 1) to compare progress with three

main country groups (global low-income, Africa low-income and Sub-Saharan Africa). The DRC is excluded from these groups.

Background

The history of the DRC, since its independence, has been characterised by recurrent conflicts and political instability, poor governance and ineffective economic policies. Almost immediately after the country gained independence in 1960, it experienced social and political upheavals. The army mutinied one week after independence and the provinces of Kasai and Katanga, respectively rich in diamond and copper, attempted to secede in the following weeks.⁷ Eventually, United Nations and Congolese government forces managed to reconquer Kasai (in December 1961) and Katanga (in January 1963).

The first republic, between 1960 and 1965, was marked by armed conflicts that claimed the lives of nearly two

Box 1: International Futures modelling platform (IFs)

The IFs modelling platform is developed and hosted by the Frederick S. Pardee Centre for International Futures at the Josef Korbel School of International Studies, University of Denver. It is a global long-term forecasting tool that encompasses and integrates a range of development systems including demography, economy, education, health, agriculture, environment, energy, infrastructure, technology and governance.

The IFs tool draws from multiple modelling methods and integrates them to form a series of relationships in global systems and to generate its forecasts. The Current Path scenario or Base Case is, therefore, a result of dynamic interactions across key systems based on prevailing policies and environmental conditions rather than a linear extrapolation of trends.

The data series within IFs come from a range of international sources like the World Bank, International Monetary Fund (IMF), World Health Organisation (WHO), various United Nations (UN) bodies like the Food and Agricultural Organisation (FAO) and United Nations Population Fund (UNPF), etc. Where appropriate, a project data file has been created using more updated data. These project data amendments are listed in the annexure.

Although international organisations commit significant resources towards updating data, it often lags behind the current year. Because IFs produces forecasts that move beyond a linear extrapolation, its forecasts have historically been comparable to the data that is ultimately released by international organisations.

The model is an open-source tool and can be downloaded for free at www.pardee.du.edu. This project uses IFs version 7.54 for its analysis. Note that all US\$ in this report have been converted to 2019 values.

million Congolese and ended in a military coup led by Colonel Joseph-Desiré Mobutu on 24 November 1965. Mobutu declared himself president for five years and was elected as such but without opposition in 1970.⁸

Amongst many measures, Mobutu rolled back the imposition of a federal state as set out in the 1964 Luluabourg Constitution that had divided the country into 21 provinces. Henceforth the country was divided into nine provinces with limited provincial autonomy. The impetus towards greater regional autonomy did not disappear, however. In 1982 the parliament embarked on a series of reforms, including administrative decentralisation but the legal text was never implemented. Mobutu was eventually forced from power in 1997 having effectively mismanaged his country for more than three decades.⁹

Efforts at economic reform on the back of high copper prices saw a brief period of economic expansion between 1967 and 1973 that came to an abrupt end with the two oil crises (1973 and 1979) and the fall in the price of copper (1975). The impact of the 1973 oil crisis was exacerbated by the introduction of Mobutu's Zairianisation policy in 1973 (a form of indigenisation of the economy) that was followed by the radicalisation policy which saw an increase in the role of the state in the economy.

These policies along with poor public financial management and wanton corruption led to hyperinflation, mounting debt, capital flight, increased poverty, and low agricultural production, among other problems.¹⁰ By 1975 the country could no longer service its debt and requested the assistance of the IMF to extricate it from its economic crisis.

From 1983 to 1989, the DRC partnered with the IMF and the World Bank in a structural adjustment programme that contributed to economic recovery. However, with the return of a more favourable external environment, the government ceased its efforts at policy and governance reforms only to again experience a marked deterioration in its financial performance.¹¹

The end of the Cold War in 1989 effectively robbed the DRC of its strategic importance and coincided with a drawn-out political transition, hyperinflation, currency depreciation and the increasing use of the United States

dollar in the economy. The weak state and the impact of the Rwandan genocide of 1994 that saw some 1.2 million Rwandese Hutus flee to the eastern part of the country, set the stage for the start of the 1996–1997 war.

By 1996, the DRC faced a crisis while Mobutu's international support had almost completely vanished.¹² Successive efforts by the IMF and the World Bank to provide support had also come to naught.

In May 1997, Mobutu was driven from power by the Alliance of Democratic Forces for the Liberation of Congo (AFDL), a coalition of rebel groups backed by Rwanda and Uganda. Laurent-Désiré Kabila proclaimed himself president and changed the name of the country from Zaïre to the Democratic Republic of the Congo. He inherited a dysfunctional country and attempted to carry out limited economic and financial reforms, notably a monetary reform that instituted a new currency, the Franc Congolais. He also reduced the decentralised entities (provinces) to four.

However, his fall-out with his old supporters led to a second war – often called the Great African War or the African World War – in August 1998 that involved a number of neighbouring states. The conflict was eventually brought to an end with the signing of the Lusaka Ceasefire Agreement in July 1999 between the DRC, Angola, Namibia, Rwanda, Uganda and Zimbabwe and the establishment of the United Nations Organisation Mission in the Democratic Republic of the Congo (MONUC).

The first free and fair elections in the country were won by Joseph Kabila in 2006

MONUC's initial mandate was to observe the ceasefire and the disengagement of state and non-state armed forces but its mandate was substantially expanded over time. According to some studies, the war claimed the lives of millions of people, a large part of which were children under the age of five.¹³

In 2001, President Laurent-Désiré Kabila was assassinated and succeeded by his son, Joseph Kabila Kabange. The result was a re-engagement with the international community, allowing MONUC to deploy

across the country. In 2002, talks between Congolese actors led to the signing of a peace agreement –the *Accord Global et Inclusif*. This paved the way for the 2003 Transition Constitution, three years of transition, and the holding of the first free and fair elections in the country in 2006, which Joseph Kabila won.

The Accord and the Transition Constitution tasked the Senate with the drafting of the new Constitution that benefited from the work of a constituent assembly, provincial consultations and the input of foreign and Congolese legal experts. The subsequent (and still current) Constitution was adopted in December 2005 by popular referendum and promulgated by President Kabila in February 2006 against a backdrop of ongoing political and security crises. The subsequent 2008 organic law on the territorial-administrative organisation of the state set out the structure of provinces, decentralised territorial entities and deconcentrated territorial entities.

However, little has come of these intentions. The central government failed to meet the 2010 deadline for the establishment of the 26 provinces envisioned in the Constitution, only completing that task five years later.¹⁴

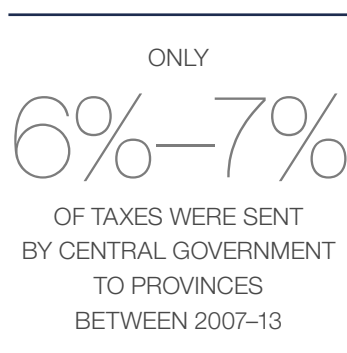
In the meanwhile, in 2010, MONUC became the United Nations Organisation Stabilisation Mission in the Democratic Republic of the Congo (MONUSCO), now acting in support of an elected government. Joseph Kabila was re-elected in the 2011 presidential election although the event was marred by accusations of corruption and fraud.

Governance is characterised by rent-seeking elites who organise the country's abundant natural resources to serve their own allegiances

Subsequent ambiguity about whether or not Kabila intended to stand for a third term – from which he was constitutionally barred – coupled with a two-year delay in holding the elections, sparked sustained and widespread protests and created significant instability. Following pressure from continental, regional and international actors, Kabila announced, in mid-2018, that he would not stand again and national and provincial elections were eventually held in December 2018. The election results were heavily disputed by the opposition and civil society.

According to domestic election observers, opposition leader Martin Fayulu won the presidential contest. President Félix Tshisekedi's arrival in power is widely perceived as the result of a political deal struck by outgoing president Kabila, whose party lost but who maintains a significant grip on power as a result of a substantial majority in parliament.

Tshisekedi's *Union pour la Démocratie et le Progrès Social* (UDPS), Kabila's *Front Commun pour le Congo* (FCC), and Tshisekedi's running mate, Vital



Kamerhe's *Union pour la Nation Congolaise* (UNC) initially governed the country through a rickety coalition government but which might soon change with the recent shift in power that has seen Tshisekedi form a new political bloc, the Sacred Union, to wrestle support away from his predecessor.

Governance

Governance in the DRC is characterised by networks of rent-seeking political, military and economic elites that direct and organise the abundant natural resources of the country to serve their ethnic and regional allegiances rather than for sustainable development.¹⁵ Key positions in the administration are typically allocated based on a system of political patronage (prebendalism) rather than on merit.¹⁶

Despite its vast size, the DRC has been a highly centralised state until, in terms of the 2006 Constitution, the former 11 provinces were divided into 26 new territorial units. The subsequent implementation of decentralisation has been fraught, however. As stated by Zongwe:

The rolling out of the decentralisation policy and its timing have been significantly driven by political calculations more than resource constraints, most recently by an attempt by the ruling government to divide provinces into smaller ones in order to prolong its rule. Even after the effective partition of the 11 former provinces [into 26], the process still suffers further complications, like delays and logistic problems in electing new governors, which in turn led to litigation before the Constitutional

Court in September 2018. These difficulties take place in a broader context of even greater challenges. The latter include insufficient capacity of provincial administrators, fiscal decentralisation, the questionable economic viability of most provinces, and repeated internal wrangling that has already culminated in the removal or resignation of governors in several provinces.¹⁷

By starving the provinces of money, Kinshasa effectively manages the country from the centre. Between 2007 and 2013, for example, the central government only transferred 6–7% of taxes to the provinces instead of the 40% prescribed in the Constitution.¹⁸

A report by Transparency International¹⁹ points out that, 'clientelism, rent-seeking and patronage have decimated fair competition, particularly in the sectors of public procurement and extractive industries in DR Congo.' The report notes that, 'the ruling elite has a direct stake in the country's economy, and often steer economic activities in accordance to their own personal opportunities.' Often these same state officials present themselves as private entrepreneurs or resort to their parents (or other family members) to obtain state contracts.²⁰

Corruption is endemic in the DRC, and permeates all sectors. It ranges from basic bureaucratic and administrative corruption to grand forms of corruption involving high-ranking members of the government and defence and security forces. The extractive (oil and mining) sector, tax and customs administrations, and the state-run enterprises are among the most affected. Significant amounts of mining revenues and taxes that are collected

Box 2: Governance indicators

Government effectiveness and **regulatory quality** indexes are sourced from the World Bank's Governance Indicators (WGI). Government effectiveness 'captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.' Regulatory quality measures 'perceptions of the government's ability to formulate and implement sound policies and regulations that permit and promote the private sector development.'

The **corruption perceptions index** is from Transparency International, which ranks countries based on perceptions of public sector corruption.

are not channelled to the treasury and end up in the pockets of individuals and public officials. Gécamines, the largest state-run company in the mining sector, is often cited as the main facilitator in the diversion of the mining revenue from the government budget.²¹

Poor government effectiveness, and the absence of strong institutional and legal mechanisms to ensure accountability hamper economic progress and further deepen corruption. In 2019, the DRC ranked 168th of 180 countries on the Transparency International corruption perceptions index. This high level of corruption significantly affects domestic revenue mobilisation, and hence compromises the badly needed investment in basic socio-economic infrastructure in the country.

Following pressure from the international community, a legal framework to combat corruption was established under Joseph Kabila’s regime but remains ineffective. It often serves more as a political weapon than an actual indication of a real commitment to tackle corruption. As pointed out by Matti,²² ‘the rent-seeking elites in DR Congo generally lack the incentives and political will to build strong institutions to curb corruption.’

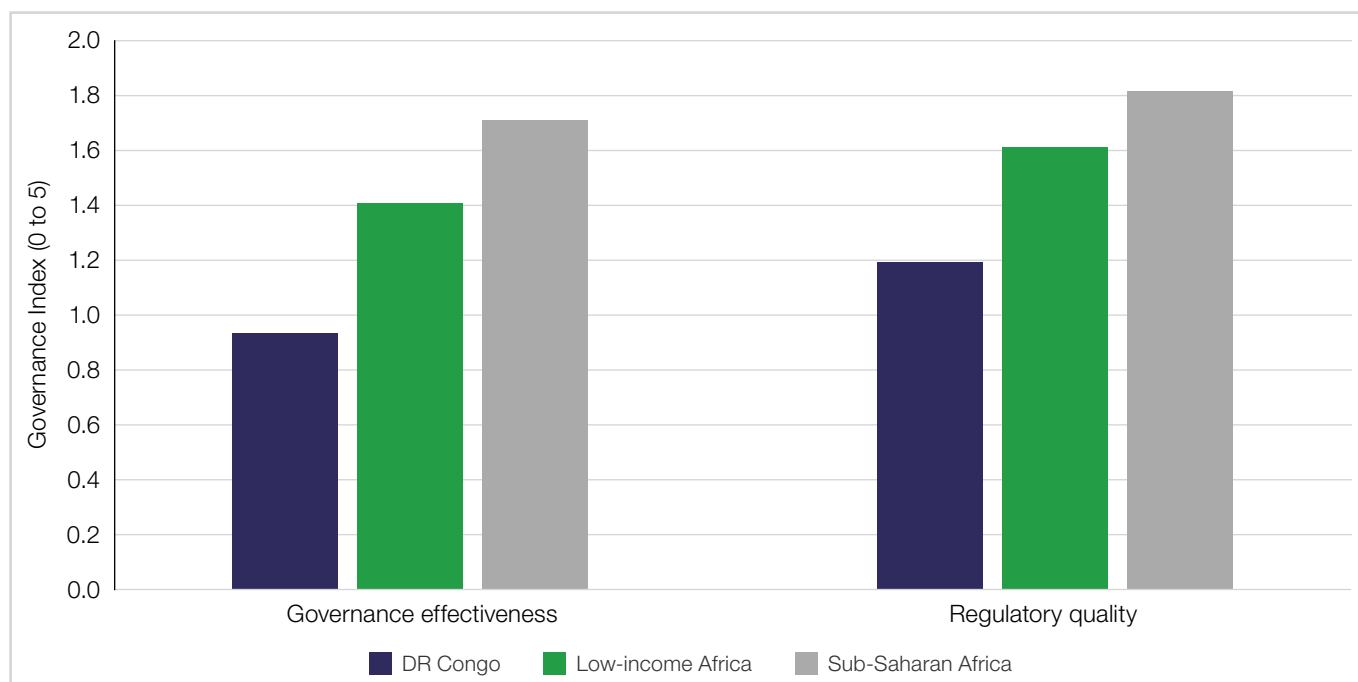
However, the new president has made a strong commitment to deviate from the inefficiency, corruption

and political patronage that have characterised governance since Mobutu’s era. Thus, a new commission to combat corruption has been created – *l’Agence de prévention et de lutte contre la corruption* (APLC) – and some high-level arrests have been made, such as the president’s chief of staff, Vital Kamerhe, who was found guilty of embezzlement. However, Vital Kamerhe’s supporters and some observers perceive his arrest as politically motivated given his presidential ambitions for 2023 rather than a step towards the establishment of the rule of law in the country.

The institutional characteristics echo this telling feature of the institutional environment. The Polity V composite index from the Centre for Systemic Peace (CSP) categorises countries according to their regime characteristics. According to this index, DRC has transitioned from an authoritarian governance model to an anocracy (reflecting its current unstable hybrid regime-type). It is neither authoritarian nor fully democratic; it goes through the motions of elections, for example, but they are not substantively free and fair with all the attendant challenges associated with such hybrid systems.

In its most recent data update for 2018, the CSP allocates the DRC a score of –3 on its scale of –10 (full

Figure 1: Governance performance for DRC and other groups, 2019



Source: IFs version 7.54; historical data from World Bank

autocracy) to +10 (consolidated democracy). This is compared to the average for low-income countries of 1.36, indicating that the country has significantly more authoritarian governance characteristics than its peers.²³

The V-Dem dataset, which compares different types of democracy, scores the DRC as 0.327 out of 1 on its electoral democracy index but only 0.139 on its liberal democracy index. This reflects the extent to which the nominal practices of democracy are not accompanied by substantive democracy. To compound these challenges, the gap between the two types of democracy has increased, reflecting the extent to which DRC's institutions and elections lack legitimacy and that many of its core structures are not independent.

Demographics

The characteristics of a country's population can shape its long-term social, economic, and political foundations; thus understanding a nation's demographic profile indicates its development prospects.

The population of DRC is made up of 40 ethnic groups and a wide variety of sub-groups.²⁴ This diversity is an important factor in political, social and cultural terms and has evolved into an important source of tensions and

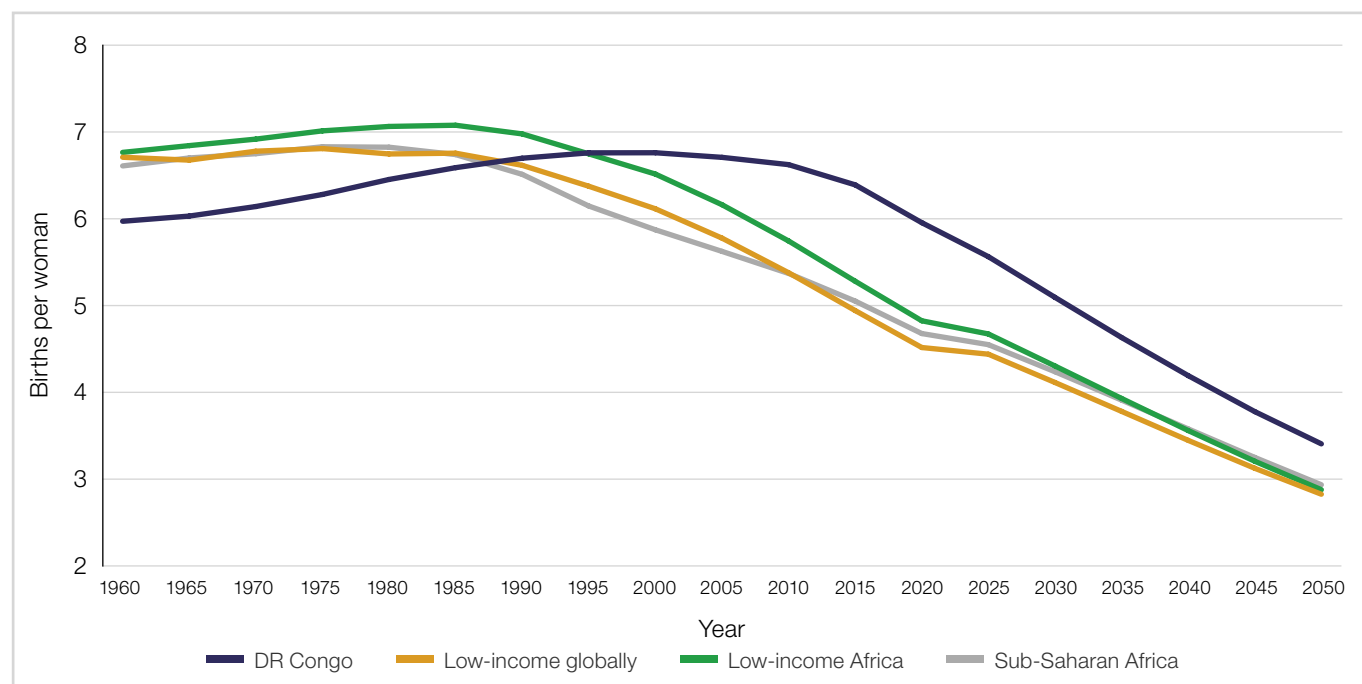
conflicts in the country. The population is predominantly animist and Christian while French is the official language. The other major recognised and spoken national languages are Kikongo (in the west), Lingala (in Kinshasa and the northwest), Swahili (in the east) and Tshiluba (in the south centre).²⁵

The fertility rate in DRC was 5.9 children per woman in 2019, down from its average level of 6.7 in the 1990s. With one of the highest fertility rates in the world – it is currently ranked 3rd globally after Niger (6.9) and Somalia (6.1) – the DRC's population is rapidly growing. The growth rate in 2019 was about 3.2%, making it the 5th highest in terms of population growth in Africa. Its total population is estimated at 89.5 million in 2020 and the country ranks 3rd in Africa after Nigeria and Ethiopia in population size.

The fertility rate is not homogenous across the country. According to the Demographic and Health Survey (DHS) 2013/2014, Kinshasa has the lowest fertility rate with 4.2 children per woman. The highest fertility rate is recorded in Kasai Occidental with 8.2 children per woman. The urban areas have a lower fertility rate (5.4) compared to the rural areas (7.3).

The fertility rate also varies according to the level of education and wealth of the mother. The average

Figure 2: Total fertility rate for DRC and other groups



Source: Forecast in IFs version 7.54, historical data from the United Nations Population Division

number of children per woman with at least a secondary education is 2.9, and 7.4 for a woman with no education. The average number of children per woman in the poorest households is 7.6 while it is 4.9 in the wealthiest households.²⁶ Modern contraception use is about 20% and varies according to the level of education. For instance, it is 19% among women with at least secondary education while it is only 4% among women with no education.²⁷

On the Current Path, the total fertility rate in DRC is expected to be 3.4 in 2050. This will be above the averages for Sub-Saharan Africa (2.9) and low-income countries globally (2.8) in 2050 (Figure 2). The country will then have the 6th highest fertility rate in the world.

On the Current Path, the total population of DRC is estimated to double by 2045 and overtake Ethiopia from 2050 to become the second-most populous country in Africa after Nigeria (Figure 3).

