



Chad

Geographic Futures

Alize le Roux

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In this entry, we first describe the Current Path forecast for [Chad] as it is expected to unfold to 2043, the end of the third ten-year implementation plan of the African Union's Agenda 2063 long-term vision for Africa. The Current Path in the [International Futures \(IFs\) forecasting model](#) initialises from country-level data that is drawn from a range of data providers. We prioritise data from national sources.

The Current Path forecast is divided into summaries on demographics, economics, poverty, health/WaSH and climate change/energy. A second section then presents a single positive scenario for potential improvements in stability, demographics, health/WaSH, agriculture, education, manufacturing/transfers, leapfrogging, free trade, financial flows, infrastructure, governance and the impact of various scenarios on carbon emissions. With the individual impact of these sectors and dimensions having been considered, a final section presents the impact of the Combined Agenda 2063 scenario.

We generally review the impact of each scenario and the Combined Agenda 2063 scenario on gross domestic product (GDP) per person and extreme poverty except for Health/WaSH that uses life expectancy and infant mortality.

The information is presented graphically and supported by brief interpretive text.

All US\$ numbers are in 2017 values.

Summary

- Current Path forecast
 - The Republic of Chad is a landlocked former French colony that borders Libya, Sudan, Central African Republic, Cameroon, Nigeria and Niger. It is the sixth largest country in Africa and home of Lake Chad, the most significant water body in the Sahel. Chad is a member of the Community of Sahel-Saharan States (CEN-SAD) and the Economic Community of Central African States (ECCAS). [Jump to forecast: Current Path](#)
 - In 2019, Chad's population was estimated at 16.2 million and in the Current Path forecast it is expected to more than double reaching 34.2 million people by 2043. [Jump to Demographics: Current Path](#)
 - In the Current Path forecast, the country is expected to reach a GDP per capita of US\$2 726 by 2043. Although the forecast for economic growth is optimistic, it will not keep up with projected population growth and the gap between Chad and low-income Africa will grow to US\$1 064 by 2043. [Jump to Economics: Current Path](#)
 - In 2019, 6 million people (37.1% of the population) lived below the US\$1.90 per person per day extreme poverty threshold. This is 10.7 percentage points lower than the average for low-income countries in Africa. By 2043, Chad's poverty rate is projected to decline to 27.5%, although the absolute number of people in extreme poverty will increase to 9.4 million people. [Jump to Poverty: Current Path](#)
 - Chad makes a negligible contribution to global CO₂ emissions with about 300 000 tons of carbon in 2019. In the Current Path forecast, it is projected that Chad's emissions will increase to only 7.8 million tons of carbon by 2043. [Jump to Carbon emissions/Energy: Current Path](#)
- Sectoral Scenarios
 - In the Stability scenario, the security index improves from an index of 0.64 (comparable to the rest of low-income Africa) in 2019 to 0.95 by 2043 (slightly below the forecast for low-income Africa). [Jump to Stability scenario](#)
 - In the Demographic scenario, Chad's median age only gets to 19.4 years old by 2043. As such, the country's demographic dividend will only be at a ratio of 1.3, which is far below the 1.7 threshold regarded as the optimum ratio for a country to experience rapid economic growth. [Jump to Demographics scenario](#)
 - By 2043, life expectancy in the Health/WaSH scenario is forecast to rise to 67.6 years compared to 66.6 in the Current Path forecast. Even with the improvement to life expectancy, Chad is forecast to lag behind the average for low-income African countries. [Jump to Health/WaSH scenario](#)
 - In the Agriculture scenario, yields improve from 1.2 metric tons per hectare in 2019 to 2.9 in 2043. This is 1.3 tons per hectare more compared to the Current Path forecast of 1.6 metric tons in 2043. [Jump to Agriculture scenario](#)
 - Chad has one of the lowest educational attainment levels in the world. In the education scenario, by 2043, Chad's mean years of education rise to 5 years against 4.5 years in the Current Path forecast. [Jump to Education scenario](#)
 - Chad's manufacturing industry is underdeveloped, and the country generally does not have a strong mechanism for social programmes. In the Manufacturing/Transfer scenario, transfers to unskilled workers increase from US\$2 billion in the Current Path forecast to US\$3.5 billion in 2043, a difference of US\$1.5 billion. [Jump to Manufacturing/Transfers scenario](#)
 - In the Leapfrogging scenario, by 2043, Chad's fixed broadband subscriptions double to 49.8 per 100 people, up from 24.6 in the Current Path forecast, placing Chad above the average for Africa and low-income African countries by 2043. [Jump to Leapfrogging scenario](#)
 - By 2043, the GDP per capita is expected to increase to US\$2 959 in the Free Trade scenario, compared to US\$2 726 in the Current Path forecast, an increase of US\$233 per capita. The GDP per capita for Chad is expected to continue to lag behind its income peers, with a growing per capita income gap from 2030 onwards. [Jump to Free Trade scenario](#)

- In the Financial Flows scenario, by 2033, foreign aid will account for nearly 8% of GDP compared to nearly 7% in the Current Path forecast. In the foreseeable future, aid is projected to slightly decline, and by 2043, foreign aid to Chad will constitute 6.5% of GDP compared to 5.8% in the Current Path forecast. [Jump to Financial Flows scenario](#)
- Chad has a huge infrastructure deficit. In the Infrastructure scenario, the per cent of rural population within a 2-kilometre access from an all-weather road increases to 24.5%, only 0.6 percentage points above the Current Path forecast in 2043. [Jump to Infrastructure scenario](#)
- In the Governance scenario, the government effectiveness index improves from 1 in 2019 to 1.66 by 2043. This is an improvement over the Current Path forecast that is forecast to be 1.45 by 2043. [Jump to Governance scenario](#)
- Chad's carbon emissions are projected to increase most in the Agriculture scenario, emitting an additional 9.5 million tons of carbon by 2043 compared to 2019, and 2 million tons of carbon more than the Current Path forecast for 2043. [Jump to Impact of scenarios on carbon emissions](#)
- Combined Agenda 2063 scenario
 - In the Agenda 2063 scenario, the size of the economy is US\$49.4 billion larger in 2043 compared to the Current Path forecast. In the Combined Agenda 2063 scenario, the economy grows to US\$92.8 billion by 2043, compared to US\$43.3 billion in the Current Path forecast. [Jump to Combined Agenda 2063 scenario](#)

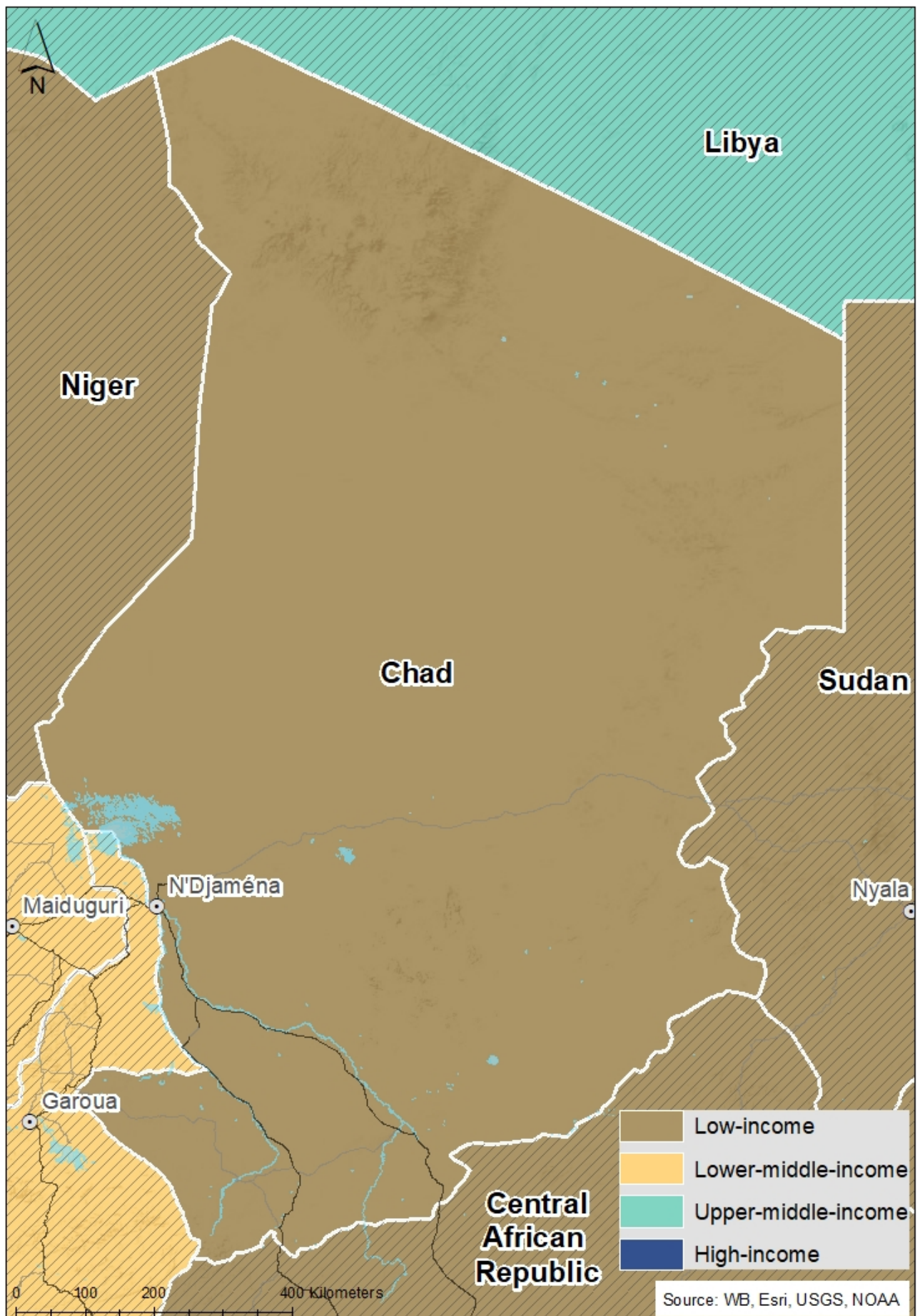
Chad: Current Path

- Chad: Current Path forecast
- Demographics: Current Path
- Economics: Current Path
- Poverty: Current Path
- Carbon Emissions/Energy: Current Path



Chad: Current Path forecast

Chart 1: Political map of Chad



This page provides an overview of the key characteristics of [Chad] along its likely (or Current Path) development trajectory. The Current Path forecast from the International Futures forecasting (IFs) platform is a dynamic scenario that imitates the continuation of current policies and environmental conditions. The Current Path is therefore in congruence with historical patterns and produces a series of dynamic forecasts endogenised in relationships across crucial global systems. We use 2019 as a standard reference year and the forecasts generally extend to 2043 to coincide with the end of the third ten-year implementation plan of the African Union's Agenda 2063 long-term development vision.

The Republic of Chad is a landlocked former French colony that borders Libya, Sudan, Central African Republic (CAR), Cameroon, Nigeria and Niger. It is the sixth largest country in Africa by land area at approximately 1 284 000 km², and it is a member of the Community of Sahel-Saharan States (CEN-SAD) and the Economic Community of Central African States (ECCAS).

Chad is home to Lake Chad, the most significant water body in the Sahel. It provides freshwater and sustains the livelihood of millions of people across the Chad basin. Cycles of drought, land degradation and a shifting climate have resulted in large numbers of herdsman migrating southwards, encroaching on settlements and farmlands, sparking farmer-herder conflicts, particularly in the south of the country. [1] The conflict between herdsman and farmers has spread in neighbouring Nigeria as well and has become the largest source of such conflict deaths, even surpassing fatalities from Boko Haram. [2]

Politically, Chad endured three decades of civil war after independence (1965–1975 and 1979–1990) and has seen many other rebellions and attacks since the 1990s. Most recently, the Lake Chad region has suffered multiple attacks by the terrorist group Boko Haram. [3]

French and Arabic are the official languages (though there are over 120 different languages and dialects) and Islam is the predominant religion. The capital city is N'Djamena, one of the warmest large cities in the world. [4]

Rich in gold and uranium, Chad also became an oil-producing nation in 2003, with the completion of a US\$4 billion pipeline linking its oilfields to terminals on the Atlantic coast through neighbouring Cameroon. [5]

Despite its resources, Chad falls within the top five countries with the lowest Human Development Index (HDI) and remains one of the poorest countries with the fourth youngest population in the world (a median age of approximately 16.5 years) after Niger, Somalia and Mali.



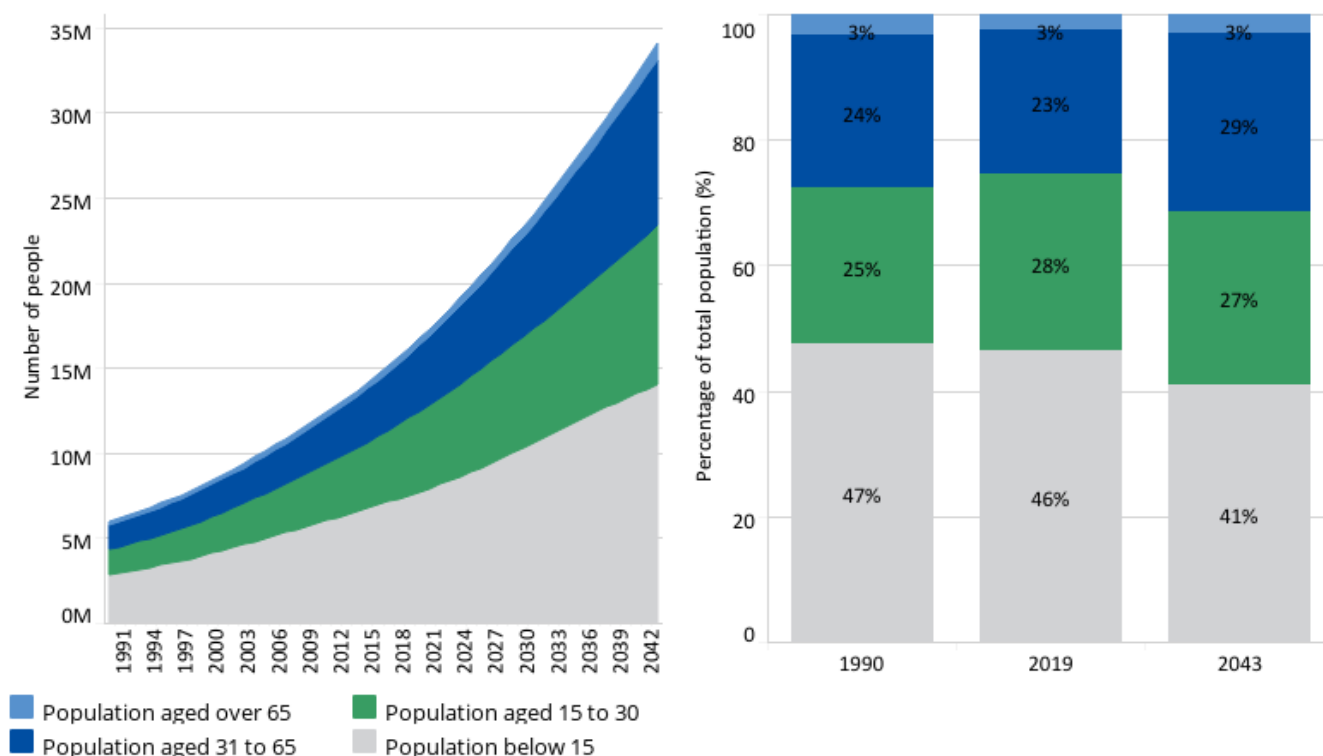
Demographics: Current Path

Chart 2: Population structure in CP, 1990–2043

By cohort and % of population



Chad



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate and World Development Indicators population data

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In 2019, Chad's population was estimated at 16.2 million and in the Current Path forecast is expected to more than double, reaching 34.2 million people by 2043. This represents 18 million more people over the next 24 years. As a result of ongoing conflict in the region, Chad is reported to host around 450 000 refugees from neighbouring Sudan, CAR and Nigeria, who represent approximately 4% of the country's total population. [6]

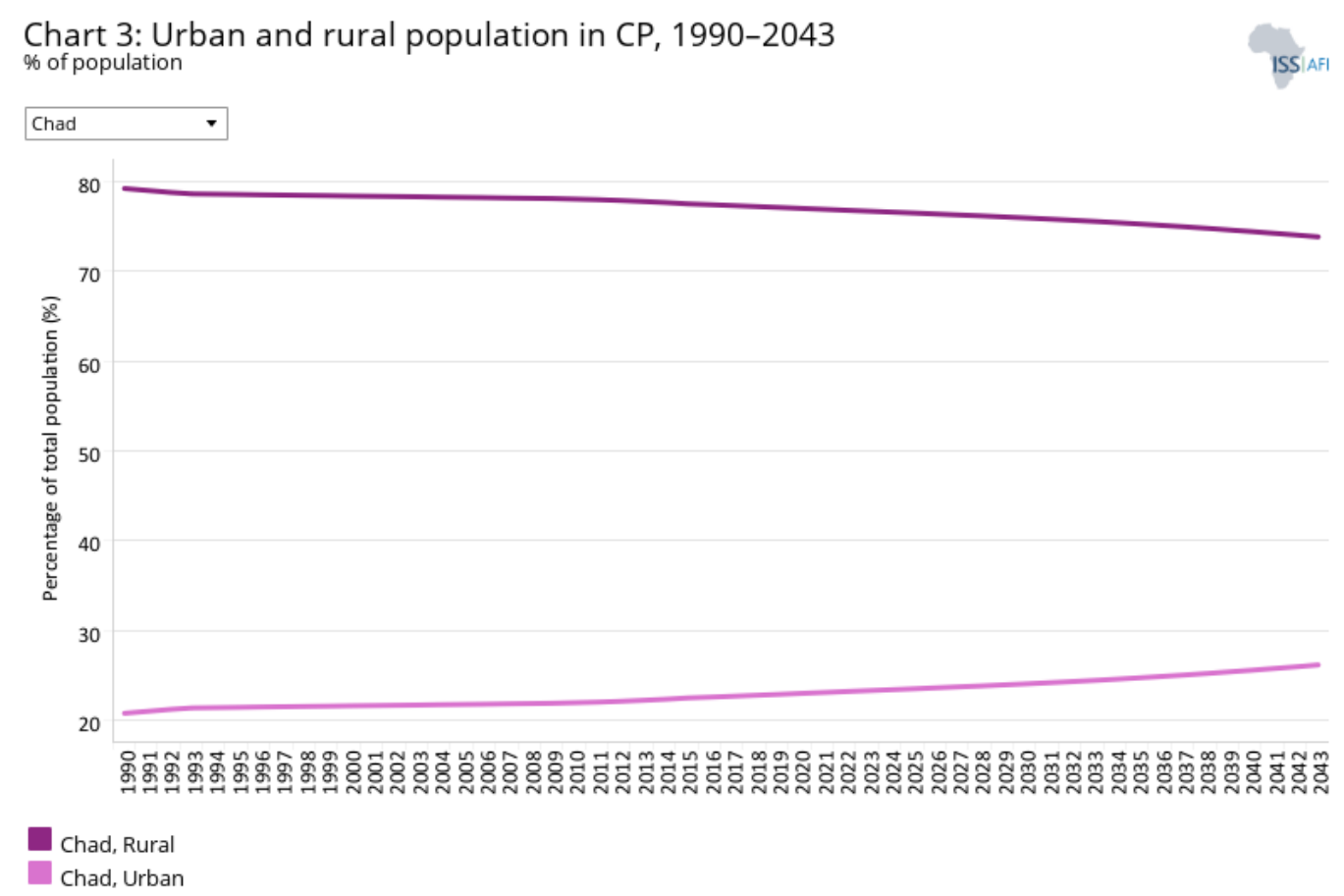
The total fertility rate was 5.8 births per woman in 2019, placing Chad among the highest globally. In 2019, life expectancy at birth in Chad was 59.4 years, 6.4 years below the average for African countries. By 2043, in the Current Path forecast, it is expected to reach about 66.6 years, roughly 5.5 years below the African average. As a result of the relatively high fertility rates and low life expectancy levels, the region has a very youthful population.

With a median age of about 16.5 years in 2019, according to IFs, Chad is the fourth youngest country globally and its median age only gets to 18 years around 2034, and by 2043, the country will only have aged by one year making it the second youngest country in the world. As a result of this youthful age structure, Chad's relatively small working-age population struggles to support the large dependant youthful population.

The dependency ratio quantifies this relationship and is calculated as the number of children (15 years and below) and the elderly (65 and over) relative to the working-age population (15 to 64). The average dependency ratio for Chad in 2019 was 0.96. This means that on average there are 96 dependant persons for every 100 people of working age. For Chad, the large

majority of the dependant population are children under 15 years. For context, the global and African dependency ratios are about 0.53 and 0.79 respectively, meaning that there are 43 and 17 additional dependants per 100 workers in Chad relative to the global and African averages. Although the average dependency ratio is forecast to decline through the years, it will still be high and only reach 0.78 in 2043.

In the absence of economic opportunities, the large youthful population poses a threat to social stability. Additionally, this age structure constrains economic growth because the majority are not of working-age and are therefore dependent on the small working-age population tasked with providing basic needs. As such, the prospects for a demographic dividend (the economic growth that accrues from a large working-age population and a small dependant population) is unlikely within the next couple of decades.