The high population growth in DRC goes hand in hand with rapid urbanisation. In 2019, 45% of the population was living in urban areas and it is projected to reach 64% in 2050.²⁸ As a result of this rapid urbanisation, Kinshasa, the capital city with its population estimated at 12 million in 2016, and an annual growth rate of about 5.1%, is

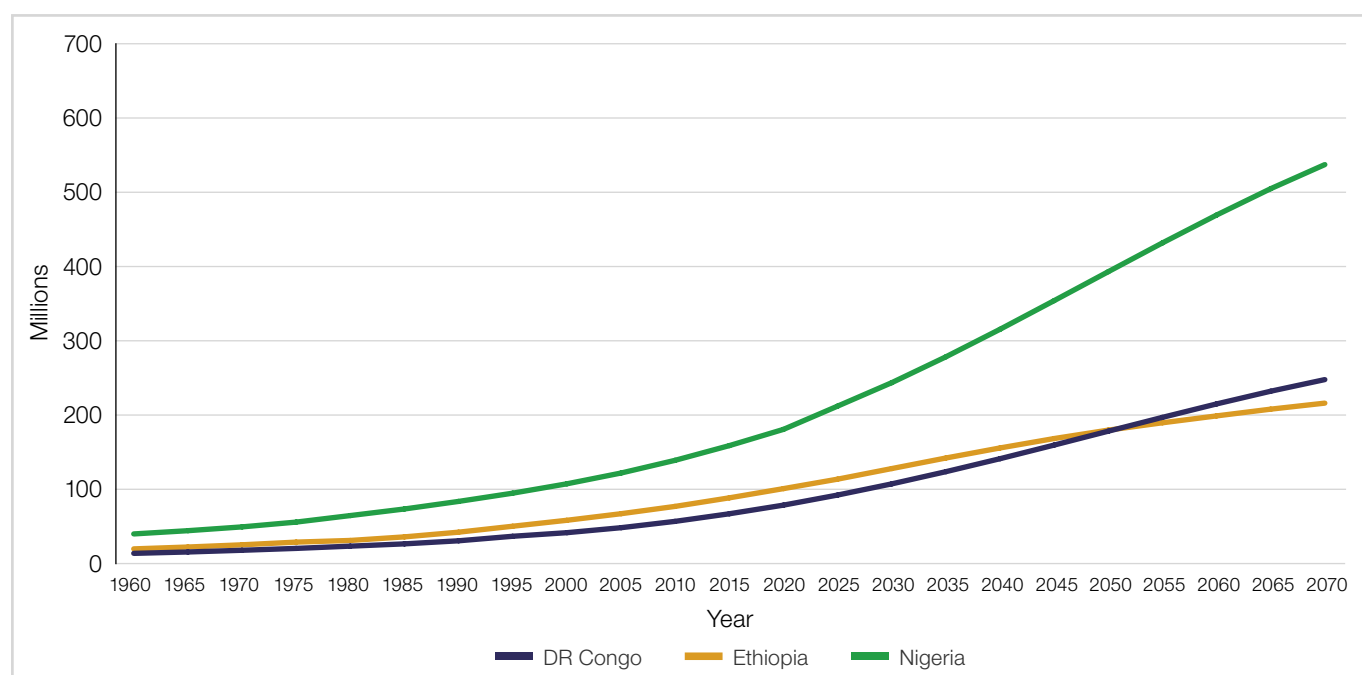
projected to be home to 24 million people by 2030. It will become the most populous city in Africa, ahead of Cairo and Lagos.²⁹

This is likely to pose huge challenges without proper urban planning and management, and if the creation of employment opportunities for urban youth is not achieved. Nearly 75% of the urban population in DRC live in slums. This is 15 percentage points higher than the average for Sub-Saharan Africa.³⁰

One of the important aspects of a nation's population is the age structure because it can contribute to or delay economic growth and progress in human development. The share of the working-age population (15 to 64 years) is currently 51% of the total population, and it is projected to be 60% in 2050.

About 46% of the country's population is under the age of 15. This means that a large portion of the population is dependent on the small workforce to provide for its needs. The population under 15 years is expected to decline but will still constitute about 36% of the population in 2050. The share of the elderly (65 and above) has been stable over time – it is about 3% – and it is projected to reach 3.6% in 2050.

Figure 3: Population figures for DRC, Ethiopia and Nigeria



Source: Forecast in IFs version 7.54; historical data from the United Nations Population Division

When the ratio of the working-age population to dependent is 1.7:1 or more, countries often experience more rapid growth provided the growing number of workers can be absorbed by the labour market. This is an easy way in which to measure a country's demographic dividend.

On the Current Path, the ratio of the working-age population to dependents will only be at 1.2:1 in 2030 and 1.5:1 in 2050, below the threshold ratio of 1.7:1 that a country needs to reap the demographic dividend. The DRC only gets to this positive ratio at around 2060, implying that it will achieve its demographic dividend almost a decade later than the average for low-income countries globally.

Empirical studies have shown that the demographic dividend contributed significantly to the East Asian countries' economic miracle, however, the demographic change was not something that happened automatically; but rather the result of specific policies. For instance, these countries improved access to contraceptive services and encouraged couples to have fewer children through incentives.³¹ Therefore, appropriate policies need to be implemented by DRC authorities to stimulate the specific transition and to reap the demographic dividend.

The DRC also has a large youth bulge at 49%. A youth bulge is defined as the percentage of the population between 15 and 29 years old relative to the population aged 15 and above. In addition to the requirement for more spending on education, health services and job creation, large numbers of young adults can positively influence change in a country.

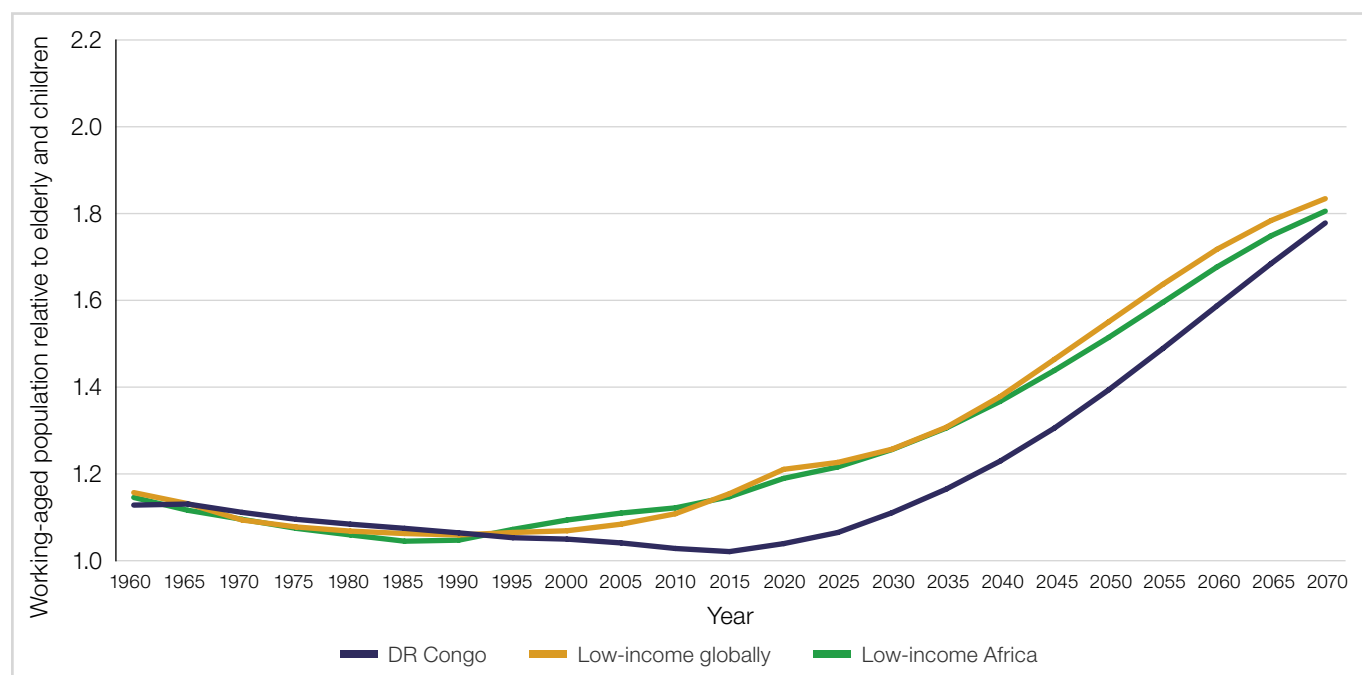
Events such as the Arab Spring and social unrest in Chile and Sudan have shown that large numbers of young adults, particularly males without employment or job prospects, can carry the seeds for socio-political instability but they also have the potential of youth activism leading to positive political changes in a country.

Without the design and implementation of sound demographic policies aimed at bringing down the current high fertility rate, the rapidly growing population in the DRC is a significant obstacle to the country's progress towards economic prosperity and decent human development.

Poverty and inequality

The DRC is among the world's poorest countries with a GDP per capita of US\$962 in 2019. In 2005, 94% of the Congolese were surviving on less than US\$1.90 a

Figure 4: Demographic dividend for DRC and other groups



Source: Forecast in IFs version 7.54; historical data from the United Nations Population Division

day, the international threshold of extreme poverty for low-income countries. It declined to about 77% in 2012. The latest estimation by the World Bank put the extreme poverty rate at 73% in 2018.³²

Despite this modest decline, extreme poverty in the DRC is exceptionally high and above that of Sub-Saharan Africa which is at about 41.1%.³³ With about 60 million people living in extreme poverty, DRC is the country with the highest number of poor people in Sub-Saharan Africa after Nigeria which has about 83 million people in extreme poverty. According to the World Bank, DRC, India, Nigeria, Ethiopia and Bangladesh are home to 50% of the people that are extremely poor in the world.

The poverty incidence varies across provinces. For instance, Equateur, Kivu and the former Orientale provinces experienced a significant decline in extreme poverty from 2005 to 2012, (-16% to -21%) while Maniema and the Kasai provinces recorded an increased incidence of poverty (+8.6% to +23.3%).³⁴

Poverty seems to have become more an urban phenomenon in the country as the poverty rate has declined faster in rural areas than in urban areas. The latest data from the World Bank indicate that, in 2012, the national poverty rate was 64.9% in rural areas compared

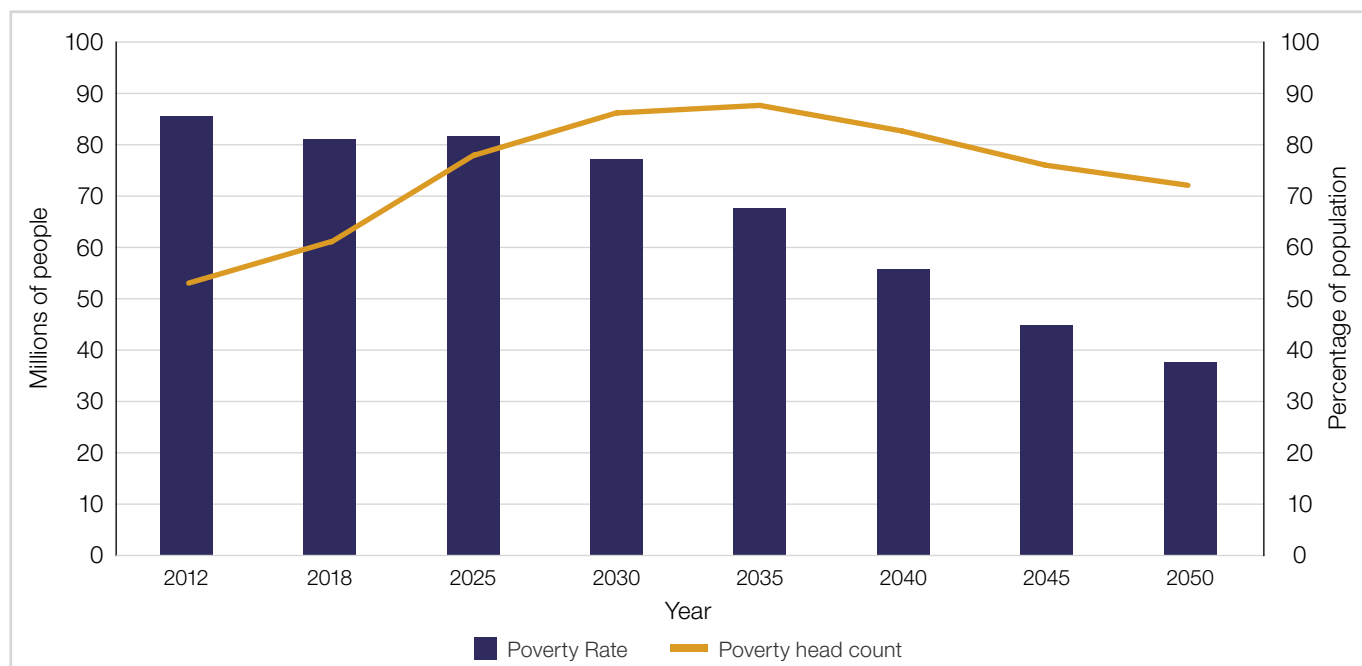
to 66.8% in urban areas (excluding Kinshasa). Between 2005 and 2012, the poverty rate in rural areas declined by 5.6 percentage points compared to 5.1 in urban areas (excluding Kinshasa). The poverty rate in Kinshasa is lower than the national average, although it has decreased slower than in rural and other urban areas.³⁵

Poverty is not just a lack of money. Poverty is multidimensional, thus, measuring poverty by focusing only on the monetary aspect can be misleading. For instance, malnutrition, lack of clean water, health services, electricity, or education are examples of poverty that go beyond the income considerations. The global Multidimensional Poverty Index (MPI)³⁶ shows that 64.5% of Congolese are multidimensionally poor with 36.8% of them in severe multidimensional poverty.³⁷

On the Current Path forecast, about 69% of the population will live on less than US\$1.90 per day (extreme poverty) by 2030, and 34.5% in 2050 (Figure 5). This would imply that, on the current development trajectory, DRC will not be able to achieve the headline goal of the 2030 Sustainable Development Goals (SDGs) concerning the eradication of extreme poverty.

On the Current Path, about 86 million people will still be living in extreme poverty by 2030, and nearly 72 million

Figure 5: Trends in income poverty in DR Congo (< US\$1.90 per day)



Source: Forecast in IFs v7.54, historical data from World Bank

by 2050. This is in line with the 2018 Goalkeepers report by the Bill and Melinda Gates Foundation.³⁸ According to this report, by 2050, Sub-Saharan Africa will be home to 86% of the people living in extreme poverty in the world, and this will be mainly driven by the large number of poor people in Nigeria and DRC. The report stated that by 2050, these two countries will be home to more than 40% of the world's poorest people.

The DRC had a relatively high level of income inequality (measured by the Gini index) at 42.1 in 2012 that might have contributed to the low elasticity of poverty to economic growth. The Current Path forecast in IFs puts the Gini index at 42.4 in 2019, below the average income inequality level for Sub-Saharan Africa (43), and above the average for low-income countries globally (39.7) in the same year.

Overall, poverty is massive in the DRC regardless of the measures used (national or international standards).

Factors such as armed conflicts, poor governance, high fertility rate, infrastructure shortage and low schooling, among others, are some of the root causes of the misery of millions of Congolese. Urgent action by all stakeholders is required to curb this alarming poverty trend.

Education

The Congolese education system is a hybrid. It is made up of public secular schools and religiously affiliated schools. The Catholic Church is by far the most important actor in the DRC's education system and this was so from the very early stages of the colonial period. The Church organises most of the education and the state provides (at least in theory) the funding.

The duration of compulsory basic education is six years for children between six and eleven years old. Although there is a three-year pre-primary education, it is only available in a few urban areas.

Box 3: Selected educational indicators

Gross enrolment rate: The number of students enrolled in a given level of education, regardless of age as a percentage of the official school-age population corresponding to the same level of education. Rates can therefore be above 100%.

Completion rate: The number of people in the relevant age group who have completed the last grade of the given level of education, as a percentage of the population at the theoretical graduation age for the given level of education.

Source: UNESCO

Table 1: Education outcomes, 2019

Country/ group	Primary		Lower secondary		Upper secondary		Tertiary	
	Enrol (gross)	Complete	Enrol (gross)	Complete	Enrol (gross)	Complete	Enrol (gross)	Graduate
DRC	111,2%	52,7%	63%	35%	39,4%	23,5%	7%	5,3%
Low-income Africa	106,1%	57,7%	48,8%	33,4%	24,6%	17,3%	7,8%	5,1%
Low-income globally	104,6%	62,7%	54,2%	37,6%	30,7%	21,9%	9,7%	6%
Sub-Saharan Africa	103,3%	73,4%	60,3%	46%	38,4%	28%	10,1%	5,8%

Source: IFs version 7.54; historical data from UNESCO Institute for Statistics

Secondary education has two components (*cycle long* and *cycle court*). The *cycle long* consists of the first stage of two years of general studies called *tronc commun* or *cycle d'orientation*. The second stage of four years of specialisation ends with a certificate called the *Diplôme d'Etat* for those who pass the terminal examination called the *Examen d'Etat* which grants access to tertiary education. The *cycle court* concerns vocational education and consists of a four-year course starting immediately after primary education, or a three-year course after the first stage of the *cycle long*.³⁹

The regular age for lower secondary education is 12 to 13 years and 14 to 17 years for upper secondary education. Repetition is permitted only once in each stage.⁴⁰

DRC has recorded a notable improvement in indicators related to education over the past fifteen years. The adult literacy rate (population aged 15 years and older) experienced an improvement from 61.2% in 2007 to 79.5% in 2019. Higher literacy rates improve employment prospects for the poor, and hence, an opportunity to get themselves out of extreme poverty. IFs forecasts the literacy rate in DRC at 98% by 2050, well above the average for low-income Africa (91%).

Generally, DRC is on par with its peers in terms of primary and secondary school participation rates (Table 1).

The education completion rate is very low regardless of the level. Because of low completion and transition rates right from the primary level, fewer students are eligible for subsequent education levels and the resultant outcomes get poorer. It is estimated that half of the students who enrol at universities drop out before their third year. Some of the root causes of low educational outcomes in the country are widespread malnutrition, the difficulty for the students to switch from their mother tongue to learning in French, and especially, financial constraints. In a survey conducted in 2018, about 64% of households mentioned that financial constraints were the main obstacle to their children's education.⁴¹

Although free primary education in public schools is enshrined in the 2006 Constitution and included in the education law adopted in 2014, it was not applied until September 2019 after a decision by the newly-elected

President Tshisekedi. This gives an additional 2.5 million children access to primary education.⁴² Previously parents had to pay two-thirds of school costs which most households were unable to afford and often had to choose between feeding their children or keeping them in school.⁴³

The free primary education programme is widely supported, but the decision to implement it raises concerns about the government's capacity to shoulder the associated cost (teachers' salaries, etc.) estimated at more than US\$1 billion annually, and the material capacity of the educational system to absorb such a massive influx of pupils.

Female education in DRC has experienced some improvements, but more needs to be done to close the gap between female and male education, especially at secondary and tertiary levels. The improvement is more significant in primary education. For instance, the parity ratio in primary education increased from 0.81 in 2007 to 0.90 in 2015 and is estimated at 0.99 in 2019. The parity ratio in secondary education was 0.70 in 2019, up from 0.5 in 2007. The parity ratio at tertiary level improved from 0.35 in 2007 to roughly 0.60 in 2019.⁴⁴

Causes of low educational outcomes are widespread malnutrition among students, financial constraints and difficulties learning in French

This improvement in gender equality in education augurs well for productivity and growth in DRC. Educating girls improves not only the average level of human capital in a country but also generates female-specific effects such as decreasing fertility and child mortality rates, as well as benefits on children's health and education that contribute to economic growth.⁴⁵

Although DRC has made significant progress in getting more children into school, the quality of education they receive is poor and not well suited to the needs of the job market. This remains a major challenge facing the education system. Students in DRC score 318 out of 625 on the Harmonised Test Scores while the average African student scores 374; 625 represents advanced attainment

while 300 represents minimum attainment. The country ranked 40th out of 44 African countries on educational quality.⁴⁶

The main factors explaining this low quality of education are the shortage of teaching staff with the required skills, obsolete equipment, and overcrowded classrooms.⁴⁷ The education sector is underfunded; the government spending on education was about 2.5% of GDP in 2019 while the Sub-Saharan African average was 4.3% of GDP.

There are promising efforts towards the improvement in the quality and quantity of education and hence human capital in DRC. On 16 June 2020, the World Bank approved US\$1 billion in loans and grants to support the education and health sector in DRC. Specifically, US\$800 million will be used to roll out the free primary education programme in the poorest provinces such as the Centre, East and Kinshasa. The funds will also be used to strengthen governance in the education system as well as to improve the quality of education.

Healthcare costs are 60%–70% funded by direct contributions from households, compared to a world average of 46%

According to the World Bank, the programme will provide more than one million poor children, currently excluded from the education system, with access to education while US\$200 million will be used to respond to health emergencies in 14 provinces, particularly for mothers and children.⁴⁸

Health

At independence, the DRC had a relatively well-organised and efficient health system as a result of the mutual efforts of the government, multilateral cooperation and secular and religiously affiliated NGOs. However, subsequent lack of investment, mismanagement and decades of conflict have led to a near-collapse of the system. There is a high presence of non-state actors, such as faith-based organisations, in the country's health system. For instance, in 2013, 45% of hospitals in the country were managed by religious organisations, 44% by the government and 11% by private firms.⁴⁹

Congolese have little access to basic healthcare, mainly due to lack of funding of the sector, mismanagement and corruption, lack of qualified medical staff, and high cost of healthcare, among others. For example, healthcare costs are 60–70% funded by direct contributions from households, compared to a world average of 46%. Also, because there are a limited number of health centres, around 74% of the population live more than five kilometres from such centres.⁵⁰

Since the mid-2000s, the country has, however, undertaken several reforms in the health sector reflected in multiple strategies. In 2010, the government

43%

OF CHILDREN UNDER 5
YEARS SUFFER FROM
CHRONIC MALNUTRITION

adopted the National Health Development Plan 2011–2015 to provide effective solutions to the health problems of the population. This was followed by a second plan for 2016–2020, in 2015.

With the technical and financial assistance of the international community, the health system has registered some recent improvements, reflected in changes in indicators such as life expectancy, infant mortality and maternal mortality rates. DRC has made some progress in these areas, although it still lags behind its peers.

Life expectancy has increased from 53.7 years in 1990 to 62.5 in 2019. The Sub-Saharan African average was 64.2 and 64.3 for low-income countries globally in the same year. Life expectancy in DRC is projected to be about 70 years by 2050, with the gap between the average for low-income countries globally having modestly increased over time. Instead of catching up, the DRC seems to be at risk of falling further behind (Figure 6).

The infant mortality rate has declined from 95 deaths per 1 000 live births in 1990 to about 51 deaths in 2019, slightly above the average for low-income countries globally (45) in the same year. As for the maternal

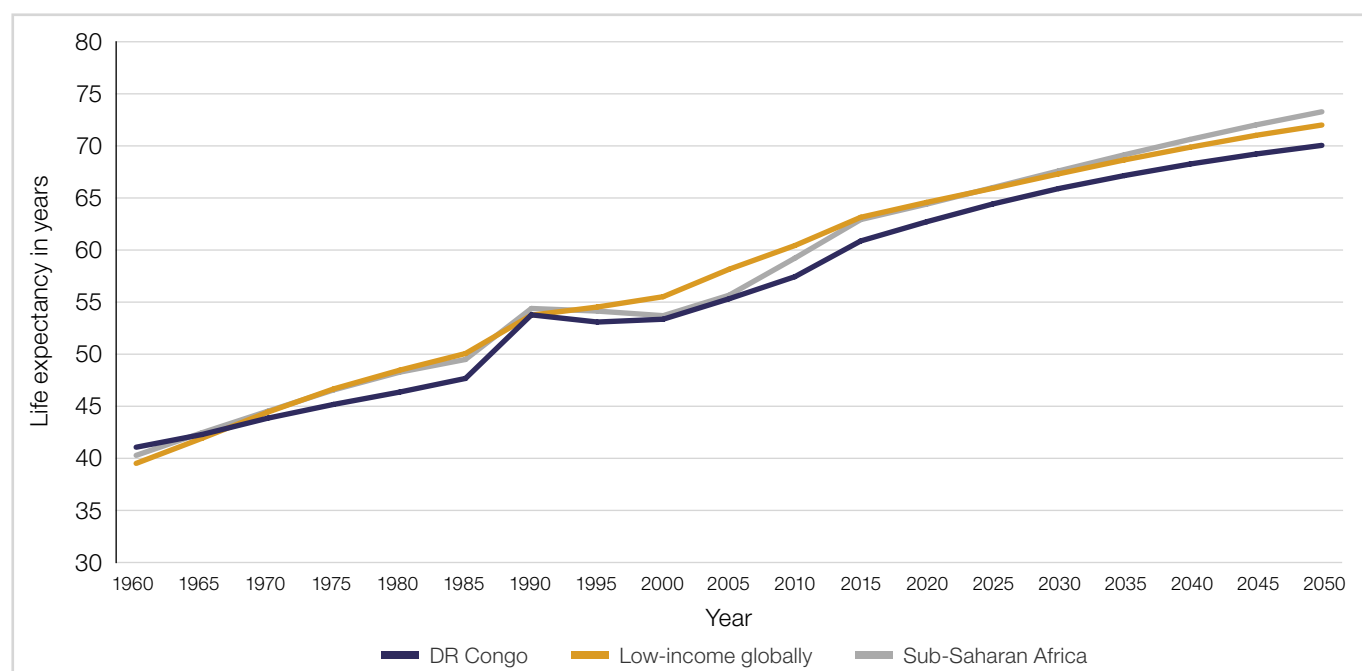
mortality rate, it declined to 426 deaths per 100 000 live births in 2019 compared to 879 in 1990, above the average for low-income countries globally (384) in 2019.

On the Current Path, IFs estimates the infant mortality rate at 37 deaths per 1 000 live births in 2030 and 20 deaths per 1 000 live births in 2050. The maternal mortality rate is projected to be 307 deaths per 100 000 live births in 2030 and 74 in 2050. DRC has made progress in combating infant and (to a lesser degree) maternal mortality, however, on the Current Path, it will fail to achieve the 2030 Sustainable Development Goals regarding these indicators.⁵¹

However, the country has not made much progress concerning child malnutrition. The situation remains difficult where 43% of children under five suffer from chronic malnutrition (more than six million children). One child in 10 suffers from acute malnutrition while being underweight affects 23% of children under the age of five and 16% of children in school.⁵² As a result of malnutrition, 43% of children under the age of five are stunted while global and African averages are respectively 21.9% and 30%.⁵³

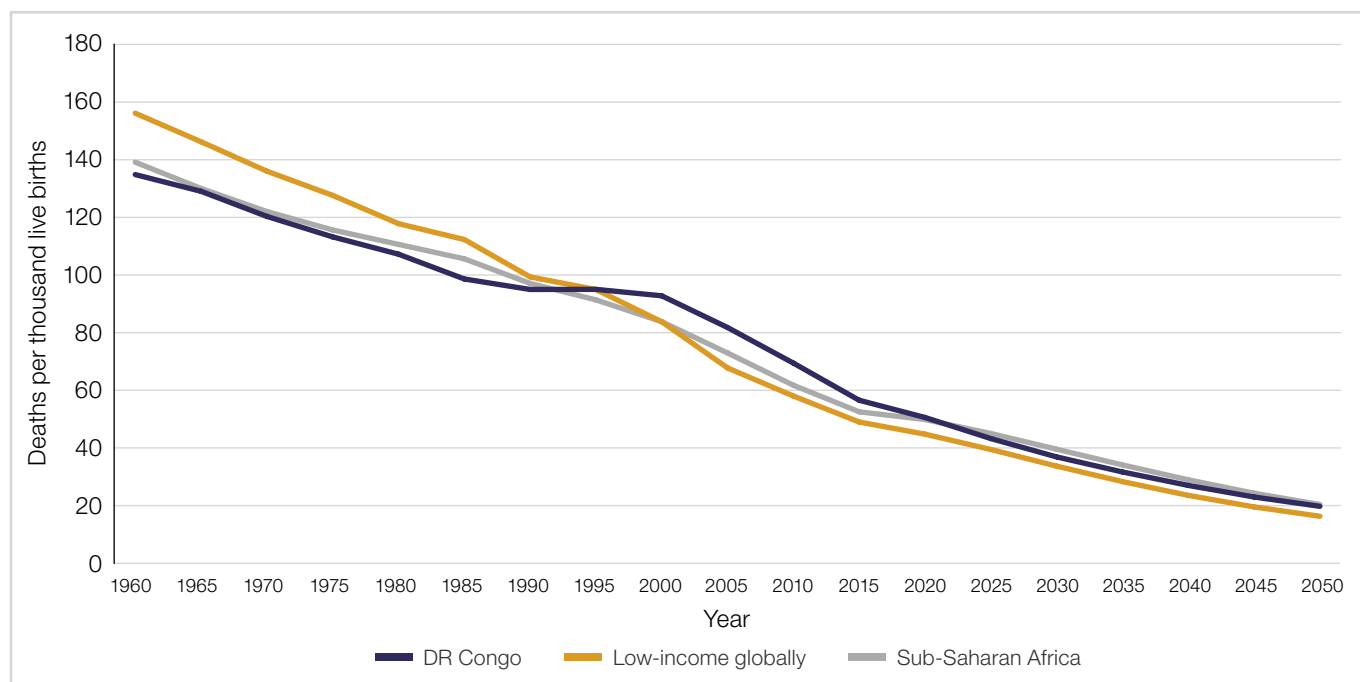
Policymakers in DRC should be highly concerned by the negative effects of malnutrition as stunted

Figure 6: Life expectancy for DRC and other groups



Source: Forecast in IFs version 7.54; historical data from the Institute for Health Metrics and Evaluation (IHME)

Figure 7: Infant mortality rates for DRC and other groups



Source: Forecast in IFs version 7.54; historical data from the Institute for Health Metrics and Evaluation (IHME)

children experience diminished intellectual capacity, academic performance and future productivity. A high rate of stunted children implies, therefore, a significant loss of human capital for the country and compromises its long-term development objectives.

The epidemiological profile of DRC is marked by the emergence and re-emergence of several communicable diseases with epidemic potential.⁵⁴ The country has experienced several epidemic outbreaks such as cholera, yellow fever, measles, Ebola virus and the recent Coronavirus. These diseases lead to increased morbidity and mortality among the vulnerable populations, in particular children, women and populations living in isolated areas with poor access to healthcare.

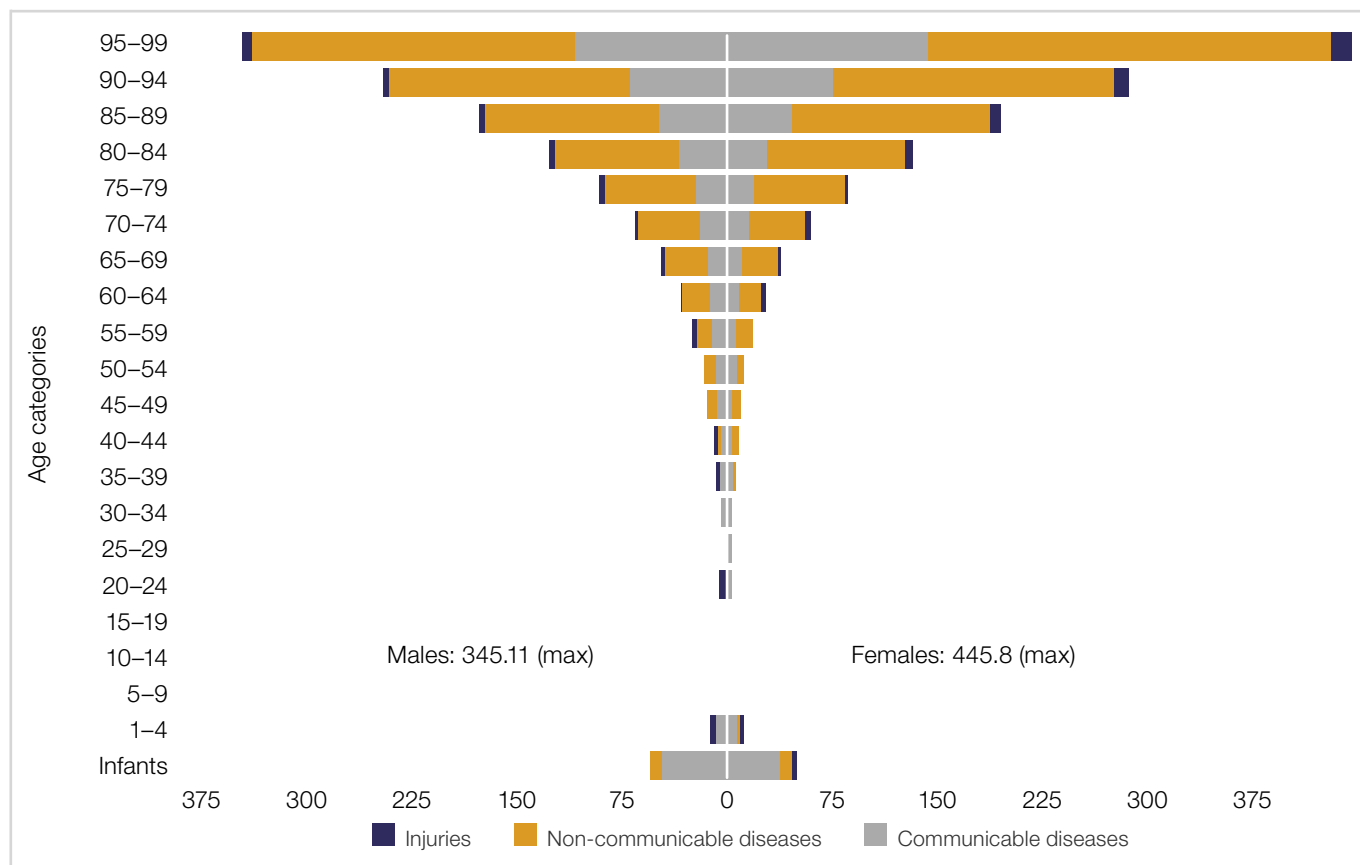
Communicable diseases (CDs) are currently the leading causes of death among children under the age of five and the youth (Figure 8). Malaria is reported to be responsible for 80% of deaths among children under five in DRC. Non-communicable diseases (NCDs) are the dominant causes of death among the elderly cohort, although deaths from communicable diseases are also still high among this group.

Because of its more youthful population, the DRC will only experience its epidemiological transition, a point at which death rates from non-communicable diseases exceeds that of communicable diseases, in 2030. This is roughly five years later than the average for low-income countries in Africa and a decade later than low-income countries globally.

By 2050, the number of deaths caused by non-communicable diseases will be twice as high as the number of deaths caused by communicable diseases. This has implications for DRC's healthcare system which will need to invest in the capacities for dealing with the double burden of disease.

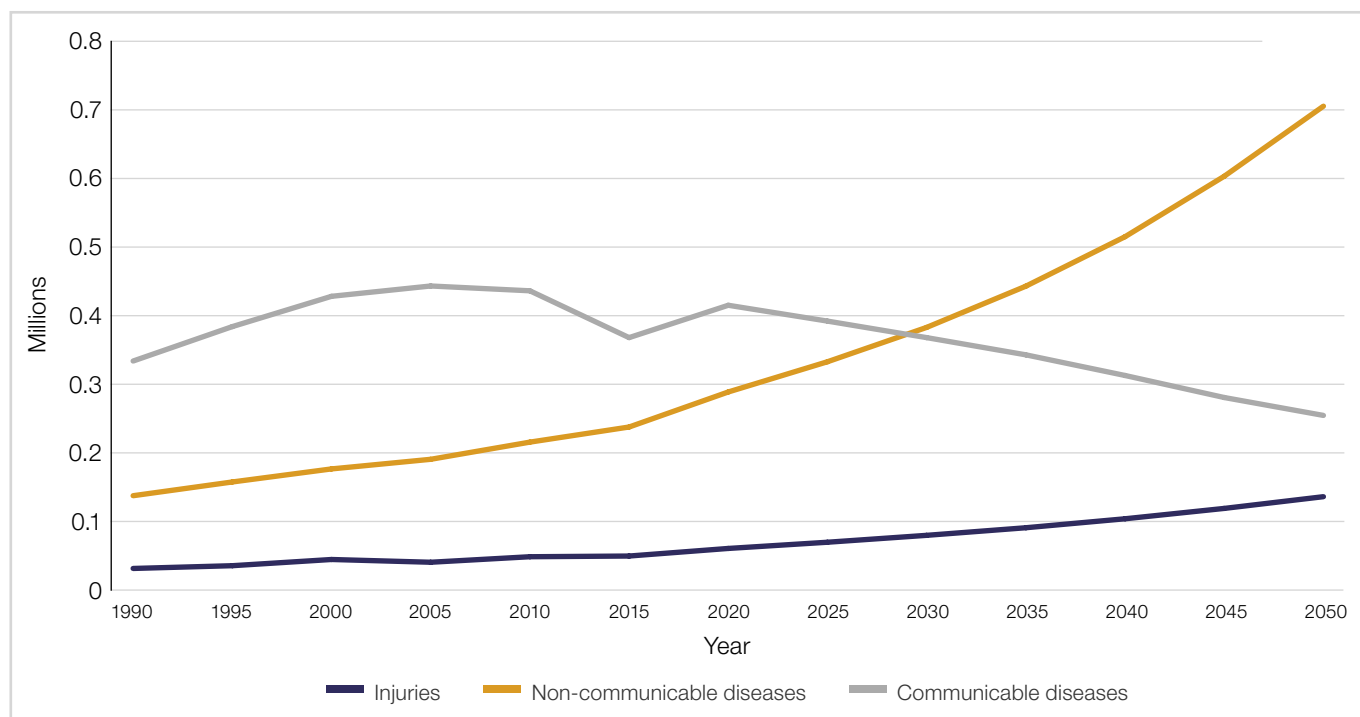
Overall, despite some improvements mostly due to peace consolidation, DRC's health system is still facing many challenges. Like many other African countries, DRC has not yet complied with the Abuja Declaration that African countries spend 15% of their GDP on health. Government expenditure on healthcare in DRC is among the lowest in the world. In 2017, government expenditure on healthcare was about US\$2.00 per capita and less than 4% of GDP.⁵⁵

Figure 8: Mortality distribution across gender and age cohorts in DRC, 2019



Source: IFs version 7.54; historical data from GBD-Institute for Health Metrics and Evaluation

Figure 9: Mortality distribution by main International Classification of Diseases (ICD) categories



Source: Forecast in IFs version 7.54; historical data from GBD-Institute for Health Metrics and Evaluation

Infrastructure

Quality infrastructure not only enables business and industry development but also increases efficiency in the delivery of social services. Important basic infrastructure, such as water and sanitation facilities, roads, electricity, internet and telecommunications, among others, play a vital role in achieving sustainable and inclusive economic growth. Infrastructure shortage is considered as one of the key factors that are impeding higher productivity and growth in DRC.

Water, sanitation and hygiene (WASH)

The DRC is considered to be Africa's most water-rich country with more than 50% of the African continent's water reserves, however, millions of Congolese do not have access to safe water.⁵⁶ Water and sanitation infrastructure is extremely dilapidated and inadequate, even in the capital city, Kinshasa. Between 1990 and the early 2000s, water and sanitation infrastructure collapsed and access to drinking water declined significantly due to conflicts and political crises.⁵⁷

In 2017, only 4.5% of DRC's people – 2.2% in rural areas and 7.4% in urban areas – had access to washing facilities like soap and water

As a result of the relative stability, especially in the western provinces, since the mid-2000s, the water and sanitation sector in DRC has been recovering, albeit slowly. The proportion of the population having access to improved water sources increased from 44.6% in 2000 to 57.6% in 2019 which is significantly below its peer groups. In 2019, 21.2% of the population had access to improved sanitation facilities, almost 10 percentage points below the average for low-income countries globally.

Water and sanitation infrastructure is chronically lacking in rural areas in DRC. As of 2017, only 8.2% of the population had access to piped water in rural areas, up from its level of 3.4% in 2000. In rural areas, 24.2% of the population use non-piped sources while 52.8% of them use unimproved water sources. This dire situation is compounded by the lack of adequate sanitary facilities with 51.5% of the population in rural areas using unimproved sanitation.⁵⁸

Access to adequate hygienic services is critical to prevent many diseases such as diarrhoeal and respiratory infections. According to the United Nations Children's Fund (UNICEF), children can reduce their risk of getting diarrhoea by more than 40% by handwashing with soap and water. As of 2017, only 4.5% of the population, with 2.2% in rural areas and 7.4% in urban areas, had access to basic handwashing facilities including soap and water in DRC.⁵⁹

ALTHOUGH DRC HAS
>50%
OF AFRICA'S WATER,
MILLIONS OF CONGOLESE
CAN'T ACCESS SAFE WATER

The High Quality Technical Assistance for Results (HEART) programme, funded by the United Kingdom, has provided £164.8 million over seven years (2013–2020) to improve water and sanitation infrastructure in the country.⁶⁰

Overall, access to clean water and adequate sanitation has been increasing in DRC, but the IFs forecast is that the country will trail further behind its peer groupings. More needs to be done to eliminate bottlenecks, such as lack of qualified technicians, that undermine progress in the sector. IFs estimates the proportion of the Congolese population with access to improved water sources at 92% and 47.8% for improved sanitation by 2050.

Energy and electricity

DRC has abundant and varied energy resources such as hydroelectricity, biomass, solar, wind and fossil fuels, among others. For instance, the country possesses a huge potential of hydroelectric power estimated at 100 Gigawatts (GW), which represents about 13% of the world's hydroelectric potential.⁶¹ The country also has potential in other sources of energy, estimated at 70 GW for solar and 15 GW for wind power. In sum, the DRC has the potential to become a leading exporter of electricity in Africa.⁶²

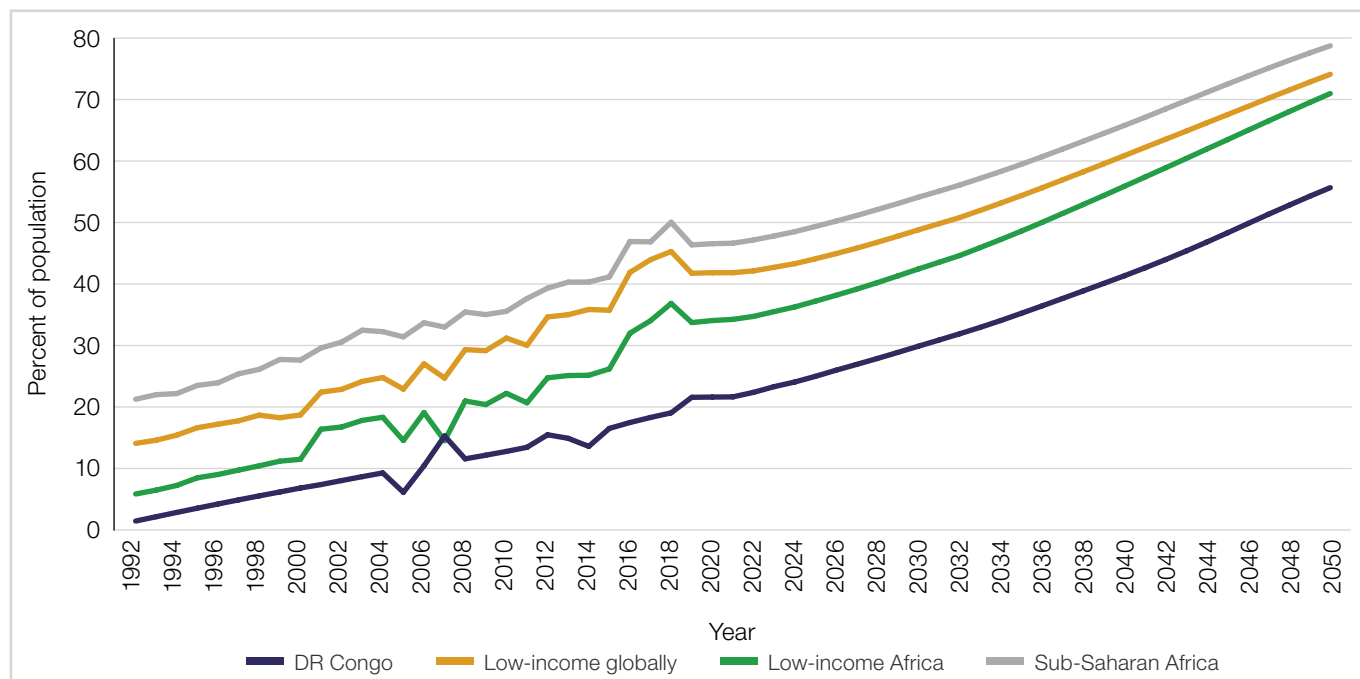
Paradoxically, DRC has one of the largest deficits in energy access in the world. The energy supply is largely insufficient for the country's needs and energy consumption comes mainly from biomass. Only 3% is generated by hydroelectric power, the rest is from charcoal and firewood.⁶³ Although progress has been made, DRC still has one of the lowest rates of electrification globally.