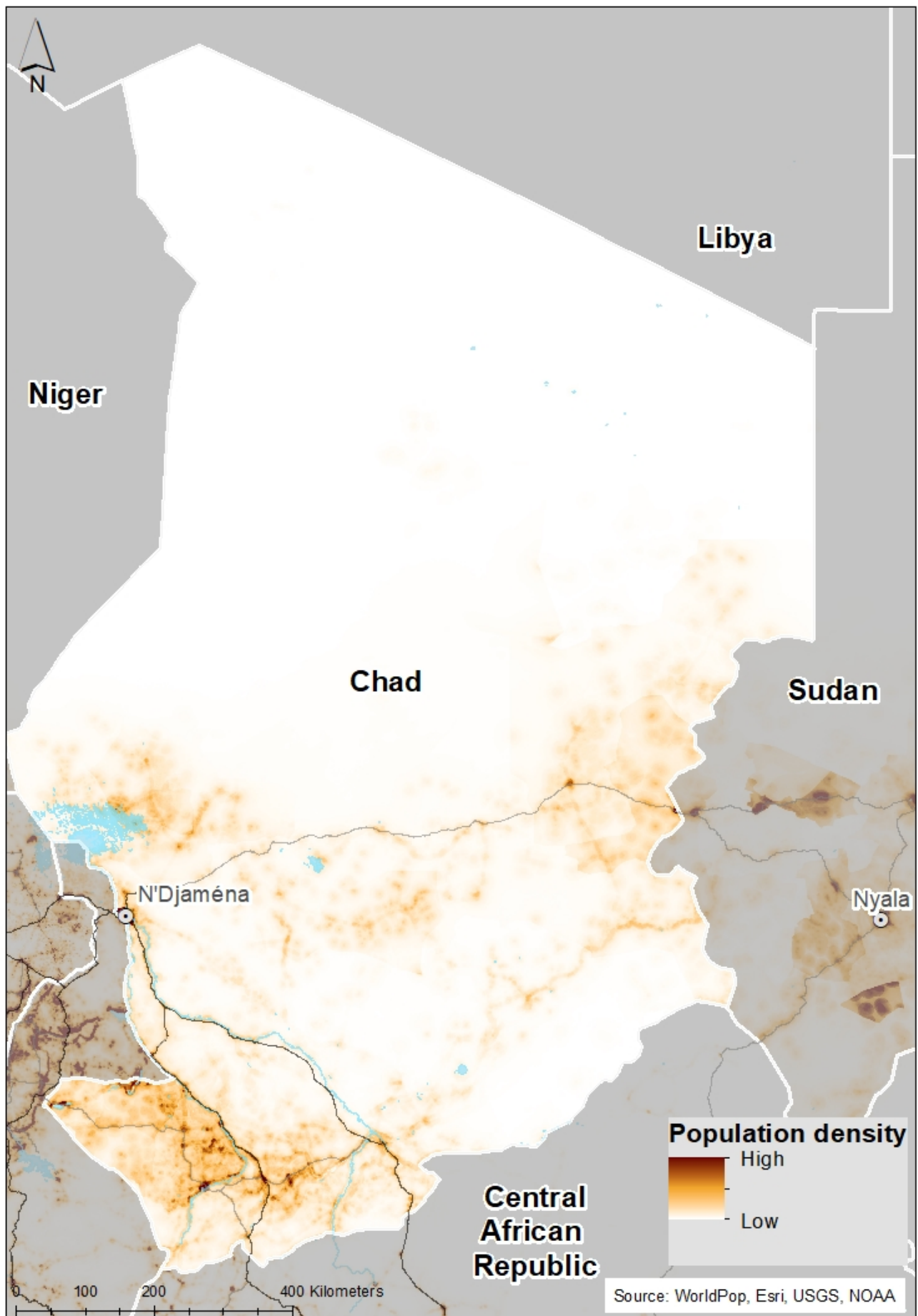


Chad's population is largely rural at about 77.1% in 2019. In the forecast horizon, the rural population is only expected to reduce by 3.3 percentage points to reach 73.8% by 2043. This means that urbanisation also only marginally increases from about 22.9% in 2019 to 26.2% by 2043. The capital city N'Djamena is one of the few urban areas in Chad. [7]

Low life expectancy, low levels of education (expected years of schooling at birth and mean years of schooling) and low standards of life all contribute to the stagnation of socio-economic growth within the country. The system is in many ways self-generating with the prevailing circumstances.

Additionally, limited supply of energy, infrastructure deficit, limited skills, a stringent business regulatory system and poor access to finance impede the productivity potential of Chad's urban areas. [8]

Chart 4: Population density map for 2019

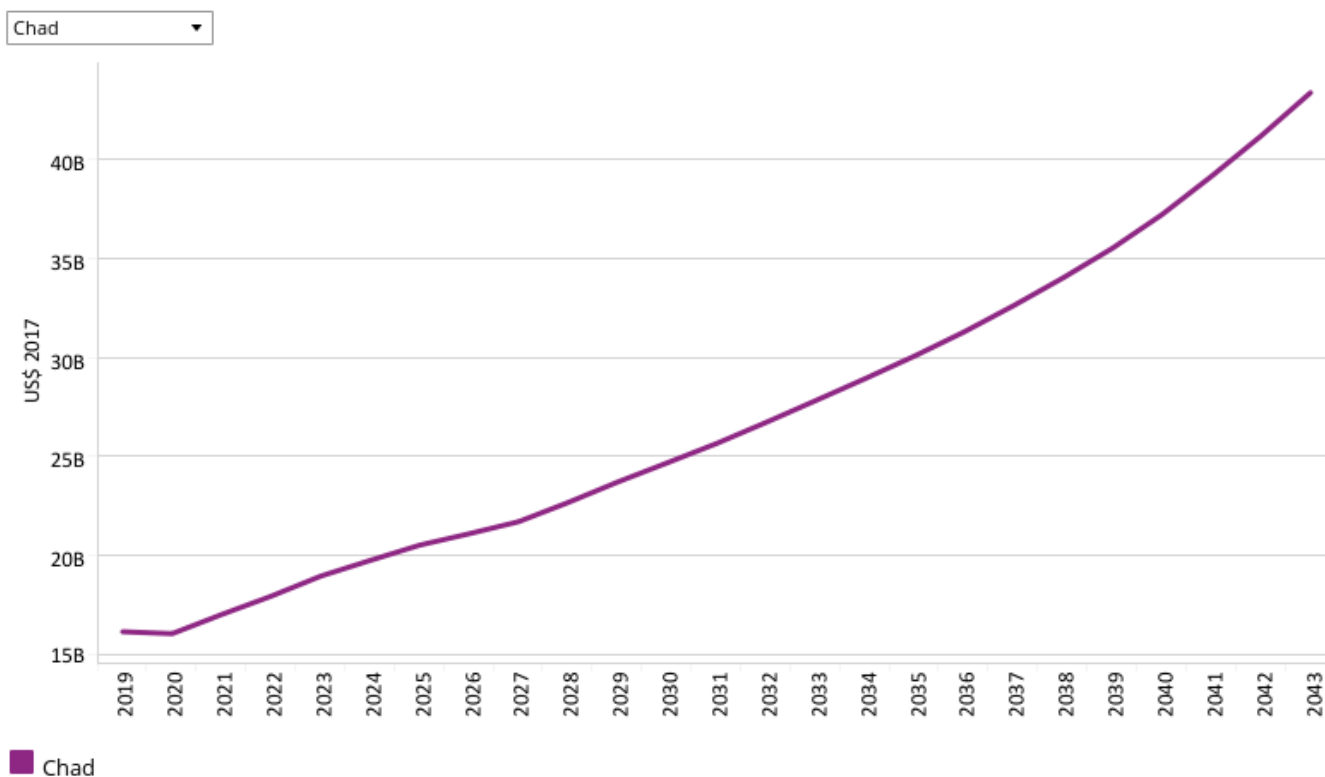


The population distribution of Chad is closely linked to its physical geography and climate. The harsh dry climate in the north is characterised by very low population densities and few inhabitants, while the southern regions with distinct rainfall seasons, forests and perennial rivers are home to the vast majority of the population. The highest population densities are located in the Logone Occidental Region and the capital of N'Djamena. [x]



Economics: Current Path

Chart 5: GDP in CP, 1990–2043
Market exchange rates



Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

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Chad joined the ranks of oil-producing countries in 2003 and has been dependent on oil since. The country's economy has been negatively impacted in the last few years due to a decline in world oil prices, although things have been improving since 2016. [9]

Chad's economic growth has been slow; apart from challenges related to the slump in oil prices, its economy generally suffers as a result of its geographical remoteness, ongoing conflict and insecurity in the region, lack of investment in infrastructure and a harsh climate.

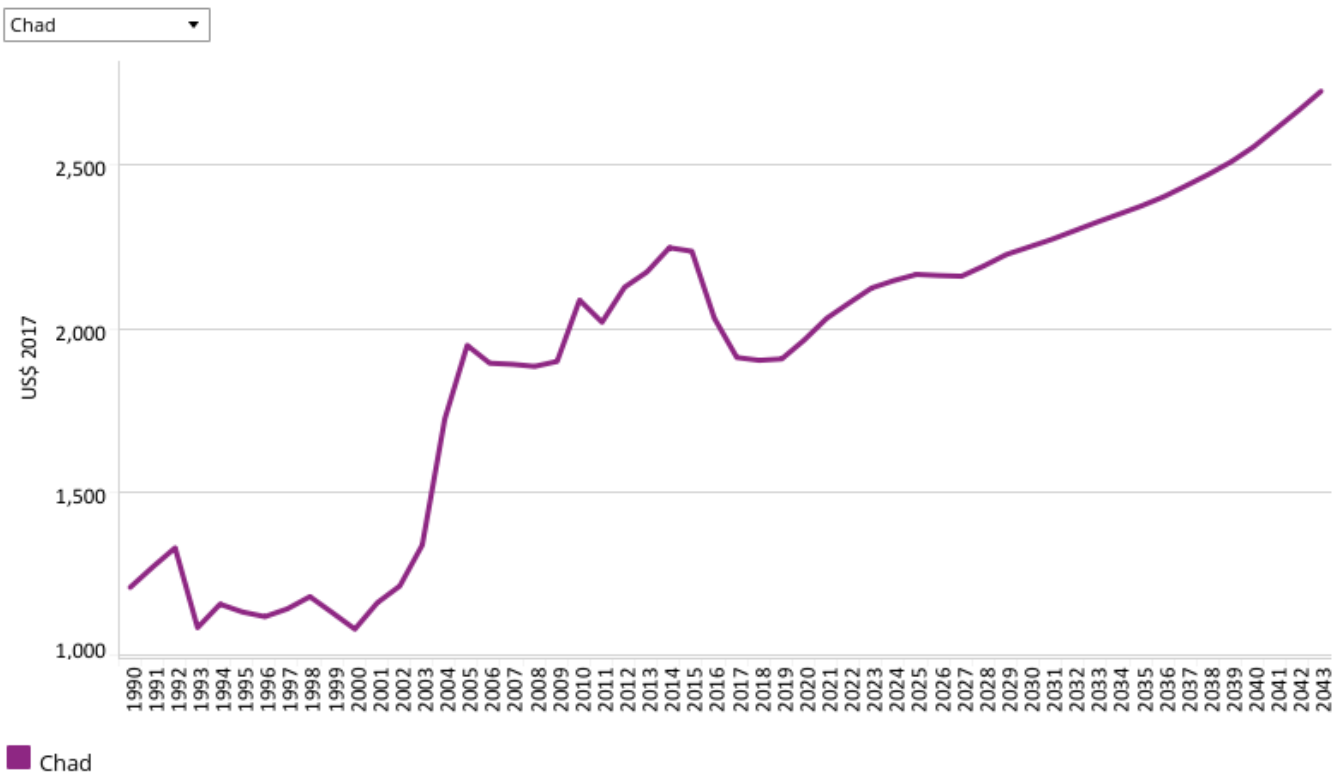
In 2018, Chad restructured its oil-collateralised loan with the Glencore petroleum company. This agreement was expected to reduce the public debt-to-GDP ratio from 51.9% in 2017 to 41.2% in 2020. However, the risk of external debt still remains high in the country. [10]

In 2019, the size of Chad's economy was just over US\$16 billion, and by 2043, it is forecast to reach only US\$43.4 billion. In the Current Path forecast, the average annual growth rate between 2019 and 2043 is expected to be around 4%.

Oil is likely to remain a key driver of economic growth for the near-term future in Chad. However, this means that the country remains vulnerable to oil price volatility, insecurity and the negative impacts of climate change. Investments in key sectors such as education, health and agriculture are urgently needed to promote diversity in the economy and mitigate

these risks. [11]

Chart 6: GDP per capita in CP, 1990–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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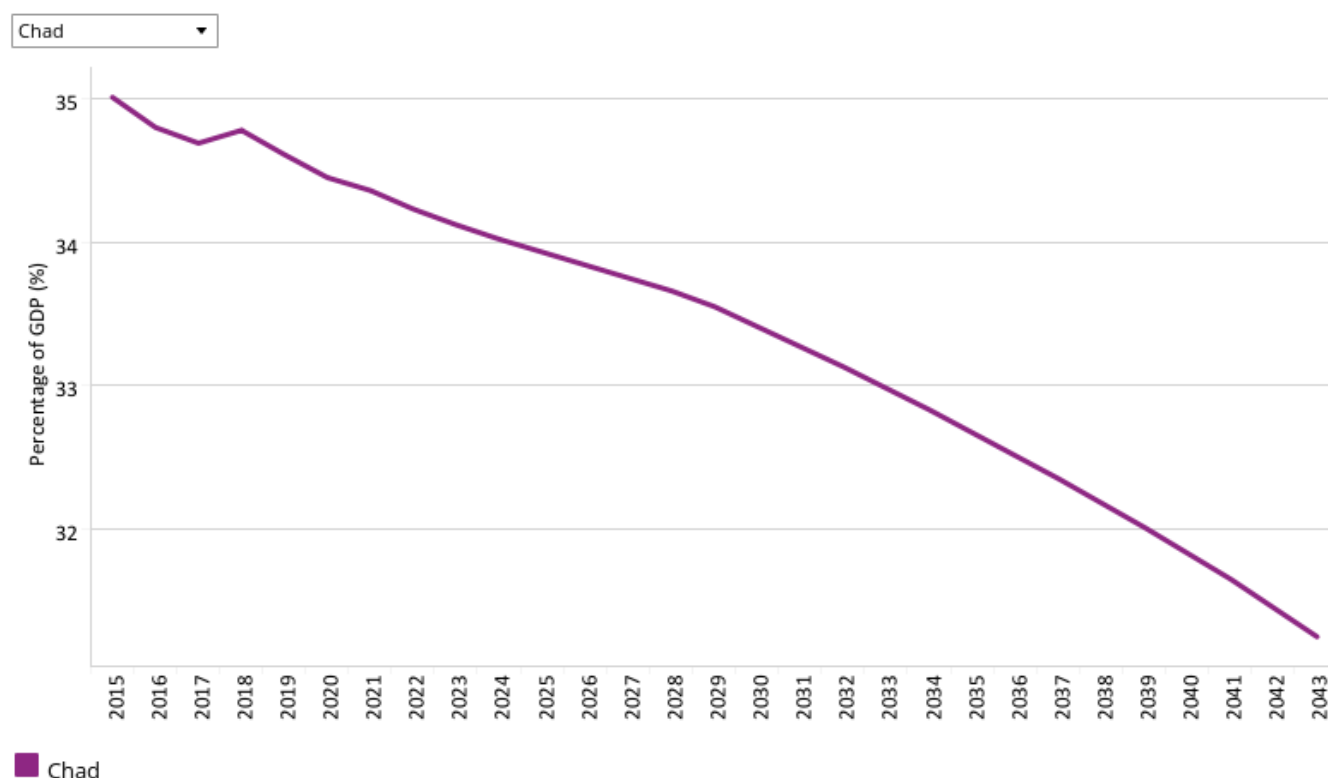
Although many of the charts in the sectoral scenarios also include GDP per capita, this overview is an essential point of departure for interpreting the general economic outlook of Chad.

In 1990, Chad placed tenth among its low-income African peers in GDP per capita. The country has improved this position, ranking seventh in 2019 with a value of US\$1 908. This is US\$248 above the average for its income peers.

In the Current Path forecast, the country is expected to reach a GDP per capita of US\$2 726 (Chart 6) by 2043. Chad's economy is growing much slower compared to other low-income countries in Africa and will drop to 15th position by 2043. In 2019, Chad's per capita income was US\$248 higher compared to the average for its low-income peers.

Although the forecast for economic growth is optimistic, it will not keep up with projected population growth, and by 2030, the average for low-income countries would surpass that of Chad. By 2043, Chad's per capita income is forecast to be US\$1 064 below the average for low-income Africa.

Chart 7: Informal sector value in CP, 2015–2043
% of GDP



Source: IFs 7.63 initialising from UN Economic Commission for Europe [2008]; Elgin and Oztunali [2012]; Schneider and Enste [2012]

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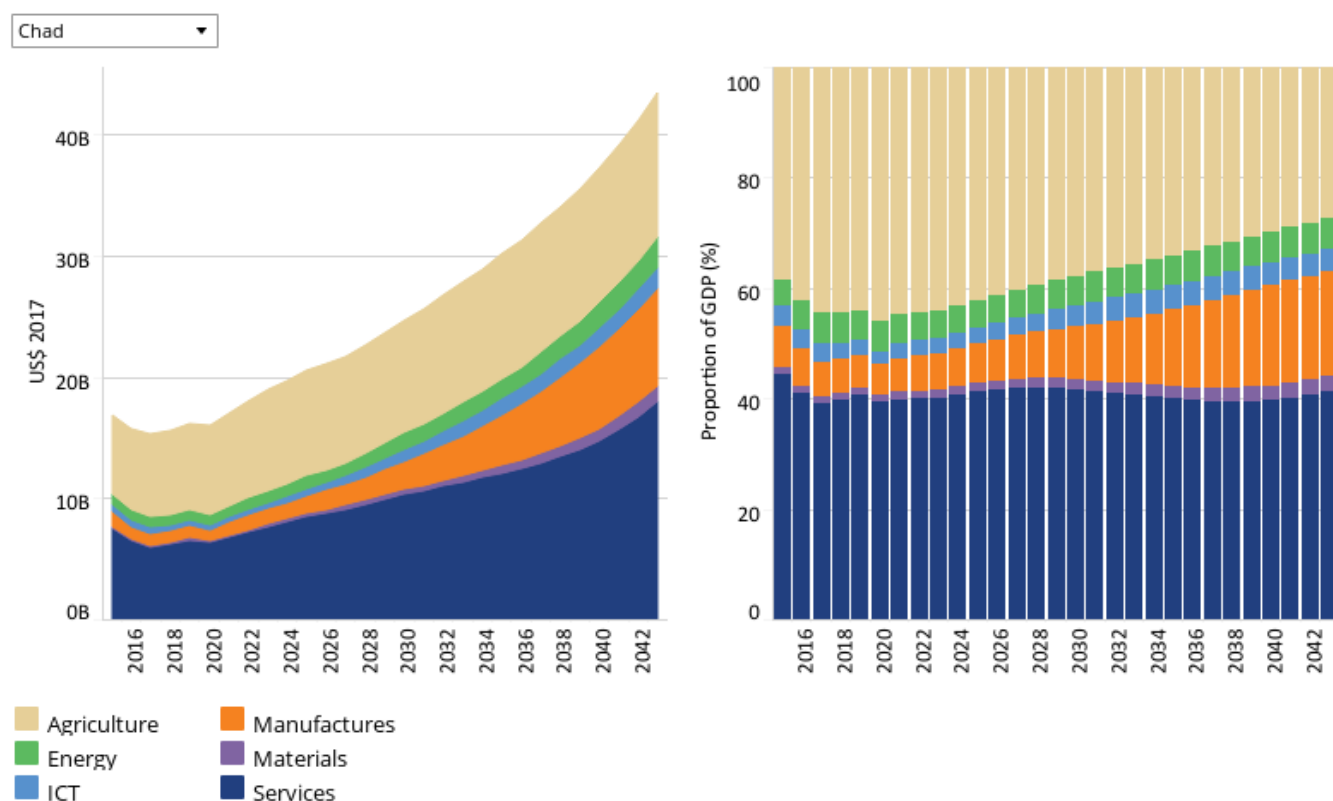
An OECD report released in 2002 showed that in 1996 over 40% of Chad's GDP came from the informal economy and contributed half of all urban activity and three-quarters of non-agricultural activity in the countryside. [12] There are no recent reliable statistics on the size of the informal economy, although a large majority of the population are considered to be involved in informal economic activities for their livelihoods. The World Bank in 2015 estimated that among active workers, 79% of the poor rely on crops and/or livestock as their main source of income and another 14% work in the non-agricultural informal sector. [13]

IFs estimates that in 2019, the size of the informal economy stood at 35% and by 2043, will only slightly reduce to about 31.3%.

As a result of structural challenges suffered by the country, many of its workforce is forced to work in the informal sector that is not subjected to national labour legislation, income taxation, social protection or entitlement to employment benefits. [14] Structural challenges, such as poor and inadequate infrastructure, [15] poor governance, instability, poor health and education outcomes, lack of economic opportunities and repeated natural disasters, have hampered development significantly.

In addition to the precarious employment situation of the informal sector, there are also deleterious effects on the process of state formation and the development of the social contract in a vicious cycle that further undermines development in Chad.

Chart 8: Value added by sector in CP, 2015–2043
Billions US\$ 2017 and % of GDP



Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

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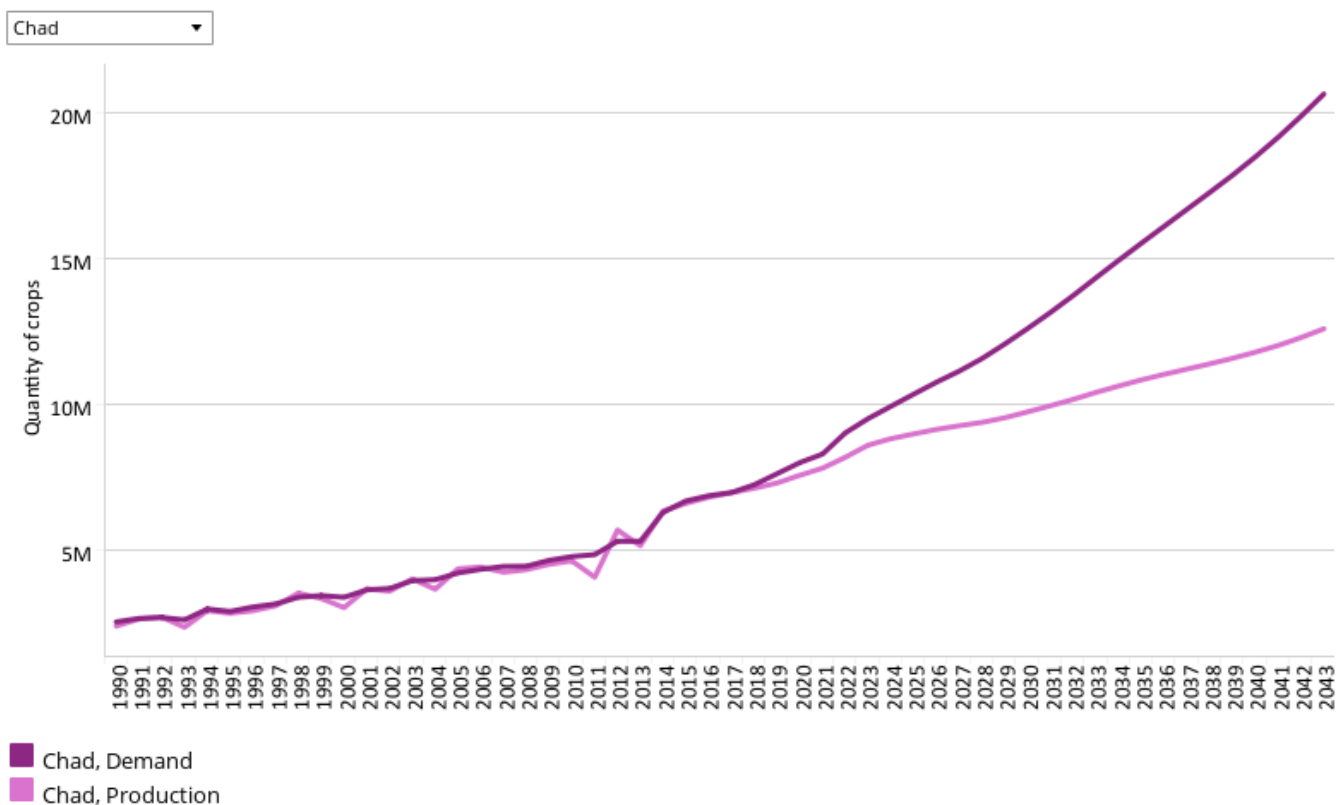
The IFs platform uses data from the Global Trade and Analysis Project (GTAP) to classify economic activity into six sectors: agriculture, energy, materials (including mining), manufactures, services and information and communications technology (ICT). Most other sources use a threefold distinction between only agriculture, industry and services with the result that data may differ.