The share of the population with access to electricity increased from 6% in 2005 to 19% in 2018. IFs estimated electricity access at 21% in 2019, far below the averages for low-income countries globally and for Sub-Saharan Africa which were respectively 41.7% and 46.4% in the same year (Figure 10). The country ranks 48th lowest of 54 countries in Africa in terms of electricity access rate.

On the Current Path, 25% of the population will have access to electricity by 2025, about 30% in 2030, and 55.7% by 2050. Unfortunately, the government's ambitious target to increase the proportion of the population that has access to electricity to 60% by 2025,⁶⁴ is likely out of reach.

Access to electricity is heavily biased in favour of the urban and mining areas, notably Lualaba and Haut

Figure 10: Access to electricity for DRC and other groups



Source: Forecast in IFs version 7.54; historical data from World Bank

Katanga provinces where the copper and cobalt industry is concentrated. In rural areas, electricity is almost non-existent; only 1% of the rural population has access to electricity against 42% in urban areas. Access is also uneven across the provinces, ranging from 44% in Kinshasa to 0.5% in Kasai Occidental.⁶⁵

The energy used by households in rural areas comes mainly from firewood (traditional cookstoves) which poses a risk to the environment with the acceleration of deforestation. It also affects the health of infants and children by causing respiratory problems. Also, cookstoves limit study hours for students because the daily collection of firewood, which sometimes involves young girls, may deprive them of time that could be devoted to education. It is therefore very concerning that the IFs forecast for the percentage of households that use traditional cookstoves is still at 59% by 2050.

The existing and very limited power supply is also unstable, and electricity shortages and power blackouts are recurrent. For instance, it is estimated that, in Kinshasa, about 21% of those who have access to electricity receive less than four hours of power per day, and on average, electricity shortages occur 10 days per month in the country.⁶⁶ Due to this unreliable electricity supply, about 60% of firms in DRC have back-up generators against 43%, on average, in Sub-Saharan Africa.⁶⁷ These frequent electricity shortages penalise the productive sectors of the economy and hamper productivity and growth.

Out of 100 GW hydroelectric potential, only about 2 677 Megawatts (MW) have been installed, and only 1 100 MW are exploited. This power is mainly generated by the Inga I and Inga II dams. These two dams currently operate at around 50% of their capacity due to lack of maintenance. The World Bank has been leading efforts to rehabilitate turbines at Inga I and II but the project is not yet complete.

In addition, the state power utility, *Societe Nationale d'Electricite* (SNEL), in charge of electricity production, transportation and distribution is highly inefficient. Almost half of the electricity produced is lost during transmission and distribution due to the obsolescence of the equipment and the absence of an adequate maintenance system.⁶⁸

Aside from the national grid, there are some mini-grids, albeit very limited. For instance, Synoki, Hydroforce and Virunga operate mini-grid hydroelectric projects, and their market share of the electricity sector is estimated at 6%.⁶⁹ According to the International Renewable Energy Agency (IRENA), only 3.66 MW of solar photovoltaics (PV) had been installed by the end of 2017. Off-grid systems are usually easier and less costly to implement and could be one of the solutions to the growing unmet electricity demand in the country.

There are some promising actions to resolve the problem of access to electricity in the country. The Grand Inga Dam is a proposed giant hydroelectric scheme with an expected capacity of 44 000 MW of electricity. According to projections, the Grand Inga Hydroelectric Project could meet the entire need of DRC and even supply half of the African continent with electricity. The project will cost US\$80 billion and is scheduled for completion in seven phases.⁷⁰

The first phase (Inga III), which is estimated to cost US\$14 billion, will generate 4 800 MW of electricity and its entry into service was initially scheduled for 2024 or 2025.⁷¹

About half of the country is inaccessible by road including the capital city Kinshasa

However, the execution of the project has been significantly delayed. In 2016, the World Bank suspended its funding towards the construction of the Inga III phase because the then president, Joseph Kabila, decided to bring the project oversight committee into his presidency, and it, therefore, lacked transparency. The project is still ongoing, albeit at a very slow pace. The Inga III Project is now estimated to come on stream in 2030 at the earliest, dependent upon a partnership between South Africa and DRC.⁷²

In March 2019, to speed up access to renewable energy, the board of the African Development Bank approved a US\$20 million financing package to back renewable-based mini-grid projects in DRC. The Green Mini-Grid Programme will supply electricity to 21 200 households, and 2 100 buildings and small and medium-sized firms.⁷³

Roads

DRC has very poor transport infrastructure. About half of the country is inaccessible by road including the capital city Kinshasa which cannot be reached by road from much of the rest of the country. Only a few provincial capitals are connected to Kinshasa. The country is effectively an ‘archipelago’ state; the only effective means to travel and trade internally is by air – which is costly – or via the Congo River.

The few existing roads and railways are also generally dilapidated. As of 2015, DRC had a total road network of 152 373 km, with only 3 047 km paved (2%). The total urban and non-urban road networks were respectively 7 400 km and 144 973 km. The country also has 4 007 km of railways but an impressive 15 000 km of waterways.⁷⁴ Armed conflict has however significantly damaged road and rail networks in DRC and both operate at about 10% and 20% of their levels in 1960.

According to the World Bank, the DRC is among the countries with the highest deficit of transport infrastructure in Africa, and without vigorous actions to curb this trend, it will take more than a century to close this infrastructure gap.⁷⁵ According to the IMF, ‘Difficulties

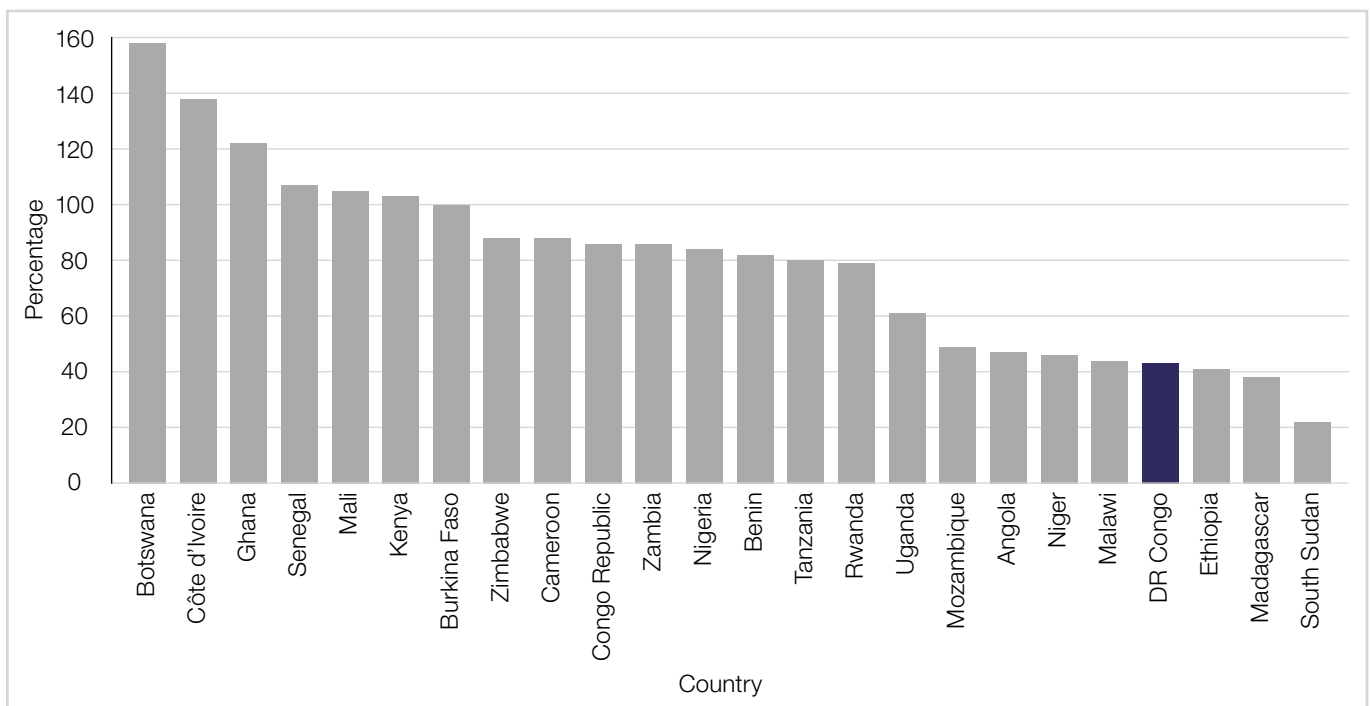
in transportation constitute a major obstacle to the realisation of the DRC’s immense agroindustrial and mining potential.’⁷⁶ It is also one of the main stumbling blocks in the physical integration of the country and the extension of state authority.

Information and communication technology (ICT)

The mobile phone sector is perhaps the most dynamic and reliable infrastructure sector in the DRC. The country is considered as one of the top 10 African countries with a very promising market for mobile phones.⁷⁷ Currently, six mobile phone companies operate in the sector, namely, Airtel, Vodacom, Orange, Africell, Supercell and Tatem Telecom. Mobile cellular subscriptions have grown rapidly over the past decade. As of 2018, there were 36.47 million mobile cellular subscriptions against only 1.25 million in 2003.⁷⁸ This translates to about 43 subscriptions per 100 people in 2018, reflected in Figure 11.

There is a disparity between rural and urban areas in terms of access to mobile phone service in the DRC. According to the latest Demographic and Health Survey 2013/2014, about 80% of households in urban areas have access to mobile phone services compared to

Figure 11: Mobile phone service penetration rate in selected Sub-Saharan African countries, 2019



Source: Data from GSMA Intelligence

20% of households in rural areas. In 2019, subscriptions to mobile internet services increased by 18.5% to reach 15.1 million people while Mobile Money service subscriptions increased by nearly 14% to reach nearly seven million people.⁷⁹

Despite this improvement, the country lags behind many of its peers in Africa in terms of internet access and mobile phone services. Poor infrastructure, such as the frequent power shortages and high taxation, as well as complex regulations, are some of the bottlenecks that retard the expansion of the sector.⁸⁰

Although there have been some improvements in infrastructure in the DRC since the mid-2000s, the country is still at the bottom of the ranking for almost all measures of access to infrastructure. The infrastructure deficit is particularly severe in road transport, electricity supply and access to improved water sources.

Improving the connectivity between provinces through quality roads will inevitably promote trade and inclusive growth. Initiatives, such as the infrastructure-for-minerals deal with China, could improve infrastructure development in the country if well managed.

In the latest version of the contract, Chinese companies would spend US\$3 billion on infrastructure rehabilitation and construction, including roads, railways and hydroelectric structures, among others. However, the agreement is skewed towards China. The roads are mostly towards mining areas and mining concessions are believed to be worth much more than the amount dedicated to infrastructure projects in the country. Also, a decade after the agreement, the DRC does not seem to have obtained the promised beneficial socio-economic outcome as the infrastructure construction has incurred significant delays.⁸¹

Economy

Growth and composition of GDP

The Congolese economy has been particularly hard hit by the series of violent conflicts in the 1990s. For instance, over the period 1990–2003, the size of the economy shrank by about 40% while the GDP per capita declined to nearly 30% of its level at independence in 1960. The mining sector which was the mainstay of the economy collapsed.

Following the signing of an all-inclusive peace agreement in 2002, the transition government led by Joseph Kabila reengaged with international financial institutions leading to a resumption in support from the World Bank and the IMF, which had been suspended in the early 1990s. Several reforms and policies, such as the government's Economic Programme (PEG 2002–2005) and the First Strategy Paper for Growth and Poverty Reduction (GPRSP1 2006–2010) were implemented under the auspices of the Bretton Woods Institutions. These were aimed at creating an economic environment conducive to private investment and growth.

These reforms and policies, in conjunction with a rebound in post-war economic activity, served to control hyperinflation and revived economic growth. Indeed, the inflation rate, which stood at 513.9% in 2000, fell to 4% by 2004.⁸² In 2002, after a recession that had lasted a decade, the country returned to growth. In July 2010, DRC obtained a debt relief of US\$12.3 billion, the largest in the history of the Heavily Indebted Poor Countries (HIPC) initiative.⁸³ As of 2018, the stock of external public debt was 13.7% of GDP and 6.5% of GDP for domestic debt.⁸⁴

The infrastructure deficit is severe in road transport, electricity supply and access to water

The latest sustainability analysis by the World Bank indicates that the country's debt risk remains moderate. However, this is likely to deteriorate significantly amid the multiple shocks associated with the coronavirus pandemic. For instance, the budget deficit in the first half of 2020 was 886 billion Congolese Franc against a deficit of 455 billion for the whole of the year 2019.⁸⁵

Buoyed by rising commodity prices, the DRC recorded an average growth rate of 7.7% from 2010 to 2015 compared to an average of 4.3% for Sub-Saharan Africa over the same period. However, the subsequent cyclical fluctuations in commodity prices have slowed growth dynamics to 4.1% from 2016 to 2019 and revealed the country's high exposure to commodity price shocks.

According to the IMF forecast released in October 2020, the GDP of the DRC will shrink by 2.2% in 2020 amid

the coronavirus pandemic – the first economic recession since 2002. To mitigate the negative effect of Covid-19 on the economy, the Central Bank lowered its interest rate from 9% to 7.5%. However, this monetary easing has resulted in excess liquidity in the economy, rising inflation and the depreciation of the Congolese Franc, which further weakens the purchasing power of consumers amid the coronavirus pandemic.

To combat inflation and currency depreciation, the Central Bank has recently increased its interest rate from 7.5% to 18.5%.⁸⁶ Although necessary, this high interest rate is more likely to impact negatively on domestic investment and delay economic recovery once the pandemic abates.

After a sustained decline, the GDP of DRC has almost tripled as compared to its level in 2001. It was about US\$14.9 billion in 2001 against US\$41.2 billion in 2019. In 2019, the country had the 16th largest GDP in Africa. However, it ranks near the bottom in terms of GDP per capita at US\$962 in 2019, which is about 40% of its level in 1960.

This is far below the average for Sub-Saharan Africa and low-income countries (Figure 12). With this level of GDP per capita, DRC ranks 51st of 54 countries in Africa. It

is only ahead of the Central African Republic, Burundi and Somalia.

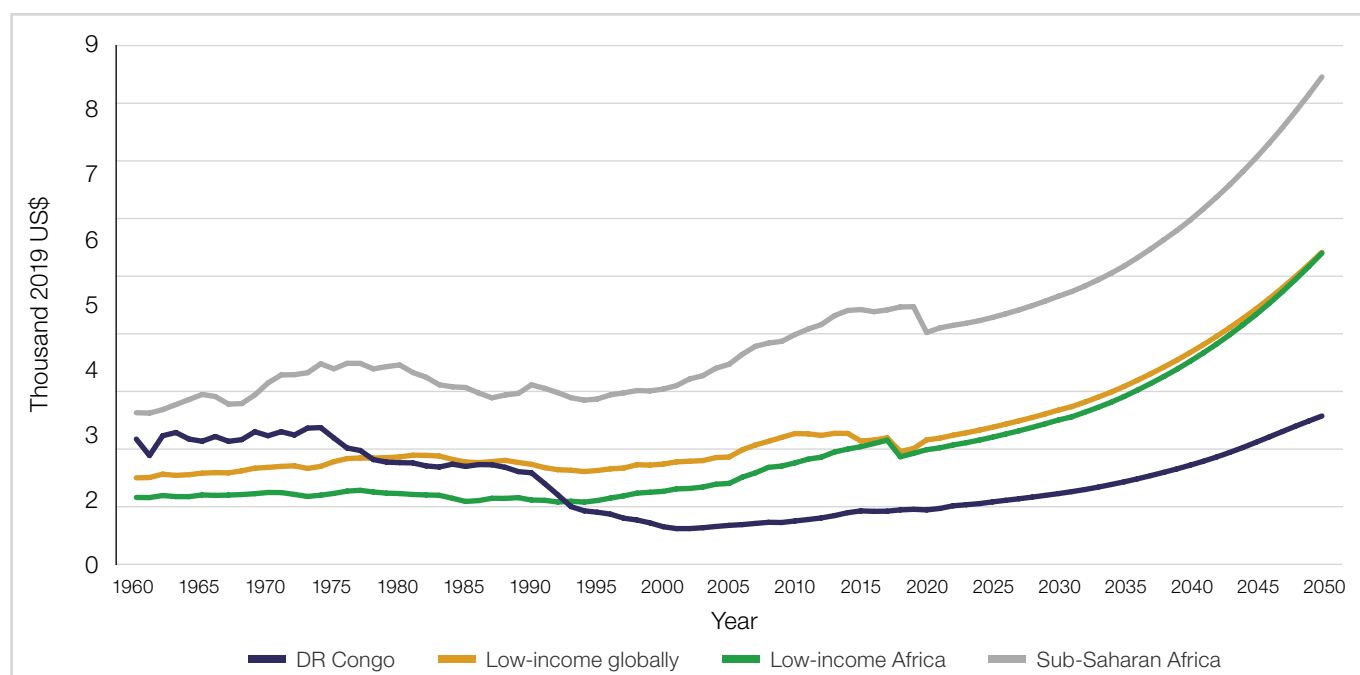
Instead of catching up, the DRC seems to be falling further behind its group peers since 1990. Before that year, the GDP per capita of DRC was well above the average for low-income Africa.

The persistent high population growth outpaces economic growth in DRC and is constraining its GDP per capita growth, and thus undermining the efforts to improve the well-being of the population. On the Current Path, the GDP per capita (PPP) is projected to only come to US\$1 235 in 2030, and US\$2 584 in 2050, by then almost the same as its value in 1974 (US\$2 382).

Whereas the mining sector accounted for 25% of GDP in the mid-1980s, it declined to 9% by 2003.⁸⁷ However, it rebounded after the war to become the second-largest contributor to GDP since 2011. On average, the value-added of the extractive industry increased by 19.6% over the period 2010–2014. According to the data from the Central Bank of Congo, the share of the extractive sector in GDP has increased from 23.2% in 2011 to 28.7% in 2018.

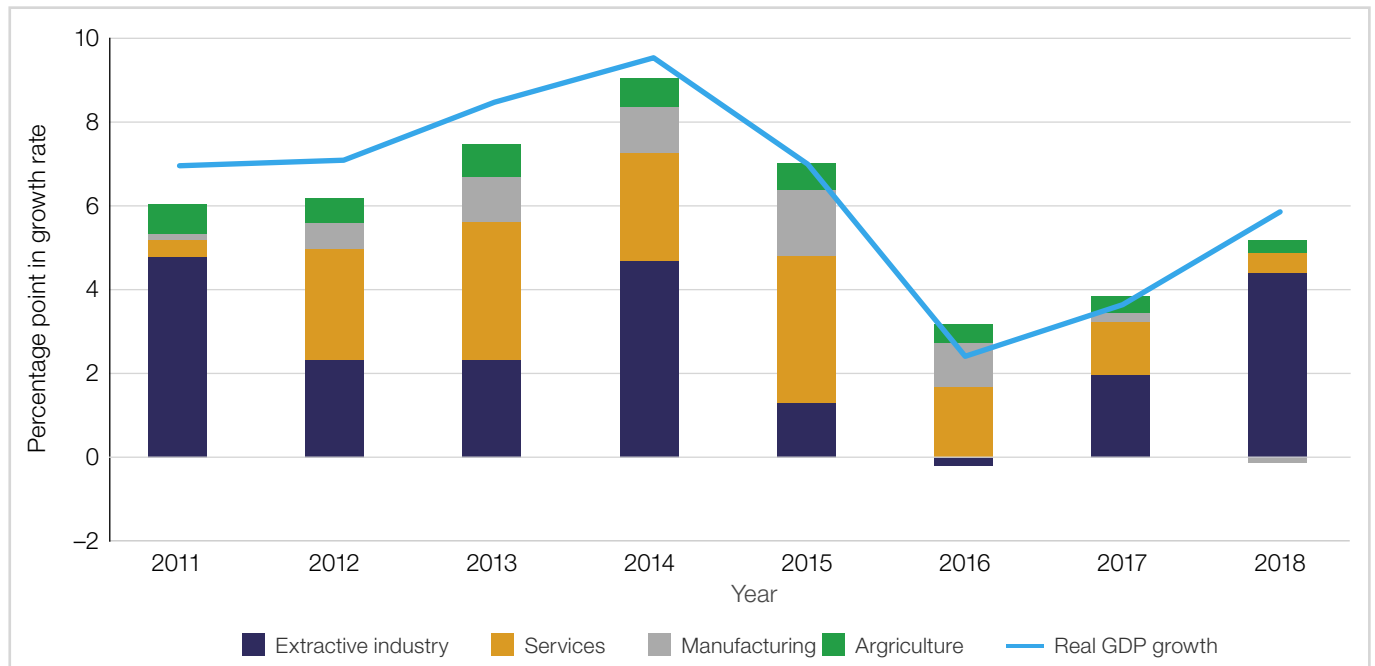
On average, the contribution of the manufacturing industry is about 18% and agriculture about 20% over

Figure 12: Trends in GDP per capita (PPP) for DRC and other groups



Source: Forecast in IFs version 7.54; historical data from the IMF

Figure 13: Sectoral contribution to growth



Source: World Development Indicators, World Bank (2019), and annual report (2018), Central Bank of Congo

the period 2010–2018.⁸⁸ The share of the services sector to GDP was 37% in the mid-80s and 43% in 2003 before dropping to around 35% in 2018. Looking at the structure of the country’s GDP, it is clear that the growth rebound to 2014 largely occurred on the back of the contribution of the extractive sector to GDP (Figure 13).

The current growth model of DRC is fragile and holds little promise for improvements in livelihoods. Without a significant structural transformation of the economy, economic growth will continue to be at the mercy of commodity price shocks.

The preponderance of the extractive sector in economic growth is one of the reasons why the growth elasticity of poverty is so low. For instance, in DRC, 1% growth of GDP is associated with a 1.1% decline in the poverty rate, against 7.3% in the Republic of Congo or 4.6% in Uganda.⁸⁹

Unlike artisanal and small-scale mining which is labour intensive, the large-scale mining operations are capital intensive and offer very few job opportunities. The agricultural sector continues to be the reservoir of jobs with 65% of total employment while the extractive industry accounts for only 11% of employment.⁹⁰ Investing in the agriculture and manufacturing sector

would be a promising approach to offer future generations better living conditions.

Natural resources

The DRC has immense natural wealth. Virtually every kind of precious natural resource can be found in the country but this richness has brought only suffering and misery to the population as the exploitation of the resources is often associated with violent conflicts and human rights abuses.

The DRC has extensive forest resources. The country possesses about 60% of the Congo Basin rainforest making it the second-largest tropical forested country globally with more than 100 million hectares. Its potential for timber exploitation is estimated at 10 million m³/year. These forest resources are overall in good condition as the national deforestation rate remains relatively low, at 0.2%.⁹¹

The country also has large reserves of crude oil and gas which represent significant economic potential. The discovery of oil and gas in the eastern part of DRC has put the country in the second position in terms of crude oil reserves in Central and Southern Africa after Angola.⁹² However, the exploitation of these reserves is controversial as it would affect the Virunga National Park which is home to the mountain gorilla.

The oil find has drawn the attention of numerous players in the sector and may factor in the future treatment of DRC's request, made in 2019, to join the East African Community. It is already a member of the Southern African Development Community (SADC), the Economic Community of Central African States (ECCAS) and the Economic Community of the Great Lakes Countries (ECGLC).

The proven reserves of the country are 180 million barrels, but estimates put the total oil reserves above five billion barrels. Currently, oil production in the country is estimated at 25 000 barrels per day. In 2018, oil production increased by 11.4% to reach about 8.4 million barrels.⁹³

In addition, the DRC could reasonably gain access to the rich off-shore oil and gas fields currently exploited by Angola. The United Nations Convention on the Law of the Sea (UNCLOS) governs which strips of sea belong to which countries. The oil fields are responsible for about half of Angola's production implying that the DRC could become one of Africa's largest oil producers overnight. Instead, because successive regimes have been beholden to Angola for their security in terms of the Joint Interest Zone (JIZ), the DRC has very limited access and rights to these fields.⁹⁴

In addition to its oil reserves, the country may hold as much as 30 billion cubic meters of methane and natural gas in its three main petroleum deposits. The Lake Kivu field has methane reserves estimated at 60 billion cubic meters which are shared with Rwanda.⁹⁵

Copper and cobalt production constitutes the major activities in DRC's mining sector. The country is the world's largest producer of cobalt. In 2016, more than 50% of cobalt produced globally came from DRC.⁹⁶ In 2018, the total production of copper and cobalt amounted respectively to 1.225 million and 109 000 tons.⁹⁷ The mining sector in DRC is largely dominated by private corporations that operate either solely or in joint ventures with GECAMINES, the state-owned enterprise in the sector.⁹⁸

The contribution of mining activities to government revenue varies year to year depending on the sector's performance. In 2018, the contribution of the sector to government total revenue was 37% (US\$1.6 billion).⁹⁹ The contribution of the extractive sector to government revenues is, however, below its potential.

Weaknesses continue to characterise domestic revenue mobilisation in the country and the DRC has one of the world's lowest domestic revenue to GDP ratios. Domestic revenue to GDP ratio is less than 12% while the average in Sub-Saharan Africa is above 20%.¹⁰⁰ Government capacity is exceptionally low to the extent that the World Bank estimates the tax gap (the difference between taxes owed and paid) at 5.3% of GDP.

This weak domestic revenue mobilisation is due to many factors. These include weak administrative and institutional capacity, porous borders, widespread fiscal exemptions, a narrow tax base, poor governance, and corruption, among others.¹⁰¹

The 2017 Resource Governance Index, which assesses how resource-rich countries manage their wealth, ranked DRC 75th out of 89 countries

According to the 2017 Resource Governance Index (RGI), which assesses how resource-rich countries manage their oil, gas and mineral wealth, DRC was ranked 75th out of 89 countries with poor scores of 25 and 33 out of 100 for the oil and gas, and mining sectors respectively.¹⁰² Low revenues limit the government's capacity to finance urgent development and social needs such as infrastructure, health and education to improve the lives of the Congolese people.

Cognisant of the necessity to improve governance and boost domestic revenues, especially from the extractive industries, the government has taken several actions to increase transparency and revenue from the sector. For instance, DRC is a signatory to the Extractive Industries Transparency Initiative (EITI) that promotes the open and accountable management of oil, gas and mineral resources.

In 2018, the DRC's 2002 Mining Code was replaced by a new Mining Code that increased the taxes on profits and royalty rates for 'strategic' minerals.¹⁰³ It contains several provisions relating to revenue traceability and transparency in the sector. To increase transparency in the sector, the online mining registry provides up-to-date licensing information. The Ministry of Mines has a portal

with more than 140 contracts publicly available and provides links to licensing decisions.¹⁰⁴

International trade

The external trade of DRC is dominated by its mining sector and is therefore dependent on the fluctuations of the global commodities markets. Indeed, in 2018, mining and hydrocarbon accounted for 99.1% of the country's total exports of which the three main products are copper (46.6%), cobalt (39.8%), and gold (6.9%). The export value of mining and petroleum increased by 38.3% in 2018 after shrinking by -13.4% in 2016 as commodity prices fell. Despite its potential, agricultural products accounted for only 0.8% of total exports, up from its levels of 0.6% in 2017.¹⁰⁵

Raw materials and semi-finished goods, capital goods and consumer goods accounted for 99.5% of total imports. The share of foodstuffs in total imports increased from 13.3% in 2016 to 15.2% in 2017 before declining to 12.8% in 2018.¹⁰⁶ This is dramatic and given its potential, one could arguably expect the country to be an exporter of foodstuffs.

The main trade partners of DRC are China, South Africa and the European Union. In 2018, China accounted for 35% of DRC's total exports, 20.1% were destined for South Africa, and 3% for the European Union. Imports come mainly from the European Union, China and South Africa with respective shares of 12.1%, 11.9%, and 10.8%.¹⁰⁷

Like many African countries, the trade balance of the DRC is structurally in deficit. The total value of exports increased by 38.3% from its 2017 level to reach US\$16 billion in 2018 while the value of imports reached US\$15 billion in 2018, a 32% increase from the previous year. The trade deficit was 3.7% of GDP, and according to the IFs forecast, the trade balance will continue to record deficits for several decades into the future.

Aside from this formal trade, there is also a significant amount of informal trade between the DRC and some of its neighbours facilitated by the porosity of the borders. Low-cost consumer goods and foodstuffs from Angola, Rwanda, Uganda and Zambia, are frequently smuggled into the DRC. This has a considerable impact on the local manufacturing industry. The complicity of local customs officials, corruption, high energy prices and inefficient

transport of raw materials (crops) over bad roads which makes local production non-competitive with the imported goods, are some of the underlying factors of this informal trade.¹⁰⁸

Similarly, valuable revenue-generating minerals, such as tin, tungsten, tantalum and gold, are also smuggled out. For instance, countries such as Uganda and Rwanda, despite having no gold reserves consistently record gold exports. According to the United Nations Group of Experts report, in 2019, gold smuggling cost the Congolese government about US\$1.9 million in tax revenue.¹⁰⁹

The DRC's exports are poorly diversified and almost exclusively consist of primary products

DRC's exports are poorly diversified and almost exclusively consist of primary products. The unprecedented plunge of commodity prices amid the coronavirus pandemic is a reminder of how vulnerable a country can be when it relies heavily on commodity exports and the importance of economic diversification.

Foreign direct investment and remittances

The conflicts of the 1990s effectively kept foreign investors away from the DRC. The government has recently implemented several policies and reforms to attract more foreign direct investment (FDI). An example is the revision of the mining code in 2002 which offered a more advantageous fiscal regime to foreign firms,¹¹⁰ although it was significantly altered with the new 2018 mining code.

The end of the 1997–2002/2003 war, reengagement with the international community, reunification of the country together with government reforms set the stage for increased FDI flow to the country, generally in the extractive sector.

Indeed, FDI flows to the DRC increased from about US\$188 million in 2002 to US\$1.5 billion in 2018 (3.7% of GDP) while FDI stock rose from US\$907 million in 2002 to US\$24 billion in 2018 (59.8% of GDP).¹¹¹ Apart from the extractive sector, the top destination of FDI flows is in telecommunications. South Africa, Belgium, and China are the main foreign investors in the country.¹¹²

Resource-seeking FDI activities are believed to have few positive spillover effects on the recipient economy, and creates fewer jobs, as they are highly capital-intensive. However, attracting substantial FDI to other sectors, such as manufacturing, remains a challenge for the DRC, notably due to poor infrastructure and an unfavourable business climate. For instance, in the 2020 Doing Business report, the DRC ranked 183rd out of 190 countries, only ahead of the Central African Republic, South Sudan, Libya, Yemen, Venezuela, Eritrea and Somalia.¹¹³

The relative stabilisation of the political situation and the commitment of the new president to create a special unit to enhance the business climate could improve FDI flows once the COVID-19 crisis has abated.

The recurrent socio-political and economic crises in the DRC have pushed many better educated Congolese to migrate, especially to more developed Western countries. As a result, remittances have become one of the main sources of external finance in the country, much of it flowing through the informal remittance market. Remittances inflows into the DRC have surpassed FDI flows. In 2018, the total recorded remittances inflows to the DRC amounted to US\$1.8 billion (4.4% of GDP) while remittances outflows stood at US\$914 million (1.9% of GDP).¹¹⁴

Apart from the extractive sector, the top destination of FDI flows is in telecommunications

About 81% of the remittances flows pass through informal channels.¹¹⁵ The relatively low prices charged in the informal remittance market is a key factor that motivates this choice. On average, 8.5% on transactions in the formal market against 5% in the informal market.¹¹⁶

FDI and remittances flows to the DRC are expected to decline in 2020 due to the measures taken to limit the spread of coronavirus and the associated global economic crisis. According to the World Bank's projection, remittances into Sub-Saharan Africa will shrink by about 9% in 2020.¹¹⁷ The importance of remittances in reducing poverty in low- and middle-

income countries is well documented. This decline in remittances flows is likely to push many more households into poverty.

Informal economy

There are several definitions of an informal economy but it is generally considered as a set of economic activities that are not subject to taxation and other regulations. The informality rate in the DRC is one of the highest in the world.

According to the World Bank, the share of the informal sector in total workers in the country is 81.5%. According to the Trade Union Confederation of the DRC (*La Confédération Syndicale du Congo*), only 2.5% of workers are employed in the formal sector. In other words, the informal sector accounts for 97.5% of all workers in the country, above the average for Sub-Saharan Africa estimated at 89.2%.¹¹⁸

According to the IMF, the informal economy in the DRC accounts for about 55% of its GDP.¹¹⁹ The modelled estimate in IFs is at about 42% of GDP in 2019 and is projected to decline to 32% of GDP in 2050.

This high level of informality is driven by several factors such as the rapid population growth and the chronic lack of jobs in the formal sector. Every year, tens of thousands of young men and women enter the labour market without finding a job. The World Bank estimates that at least two million jobs need to be created every year to significantly reduce the high unemployment rate and poverty in the country. The informal economy is a crucial lifeline for millions of Congolese. Policies aimed at significantly reducing poverty in the country cannot overlook this sector.

Agriculture and climate change

The DRC has the potential to become a global agricultural power. Indeed, with 80 million hectares of arable land, of which only 10% is cultivated, agriculture is one of the country's largest untapped resources. The agricultural sector provides about 60% of the jobs although most of these jobs only provide for subsistence needs.¹²⁰

The main cash crops are coffee, palm oil, rubber, cotton, sugar, tea and cocoa. Food crops include cassava, plantains, corn, peanuts, and rice, among others. Despite being the country with the largest available

farmland in Africa with agricultural potential that could feed the entire continent, the DRC has not achieved food independence, and malnutrition is widespread. The agriculture sector has been severely affected by the violent conflicts in the 1990s. For instance, by 2006, agricultural productivity had fallen to 60% of its level at independence in 1960.¹²¹

The crop yield, currently estimated at about 3.4 tons per hectare, is quite low and will continue to make the country a net food importer, like many African countries, for a long period. Currently, the food trade deficit of DRC is US\$1.5 billion per year.¹²² This is not only absurd given the country's huge agricultural potential but also unsustainable. On the Current Path, the food import dependence will continue to increase to about 60% of food demand in the country by 2050 (Figure 14).

Food insecurity in the DRC is likely to be worsened by climate change and will affect the already weak agricultural productivity. The effects of climate change can already be noticed in the country through heavy rain and flood events which contribute to soil erosion and degradation.

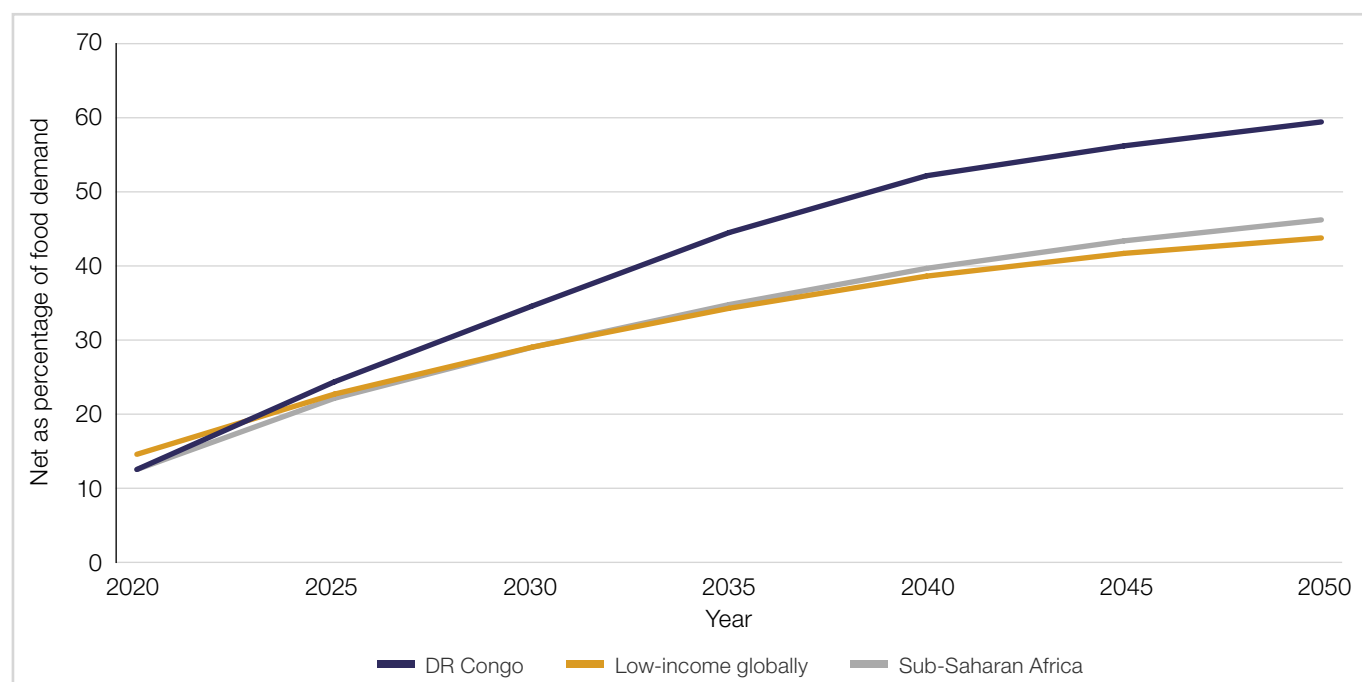
Agricultural production, internal trade in agricultural products and exports of agricultural products in the

DRC are hampered by several factors such as poor transport infrastructure, limited access to financial services and agricultural inputs, land disputes and conflicts.¹²³ However, the lack of transport infrastructure such as roads and railways, means that this constraint is likely to continue for a longer period as infrastructure development is costly and requires time.

Several efforts are underway to improve agricultural production, and to improve food security in the country. Recently, the World Bank granted additional funding of US\$75 million for the Agriculture Rehabilitation and Recovery Support Project with the expectation to boost agricultural production in the country.¹²⁴

In addition, the Food and Agriculture Organisation (FAO) is involved in several projects aimed at developing sustainable agriculture in DRC.¹²⁵ For instance, the organisation works hand-in-hand with the government in its effort to produce and distribute high-quality seeds while the United States Agency for International Development (USAID), through its Food for Peace (FFP) programme is contributing to reducing food insecurity by improving agricultural production techniques and output.¹²⁶ President Tshisekedi has also allocated an additional 33 000 hectares of land to food crops.

Figure 14: Food import dependence for DRC and other groups



Source: Forecast in IFs version 7.54; historical data from FAO

Components of a positive development pathway

Although haltingly and imperfectly, the DRC has recently experienced the first real peaceful transfer of power in its post-independence history. Like much of Africa, the road towards greater accountability and better governance will include any number of setbacks and reversals. Yet the government that emerged from the December 2018 presidential election has the opportunity to set the country on the path towards long-term prosperity.

However, the government and partners need to dissuade themselves from grand ambitions about an influential regional role for the DRC or the potential of schemes such as the Grand Inga Project to unlock rapid developmental progress. Such opportunities will need to be financially independent of the government. The government of the DRC needs to focus on the fundamentals.

The key to progress is a shift in accountability and government-community relations across the DRC. The implementation of the 2006 Constitution and its promise of the effective devolution of authority to the DRC's 26 provincial authorities could play such a role. Even then, progress will only be possible with 2023 national and provincial elections that are genuinely free and fair and perceived as such by locals and the international community.

The DRC needs to invest in renewables, using mini- and off-grid electricity solutions

The scenario presented below is based on such a possibility. Consequently, the components of the scenarios that follow commence in 2024 and present a subsequent 10-year push by a developmentally orientated government.

We, therefore, model the impact of a series of intervention clusters that emulate realistic policy interventions to alleviate the binding constraints on inclusive sustainable growth and development revealed by the preceding Current Path analysis. The clusters are presented in Figure 15 and consist of efforts to improve overall governance and a focus on resuscitating agricultural production, extending education and

basic health services. Governance will be improved through credible elections and the implementation of decentralisation.

An important component of the associated reform is comprehensive household electrification where the country needs to invest in renewables, using mini- and off-grid electricity solutions to provide electricity to the majority of its citizens. Such an objective would provide significantly more benefits than large capital investments on the government balance sheet such as the pursuit of the Grand Inga Project beyond Inga III.

The clusters of interventions collectively present a viable development pathway that departs from a focus on the exploitation of the DRC's vast mineral endowment as the engine for its development. It will, of course, be difficult to resist the allure offered by the aggressive exploitation of oil, gas, diamonds, tantalum and other natural resources. The focus should rather be on the establishment of the systems and institutions that will eventually allow the transparent management of its mineral riches rather than a rush to mine and export.