Chad exhibits a weak structural transformation in the contribution of various sectors to its GDP. In Chad, the share of agriculture's value-add to the GDP was 44% in 2019, indicating a high dependency on this sector. It is followed by services (typically low value-added services) at 40.6% of GDP. Manufacturing only contributes 6% of the GDP and energy 5.4% of the GDP. The energy sector has typically not been able to create many employment opportunities in Chad.

In the Current Path forecast, the agriculture sector's share is forecast to decline to 27.3% of GDP and the service sector will increase to 41.3% of GDP by 2043. Manufacturing will record about 18.7% of GDP (representing US\$8.1 billion) and energy will remain almost stagnant at 5.7% of GDP. These improvements represent the structural transformation that is expected if Chad's authorities work to develop the country.

Manufacturing is particularly important for job creation and employment. However, these improvements are also dependent on Chad's ability to improve its human resource skills and create a conducive business climate.

Chart 9: Agriculture production/demand in CP, 1990–2043
Crops million tons



Source: IFs 7.63 initialising from Food and Agriculture Organization Food Balance Sheets

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The data on agricultural production and demand in the IFs forecasting platform initialises from data provided on food balances by the Food and Agriculture Organization (FAO). IFs contains data on numerous types of agriculture but aggregates its forecast into crops, meat and fish, presented in million metric tons. Chart 9 shows agricultural production and demand as a total of all three categories.

Chad's agricultural potential is constrained by unreliable and poor infrastructure, frequent droughts and soil erosion. Chad's agricultural sector also suffers from low productivity and limited access to rural financial services that prevent poor farmers from developing alternative income opportunities or improving productivity. [16]

As a result, agricultural yields remain low, and in 2019 Chad had a yield estimate of 1.2 metric tons per hectare, 1.5 metric tons lower than the average for low-income countries in Africa. In 2019, the country produced 7.3 million metric tons of agricultural produce, of which 5.9 million were crops. Agricultural losses remain very high and an estimated 10.7% of yield is lost due to poor processing and insufficient transport and storage infrastructure.

The demand for agricultural produce only slightly exceeded production by 320 000 metric tons in 2019. This production and demand gap is likely to grow in the Current Path forecast. By 2043, agricultural production is forecast to be 12.6 million metric tons and demand would exceed 20 million metric tons, translating to an 8.1-million-metric ton shortfall. This situation will further strain Chad's food security for a country that already suffers from high malnutrition. Over 40% of children suffer from stunting, which can have long-term implications for their cognitive development. This has broader repercussions on the economic productivity of Chadians and the state of overall development in the country. This is a similar pattern as those observed in other low-income countries across Africa.



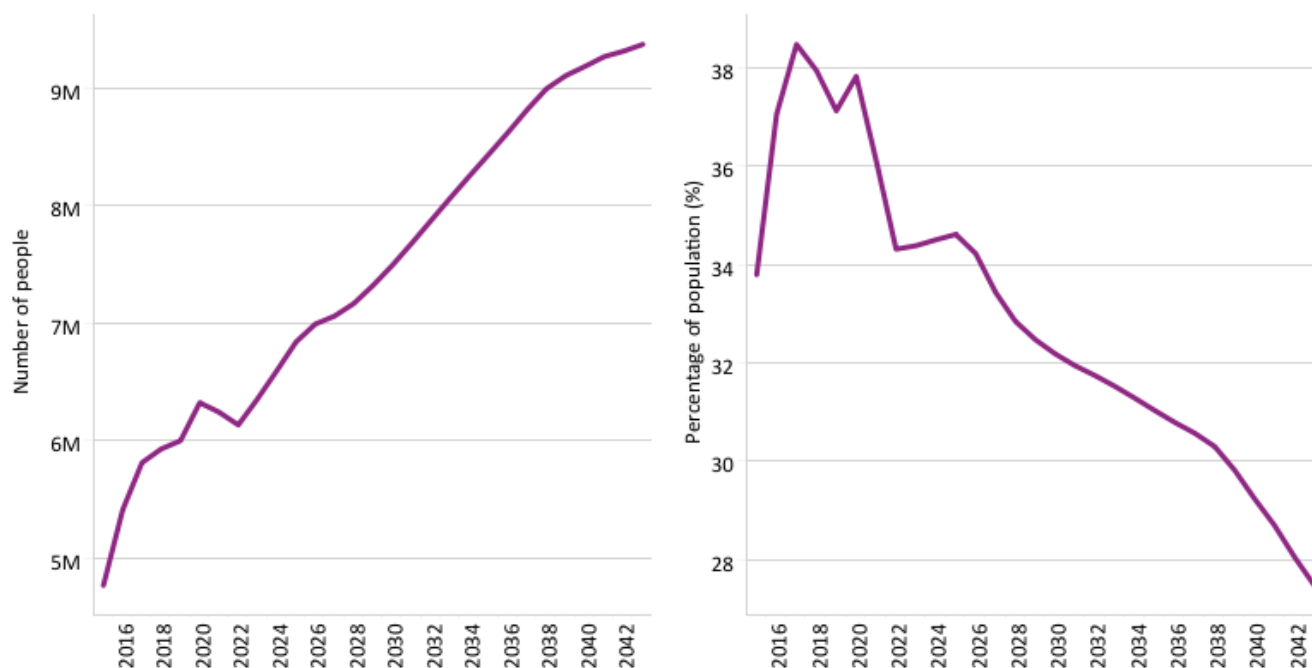
Poverty: Current Path

Chart 10: Poverty in CP, 2015–2043

Millions of people and % of total population



Chad \$1.90



Chad

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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There are numerous methodologies and approaches to defining poverty. We measure income poverty and use GDP per capita as a proxy. In 2015, the World Bank adopted the measure of US\$1.90 per person per day (in 2011 international prices), also used to measure progress towards the achievement of Sustainable Development Goal 1 of eradicating extreme poverty. To account for extreme poverty in richer countries occurring at slightly higher levels of income than in poor countries, the World Bank introduced three additional poverty lines in 2017:

- US\$3.20 for lower middle-income countries
- US\$5.50 for upper middle-income countries
- US\$22.70 for high-income countries.

Poverty in Chad has significantly declined over the last two decades but remains persistent. Households that tend to have more children, low education, and work in the agricultural sector in unfavourable farming conditions are some of the poorest in the country. Despite improvement in other non-monetary aspects, many Chadians continue to experience poor living conditions with low access to basic services such as clean water, improved sanitation and electricity and limited access to assets. [17]

In 2019, 6 million people (37.1% of the population) lived below the US\$1.90 per person per day extreme poverty threshold. This is 10.7 percentage points lower than the average for low-income countries in Africa. By 2043, Chad's poverty rate is projected to decline in the Current Path forecast to 27.5%, although the absolute number of people in extreme poverty will increase to 9.4 million people — the result of a rapidly growing population with slow economic growth.

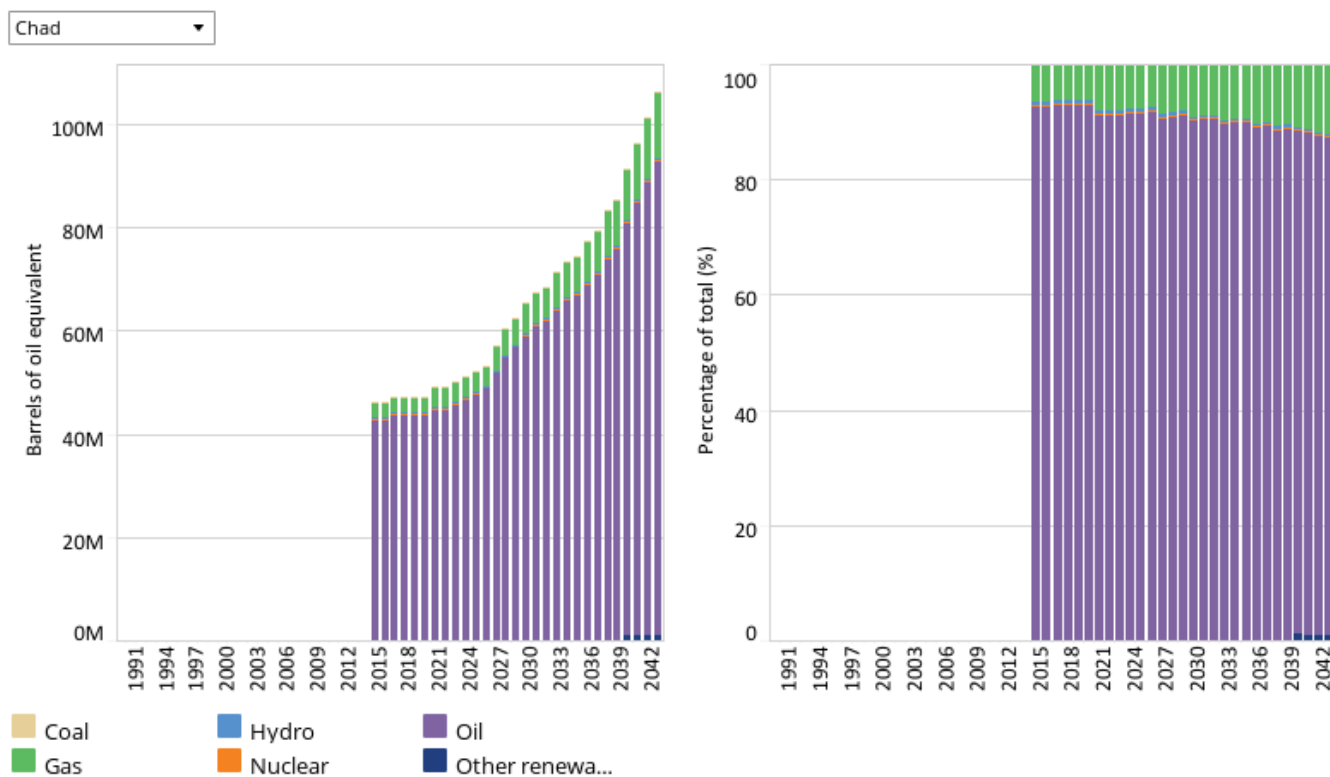
However, on the Multidimensional Poverty Index, over 82% of Chadians are considered poor and 63% are considered destitute, the fourth highest globally in both instances. [18] There is also a high disparity in the distribution of poverty across regions in the country. The north records lower poverty rates compared to the other regions (except the capital city).

Given the high level of multidimensional poverty, pro-poor policies such as investments in basic services and infrastructure are crucial. Policies to cushion the large informal sector which employs most of the urban and rural poor should also be implemented. [19]



Carbon Emissions/Energy: Current Path

Chart 11: Energy production by type in CP, 1990–2043
Barrels of oil equivalent and % of energy production



Source: IFs 7.63 initialising from World Energy Outlook data

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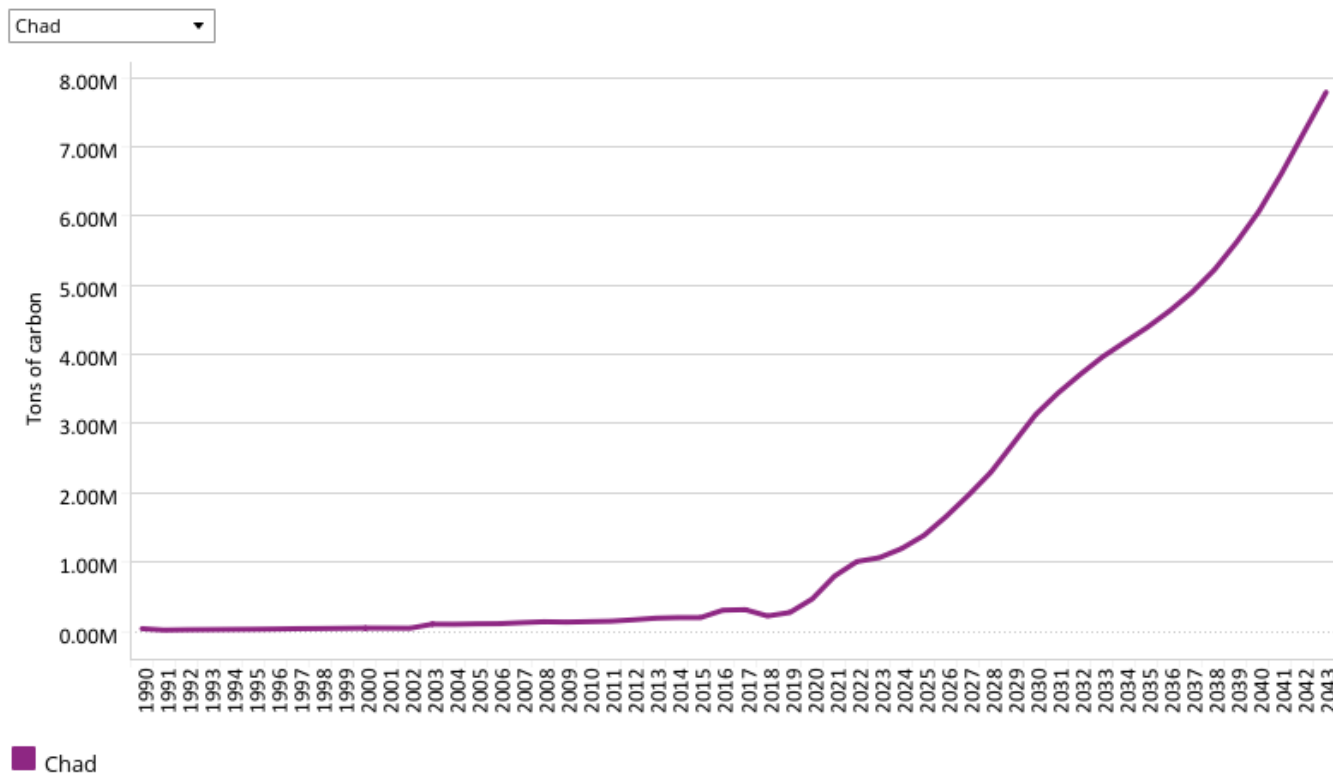
The IFs platform forecasts six types of energy, namely oil, gas, coal, hydro, nuclear and other renewables. To allow comparisons between different types of energy, the data is converted into billion barrels of oil equivalent (BBOE). The energy contained in a barrel of oil is approximately 5.8 million British thermal units (MBTUs) or 1 700 kilowatt-hours (kWh) of energy.

Chad is endowed with significant oil reserves. It also has solar and wind resource potential. The majority of its existing capacity comes from fossil fuels in the form of crude oil and gas (Chart 11). Chad currently has only about 314 MW of installed generation capacity to serve its population of over 16 million people. [20]

In the Current Path forecast, oil will continue to make the greatest contribution to Chad's energy mix and by 2043 will account for 86.5%, down from 93% in 2019. Gas will be the second biggest contributor in 2043 at 12.2%, up from 6.3% in 2019.

Chad has potential for renewable energy sources, especially solar. The government is making an effort to expand its electricity supply and is encouraging investment in the energy sector to stimulate the economy. In addition, with support from Power Africa, the country is advancing its first independent power producer project. The 32 MW Djermaya Solar PV project will contribute approximately 10% of the country's energy supply. [21]

Chart 12: Carbon emissions in CP, 1990–2043
 Million tons of carbon (note, not CO₂ equivalent)



Source: IFs 7.63 initialising from Carbon Dioxide Information Analysis Center data

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Carbon is released in many ways, but the three most important contributors to greenhouse gases are carbon dioxide (CO₂), carbon monoxide (CO) and methane (CH₄). Since each has a different molecular weight, IFs uses carbon. Many other sites and calculations use CO₂ equivalent.

Chad is one of the most environmentally degraded countries in the world and significantly vulnerable to the effects of climate change. The country experiences frequent droughts, increasing temperatures, variable rain patterns and declining water sources.

Chad makes a negligible contribution to global CO₂ emissions at about 300 000 tons of carbon in 2019 (Chart 12). In the Current Path forecast, it is projected that Chad's emissions will increase to only 7.8 million tons of carbon by 2043.

Despite the challenges associated with climate change, Chad has found innovative adaptation practices to mitigate some of the effects of climate change. For example, farmers in arid and semi-arid regions use an indigenous rainwater harvesting technique called Zai, which involves the digging of small pits and sowing crops in them. The pits retain water for longer and are particularly efficient during drought. [22]

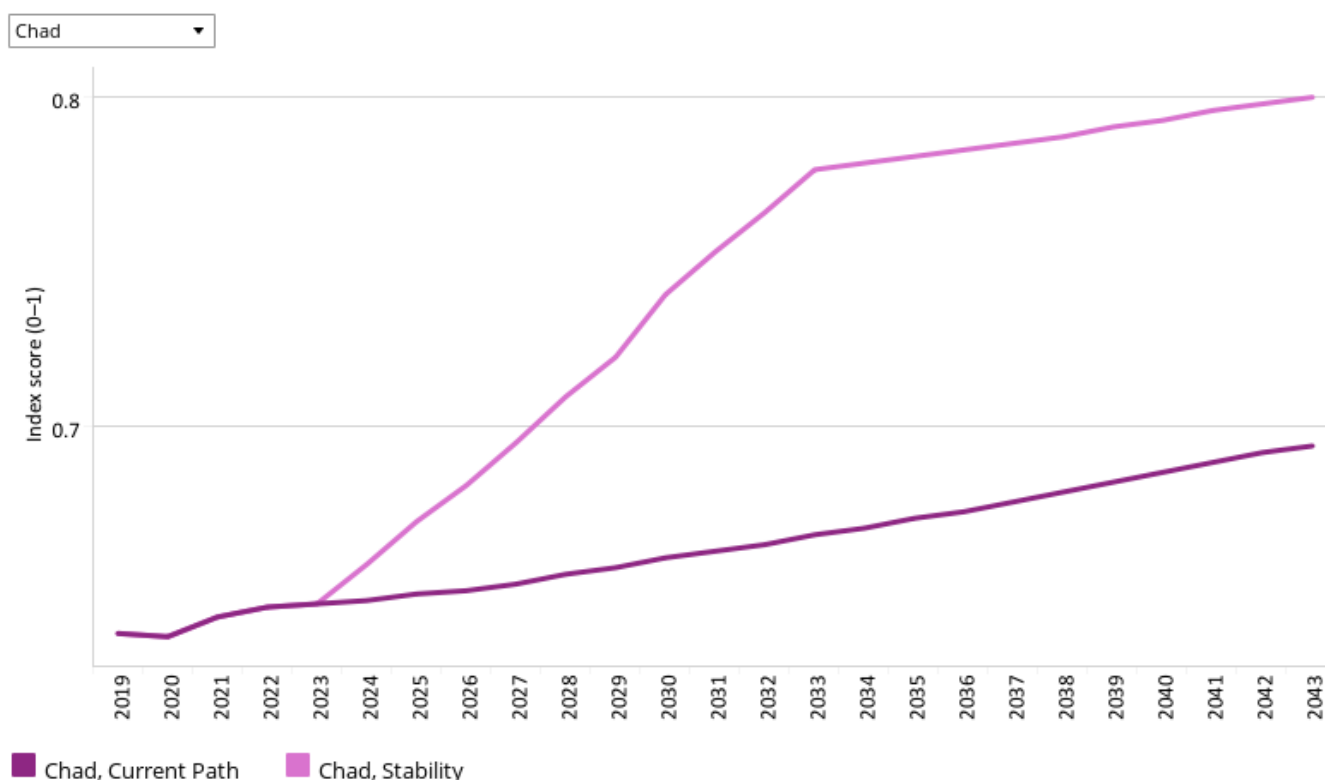
Sectoral Scenarios for Chad

- Stability scenario
- Demographic scenario
- Health/WaSH scenario
- Agriculture scenario
- Education scenario
- Manufacturing scenario
- Leapfrogging scenario
- Free Trade scenario
- Financial Flows scenario
- Infrastructure scenario
- Governance scenario
- Impact of scenarios on carbon emissions



Stability scenario

Chart 13: Governance security in CP and Stability scenario, 2019–2043
IFs index 0–1



Source: IFs 7.63 governance security index using internal war and government risk

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The Stability scenario represents reasonable but ambitious reductions in risk of regime instability and lower levels of

internal conflict. Stability is generally a prerequisite for other aspects of development and this would encourage inflows of foreign direct investment (FDI) and improve business confidence. Better governance through the accountability that follows substantive democracy is modelled separately.

The intervention is explained [here](#) in the thematic part of the website.

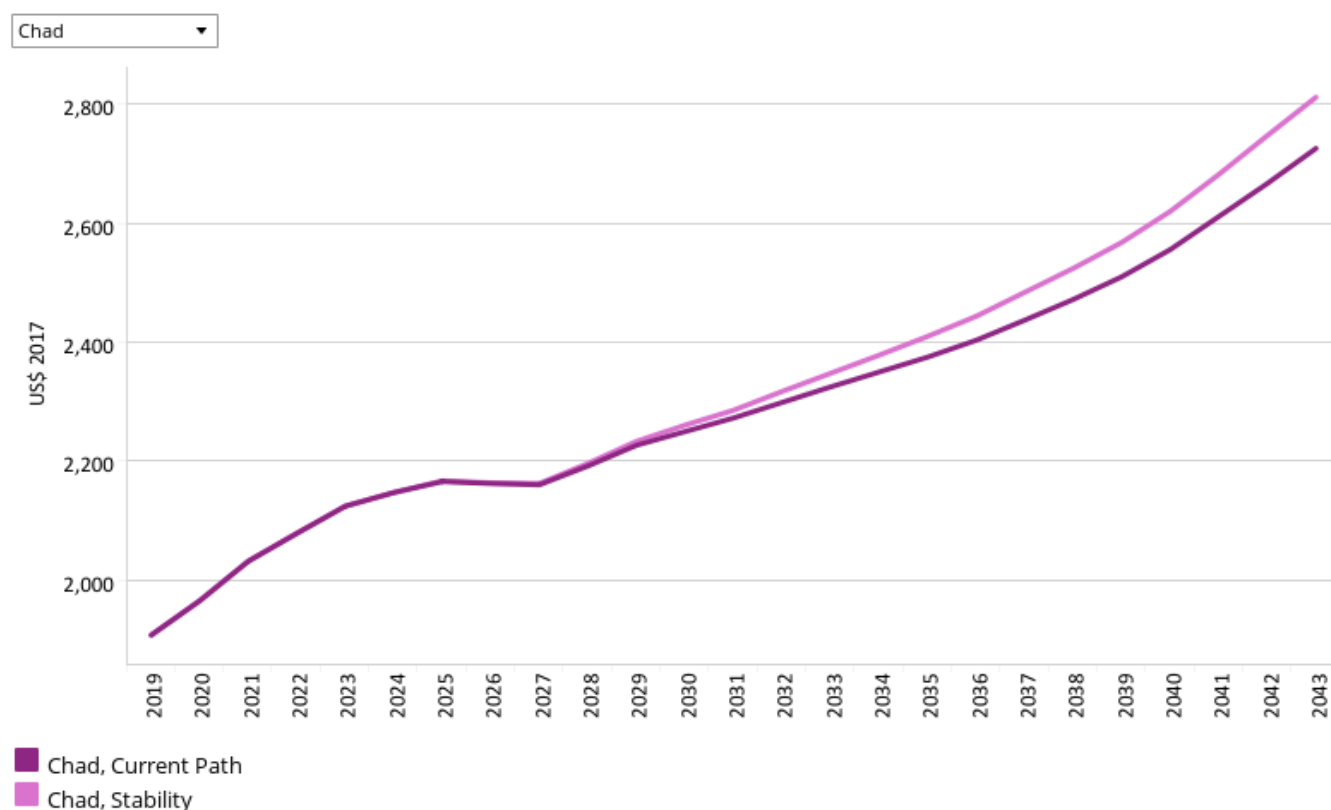
Chad has been in a state of almost constant instability and protracted conflict since its independence in 1960. Recurrent political crises and violence that revolve around contestation for power have long undermined development in the country. [23] Additionally, the conflict dynamics in neighbouring countries exacerbate Chad's internal crises making the already conflict-prone country vulnerable to both national and regional instabilities. [24]

Political dysfunction has also affected the government's efficiency and effectiveness, which has resulted in poor service delivery on all socio-economic fronts including in the business environment. In 2019, for example, Chad was ranked 182 out of 190 economies in the World Bank's ease of doing business index. [25] Although Chad is open to investments, the lack of diversification in its economy is an added difficulty to starting new businesses and complicated tax procedures are major obstacles. The poor state of infrastructure, the narrow domestic market, shortage of skilled labour, lack of adequate protection of private property and fraud in property transactions also deter potential investors. [26]

Chad stands to benefit significantly from the Stability scenario. Improving the security situation would alleviate some of these challenges and give investors more certainty and confidence to invest in Chad.