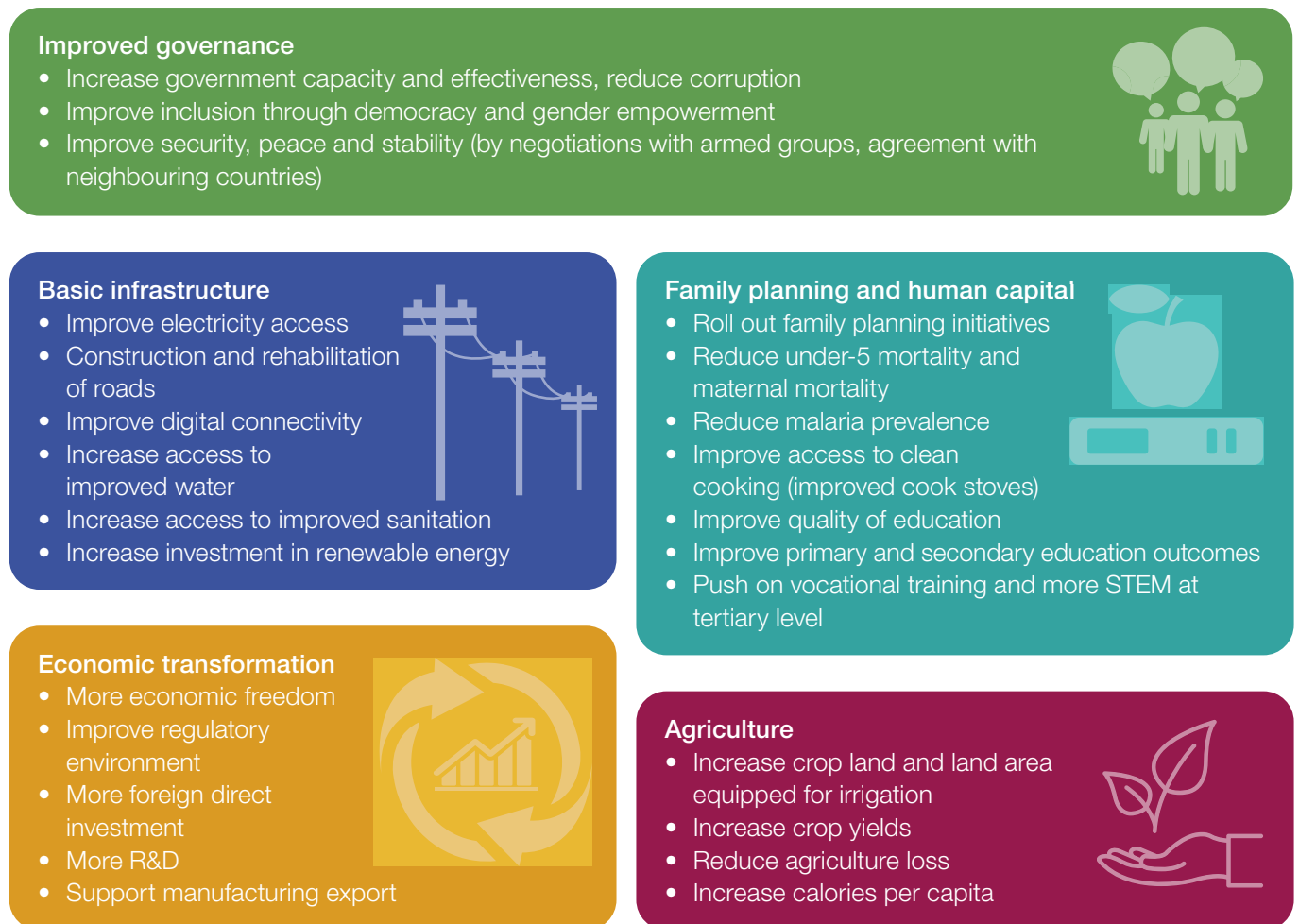
The interventions are all benchmarked with aggressive but reasonable targets that have been achieved by countries that are at similar levels of development or had the same challenges as DRC (see annexure).

Improved governance scenario component

Bad leadership and poor governance is the key reason for DRC's disastrous development history since independence. Its governance performance is among the lowest in the world and below the average for low-income Africa. Tackling governance challenges is crucial to mitigate social tensions if the DRC is to contain domestic instability stemming from poor development and from consistently sliding back into conflict. The question is how to change the current political-patronage relationships that dominate.

This scenario component envisages the implementation of the 2006 Constitution and the subsequent acts of parliament that set the terms of the separation of powers and deconcentration of legislative and executive state power to the 26 provinces. Decentralisation is key due to the vast land area, diversity and population size of the country and has repeatedly surfaced as a key requirement.

Figure 15: Intervention clusters



Source: Authors

Thus we proceed on the premise that the 2023 national and provincial elections are substantially free and fair and domestically and internationally perceived as such. That itself would be a significant departure from the myriad irregularities that accompanied the presidential elections that took place on 30 December 2018.

The result would translate into a Senate and National Assembly with the former representing the 26 provinces. Whereas two earlier constitutions (in 1960 and 1964) also provided for a semi-federal model, the DRC has effectively been governed as a unitary state and limited progress has been made in decentralisation as set out in the 2006 Constitution.¹²⁷ The free and fair elections and the implementation of decentralisation would, in this scenario component, improve accountability and help shift towards governance primarily occupied with the urgent needs of the population rather than with its own interests.

Even then these events would require bold steps to improve governance and strengthen institutions such as the judiciary as a potent, assertive third arm of the government and a commitment to the budgetary and spending autonomy of the three levels of government. This would include the constitutional mandates to transfer 40% of national tax revenue to provinces.

The result is more responsible management and consensual sharing of resources, and hence, improvement in public service delivery. In this manner, the acceleration of the decentralisation process could promote local development.

There is also an effort to address gender differences by removing discriminatory provisions in the family code that impede the entrepreneurial and political activities of women.

Finally, peace and stability, especially in the eastern regions of the country, depend on both domestic dynamics and relationships with the neighbouring countries. The DRC needs stability, particularly within its eastern provinces that border Rwanda and Uganda. Therefore, leadership in the DRC must take a positive, regional approach to address conflicts in the eastern provinces by involving regional and international actors like SADC, MONUSCO and the African Union (AU).

Under this scenario component, the size of the Congolese economy (GDP) increases by about US\$92 billion as compared to the Current Path in 2050. The average GDP per capita also increases by US\$537 relative to the Current Path in 2050. The scenario component shows that improvement in governance and security has a significant impact on poverty alleviation in the DRC. The number of poor people is about 21 million fewer than on the Current Path by 2050. Good governance not only helps to better deliver public services but also provides an investment climate that is conducive to growth and job creation.

Basic infrastructure scenario component

Infrastructure shortage is a binding constraint on sustained inclusive growth in the DRC. The infrastructure deficit is particularly severe in road and water transport, electricity supply, and access to improved water and sanitation. Rail, road and water transport are all underdeveloped and make internal mobility of people and goods prohibitively expensive.

The lack of affordable and reliable energy supply and the poor transportation network inhibits the development of the agriculture and mining sectors as well as local industries, and hence, dissuades private investors from investment. Farmers, firms and mining companies need adequate transportation systems to receive supplies and access markets with their products. They also need reliable energy supply and communication technologies to increase productivity and stimulate innovation.

In this scenario component, the government directs its focus on the reinforcement of exchanges between the different areas of the country through the construction and rehabilitation of transport infrastructure. It invests in efforts to reopen the navigable inland waterways,

rebuild railway lines where required, repair roads, and repair and build bridges across the Congo River and its tributaries.

To this end, the DRC government leverages the successful implementation of its 'infrastructure for mineral deal' with China. Also, the government limits the Grand Inga hydroelectric scheme to Inga III to focus on decentralised mini- and off-grid schemes, using renewable energy, to provide reliable power supply and improving the electrification rate in urban and rural areas.

In addition, the government works together with donor organisations and other partners to successfully implement its National Digital Plan to drive the country's digital development. As a result, digital connectivity improves across the entire country not only to assist with education and economic efficiency but also to improve the government's ability to modestly tax and identify ever-larger portions of the informal sector as part of the formal sector of the economy. Finally, this increasing digital connectivity fuels innovative ways, such as pay-as-you-go (PAYG), to unlock the provision of basic services such as improved water and sanitation.

The infrastructure shortage is a binding constraint on sustained inclusive growth in the DRC

In sum, this scenario component models an aggressive but realistic improvement in basic infrastructure in the DRC.

If the Congolese government carries out reforms along these lines, the GDP of the DRC would increase by about US\$20.7 billion relative to the Current Path in 2050. The impact on average GDP per capita is moderate; it increases only by US\$125 in 2050 as compared to the Current Path forecast for that year. The number of people surviving on US\$1.90 per day (extreme poverty) is about 5.4 million fewer than the Current Path in 2050. Infrastructure development is an essential catalyst for economic growth; it also creates income opportunities and generates jobs.

Family-planning and human capital scenario component

The DRC has one of the highest fertility rates in the world which undermines progress on human and economic development. As pointed out by the World Bank:¹²⁸

Even if DR Congo manages to keep a greater part of the natural resources wealth in the country and use it for physical and human capital accumulation, the prospects for human development and economic growth would remain constrained by the persistently high fertility rate that leads to a population age structure relatively more concentrated on dependent children.

Thus, in this scenario component, DRC policymakers embrace the view that family planning is necessary to achieve their long-term economic and social development objectives. The national and provincial governments, therefore, undertake public information campaigns and provide leadership aimed at raising awareness of the importance of family planning and promote the use of modern contraceptives. In particular, they undertake extensive education campaigns in rural areas where fertility rates are high, engaging with traditional leadership.

The DRC has one of the highest fertility rates in the world which undermines progress on human and economic development

To achieve long-term resilience and sustained economic growth, the country also needs to increase its current stock and quality of human capital. Thus the educational and family planning efforts are augmented by policies aimed at boosting the outcomes of its health and education systems. The scenario component improves the health system which is reflected in the reduction in child and maternal mortality.

The scenario component also reduces the prevalence of malaria and the widespread use of traditional cookstoves among the population. Malaria is currently one of the leading causes of death in the country while the energy used by households, especially in rural areas, comes mainly from traditional cookstoves which are a potential cause of respiratory infections.

The country has made progress in school enrolment, especially primary school enrolment but the completion rate is low regardless of the level of education, and the quality of education is below that of comparable country groupings. In this scenario component, the Congolese government continues to roll out its efforts to improve school enrolment and this is complemented by an improvement in the completion rates from primary education to secondary levels.



MALARIA IS A LEADING
CAUSE OF DEATH IN DRC

In addition, the government works at ensuring the delivery of quality education by regulating the uncontrolled expansion of low-quality schools in private education, renewing obsolete equipment and reforming academic programmes to give priority to programmes that target skills needed in the key growth sectors of the economy. Thus, the government prioritises vocational and technical training, and sciences and engineering to provide the country with a skilled labour force.

Should this scenario component materialise, the fertility rate would decline to 2.6 by 2050, a drop of roughly 52% between 2024 and 2050. This is substantially lower than the projected 3.4 births per woman on the Current Path in the same year. The promotion of contraceptive use combined with the improvement in female education has a significant impact on fertility. In this scenario component, the DRC achieves a ratio of 1.7 dependents to working-age persons in 2050, a decade earlier than on the Current Path.

The scenario component increases the size of the Congolese economy by about US\$15.4 billion in 2050 as compared to the Current Path forecast. The average GDP per capita is US\$223 larger in 2050 than the projected value on the Current Path. This scenario component has about 15.4 million fewer Congolese living in extreme poverty (less than US\$1.90 per day) relative to the Current Path forecast.

Reviving the DRC's agriculture sector could combat poverty and improve human development as it has a strong job creation capacity

Family planning measures associated with human capital development have significant potential to promote pro-poor growth in the DRC. This finding is in line with the idea that investment in human capital should be at the centre of development priorities. Education is one of the most effective ways for people of poor backgrounds to increase their incomes. Family planning policies are also important to reduce poverty as households with fewer children tend to invest more in the education and health of each one, which in turn, improves their job and income prospects.¹²⁹

Agricultural development scenario component

As revealed by the Current Path analysis, the DRC has significant agricultural potential. It has a favourable climate and immense tracks of arable land. About 70% of people classified as employed in the formal and informal sectors are in the agriculture sector. Yet despite this potential, the country cannot meet its own food needs and a large majority of the population experience moderate to serious food insecurity.

Reviving the agriculture sector could be an effective way to combat poverty and improve human development in the DRC as it has a strong job creation capacity compared to other sectors. Studies have shown that a 10%

70%

OF THOSE CLASSIFIED AS
EMPLOYED ARE IN DRC'S
AGRICULTURE SECTOR

increase in agricultural production could translate into a 7% decrease in the number of people living in extreme poverty in the DRC.¹³⁰

In this scenario component, the government works at improving agricultural production by investing in modern practices to boost yields per hectare. Increased production is augmented by efforts to provide adequate harvesting, storage, transportation and marketing mechanisms for crops and animal products with a particular focus on improving subsistence and smallholder farming.

To this end, the DRC authorities work hand-in-hand with development partners to generate and disseminate improved technologies such as improved seeds and farming practices for increased productivity and better adaptation to the impact of climate change. It also engages in broad and consensual land reforms to address the recurrent land disputes and protect the rights of vulnerable farmers. Most of the improvements in agricultural production are therefore achieved by improving crop yield (intensification) and expanding the land under cultivation (extensification).

DRC's productive and export bases must be diversified to achieve structural economic transformation

In addition, the rehabilitation of rural transport infrastructure allows farmers to more easily sell their produce, receive support from agricultural extension services, and, therefore, reduce agricultural losses along the value chain (from producer to consumer). Rather than aiming at exports, the production is mainly intended for domestic consumption. Hence, the government, in collaboration with donor organisations or NGOs, works at improving food access, especially among the poor, through various policies such as cash grants.

The agricultural development intervention cluster increases crop yields by 58.8% between 2024 and 2050. This translates to 91.3 million metric tons of agriculture production by 2050, approximately 36% higher than the Current Path forecast for the same year. Agricultural

import dependence (crops), measured as a percentage of total crop demand, declines to 50.3% by 2050 rather than 60% on the Current Path.

As mentioned earlier, malnutrition is a major issue in DRC despite the country's huge potential for food production. Under this scenario component, the number of malnourished people in the country declines by 50% between 2024 and 2050. The impact is nearly 6.8 million fewer malnourished people than on the Current Path by 2050.

The size of the Congolese economy is US\$19 billion larger than the Current Path forecast in 2050 while the GDP per capita increases marginally by US\$120 as compared to the Current Path. The number of people in extreme poverty (less than US\$1.90 per day) is 8.3 million fewer than on the Current Path by 2050.

Economic transformation scenario component

The preceding Current Path analysis has revealed that economic growth in DRC is driven mainly by the dynamism of the extractive sector, but that it is subject to the volatility of global commodity markets, creates few direct jobs and is not inclusive. Export concentration on primary commodities has long been conceptually and empirically linked with underdevelopment. It is crucial to diversify the DRC's productive and export bases if a structural transformation of its economy is to be achieved together with inclusive and sustainable growth and development. However, such a process requires policy efforts along different dimensions.

In this scenario component, the government works to remove the key obstacles to more diversified and sustainable industrial development. This is on the premise that the new president delivers on a commitment to promote strong and transparent economic institutions to address the poor business environment in the country.

This significantly improves regulatory quality (business regulation), economic freedom and eliminates predatory taxation by reducing bureaucracy and simplifying administrative procedures and formalities. The simplification of the process for registering a business accompanied by a simpler and efficient tax regime serve to stimulate domestic investment and eventually lead to the growth of foreign direct investment.

Technology and innovation play a crucial role in economic transformation. They offer not only catch-up potential but also leapfrogging possibilities. Thus, DRC authorities enhance the capacity building of local research institutions (particularly in agro-processing) by increasing spending in R&D activities to support the country's move up the agro-processing ladder.

The size of the Congolese economy under this scenario component increases by US\$143 billion relative to the Current Path forecast in 2050 while the GDP per capita increases by US\$816.5 as compared to the Current Path. Also, the economic transformation scenario component has 24.9 million fewer people in extreme poverty relative to the Current Path in 2050. The economic transformation scenario component has a huge impact on economic and human development in DRC. This finding is consistent with the general view that economic transformation is crucial for sustained economic growth and poverty alleviation.

Comparing scenario components impacts

All the scenario components make a positive contribution to GDP, GDP per capita and poverty reduction. As shown by Figure 16, the economic transformation

scenario component has the largest impact on the size of the Congolese economy and it is followed by the improved governance scenario component.

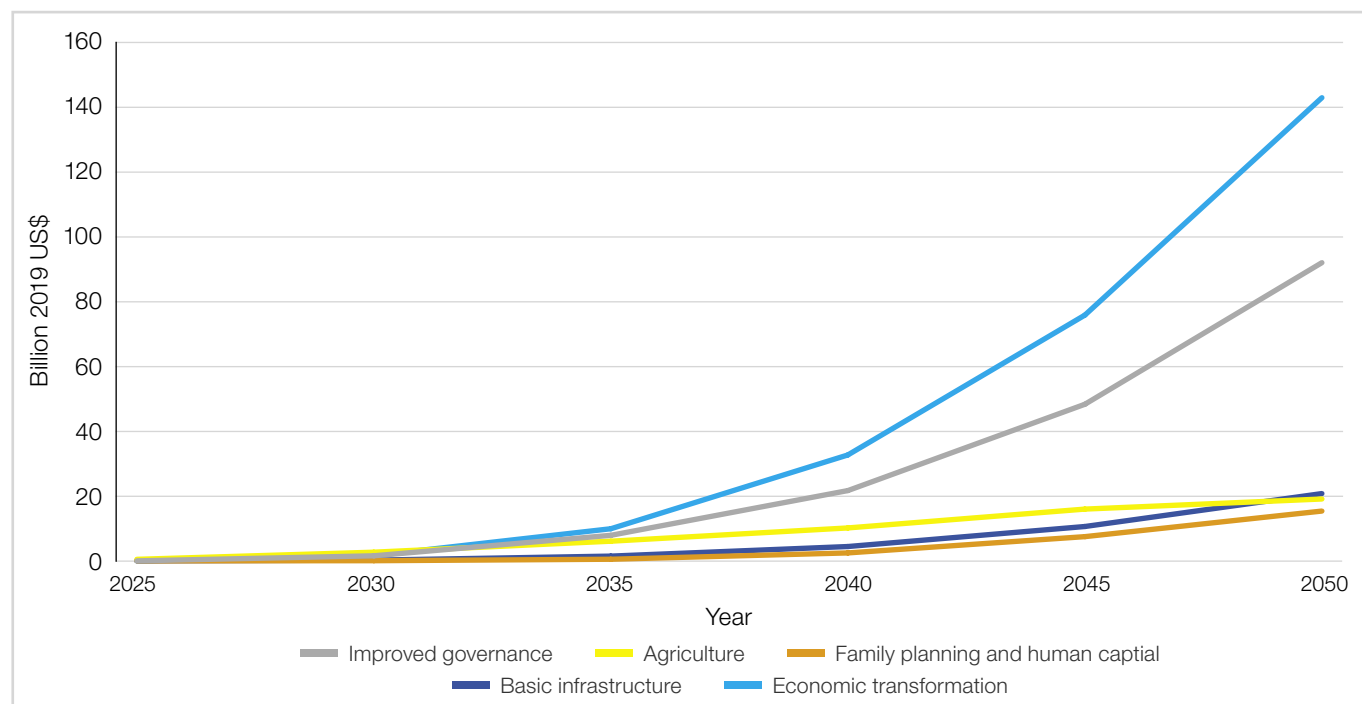
The economic transformation component has also the greatest impact on per capita income followed by the improved governance component (Figure 17).

In the short term, the agricultural intervention cluster has the highest impact on GDP and GDP per capita. This can be explained by the fact that institutional change, infrastructure development, human capital accumulation and economic transformation (i.e. the transitions inherent in the other scenario components) require time to reach a level that can significantly enhance economic growth while crop yields and agricultural production can be increased in a relatively short period.

Irrespective of reform, the number of people living in extreme poverty in the DRC is likely to continue to increase in all the scenario components in the next few years before starting a downward trend (Figure 18).

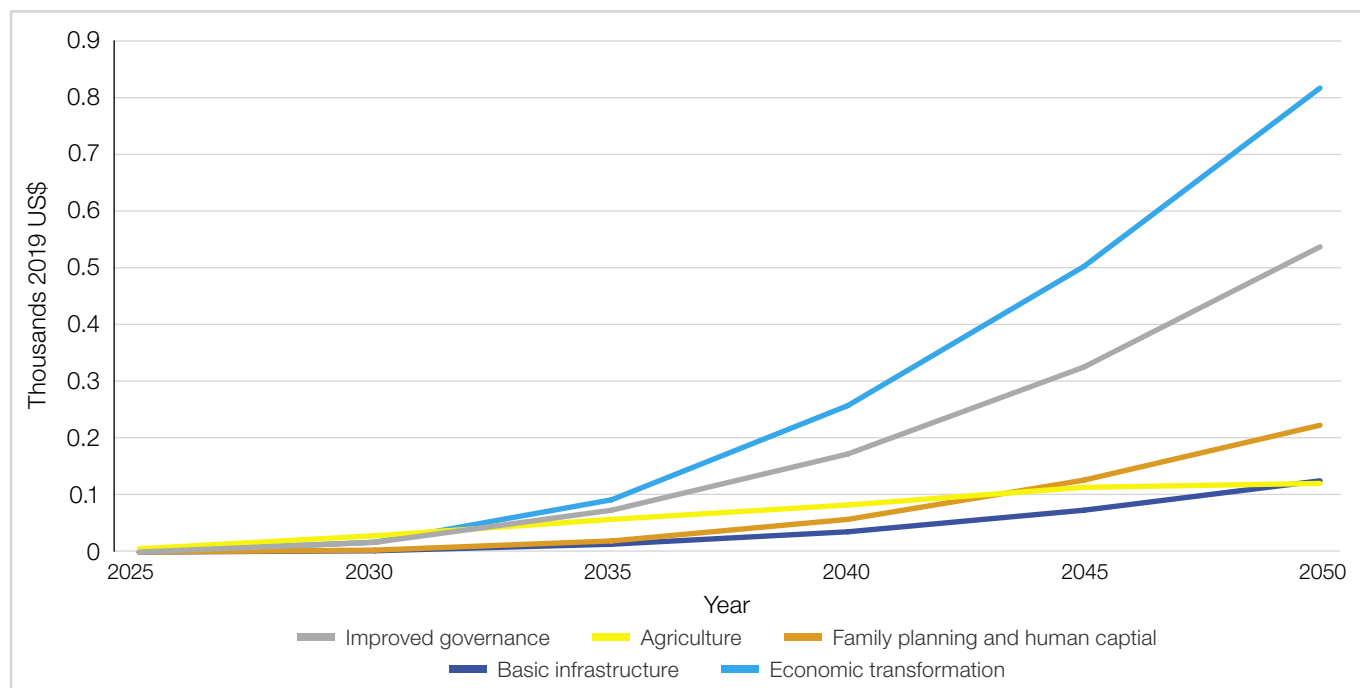
This increase in the number of people living in extreme poverty is due to the impact of the coronavirus pandemic and also to the fact that the beneficial

Figure 16: GDP in each scenario component – variations relative to the Current Path



Source: Forecast in IFs version 7.54; historical data from International Monetary Fund and World Bank

Figure 17: GDP per capita in each scenario component – variations relative to the Current Path

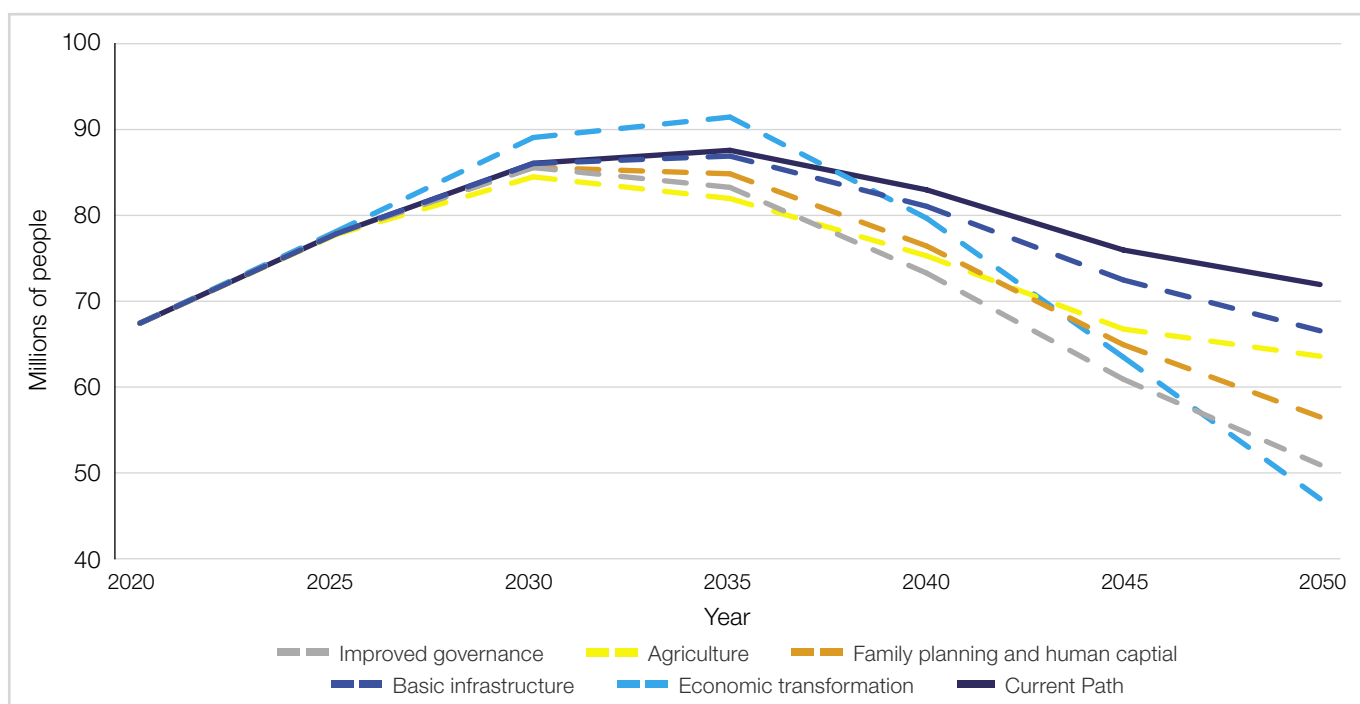


Source: Forecast in IFs version 7.53; historical data from International Monetary Fund and World

effects of these policies on population welfare require time to materialise. Specifically, in the initial 10 years of intervention, the economic transformation scenario

component has the highest number of poor people as resources and investments are diverted to more capital and knowledge-intensive sectors.

Figure 18: Extreme poverty at US\$1.90 in each scenario component



Source: Forecast in IFs version 7.54; historical data from World Bank

The economic transformation is funded by an initial crunch in consumption which increases poverty in the first few years. However, in the long run, these efforts stimulate inclusive growth with a greater impact on poverty alleviation.

The economic transformation scenario component has the lowest number of poor people (47 million) by 2050. This is equivalent to a poverty rate of 22.7% compared to 34.5% on the Current Path in 2050. The economic transformation scenario component is followed by the improved governance scenario component with 51 million poor people or 24.5% of the poverty rate by 2050. However, in the short term, the agriculture development scenario component has the greatest impact on poverty reduction.

Overall, these scenario components show that economic transformation through industrialisation will be key to achieving economy-wide productivity improvements, job creation and sustained progress in growth and poverty reduction in DRC. However, as this process requires time, agriculture seems to be the low hanging fruit for the country to improve the population's well-being in the short term.

Impact of the combined comprehensive scenario

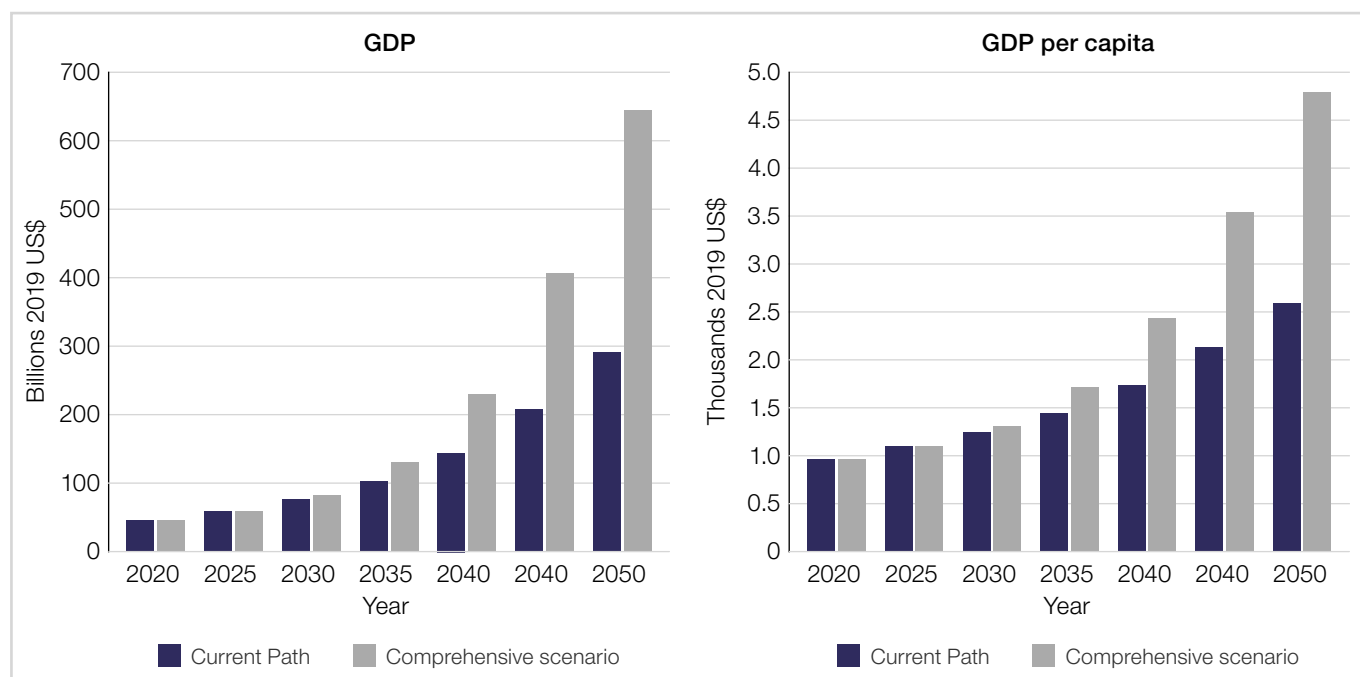
The comprehensive scenario combines all the intervention clusters mentioned above. It is a

concerted intervention to overcome the binding constraints on inclusive growth and development in the DRC. In other words, it is a scenario that puts the country on the path of sustained and inclusive growth that is more resilient to the recurrent commodity prices 'boom-burst'.

The size of the economy and the GDP per capita in the comprehensive (combined) scenario are respectively US\$353 billion and about US\$2 200 larger than the projected values on the Current Path in 2050 (Figure 19). Also, the number of people surviving at US\$1.90 is 18.2 million in 2050 while it is projected to be about 72 million people on the Current Path in the same year (Figure 20). This translates to a poverty rate of 9.6% by 2050 against 34.5 % on the Current Path.

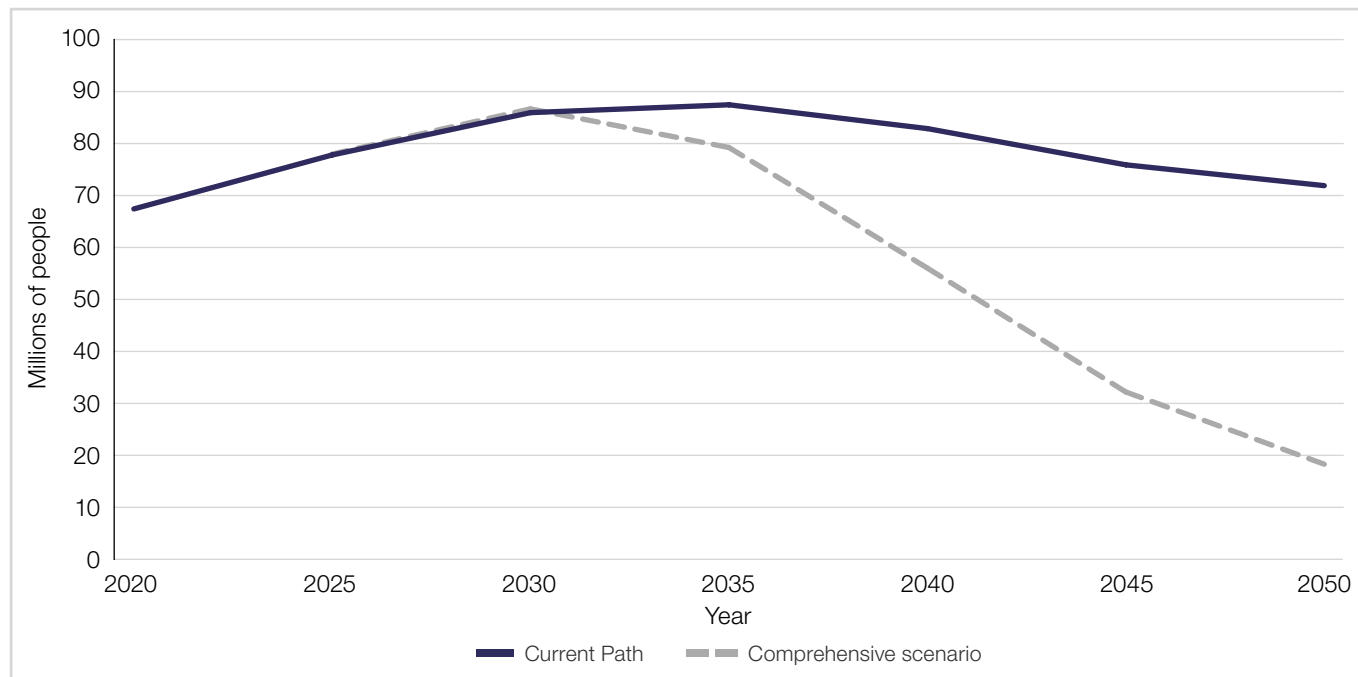
The scenario improves food security; food import dependence measured as a percentage of total food demand is 13.5 percentage points lower than the 60% projected on the Current Path in 2050. The DRC would continue to import food, but at much lower levels than in the Current Path. The scenario, therefore, reduces the country's vulnerability to external food price shocks.

Figure 19: GDP and GDP per capita – the comprehensive scenario vs the Current Path



Source: Forecast in IFs version 7.54; historical data from International Monetary Fund and World Bank

Figure 20: Extreme poverty at US\$1.90 in the comprehensive scenario and the Current Path

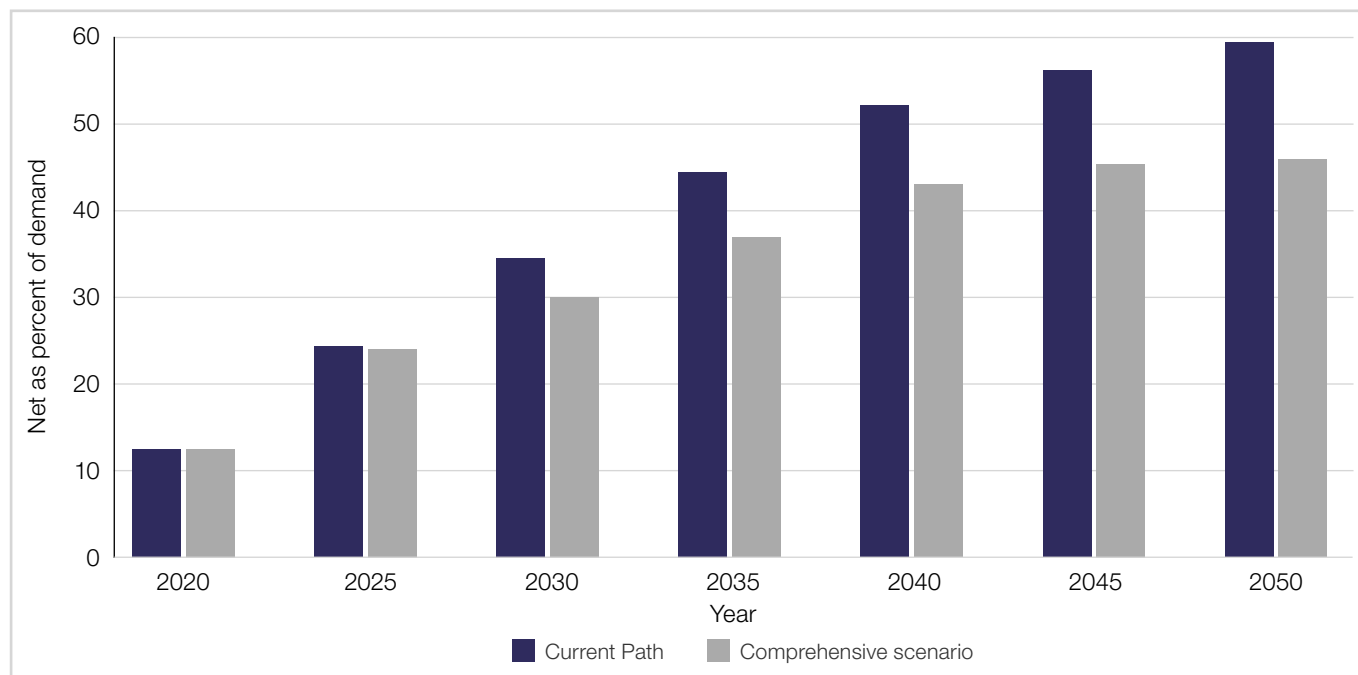


Source: Forecast in IFs version 7.54; historical data from World Bank

Following improvements in food production, access to safe water and improved sanitation, the widespread malnutrition which is reported to be one of the key factors of stunting among children

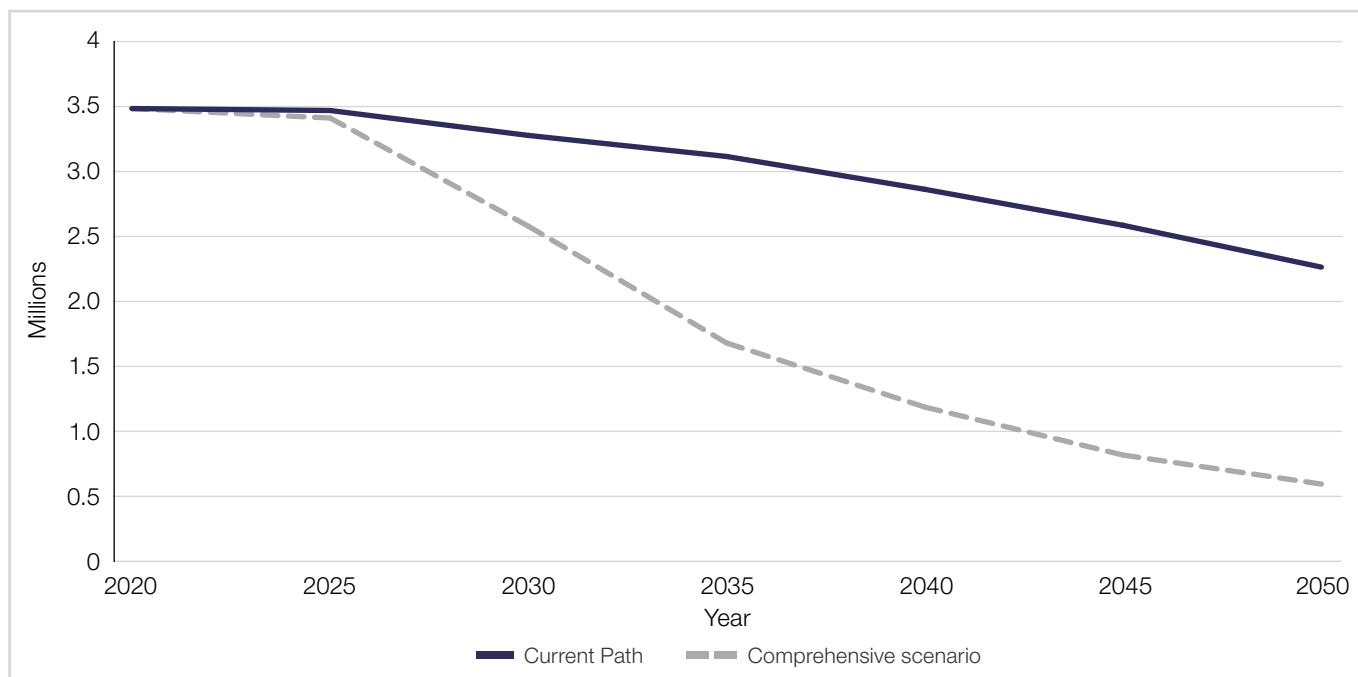
under five in the DRC has significantly dropped. In the comprehensive scenario, the number of malnourished children is 1.6 million fewer than the projected 2.2 million on the Current Path in 2050.

Figure 21: Food import dependence by 2050 in the comprehensive scenario and the Current Path



Source: Forecast in IFs version 7.54; historical data from FAO

Figure 22: Malnourished children by 2050 in the comprehensive scenario and the Current Path



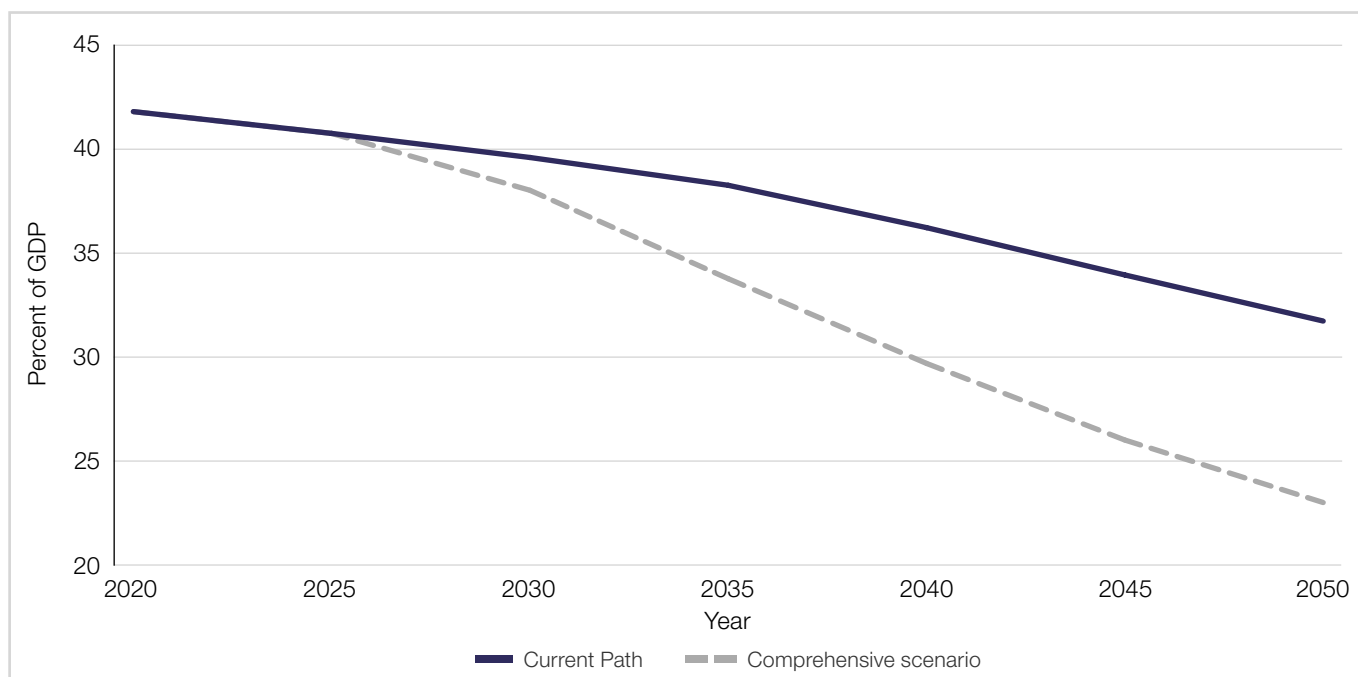
Source: Forecast in IFs version 7.54; historical data from FAO

This is equivalent to nearly 70% decrease relative to the Current Path. (Figure 22)

Finally, the size of the informal economy in the comprehensive scenario is 23% of GDP against

31.7% on the Current Path in 2050. This is equivalent to an 8.7 percentage points decline with reference to the Current Path. The scenario improves factors such as business regulation and

Figure 23: The size of informal economy by 2050 in the comprehensive scenario and Current Path



Source: Forecast in IFs v7.54

reduces corruption that are among the drivers of informality in a country.