In the Stability scenario (Chart 13), the security index improves from an index of 0.64 (comparable to the rest of low-income Africa) in 2019 to 0.95 by 2043 (slightly below the 0.96 forecast for low-income Africa).

Chart 14: GDP per capita in CP and Stability scenario, 2019–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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Improvements in the security situation and a potential boost in FDI and overall ability of people to engage more dynamically in economic activity in the Stability scenario would result in improvements in the GDP per capita. By 2043, the average income could be US\$2 812, a US\$86 increase from the Current Path forecast of S\$2 726.

However, despite this improvement, Chad's per capita income in the Stability scenario would still be US\$1 163 below the low-income countries' average at US\$3 975 in 2043.

Chart 15: Poverty in CP and Stability scenario, 2019–2043

Millions of people and % of total population



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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Improved incomes and other non-monetary improvements in Chad's economy would alleviate extreme poverty and suffering in the country.

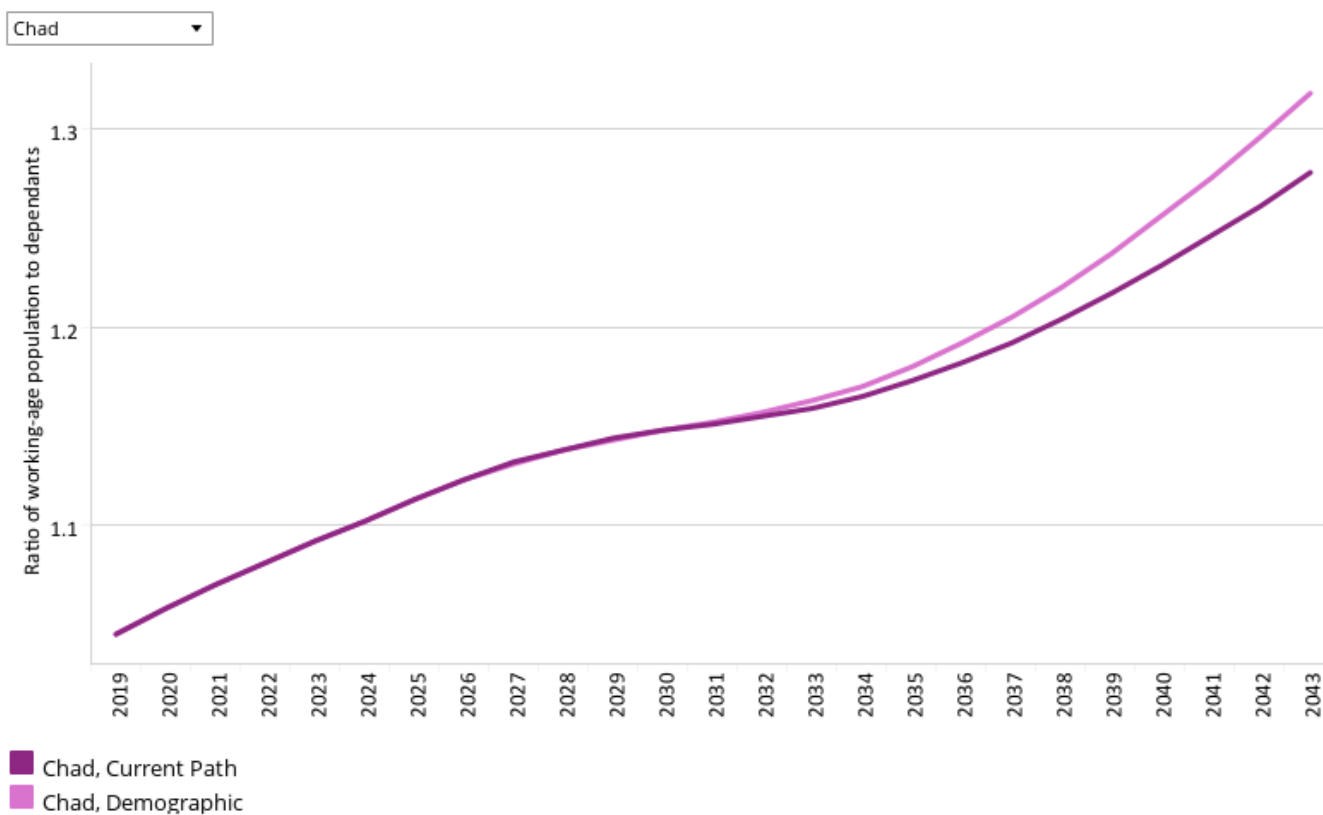
However, poverty reduction is modest in the Stability scenario illustrating the importance of investing and attracting FDI to sectors that directly impact the lives of Chadians. Equitable distribution of oil and gas revenues is necessary to improve the living conditions of the people of Chad.

By 2043, poverty reduces by only 0.7 percentage points from 27.5% in the Current Path forecast to 26.8% in the Stability scenario. This represents around 244 000 fewer people living in extreme poverty by 2043. In 2019, poverty rates in Chad were 10.7 percentage points lower than the average of low-income Africa with 37.1% compared to 47.8%. By 2043, this picture is likely to shift with poverty rates in the Stability scenario being 3.5 percentage points higher in Chad compared to the average for low-income Africa.



Demographic scenario

Chart 16: Demographic dividend in CP and Demog scenario, 2019–2043
Ratio of working-age population to dependants



Source: IFs 7.63 initialising from UN Population Division Population Prospects

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This section presents the impact of a Demographic scenario that aims to hasten and increase the demographic dividend through reasonable but ambitious reductions in the communicable-disease burden for children under five, the maternal mortality ratio and increased access to modern contraception.

The intervention is explained [here](#) in the thematic part of the website.

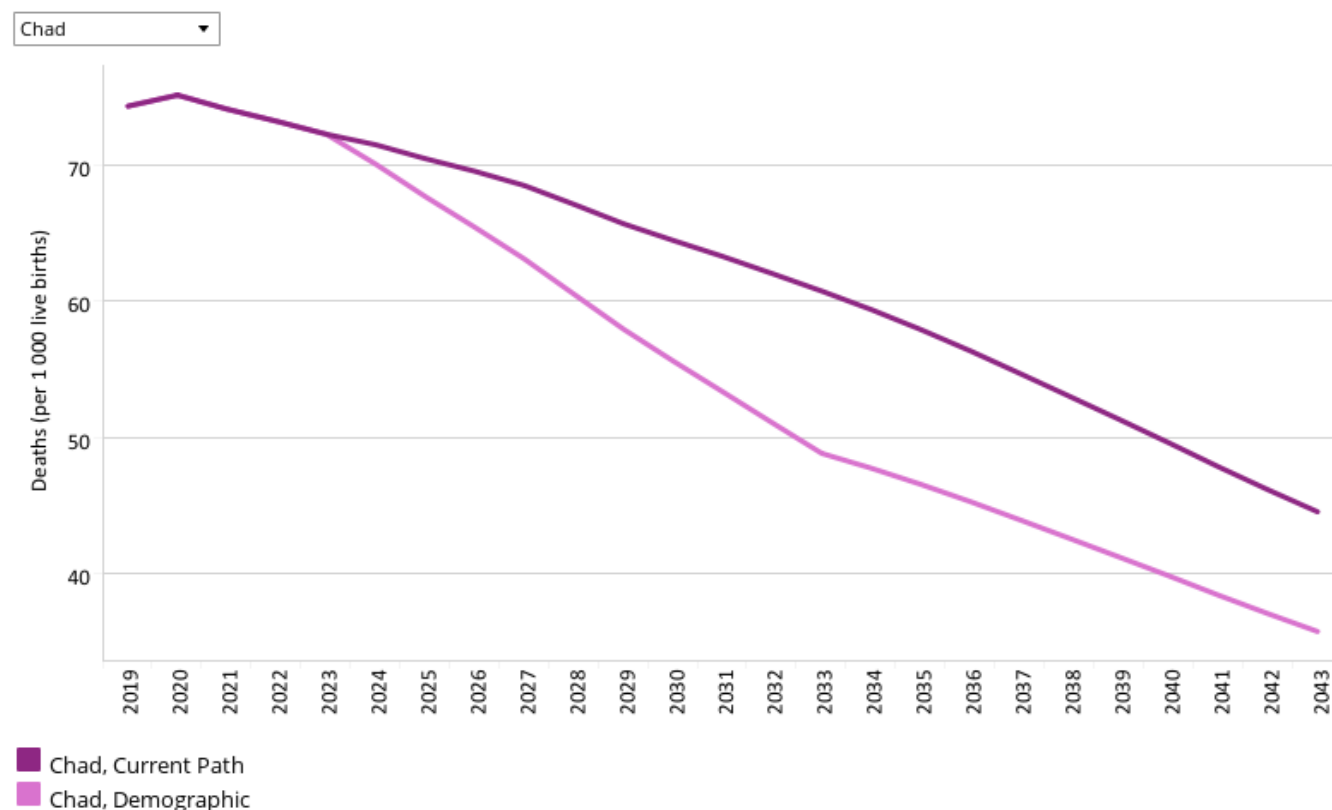
Demographers typically differentiate between a first, second and even a third demographic dividend. We focus here on the contribution of the size of the labour force (between 15 and 64 years of age) relative to dependants (children and the elderly) as part of the first dividend. A window of opportunity opens when the ratio of the working-age population to dependants is equal to or surpasses 1.7.

Given Chad's youthful population, the country will require more time beyond the intervention horizon of 2043 to see a change in its population structure and to benefit from the gains that can be accrued from a large working-age population relative to dependants. By 2043 in the Demographic scenario, Chad's median age only reaches 19.4 years old. As such, the country's demographic dividend will only be at a ratio of 1.32 by 2043, which is 0.38 points below the 1.7 ratio threshold regarded as the optimum ratio for a country to experience rapid economic growth.

However, the Demographic scenario will still be an improvement from the projected ratio of 1.28 in the Current Path

forecast.

Chart 17: Infant mortality in CP and Demog scenario, 2019–2043
Deaths per 1 000 live births



Source: IFs 7.63 initialising from Institute for Health Metrics and Evaluation Mortality Visualization Tool data

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The infant mortality rate is the number of infant deaths per 1 000 live births and is an important marker of the overall quality of the health system in a country.

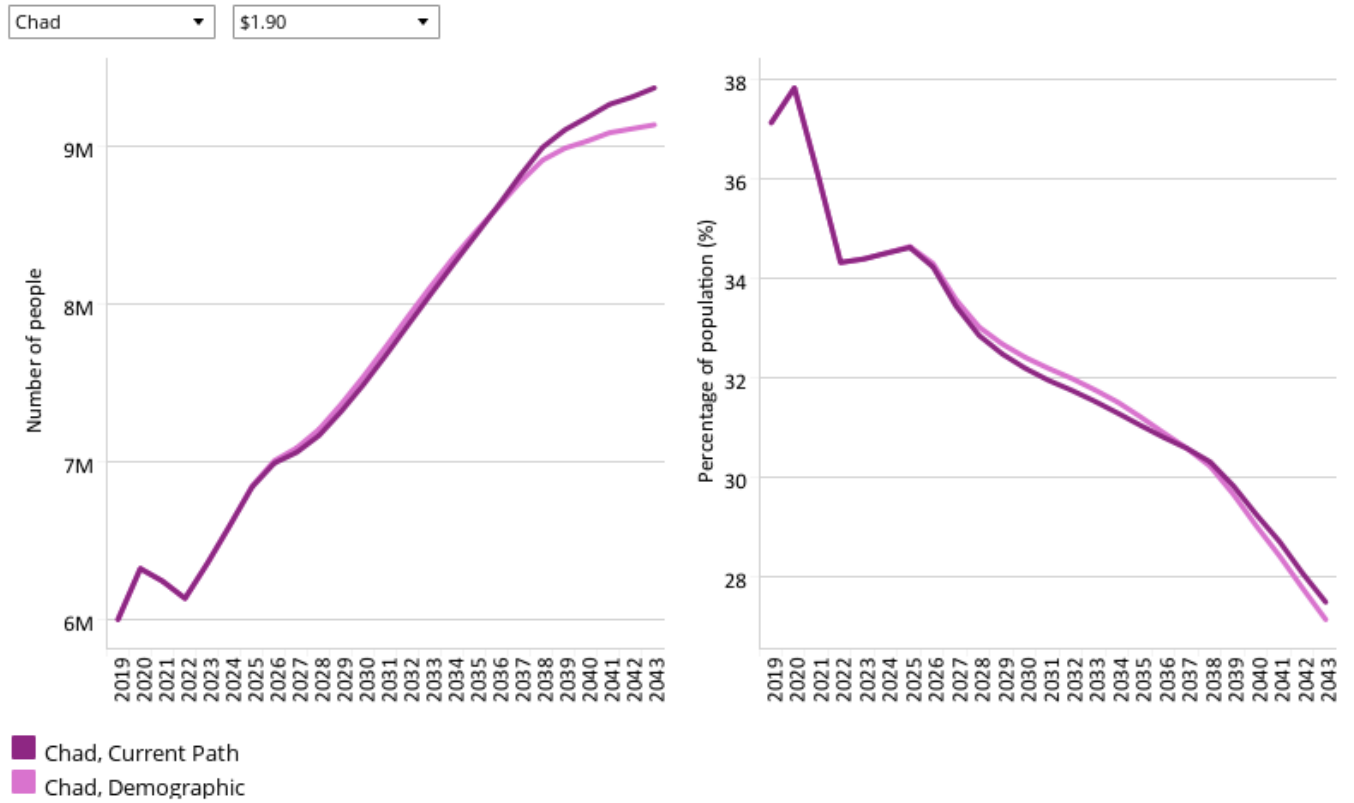
Infant mortality is another important indicator of the strength of a country's health system. Chad suffers from a very high infant mortality rate, the third highest in Africa. In 2019, Chad had an estimate of 74.3 deaths per 1 000 live births, almost 26 deaths more than the average for low-income Africa that stood at 48.5. Improvements are expected in the Current Path forecast and deaths are likely to drop to 44.5 deaths per 1 000 live births by 2043 (Chart 17). The interventions of the Demographic scenario see Chad's infant mortality rate drop even further by 2043 to 35.7 deaths.

While this is a significant improvement, the country still lags behind the average for low-income Africa that sees a reduction to 16.9 deaths by 2043 in the Demographic scenario.



30

Chart 19: Poverty in CP and Demog scenario, 2019–2043
Millions of people and % of total population



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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The Demographic scenario will have a positive impact on the poverty rate, but due to the country's population structure, tangible reductions in poverty (US\$1.90 threshold) are only recorded later in the forecast horizon and are minimal.

The Demographic scenario reduces the poverty rate only slightly to 27.1% in 2043, compared to 27.5% in the Current Path forecast. The poverty rate reduction of 0.4 percentage points in the Demographic scenario reduces the number of people living in extreme poverty by 234 000 by 2043.



Health/WaSH scenario

Chart 20: Life expectancy in CP and Health/WaSH scenario, 2019–2043



Source: IFs 7.63 initialising from Institute for Health Metrics Evaluation GBD Foresight Tool data

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This section presents reasonable but ambitious improvements in the Health/WaSH scenario, which include reductions in the mortality rate associated with both communicable diseases (e.g. AIDS, diarrhoea, malaria and respiratory infections) and non-communicable diseases (NCDs) (e.g. diabetes), as well as improvements in access to safe water and better sanitation. The acronym WaSH stands for water, sanitation and hygiene.

The intervention is explained [here](#) in the thematic part of the website.

The HDI uses life expectancy at birth as one of the measures to assess a country's well-being.

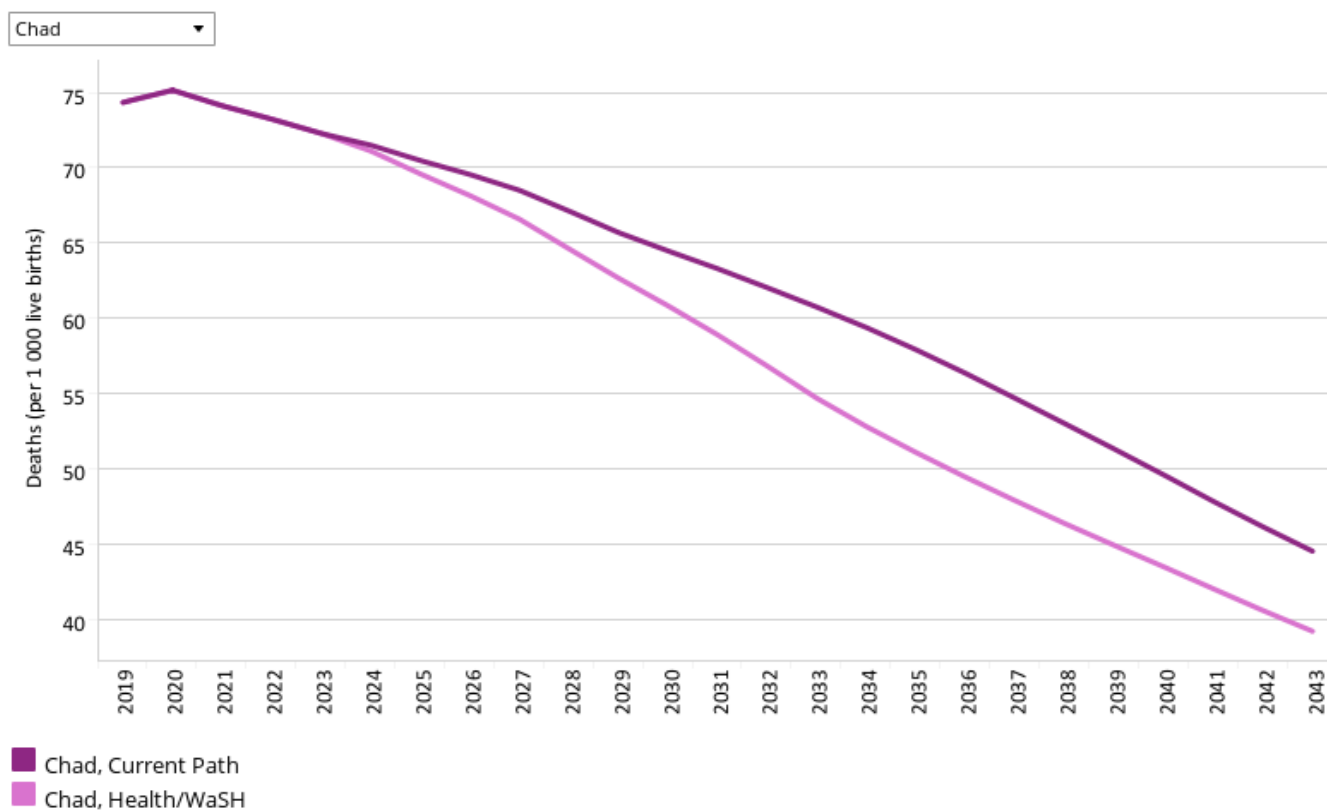
In 2019, life expectancy at birth in Chad was 59.4 years, making it the country with the fourth lowest average life expectancy among its income peers. This is 4.4 years lower than the average for low-income Africa at 63.8 years.

The relatively shorter life expectancy is a factor of high maternal and high infant mortality rates, as well as other communicable diseases that are prevalent because of low access to safe water and lack of improved sanitation and hygiene facilities.

By 2043, life expectancy in the Health/WaSH scenario is forecast to rise to 67.6 years compared to 66.6 in the Current Path forecast. Even with the improvement in life expectancy, Chad is forecast to lag behind the average for low-income African

countries that are expected to reach 71.4 years in the Health/WaSH scenario.

Chart 21: Infant mortality in CP and Health/WaSH scenario, 2019–2043
Deaths per 1 000 live births



Source: IFs 7.63 initialising from Institute for Health Metrics and Evaluation Mortality Visualization Tool data

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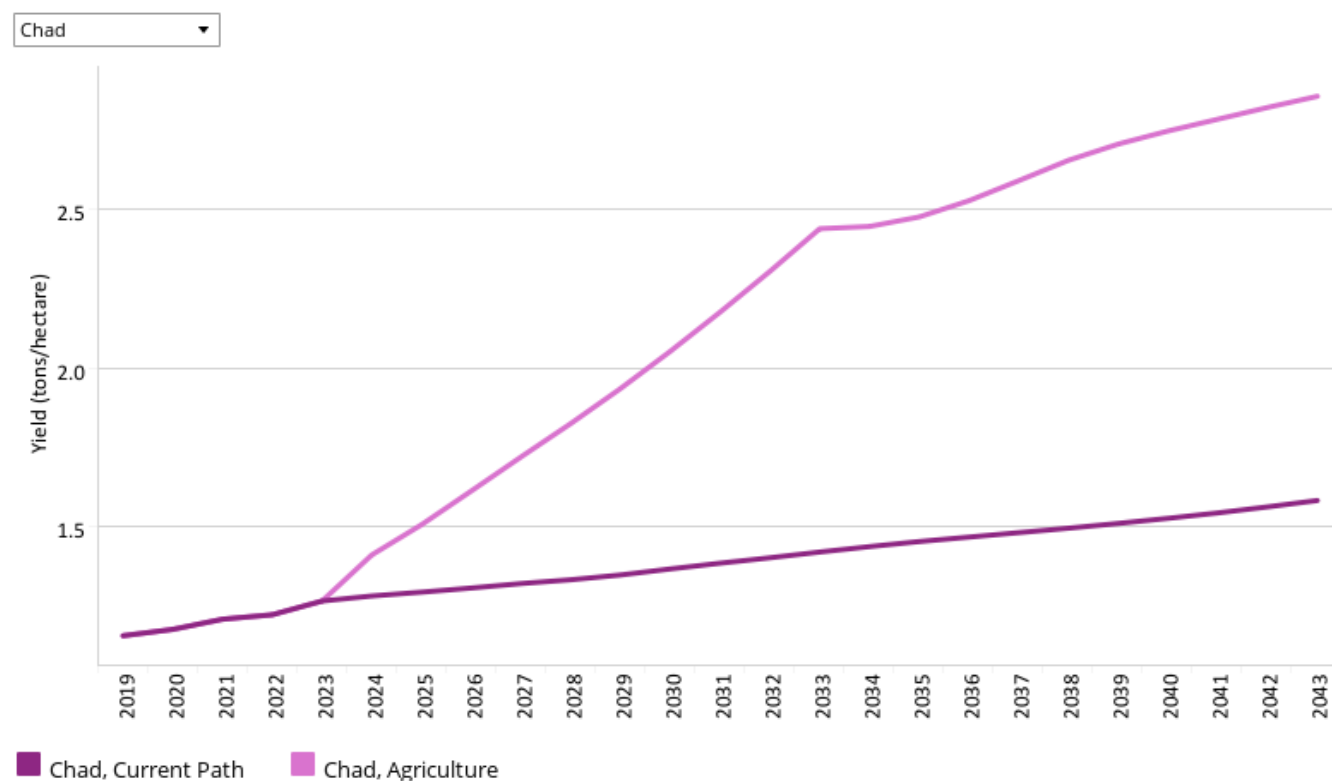
The high infant mortality rate in Chad is linked to the high communicable-disease burden in the country, which is also driven by inadequate access to safe water and the lack of improved sanitation and hygiene in the country. Communicable diseases will, therefore, remain the major cause of infant deaths in the foreseeable future.