The dramatic impact of the comprehensive scenario on the economy and human development is clear evidence of the benefits of a concerted intervention to remove the key binding constraints on inclusive growth and development in the DRC. The impacts are significantly larger than the mere sum of the outcomes of each intervention cluster because of the dynamic interactions between these clusters that lead to the cumulative growth process and shared prosperity.

For instance, good governance is necessary to increase domestic revenue. Increased domestic revenue along with good governance increase the capacity of the government to make a productive investment in infrastructure, education and health. Human capital, infrastructure development, and quality of government and institutions, in turn, foster economic transformation, increase the productive base of the economy and boost sustained and inclusive growth. In sum, the removal of one constraint on growth and development facilitates the elimination of another constraint (positive spillover effects).

Conclusion

This report has sought to paint the current development challenges faced by the DRC and the strategies to put the country on the path of inclusive sustainable growth and development. The analysis has revealed that the history of the DRC has been characterised by recurrent economic and political instability, and conflicts driven mainly by poor governance, systemic corruption and weak institutions.

The rent-seeking political, military and economic elites have been more preoccupied with squandering the resources for their personal enrichment instead of managing them for sustainable development that benefits the whole society. As a consequence, poverty is widespread; the current GDP per capita is 40% of its value at independence in 1960. In other words, the average Congolese has lost 60% of his or her income over the past 60 years.

Despite some signs of improvements since the appointment of the transition government in 2003, the country is still facing huge development challenges. The

DRC has not made progress in transforming its economy which is at the mercy of highly volatile global commodity markets. The analysis shows that the country will fail to achieve many of the 2030 SDGs as it failed to achieve any MDGs by 2015. Unemployment is massive and millions of Congolese continue to live in extreme poverty.

The Current Path analysis and the scenario simulations revealed that bad governance and weak institutions, infrastructure shortage, low stock and quality of human capital, difficult business environment, low agricultural productivity, and rapid population growth are some of the key factors that are holding back developmental progress of the country. Tackling these issues is crucial to set the country on a path of sustained growth and shared prosperity.

A minerals-led development pathway will do little to improve livelihoods in the DRC

Overall, the DRC's complex development challenges call for decisive actions by the government; the ruling elite should end their recurrent quarrels motivated by personal interests to focus on the general interest and give hope to millions of Congolese living in extreme poverty. Policymakers should focus on the priority policies outlined below.

Governance and institutions

Some resource-rich countries such as Norway, Canada and Australia, among others, have sustained high growth and improved their citizens' daily lives but the DRC has made very little of its huge natural endowments. Natural resource endowments can promote economic development in countries with good governance and strong institutions. These do not exist within the DRC and under current conditions, the pursuit of a minerals-led development pathway for the DRC will do little to improve the livelihoods of its general population.

The promotion of good governance and strong institutions should be at the centre of government actions. This will increase the country's ability to mobilise domestic revenues and hence, improve the government's capacity and the quality of spending. In other words, stronger institutions, particularly oversight and monitoring, are crucial for the DRC to harness fully

its immense natural wealth and to improve the living standard of the population. The current president has repeatedly declared his desire to tackle corruption and strengthen institutions, especially the judiciary system. His words must become concrete actions.

As a first step, the government must publish all new mining contracts and the audits of state-owned enterprises, including the details regarding its resource agreements with countries such as China. Parliament must be provided with detailed and full access to government spending including within the security agencies. The independence of the judiciary must be confirmed as a key resource to combat corruption.

Infrastructure

The pivotal role of infrastructure development in promoting inclusive growth is well documented. Infrastructure development is one of the required elements to foster inclusive growth and economic diversification in the DRC. The government should remedy the infrastructure deficit by first fixing and maintaining its existing infrastructure. This includes the full re-opening of the Congo River, as well as the provision of basic infrastructure such as roads and rail, electricity, safe water supply, and ICT infrastructure.

The coronavirus pandemic has shown the value of digitalisation; increasing the ICT infrastructure budget would help to build a more resilient economy. The DRC should focus on physical infrastructure as well as on modern technology to improve connectivity.

Human capital accumulation

Investment in human capital is one of the key drivers of long-run growth and a powerful way to reduce income inequality and poverty. To improve human capital stock

and develop the necessary skills for the job market in the country, the government should enhance the quality of education.

This will include continuing to roll out the free primary education programme along with the improvement in access to technical and vocational education, and higher education, especially in sciences and engineering to enhance the country's capabilities to absorb new knowledge and technologies. Investment in education should go hand-in-hand with the improvement in the quality of the health system and access to affordable healthcare.

Demographic policy

The rapid population growth in the DRC is constraining human and economic development. Policies aimed at improving female education, access and use of modern family planning methods can stagger the rapid population growth so that the Congolese can adequately reap the benefits of economic growth and reduce the prevalence of extreme poverty.

Agricultural productivity and food security

The DRC has the potential to be a food-secure country and end the widespread malnutrition. The government should increase land under cultivation across the country and invest in agriculture technologies not only to improve crop yields but also to make agriculture production more resilient to climate shocks. This should be accompanied by policies that ensure the functioning of the value chains such as the rehabilitation of the rural road networks that facilitate the flow of agricultural products from the farmers to the markets.

Economic transformation

A growth model driven mainly by the mining sector is not sustainable due to the volatility of the global commodity

Acknowledgement

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market. The sources of growth need to be diversified with a particular focus on the agricultural sector.

The starting point for the government is to properly address the poor business climate that impacts negatively on business profitability. The high cost of doing business in the country is compounded by the

unpredictability of the regulatory and legal environment. Improving the business environment will promote non-mining private investment, especially manufacturing FDI which can boost the agricultural and manufacturing sector, and hence, nurture the structural transformation of the economy through industrialisation.

Annexure

Current Path

This project used IFs version 7.54 with an updated IFsHist file dated October 2020. Amongst other updates, the IFsHist file included the IMF global growth forecasts that were released in October 2020, reflecting the IMF

growth forecast for 2020 and 2021 amidst the COVID-19 pandemic.

The following data amendments were made to the IFs Current Path forecast for the DRC in the form of a project data file:

Table A1: Project data

Series updated	Definition	Source
PopulationYouthDep%	Population of young people (<15) as percent of total	World population prospects
PopYouthBulgeBy15	Youth bulge	World population prospects
HealthMalarDthsper100000	Malaria deaths per 100 000	WHO World malaria reports, 2009–2019
IncBelow1D90c%WDI	Population below poverty line of \$1.90	World Bank estimates
Corruption	Level of corruption	Transparency international
Freedom	Civil and political freedom	Freedom house
AgProdCereals	Production of cereals	FAO
GovExpense%GDP	Government expense as % of GDP	Government financial statistics database, IMF
GovtDebt%GDP	Central government debt as % of GDP	World economic outlook database, IMF
RoadsTotalNetwork	Roads, total network, kilometres	CIA factbook 2019
WSSJMPWaterTotal%OtherImproved	Access to other improved water (%)	WHO/UNICEF JMP global database
WSSJMPWaterTotal%Piped	Access to piped water (%)	WHO/UNICEF JMP global database
WSSJMPSanitationTotal%Improved	Access to improved sanitation (%)	WHO/UNICEF JMP global database
RoadsPaved%	Roads paved	CIA factbook 2019
PolityDemoc	Polity project's measure of autocracy	Centre for Systemic Peace
PolityAutoc	Polity project's measure of democracy	Centre for Systemic Peace

Scenario interventions

All interventions are from 2024, interpolate to 2034 and then are maintained at that level until 2050 unless indicated otherwise.

Table A2: Improved governance scenario component

Interventions and parameters	Adjustment in IFs	Benchmark/Justification/Notes
Increase governance effectiveness (goveffectm)	Interpolate from 1 to 1.2	Between 2005 and 2010, Ethiopia increased government effectiveness score by more than 50%. On the Current Path, government effectiveness score increases from 0.9 in 2024 to 1.6 by 2050 (out of possible 5). The intervention brings it to 2.4 by 2050 which is slightly above low-income Africa but below the projected score for Rwanda, Malawi and Burkina Faso by 2050.
Reduce corruption (govcorruptm)	Interpolate from 1 to 1.2	The score for Tanzania increased by about 58% between 1998 and 2008. The score on government corruption index increases by 47% between 2024 and 2034 and about 50% relative to the Current Path by 2050, above the projected average for low-income Africa but on par with the projected score for Malawi by 2050.
Improve democracy (democm)	Interpolate from 1 to 1.1	Between 2012 and 2017, the score of Burkina Faso increased by 60%. The scenario accelerates democratisation. DRC's score on the Polity Index increases by nearly 15% between 2024 and 2034. DRC's score by 2050 is above the projected average for low-income Africa but on par with Burkina Faso.
Improve gender empowerment (gem)	Interpolate from 1 to 1.4	Zambia improved its gender empowerment score by nearly 57% between 1995 and 2009. DRC performs poorly in gender empowerment. Gender discrimination with respect to labour force participation, as well as with political representation is rampant in the country. Even with this aggressive intervention, the score of DRC increases by about 40% between 2024 and 2034, and remains far below the average for low-income Africa by 2050.
Improve governance security (govriskm)	Interpolate from 1 to 0.9	Government security index improves by 37.6% between 2024 and 2034, slightly above the projected average for low-income Africa but on par with Rwanda by 2050.
Reduce societal violence (conflict and terror) (svmulm)	Interpolate from 1 to 0.9	Conflicts have prevented the country from reaching its full potential in harnessing its natural wealth. Long-term peace is therefore necessary to harness fully its immense natural resource endowments.
Reduce the probability of State failure (internal war) (sfintlwaradd)	Interpolate from 0 to -0.2	The probability of state failure decreases by 60% between 2024 and 2050 but still remains above the projected average for low-income Africa.

Table A3: Basic infrastructure scenario component

Interventions and parameters	Adjustment in IFs	Benchmark/Justification/Notes
Increase investment in renewable energy (Eninvtm)	Interpolate from 1 to 1.2	From a very low base, renewable energy production doubled in Ethiopia between 2004 and 2011. From a very low base, renewable energy production in DRC increases by 68.7% between 2024 and 2034.
Increase access to electricity (Infraelecaccm) (Rural)	Interpolate from 1 to 1.5	Between 1994 and 2004, electricity access in rural area increased by about 46% in Nigeria. In this scenario component, access to electricity in rural areas increases from 2.8% of rural population in 2024 to 39% by 2050 against 24.3% on the Current Path. Despite this aggressive intervention, it remains far below the projected average of 60% for low-income Africa by 2050.
Increase access to electricity (Infraelecaccm) (Urban)	Interpolate from 1 to 1.15	Between 2003 and 2013, Gambia increased electricity access by about 33% in urban area. Access to electricity in urban areas increases from 48.3% in 2024 to about 91% by 2050 against 78.5% on the Current Path. It is slightly above the projected 88% for low-income countries in 2050 but on par with Rwanda.
Increase roads paved length (Infraroadpavedpcntm)	Interpolate from 1 to 1.1	Between 2004 and 2008, Burkina Faso increased its roads paved length by 28%. In this scenario, the paved roads network increases from 5.2% of total roads network in 2024 to about 36% by 2050, below the projected average for low-income Africa (48%) by 2050.
Increase access to fixed broadband internet (ICT) (Ictbroadm)	Interpolate from 1 to 1.4	Fixed broadband subscriptions per 100 people increased by about 160% between 2011 and 2016 in Uganda. Fixed broadband internet subscriptions in the DRC increase from three subscriptions per 100 people in 2024 to 41.6 subscriptions per 100 people by 2050, on par with Burkina Faso.
Increase access to mobile broadband (ICT) (Ictbroadmobilm)	Interpolate from 1 to 1.4	In Burkina Faso, mobile broadband internet subscriptions per 100 people increased from nine to 29 subscriptions per 100 people between 2013 and 2017 (over 200% increase). Mobile broadband internet increases from 25.8 subscriptions per 100 people in 2024 to 142 subscriptions per 100 people in 2050, in line with the projected average rate for low-income Africa by 2050.
Increase access to safe Water (Watsafem)	Interpolate from 1 to 1.2	Access to safe water in Ethiopia increased by about 69 % between 2005 and 2015. This intervention increases access to improved water by about 30% between 2024 and 2034 and reaches 97.5% of the population by 2050, slightly above low-income Africa (95%) but on par with Burundi and Ethiopia.
Increase access to improved sanitation (sanitationm)	Interpolate from 1 to 1.5	From 2000 to 2015, access to improved sanitation increased from 9.5% to 22.5% (more than double) in Burkina Faso. This intervention increases access to improved sanitation from 23.5% in 2024 to about 66% by 2050 against 46.5% on the Current Path by 2050. Despite this aggressive intervention, it remains below the projected average for low-income Africa by 2050.

Table A4: Agriculture intervention scenario component

Interventions and parameters	Adjustment in IFs	Benchmark/Justification/Notes
Increase crop yields (ylm)	Interpolate from 1 to 1.25	Between 2011 and 2016, Mozambique and Sierra Leone increased average yields by more than 50%. Crop yields in the DRC increase by 50% between 2024 and 2050 to reach 5.4 tons/hectare, above the average for low-income Africa but far below the projected crop yields for Rwanda and Malawi by 2050.
Increase crop land (ldcropm)	Interpolate from 1 to 1.2	Burkina Faso increased crop land by 44% between 1995 and 2005. This intervention increases crop land by about 2.4 million hectares between 2024 and 2050.
Increase land area equipped for irrigation (Landirareaequipm)	Interpolate from 1 to 1.2	Between 2001 and 2011, land area equipped for irrigation increased by more than 100% in Burkina Faso. Land area equipped for irrigation in the DRC increases by 27 000 hectares relative to the Current Path by 2050.
Reduce agriculture loss from producer to consumer (aglosstransm)	Interpolate from 1 to 0.8	The poor transport infrastructure in DRC causes huge losses when transporting agricultural production from producer to the consumer. This intervention reduces agriculture loss along the value chain by about 13% between 2024 and 2050.
Increase calories per capita (clpcm)	Interpolate from 1 to 1.15	Calorie per capita increased in Rwanda between 1997 and 2002 by 23%. Calories per capita in the DRC increase by 23% between 2024 and 2034 to reach 2 502 kcal in 2050, slightly above the projected average for low-income Africa but below Malawi and Guinea. It is projected to be 2 243 kcal on the Current Path in 2050.

Table A5: Family planning and human capital scenario component

Interventions and parameters	Adjustment in IFs	Benchmark/Justification/Notes
Increase contraceptive use (contrusm)	Interpolate from 1 to 1.35	Between 2000 and 2005, the contraceptive use rate doubled in Ethiopia. This intervention increases modern contraception use from 25.7% in 2024 to 72% of fertile women in 2050 against 51.6% on the Current Path in the same year. This is above the projected average for low-income Africa but below the level of Ethiopia (78% by 2050).
Reduce malaria prevalence (hlmalariaprevm)	Interpolate from 1 to 0.9	Between 2005 and 2015, malaria prevalence in Ethiopia declined by about 70%. This intervention brings malaria prevalence in the DRC in line with the projected values for Ethiopia and Malawi by 2050.
Increase access to clean cooking (improved cookstoves) (cookstovesadd)	Interpolate to 0.7	This intervention brings it in line with the projected average for low-income globally by 2050.

Reduce child (under 5) mortality (hlmortcdchldm) (Total)	Interpolate from 1 to 0.9	Ethiopia reduced child mortality by 40% between 2006 and 2016. In this scenario, child mortality decreases by 33% between 2024 and 2034.
Increase primary education survival rate (edprisurm) (Total)	Interpolate from 1 to 1.1	Gambia increased primary education survival rate by about 22% between 2005 and 2015. Primary education survival rate in the DRC increases from 53.8% in 2024 to 84% by 2050, on par with the projected average for its peers in the same year.
Improve the quality of primary education (edqualpriallm)	Interpolate from 1 to 1.1	Chad improved its score by 15% between 1995 and 2005. The score of the DRC improves by 15.3% between 2024 and 2034, on par with low-income Africa by 2050.
Increase lower secondary graduation (edseclowrgram) (Total)	Interpolate from 1 to 1.2	Guinea increased its lower secondary completion rate by 32% between 2015 and 2019. Lower secondary completion (graduation) rate increases by 32.5% between 2024 and 2034, on par with its peers by 2050.
Increase upper secondary graduation (edsecupprgram) (Total)	Interpolate from 1 to 1.2	Uganda increased its upper secondary education graduation rate by about 29% between 2015 and 2019. This intervention increases the DRC's upper secondary education graduation rate by 40% between 2024 and 2034, in line with low-income Africa by 2050.
Increase vocational training in upper secondary school (Edsecupprvocadd)	Interpolate to 5	Participation rate in vocational training in Niger increased from 15.34% in 2005 to 37.18% in 2015 (more than double). This intervention puts the participation rate in vocational training in the DRC at 36.6% by 2050, slightly above the average for low-income Africa but below the level of Niger.
Improve the quality of secondary education (edqualsecallm)	Interpolate from 1 to 1.1	Burundi's score increased by about 10% between 2015 and 2019. The score of the DRC improves roughly by 15% between 2024 and 2034, in line with the projected average for low-income Africa by 2050.
Increase tertiary intake rate (edterintm)	Interpolate from 1 to 1.4	From a very low base, tertiary intake in Burundi increased by nearly 90% between 2010 and 2015. In this scenario component, tertiary intake in the DRC increases by 43% between 2024 and 2034.
Increase graduation rate in tertiary education (Edtersciेशradd) (science & engineering)	Interpolate to 2	From a very low base, the share of science and engineering students in tertiary graduates in Sierra Leone increased by more than 80% between 2015 and 2019. The share of science and engineering students in tertiary graduates in DRC increases from 11% in 2024 to 19% by 2050, on par with the projected average for low-income Africa in the same year.

Table A6: Economic transformation scenario component

Interventions and parameters	Adjustment in IFs	Benchmark/Justification/Notes
Improve business regulation (govbusregindm)	Interpolate from 1 to 0.8	Between 2014 and 2018, regulatory quality in Ethiopia improved by more than 50%. The score for regulatory quality in the DRC increases by about 58% between 2024 and 2050, in line with the average for low-income countries.
Improve economic freedom (econfreem)	Interpolate from 1 to 1.05	Rwanda improved its score for economic freedom by about 23% between 2000 and 2010. In this scenario, the DRC's score improves by about 14% between 2024 and 2034 to reach 6.7 (out of possible 10) by 2050, slightly above the average for low-income Africa but far below the level of Rwanda.
Improve domestic investment in the economy (lnvm)	Interpolate from 1 to 1.2	Domestic investment as a share of GDP in the DRC is lower than in a country like Uganda, Rwanda and Ethiopia. This intervention increases domestic investment (% of GDP) by 22% between 2024 and 2034 to reach 21% of GDP by 2050, below the average for low-income Africa.
Improve FDI inflow	Interpolate from 1 to 1.2 Starting from 2025	The current level of FDI flows to the DRC is far below the country's potential. FDI flows to Mozambique increased from 4% of GDP to 18% between 2007 and 2017 (14 percentage points). This intervention puts FDI flows to the DRC at 5.5% of GDP by 2050, on par with Uganda and Malawi.
Increase manufacturing export (xsm)	Interpolate from 1 to 1.05	Manufacturing exports as a share of GDP increased by 15% in Ethiopia between 2015 and 2019. Manufacturing exports as a share of GDP increases by about 13% compared to the Current Path in 2050.
Incentivise R&D (gdsm)	Interpolate from 1 to 1.2	Government expenditure on R&D activities is almost non-existent in the DRC. This invention increases government expenditure on R&D by 66% compared to the Current Path in 2050. Despite this intervention, it remains far below the projected average for low-income Africa.

Notes

- 1 The demographic figures in the DRC are not very solid; the last census was organised in 1984.
- 2 The Sentry, Country briefs: Democratic Republic of Congo, July 2015, https://thesentry.org/wp-content/uploads/2015/07/19103553/Country-Brief_DRC.pdf.
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- 12 G Prunier, *Africa's world war: Congo, the Rwandan Genocide, and the making of a continental catastrophe*. Oxford: Oxford University Press, 2009.
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- 14 The breakdown of the Katanga province into several smaller provinces also aimed at stripping the former Katanga governor and then-presidential hopeful, Moïse Katumbi, of a potential electoral base. DP Zongwe, Decentralization in the Democratic Republic of the Congo, *Autonomy Arrangements in the World*, March 2019, 10–14, DOI: 10.13140/RG.2.2.20028.08321.
- 15 K Kaiser and S Wolters, Fragile states, elites, and rents in the Democratic Republic of Congo (DRC), in D North et al. (eds.), *In the shadow of violence: politics, economics, and the problems of development*, Cambridge: Cambridge University Press, 2012.
- 16 Ibid.
- 17 DP Zongwe, Decentralization in the Democratic Republic of the Congo, *Autonomy Arrangements in the World*, March 2019, DOI: 10.13140/RG.2.2.20028.08321.
- 18 Ibid.
- 19 Transparency International, Overview of corruption and anti-corruption in the DRC, 2010, www.u4.no/publications/overview-of-corruption-and-anti-corruption-in-the-drc.
- 20 See for example: B Akitoby and M Cinyabuguma, Sources of growth in the Democratic Republic of the Congo: a cointegration approach, IMF Working Paper WP/04/114, July 2004; and International Monetary Fund, Democratic Republic of the Congo: staff-monitored program and request for disbursement under the rapid credit facility, Press Release, Staff Report and Statement by the Executive Director for the Democratic Republic of the Congo, 23 December 2019, www.imf.org/en/Publications/CR/Issues/2019/12/23/Democratic-Republic-of-the-Congo-Staff-Monitored-Program-and-Request-for-Disbursement-Under-48913.
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- 22 SA Matti, The Democratic Republic of Congo: corruption, patronage and competitive authoritarianism in the DRC, *Africa Today*, 56:4, Summer 2010, 42–61.
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