In the Health/WaSH scenario, infant mortality reduces to 39.2 deaths down from 44.5 in the Current Path forecast by 2043.



Agriculture scenario

Chart 22: Yield/hectare in CP and Agric scenario, 2019–2043
Pre-loss levels



Source: IFs 7.63 initialising from FAOSTAT on-line statistical service data

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The Agriculture scenario represents reasonable but ambitious increases in yields per hectare (reflecting better management and seed and fertilizer technology), increased land under irrigation and reduced loss and waste. Where appropriate, it includes an increase in calorie consumption, reflecting the prioritisation of food self-sufficiency above food exports as a desirable policy objective.

The intervention is explained [here](#) in the thematic part of the website.

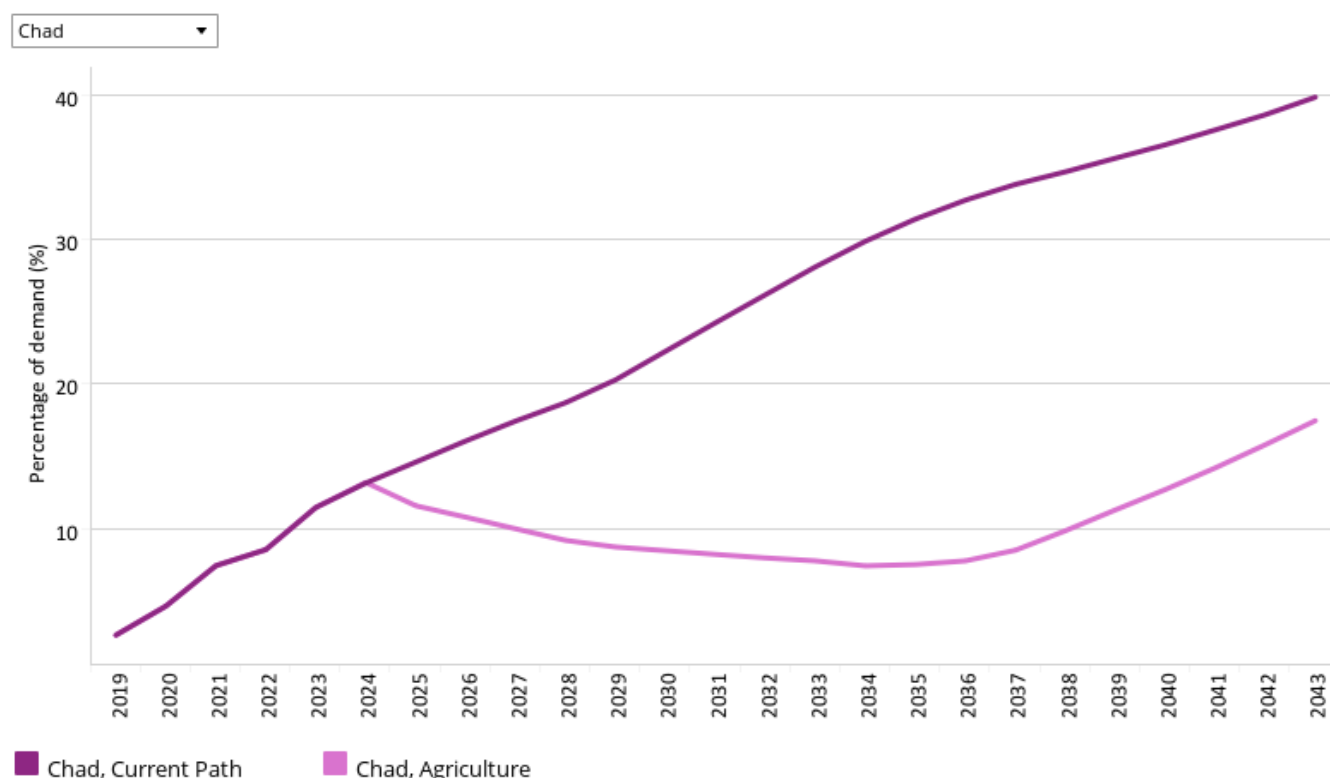
The data on yield per hectare (in metric tons) is for crops but does not distinguish between different categories of crops.

Yields in Chad's agricultural sector have been very low due to the various constraints discussed in [Chart 9](#). In 2019, yields were estimated at 1.2 metric tons per hectare, less than half the yields estimated for the average for low-income countries in Africa. The low yields have affected food security in the country, and in 2019, at least 35% of Chad's population was considered stunted.

In the Agriculture scenario, yields improve from 1.2 metric tons per hectare in 2019 to 2.9 in 2043. This is 1.3 tons per hectare more compared to the Current Path forecast of 1.6 metric tons in 2043.

However, this increase will still be significantly below the average yields for low-income countries in Africa.

Chart 23: Agriculture imports in CP and Agric scenario, 2019–2043
 Net imports for meat, crops and fish, % of demand



Source: IFs 7.63 initialising from Food and Agriculture Organization Food Balance Sheets data

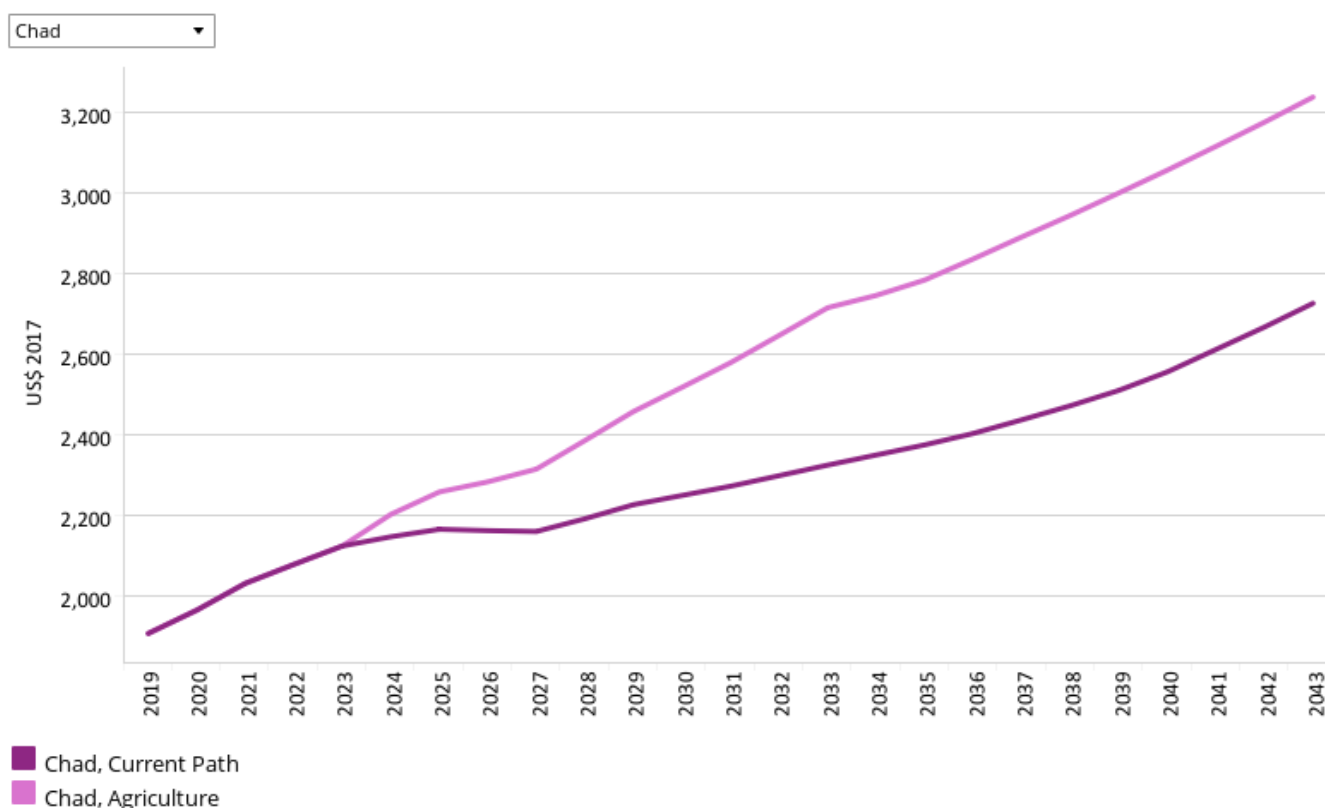
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In 2019, total agricultural demand exceeded production by only 316 000 metric tons, accounting for a mere 2.6% import dependency. This is much lower than the average for low-income Africa that had an import dependency of 7.5% in 2019. In the Current Path forecast, demand is forecast to exceed production by 8.1 million metric tons, a significant and worrisome import dependency of 39.8% (Chart 23).

The Agriculture scenario will benefit Chad by increasing yields, reducing vulnerable rain-fed crops through irrigation schemes, reducing post-harvest losses and tapping into Chad's agricultural potential. In this scenario, Chad will produce 8.2 million metric tons more by 2043 than in the Current Path forecast. This will result in a lower import dependency of 17.4%; however, this is still much higher than the average for low-income Africa that could break their import dependency by 2043.

Chart 24: GDP per capita in the CP and Agric scenario, 2019–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

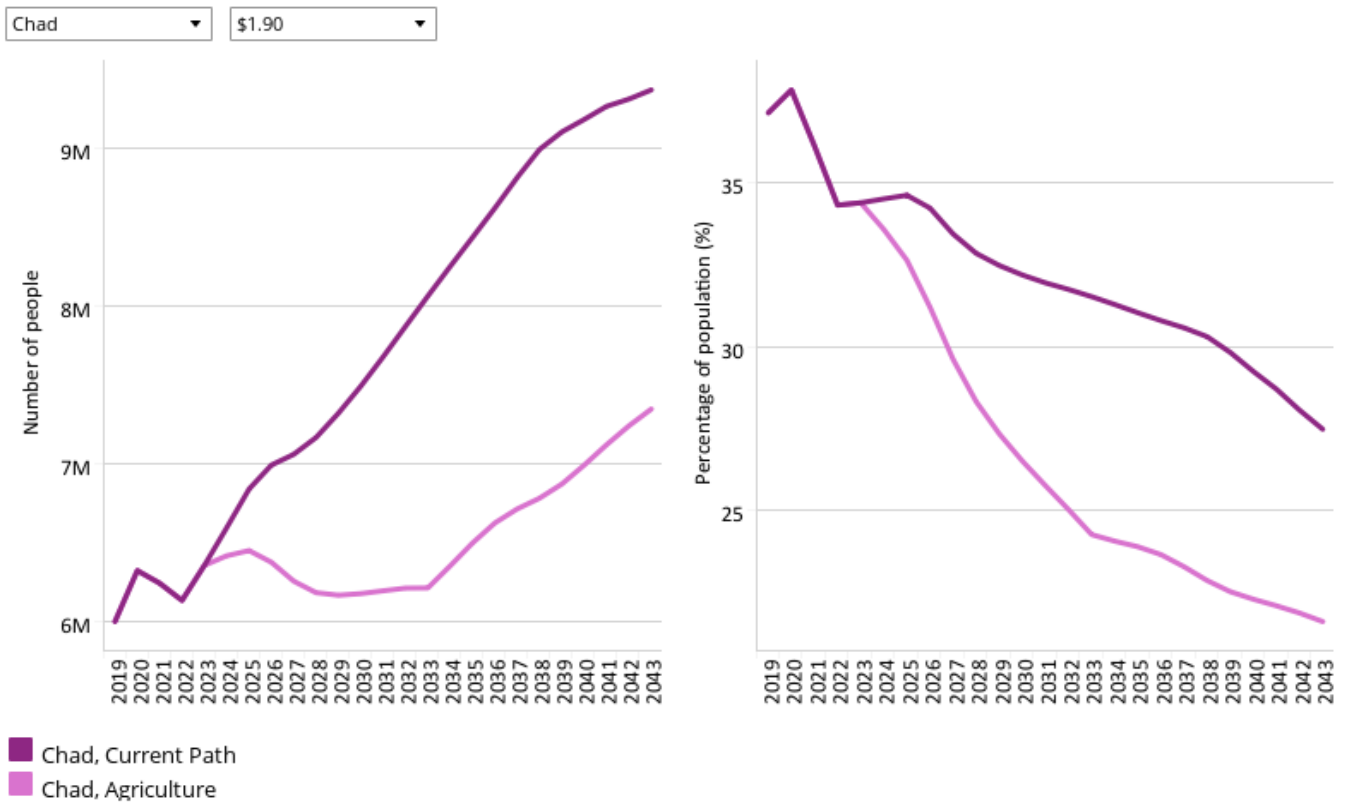
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Given the importance of agriculture to the livelihoods of Chadians, improvements in the agricultural system would have significant increases in income and overall welfare.

By 2043, the GDP per capita of Chad is forecast to rise from US\$2 726 in the Current Path to US\$3 237 in the Agriculture scenario. By 2043, the Agriculture scenario significantly increases per capita income by US\$511, although Chad will still be lagging behind the US\$4 094 average of low-income countries in Africa.

Chart 25: Poverty in CP and Agric scenario, 2019–2043
Millions of people and % of total population



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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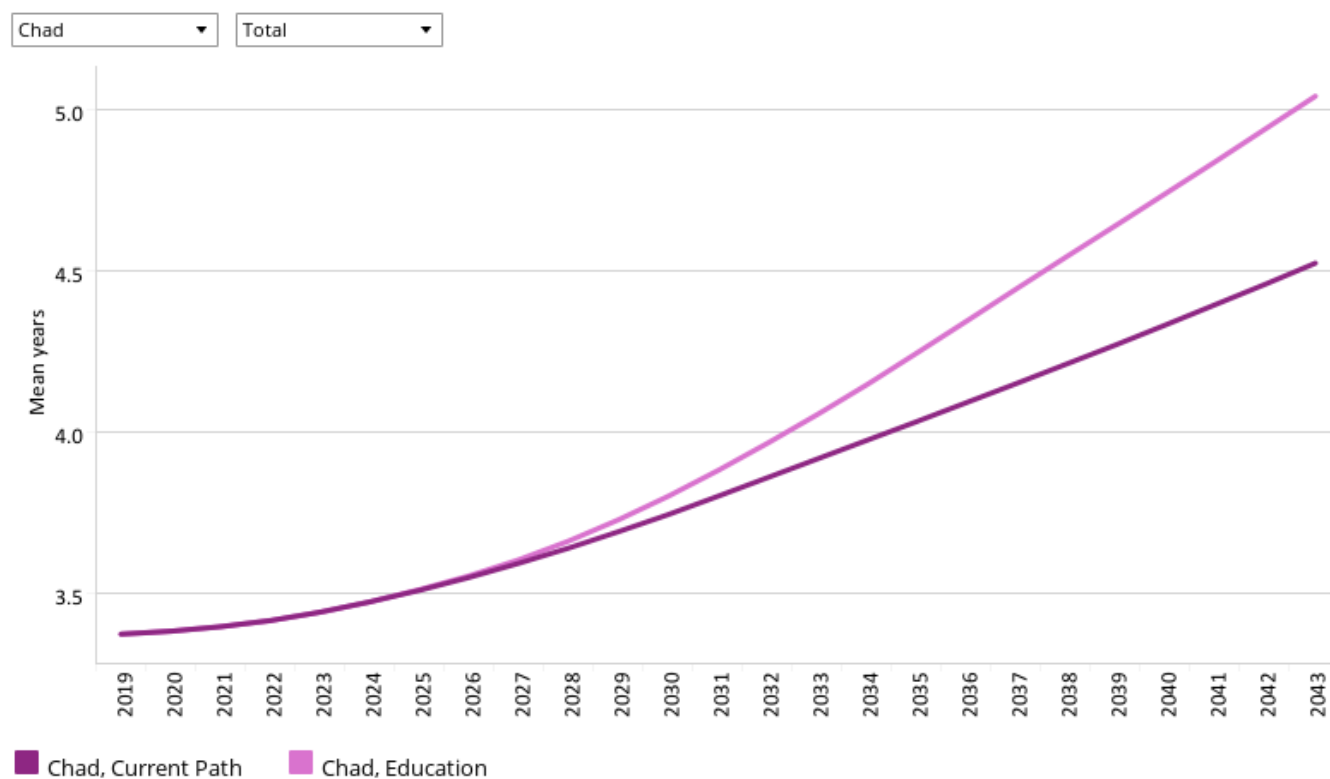
For poor countries like Chad, agriculture is the quickest and most impactful way to alleviate extreme poverty and suffering. By 2043, only 21.6% of the population will be in extreme poverty compared to 27.5% in the Current Path forecast. This represents a difference of more than 2 million fewer people in extreme poverty at the US\$1.90 per person per day threshold.



Education scenario

Chart 26: Mean years of education in CP and Educ scenario, 2019–2043

Mean years of adult (+15) education



Source: IFs 7.63 initialising from Barro-Lee data

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The Education scenario represents reasonable but ambitious improved intake, transition and graduation rates from primary to tertiary levels and better quality of education. It also models substantive progress towards gender parity at all levels, additional vocational training at secondary school level and increases in the share of science and engineering graduates.

The intervention is explained [here](#) in the thematic part of the website.

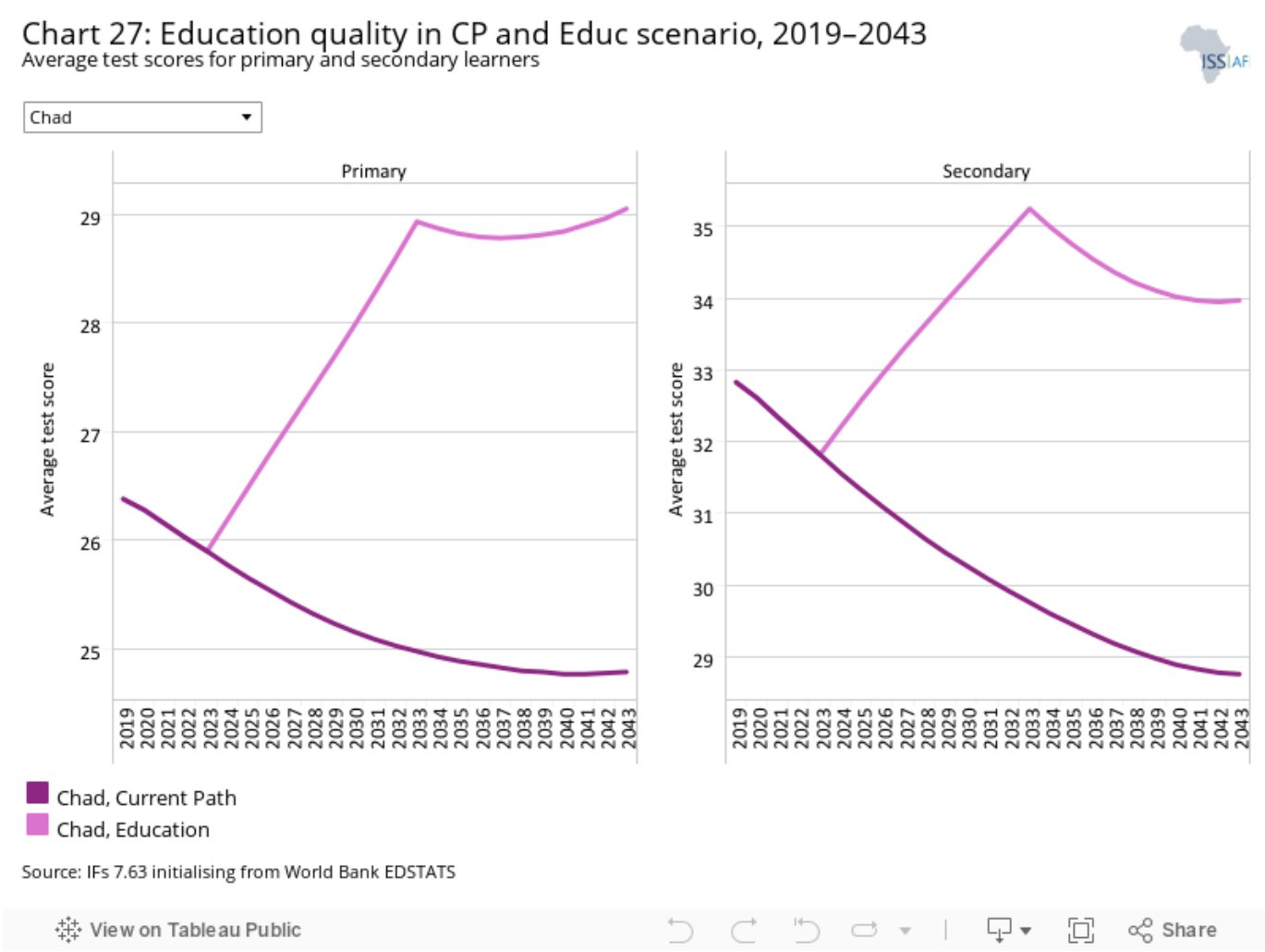
Chad has one of the lowest educational attainment levels in the world. Primary enrolment rates, for example, are considerably lower than the average for low-income Africa and the continent as a whole. Severe bottlenecks exist in the primary and lower secondary stages of education, which constrain the attainment of subsequent levels of education to grow the overall stock of education in the population. Key among these issues are the high drop-out rates due to conflict and droughts, limited access to education facilities due to the dispersed nature of the population, low quality of basic education and the lack of qualified teachers. [27]

In addition, the Qur'anic schools associated with nomadic communities also face challenges that include fears of increased risk of radicalisation, particularly among male children because of the little government or community oversight in the running of the schools. The schools are also heavily Quran-focused; therefore, they do not offer the necessary skills needed for formal employment. [28]

Chad had the second lowest literacy levels globally in 2019 and records gender disparities in educational attainment. In 2019, on average, men received 2.4 years more education than women. The difference can be traced to the disproportionate social burden women bear in terms of early marriage that takes away from their years of schooling and gender-based violence like female genital mutilation.

Because of the poor education system, mean years of education for adults aged 15 years and over in Chad was the third lowest globally in 2019 at 3.4 years compared to 4.5 years for the Africa low-income countries' average. In the Education scenario, by 2043, Chad's mean years of education rise to 5 years against 4.5 years in the Current Path forecast.

Owing to the length of time it takes a country to improve and benefit from formal education, the government of Chad must move quickly to invest in the education of its population. Educational investment in the country's adult population is also essential due to the very high illiteracy levels.



throughout the forecast horizon.

Chart 28: GDP per capita in CP and Educ scenario, 2019–2043
Purchasing power parity

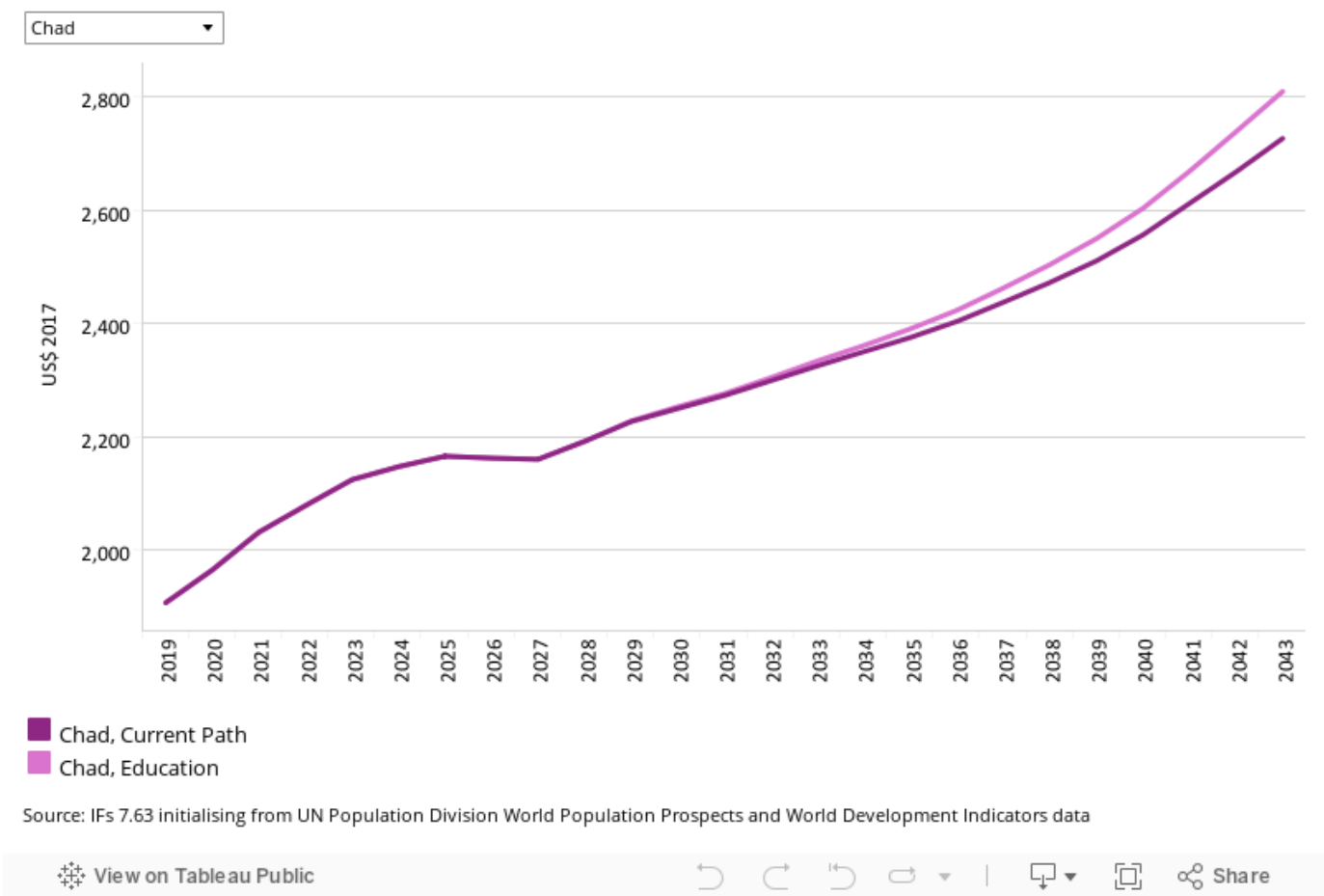
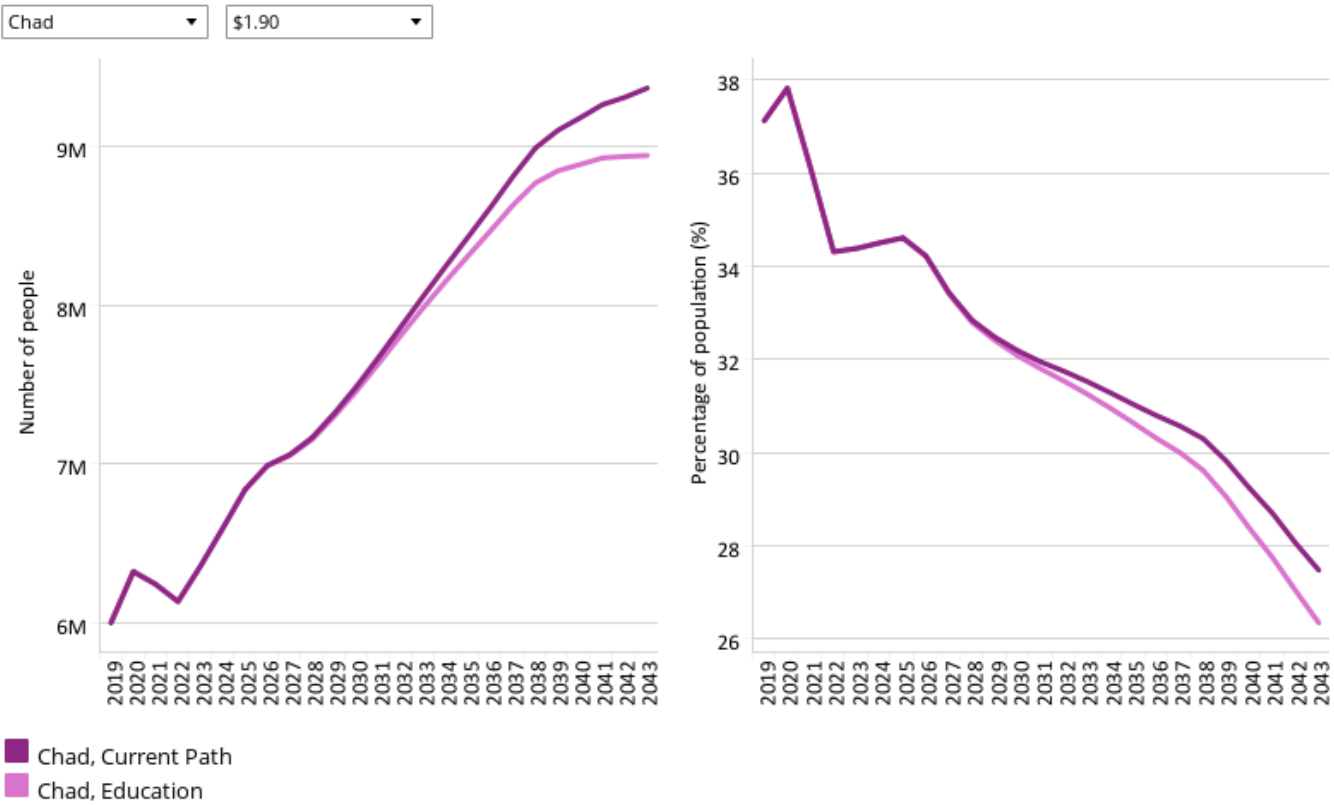


Chart 28 displays the marginal impact of the Education scenario on GDP per capita in Chad. By 2043, the GDP per capita is expected to increase to US\$2 809 in the Education scenario, compared to US\$2 726 in the Current Path forecast. This represents a modest US\$83 in per capita income. The GDP per capita for Chad is expected to continue to lag behind its income peers, with a growing per capita income gap throughout to 2043.

Chart 29: Poverty in CP and Educ scenario, 2019–2043

Millions of people and % of total population



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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In the Education scenario (Chart 29), it is expected that extreme poverty in Chad will decrease to 26.4% by 2043 compared to 27.5% in the Current Path forecast. The Education scenario has the potential therefore to lift an additional 425 000 people out of extreme poverty by 2043, compared to the Current Path forecast.



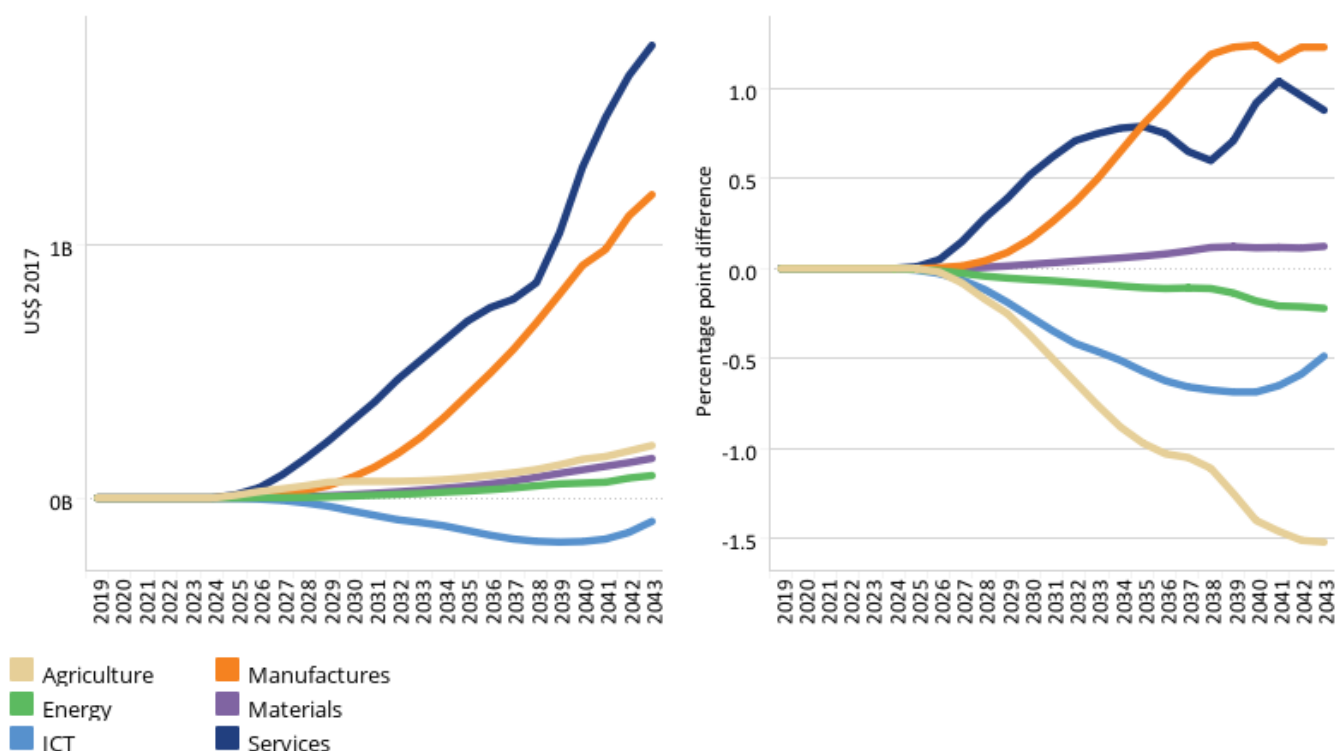
Manufacturing scenario

Chart 30: Value added by sector in CP and Manufac/Transfers scenario, 2019–2043



Absolute and % point difference GDP

Chad



Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

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The Manufacturing/Transfers scenario represents reasonable but ambitious manufacturing growth through greater investment in the economy, investments in research and development, and promotion of the export of manufactured goods. It is accompanied by an increase in welfare transfers (social grants) to moderate the initial increases in inequality that are typically associated with a manufacturing transition. To this end, the scenario improves tax administration and increases government revenues.

The intervention is explained [here](#) in the thematic part of the website.

Chart 31 should be read with Chart 8 that presents a stacked area graph on the contribution to GDP and size, in billion US\$, of the Current Path economy for each of the sectors.

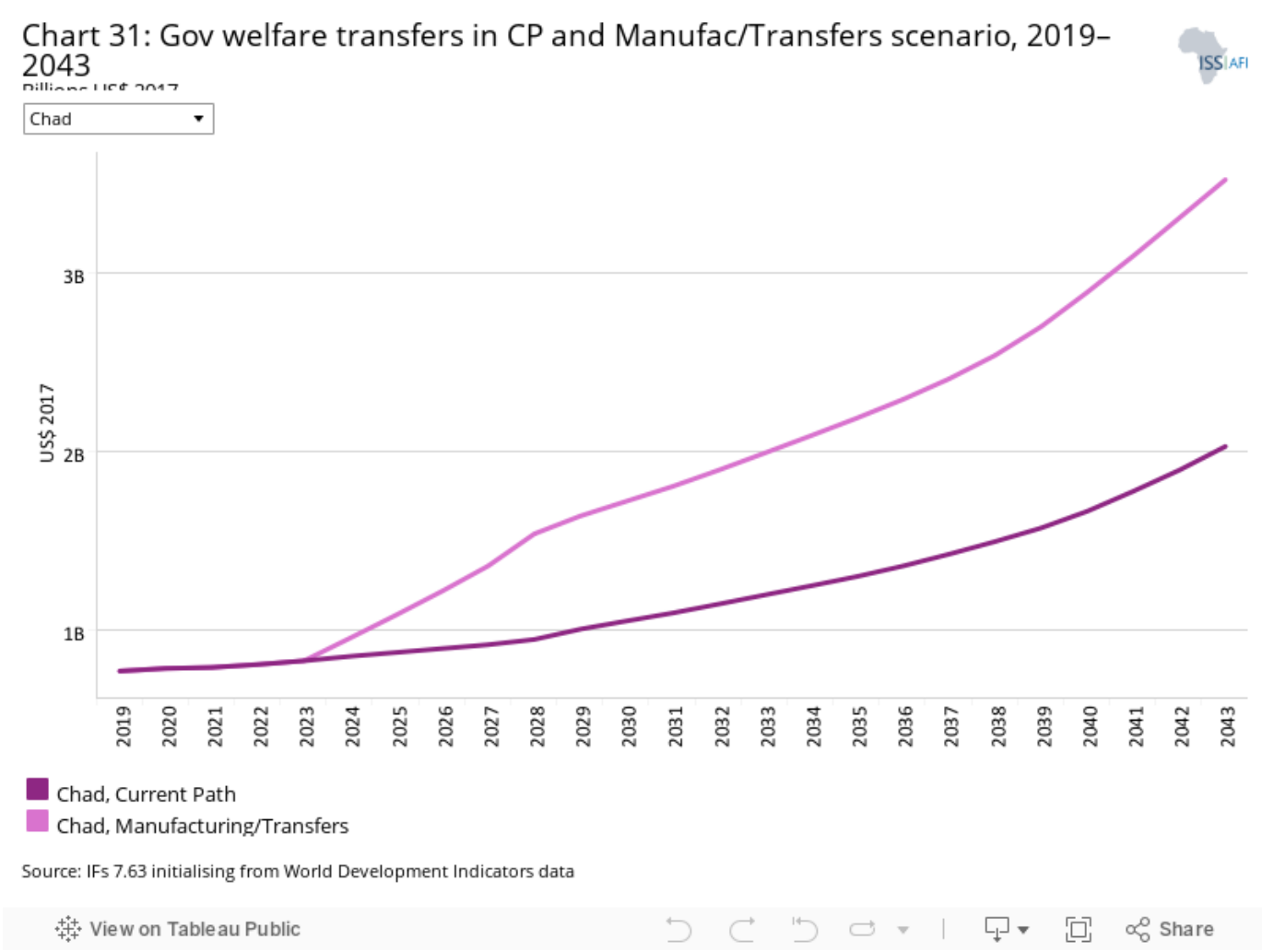
Chad's manufacturing industry is underdeveloped, and the country generally does not have a mechanism of social programmes to cushion its population from the harmful effects of poverty.

In the Manufacturing/Transfers scenario, the manufacturing sector will contribute an additional US\$1.2 billion to the GDP by 2043, representing a 1.2 percentage-point improvement compared to the Current Path forecast. This will result in the manufacturing sector making up 20% of the GDP in Chad by 2043.

The service sectors will continue to be the largest contributor to the economy. In the Manufacturing/Transfers scenario, the service sector will contribute an additional US\$1.8 billion to the GDP by 2043, representing a 0.9 percentage-point improvement compared to the Current Path forecast. This will result in the service sector making up 42.1% of the GDP in Chad by 2043.

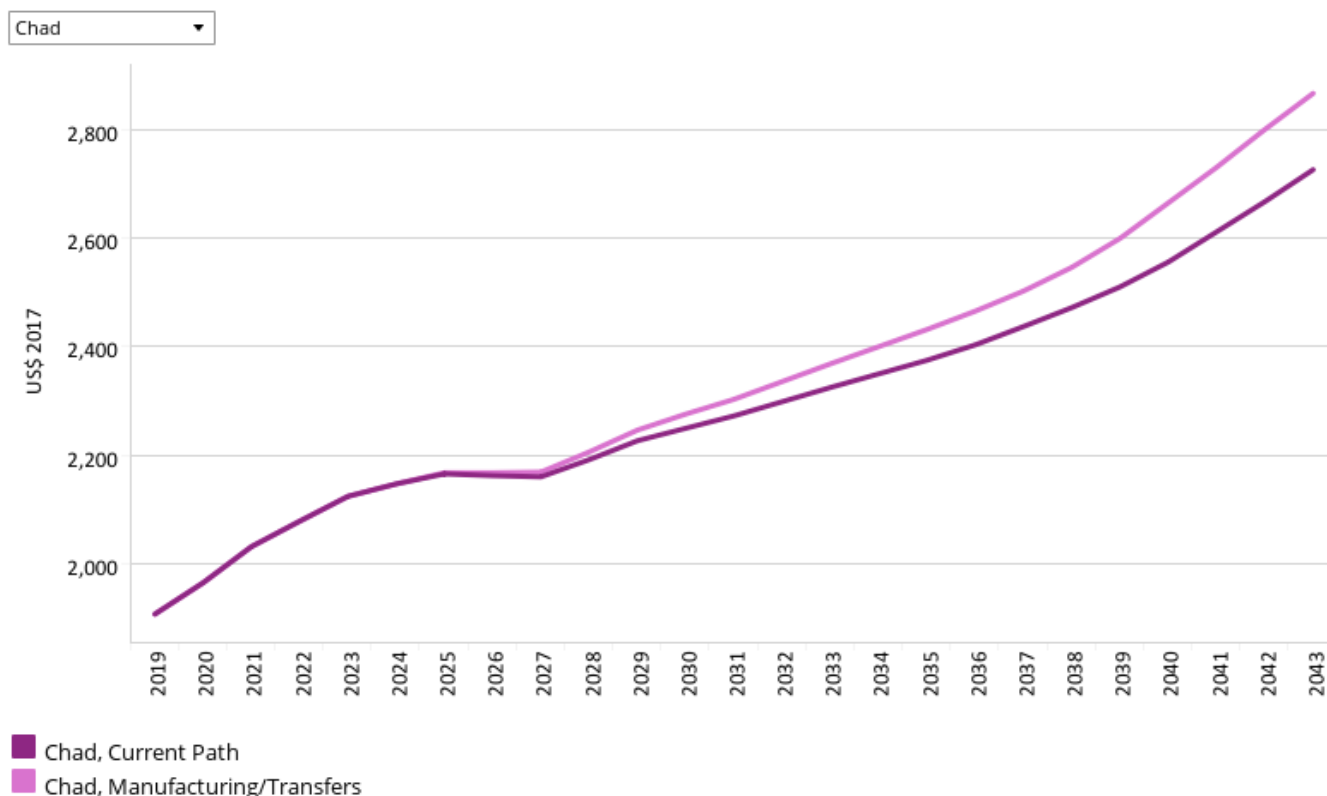
The Manufacturing/Transfers scenario will also improve the contribution of the materials sectors adding an additional US\$200 million (0.1 percentage point) to the GDP by 2043 above the Current Path forecast.

The interventions in the Manufacturing/Transfers scenario will not benefit the other sectors. In fact, the scenario forecasts a decline in contributions compared to the Current Path forecast for the Energy, Agriculture and ICT sectors (Chart 30).



Generally, Chad, like most low-income countries, does not have a robust mechanism of social programmes to mitigate extreme poverty and inequality. In the Manufacturing/Transfer scenario, transfers to unskilled workers are increased from US\$2 billion in the Current Path forecast to US\$3.5 billion in 2043, a difference of US\$1.5 billion. However, government welfare transfers increase much more aggressively in the rest of low-income Africa.

Chart 32: GDP per capita in CP and Manufac/Transfers scenario, 2019–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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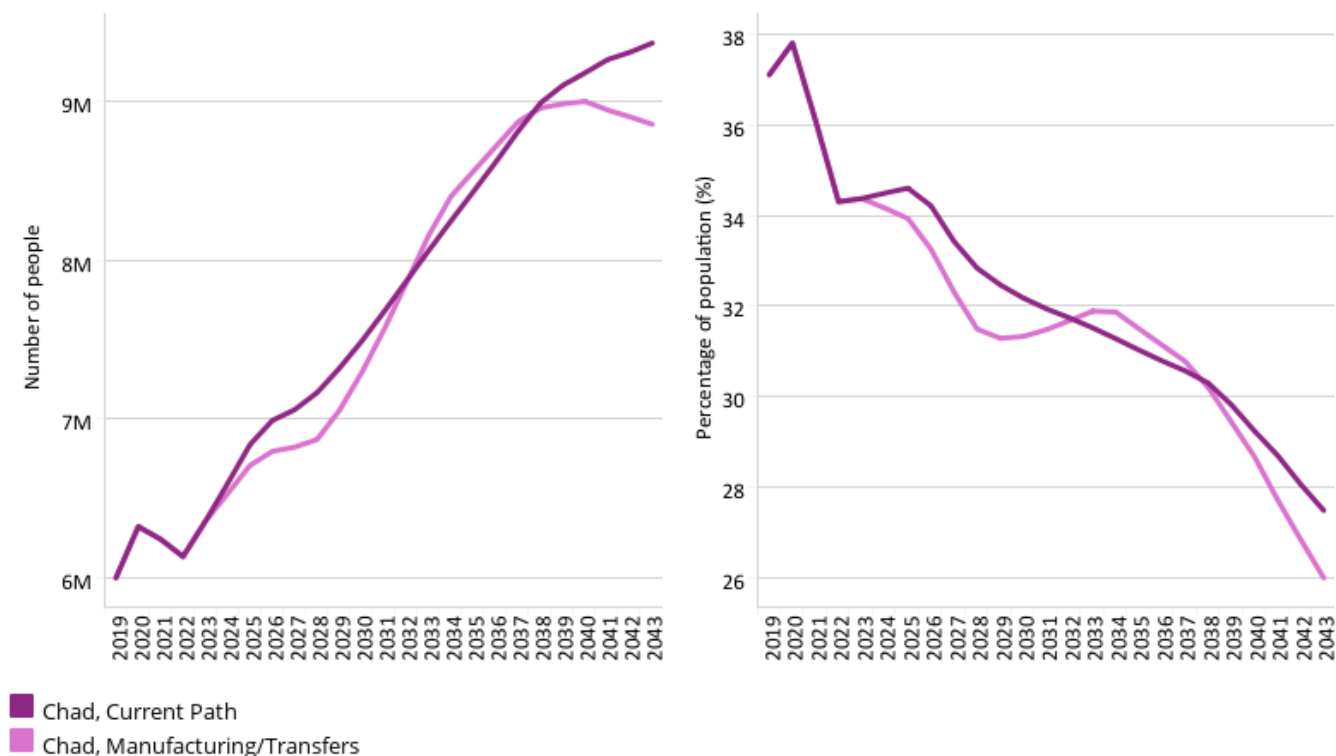
The Manufacturing/Transfers scenarios would not only boost employment but also provide the poor with some basic income to meet their needs. The Manufacturing/Transfers scenario will have a modest impact on the GDP per capita in 2043, increasing it by US\$141 above the Current Path forecast. The GDP per capita is expected to increase to US\$2 867 in this scenario compared to US\$2 726 in the Current Path forecast. In both the Current Path and the Manufacturing/Transfers scenarios, the GDP per capita will still be significantly below the average for low-income countries in Africa by 2043.

Chart 33: Poverty in CP and Manufac/Transfers scenario, 2019–2043

Millions of people and % of total population



Chad \$1.90



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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Increased social safety nets for the poor would reduce poverty and inequality and alleviate overall suffering. In addition, if well targeted and on a cash basis, the recipients would have more latitude to adequately address their needs and priorities.

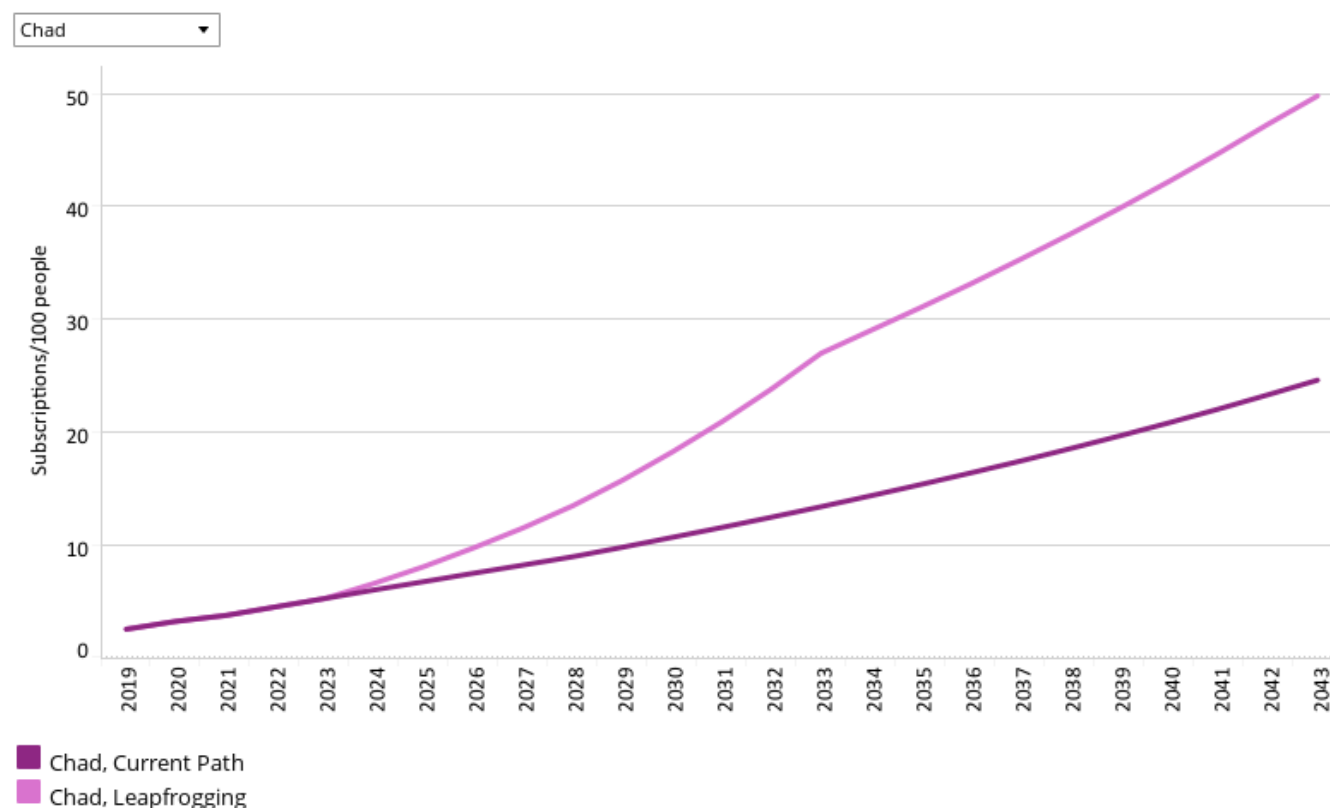
Owing to the high poverty rate in the country, transfers would initially reduce the rate and number of people in extreme poverty in the country. However, a few years down the line, because of the intensive capital required to make investments in manufacturing and for the gains to be sustained through a social programme, poverty slightly rises before declining substantially from 2038 onwards. At this point, Chad is likely to have a robust manufacturing industry that benefits its population.

By 2043, the extreme poverty rate is 26% compared to the Current Path forecast at 27.5%. This translates to roughly 512 000 people lifted out of poverty in 2043.



Leapfrogging scenario

Chart 34: Fixed broadband access in CP and Leapfrogging scenario, 2019–2043
Subscriptions per 100 people



Source: IFS 7.63 initialising from International Telecommunication Union data

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The Leapfrogging scenario represents a reasonable but ambitious adoption of and investment in renewable energy technologies, resulting in better access to electricity in urban and rural areas. The scenario includes accelerated access to mobile and fixed broadband and the adoption of modern technology that improves government efficiency and allows for the more rapid formalisation of the informal sector.

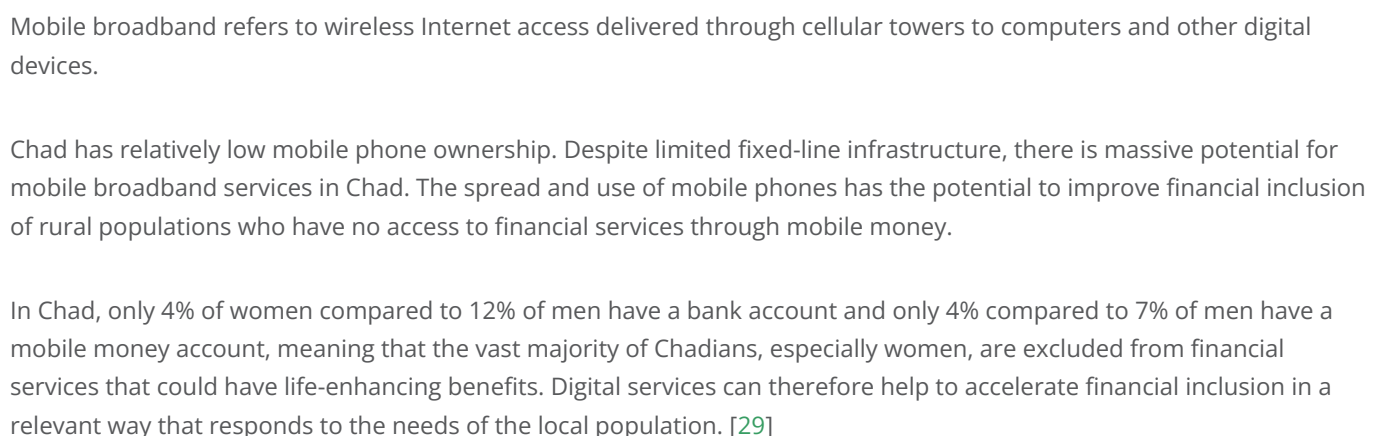
The intervention is explained [here](#) in the thematic part of the website.

Fixed broadband includes cable modem Internet connections, DSL Internet connections of at least 256 KB/s, fibre and other fixed broadband technology connections (such as satellite broadband Internet, ethernet local area networks, fixed-wireless access, wireless local area networks, WiMAX, etc.).

Infrastructure supports economic growth, regional integration and human development goals but infrastructure in Chad and the Sahel region in general lags significantly behind other regions of the world. Physical infrastructure such as roads and even ICT is limited but has been improving.

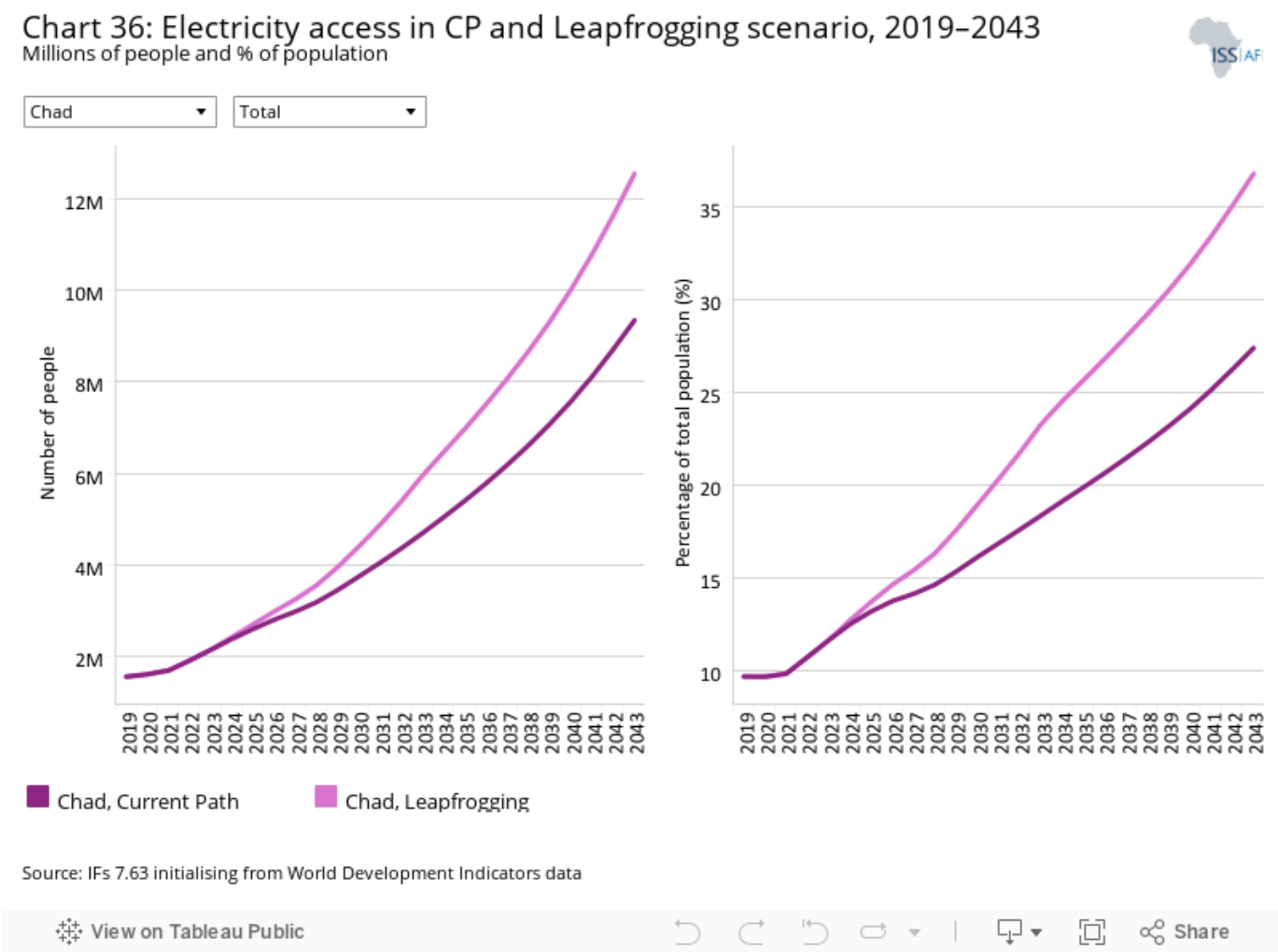
In 2019, Chad only had a fixed broadband subscription rate of 2.5 subscriptions per 100 people, below the average for Africa at 3.2 but above the average for low-income Africa at 2.3. In the Leapfrogging scenario, by 2043, Chad's fixed broadband subscriptions double to 49.8, up from 24.6 in the Current Path forecast, placing Chad above the average for

Chad also has immense potential for scaling renewable energy sources, particularly solar and wind which could boost the rate of electricity access in the country, especially for the rural population. Investing in renewable energy sources could help Chad to bypass some of the traditional distribution that connects the national grid to the rest of the country. Mini and off-grid solutions like solar could also have positive outcomes on health and education as people would shift to cleaner cooking fuel and children could study longer.



CHAD: GEOGRAPHIC FUTURES

Current Path forecast and Chad only gets to 100 subscriptions around 2038, four years later than the average for low-income African countries. By 2043, in the Leapfrogging scenario, Chad is projected to have 115.9 subscriptions per 100 people compared to 114.6 in the Current Path forecast.

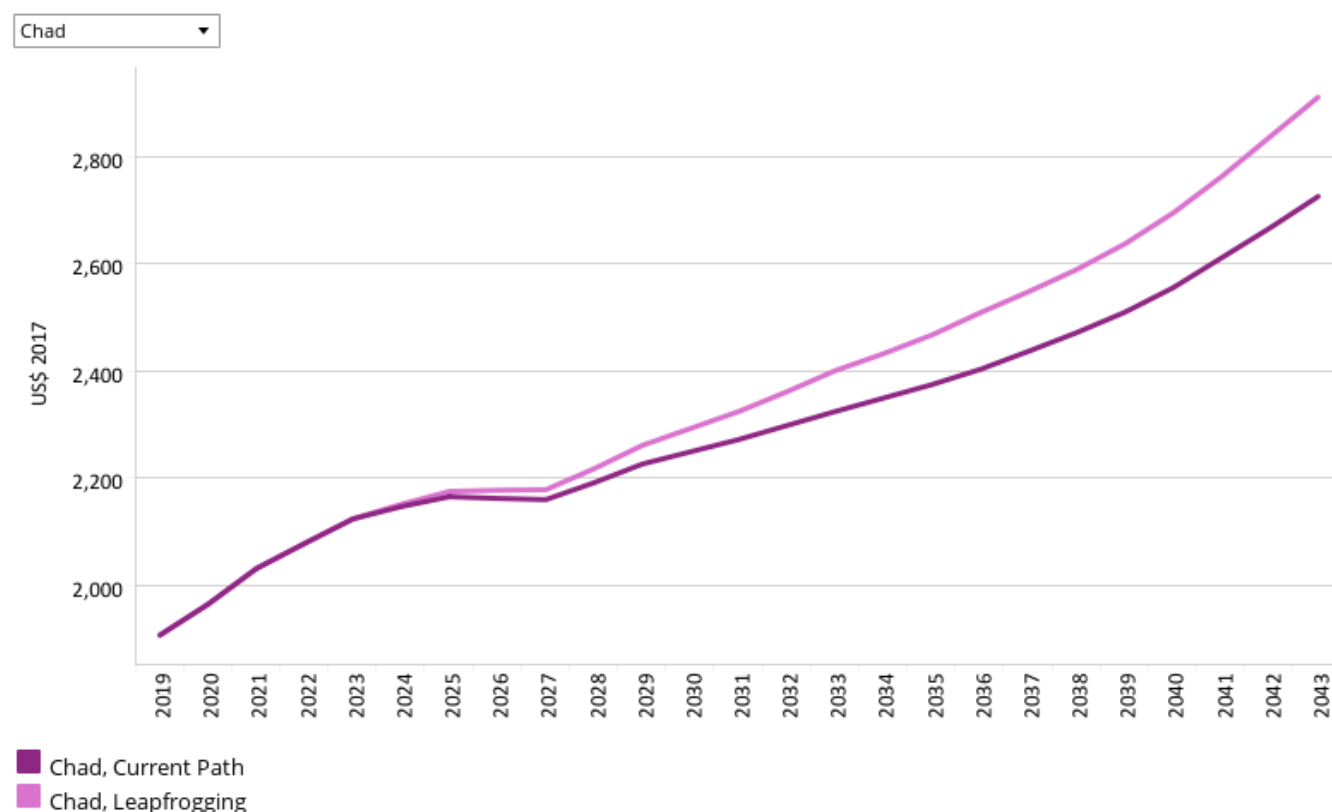


Despite being rich in energy resources, Chad has one of the lowest and most unreliable electricity supply networks in Africa and the world. In 2019, only about 2.3% of the rural population and 34.7% of those in urban areas had access to electricity.

In the Leapfrogging scenario, by 2043, rural access to electricity increases to 27.1% compared to 16.9% in the Current Path forecast. Urban access to electricity increases from 57.3% to 64.3% in 2043.

Nationally, access will only be 36.8% in the Leapfrogging scenario compared to the Current Path forecast of 27.4% — this represents 3.2 million more people with access to electricity in 2043. Despite the improvements, Chad’s total access rate to electricity will remain below the average of African low-income countries.

Chart 37: GDP per capita in CP and Leapfrogging scenario, 2019–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

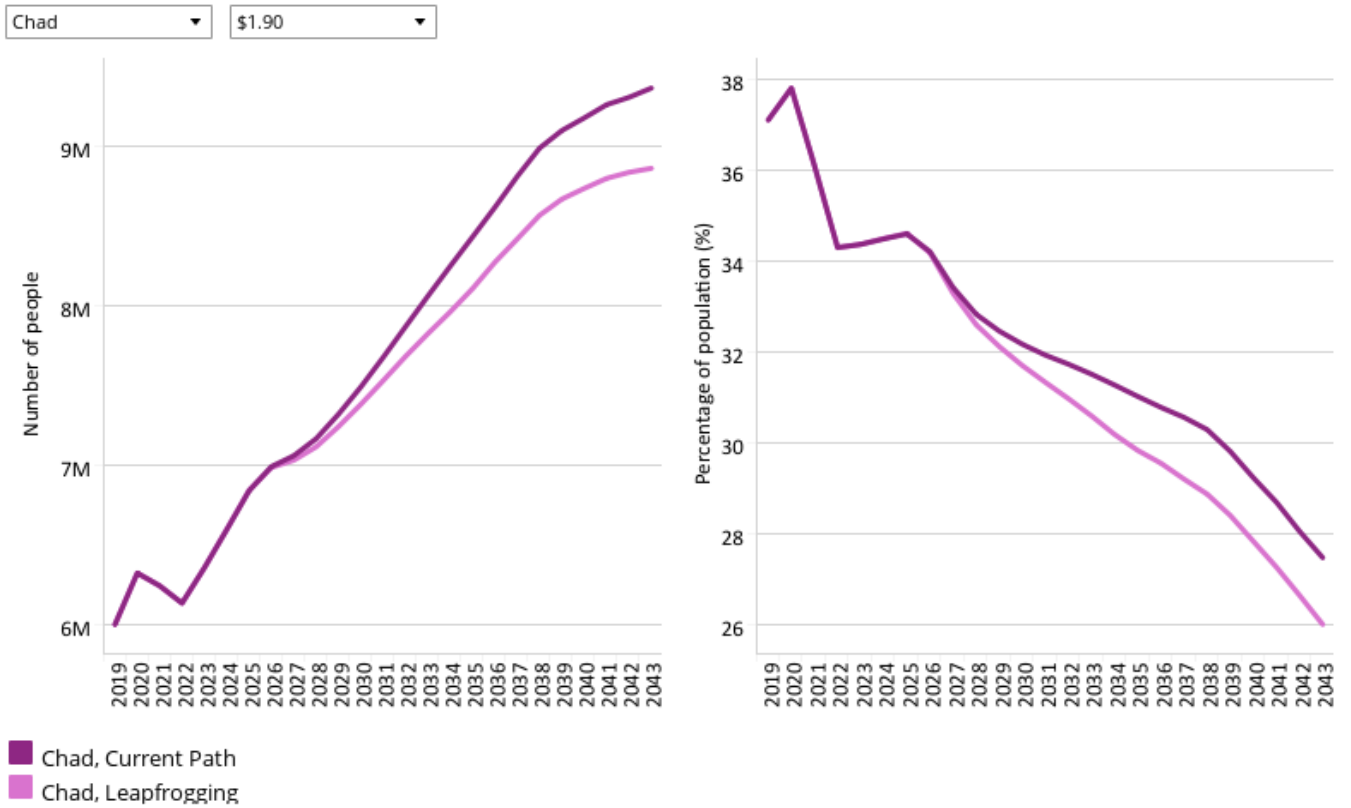
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Increased access to digital services and reliable energy significantly improves the welfare of Chadians. The GDP per capita improves from US\$2 726 in the Current Path forecast to US\$2 911, a US\$185 increase in income by 2043. This still falls significantly short of the average for low-income Africa that is forecast to be US\$4 130 by 2043 in the Leapfrogging scenario.

Chart 38: Poverty in CP and Leapfrogging scenario, 2019–2043

Millions of people and % of total population



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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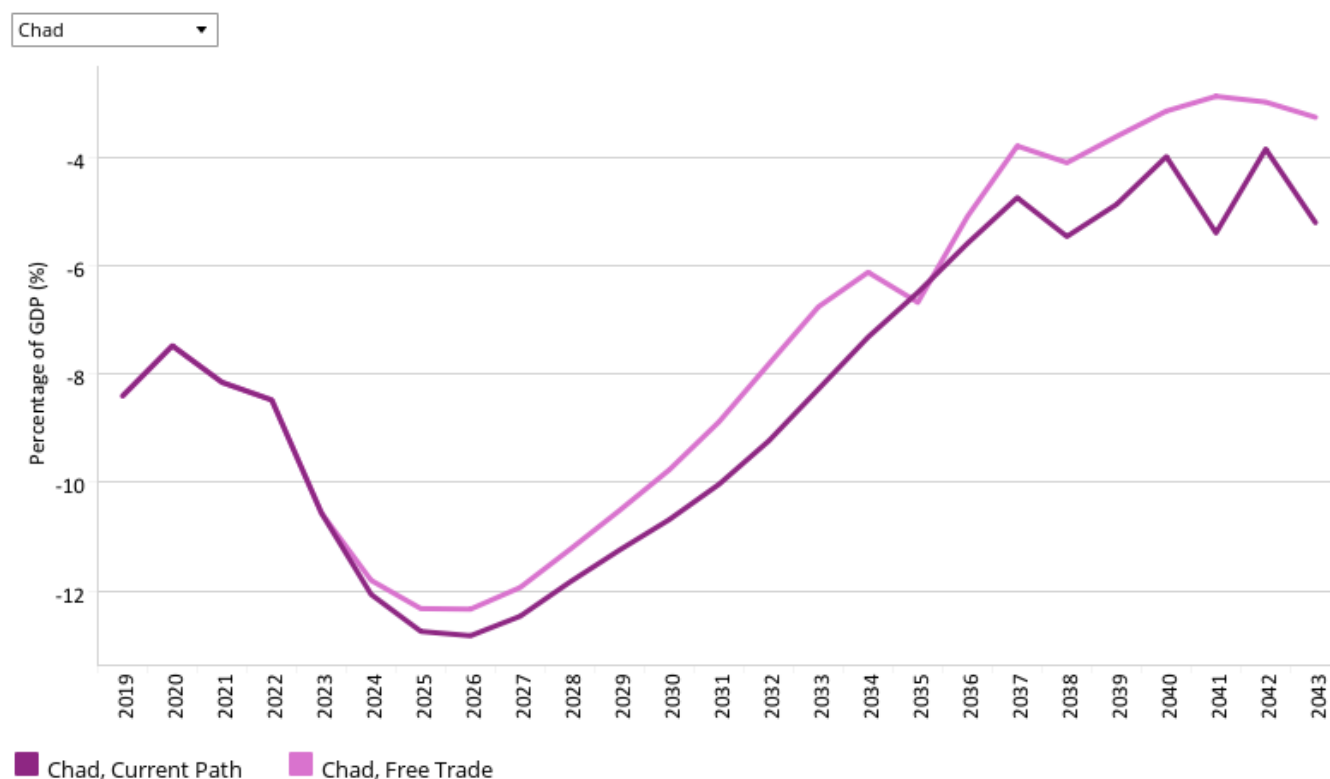
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Poverty reduces modestly in the Leapfrogging scenario, and by 2043 26% of the population are forecast to be in extreme poverty compared to 27.5% in the Current Path forecast. This is an approximate reduction of 504 000 fewer people surviving on the US\$1.90 per day threshold.



Free Trade scenario

Chart 39: Trade balance in CP and Free Trade scenario, 2019–2043
% of GDP



Source: IFs 7.63 initialising from World Development Indicators data

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The Free Trade scenario represents the impact of the full implementation of the African Continental Free Trade Area (AfCFTA) by 2034 through increases in exports, improved productivity and increased trade and economic freedom.

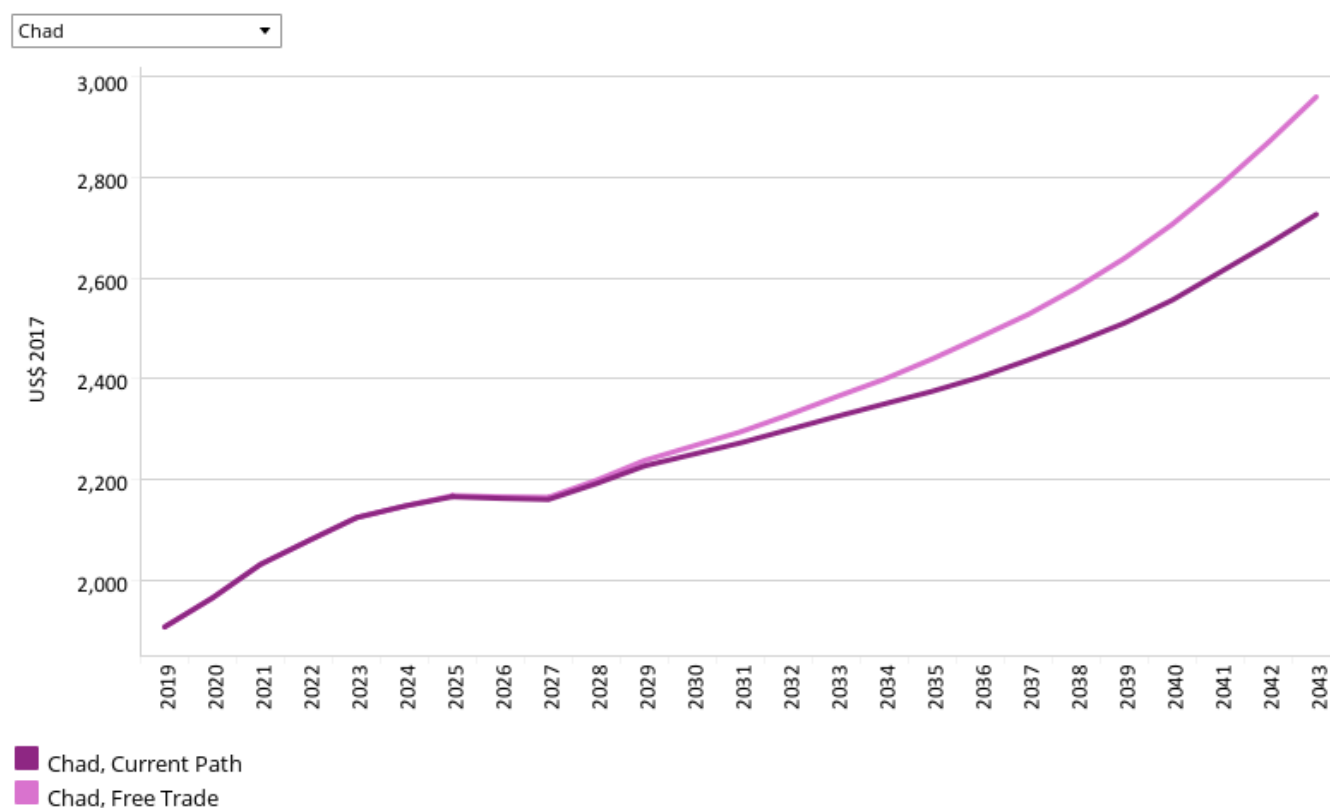
The intervention is explained [here](#) in the thematic part of the website.

The trade balance is the difference between the value of a country's exports and its imports. A country that imports more goods and services than it exports in terms of value has a trade deficit, while a country that exports more goods and services than it imports has a trade surplus.

Chart 39 displays the trade balance as a per cent of GDP for the Current Path forecast and for the Free Trade scenario. Chad's trade deficit in 2019 stood at 8.4% of GDP. In 2019, Chad imported goods to the value of US\$5.4 billion while exporting goods to the value of US\$4.2 billion.

The longer-term forecast shows improved exports with a trade deficit at 5.2% in 2043 in the Current Path forecast. The full implementation of the AfCFTA not only enables countries to export more easily but also opens them up to increased imports, endangering those sectors where they lack competitive advantage. In the Free Trade scenario, Chad's trade balance improves to a deficit of 3.3% by 2043.

Chart 40: GDP per capita in CP and Free Trade scenario, 2019–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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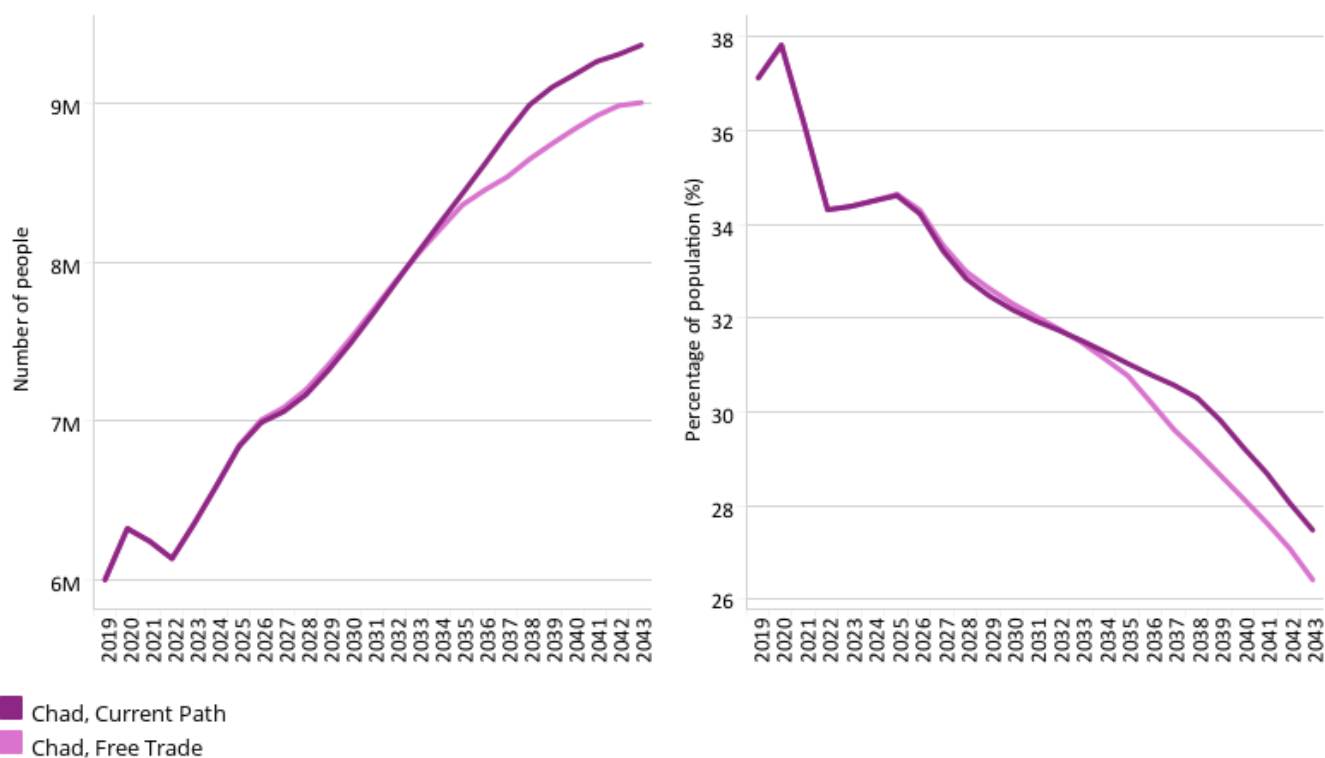
Chart 40 displays the modest impact of the Free Trade scenario on the GDP per capita in Chad. By 2043, the GDP per capita is expected to increase to US\$2 959 in the Free Trade scenario, compared to US\$2 726 in the Current Path forecast, an increase of US\$233 per capita. The GDP per capita for Chad is expected to continue to lag behind its income peers, with a growing per capita income gap from 2030 onwards.

Chart 41: Poverty in CP and Free Trade scenario, 2019–2043

Millions of people and % of total population



Chad \$1.90



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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Increased trade does not initially reduce poverty in Chad owing to the fact that trade is largely a national phenomenon and Chad's trading goods are concentrated around high-value commodities that would typically attract rent-seeking and political patronage to participate. These commodities are out of reach for the average Chadian, they do not have direct benefits for the population and the distribution of resulting revenues does not necessarily trickle down to the poor.

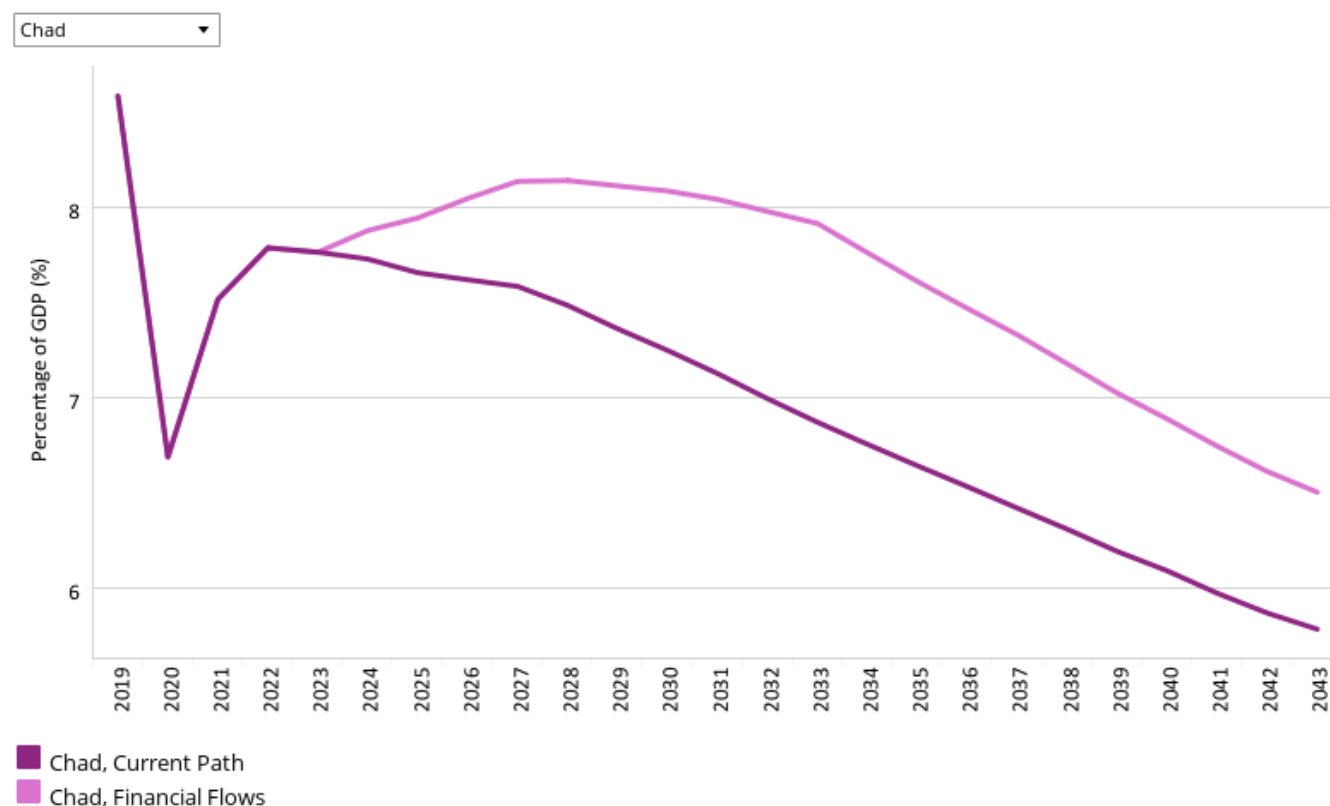
Therefore, to make an impact on the population, Chad needs to trade in commodities that impact the lives of its people. In addition, revenue from trade of goods such as crude petroleum should be used to advance pro-poor policies to provide basic needs and services and to lift Chadians out of extreme poverty.

Therefore, in the Free Trade scenario, it is only after 2035 that extreme poverty modestly declines to 26.4% by 2043, just more than a percentage point below the Current Path forecast and represents 363 000 fewer people in extreme poverty.



Financial Flows scenario

Chart 42: Foreign aid in CP and Financial Flows scenario, 2019–2043
% of GDP



Source: IFs 7.63 initialising from Development Assistance Committee of the OECD data, and World Bank and OECD GNI estimates.

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The Financial Flows scenario represents a reasonable but ambitious increase in worker remittances and aid flows to poor countries, and an increase in the stock of foreign direct investment (FDI) and additional portfolio investment inflows to middle-income countries. We also reduced outward financial flows to emulate a reduction in illicit financial outflows.

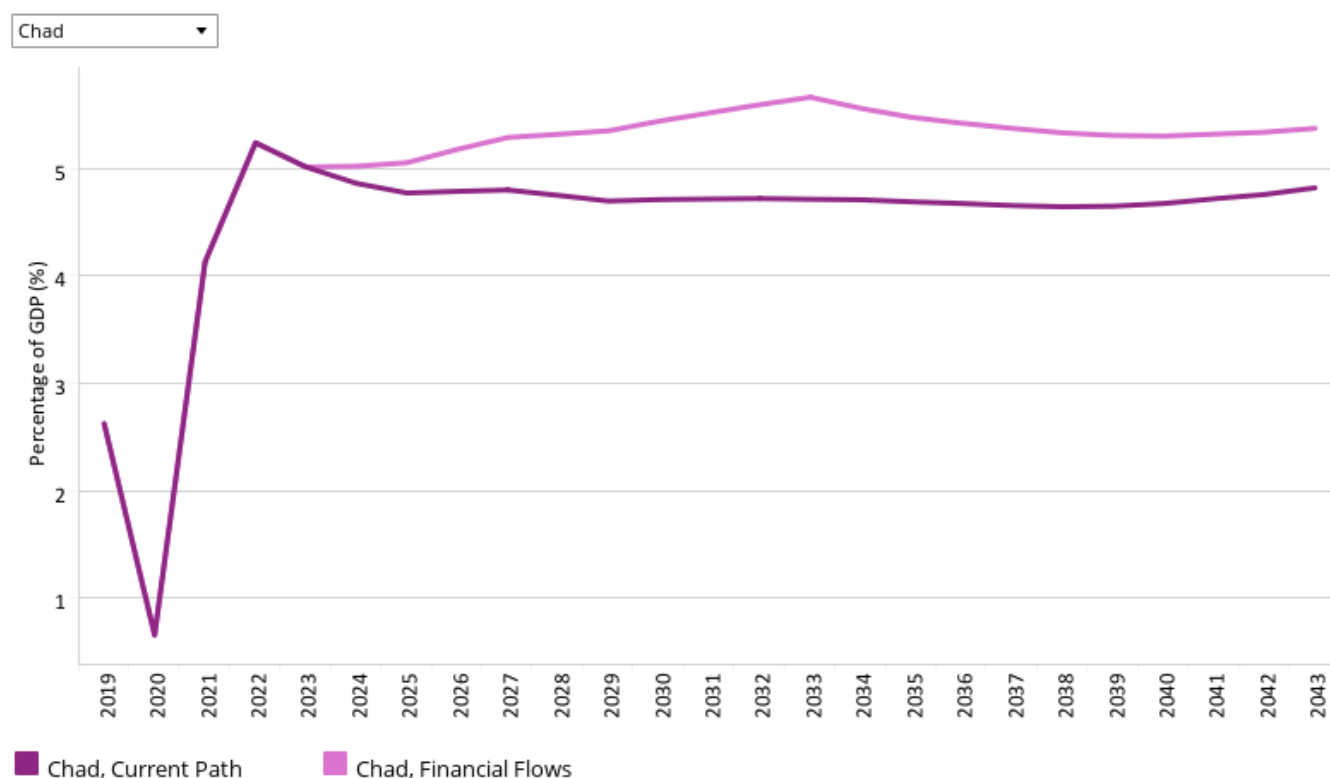
The intervention is explained [here](#) in the thematic part of the website.

As a result of Chad's underdevelopment, it receives significant foreign aid, especially humanitarian aid. Chad also hosts more refugees per capita than any other African nation. Therefore, humanitarian assistance alleviates human suffering while contributing to stability in the country and in the region. [30]

Net official development assistance and official aid has been increasing in Chad since 1960. In 2019, foreign aid contributed 8.6% to Chad's GDP — a value of US\$1.3 billion.

In the Financial Flows scenario, by 2033, foreign aid will account for nearly 8% of the GDP compared to nearly 7% in the Current Path forecast. In the foreseeable future, aid is projected to slightly decline, and by 2043, foreign aid to Chad will constitute 6.5% of GDP relative to 5.8% in the Current Path forecast. This will, however, still be higher than the expected contribution of aid to the economy of low-income countries in Africa in 2043.

Chart 43: Inflow of FDI in CP and Financial Flows scenario, 2019–2043
% of GDP



Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

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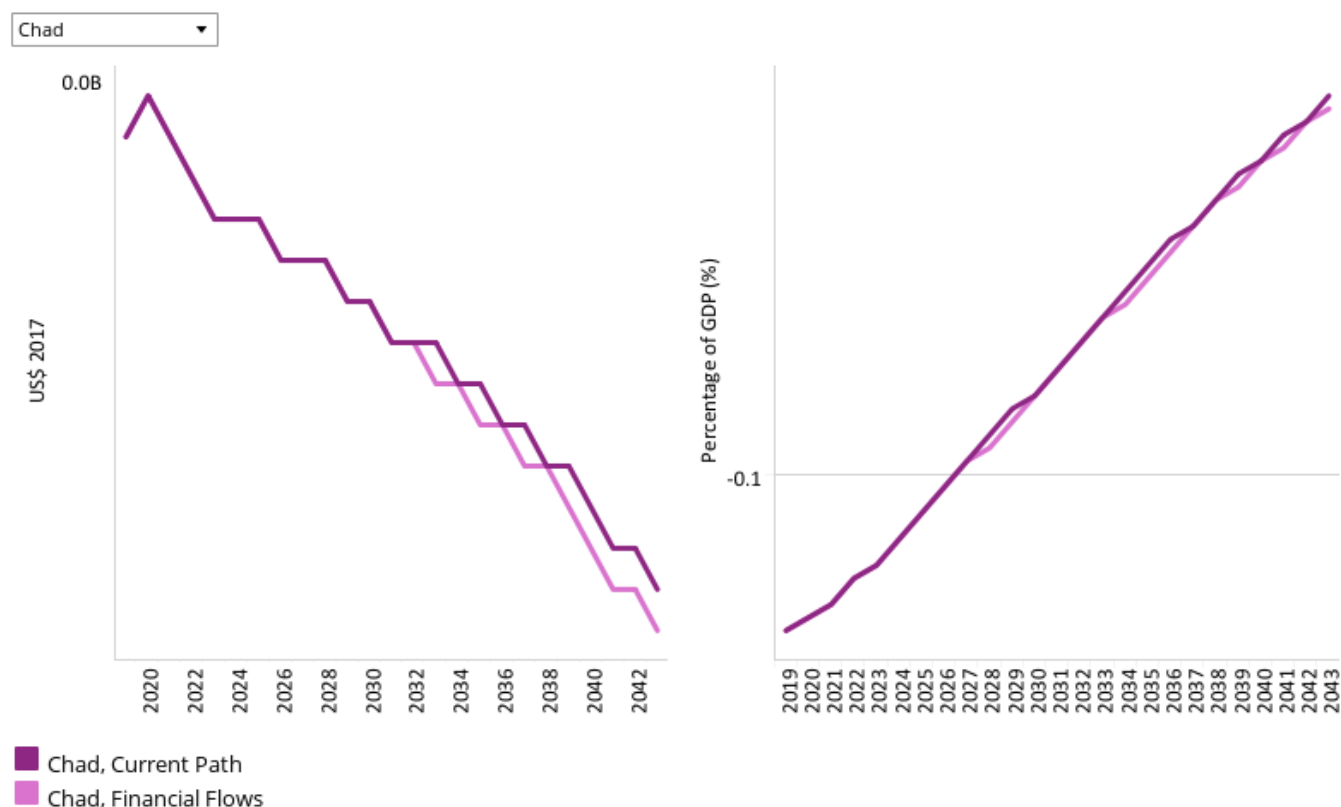
FDI to Chad largely goes to the hydrocarbon industry although the government is making efforts to attract more FDI towards infrastructure projects. Additionally, FDI to other sectors could make significant progress towards inclusive and sustainable development in Chad. [31]

Chad is the second largest producer of gum arabic globally. It also produces sesame, shea, spirulina and groundnuts that can attract significant FDI. Furthermore, livestock, a major resource (and the third largest in Africa) and a significant contributor to the country's GDP, also has huge potential. Attracting investment to these sectors could, among other things, help overcome food security challenges in the country. [32]

In the Financial Flows scenario, FDI is expected to contribute about 5.7% of GDP in 2033 compared to 4.7% in the Current Path forecast. By 2043, the contribution of FDI to Chad's economy is expected to slightly decline to about 5.4% of GDP although this will be a boost from about 4.8% in the Current Path forecast in that year, placing it slightly above the average for low-income Africa.

Chart 44: Remittances in CP and Financial Flows scenario, 2019–2043

Billions US\$ 2017 and % of GDP



Source: IFs 7.63 initialising from World Development Indicators data

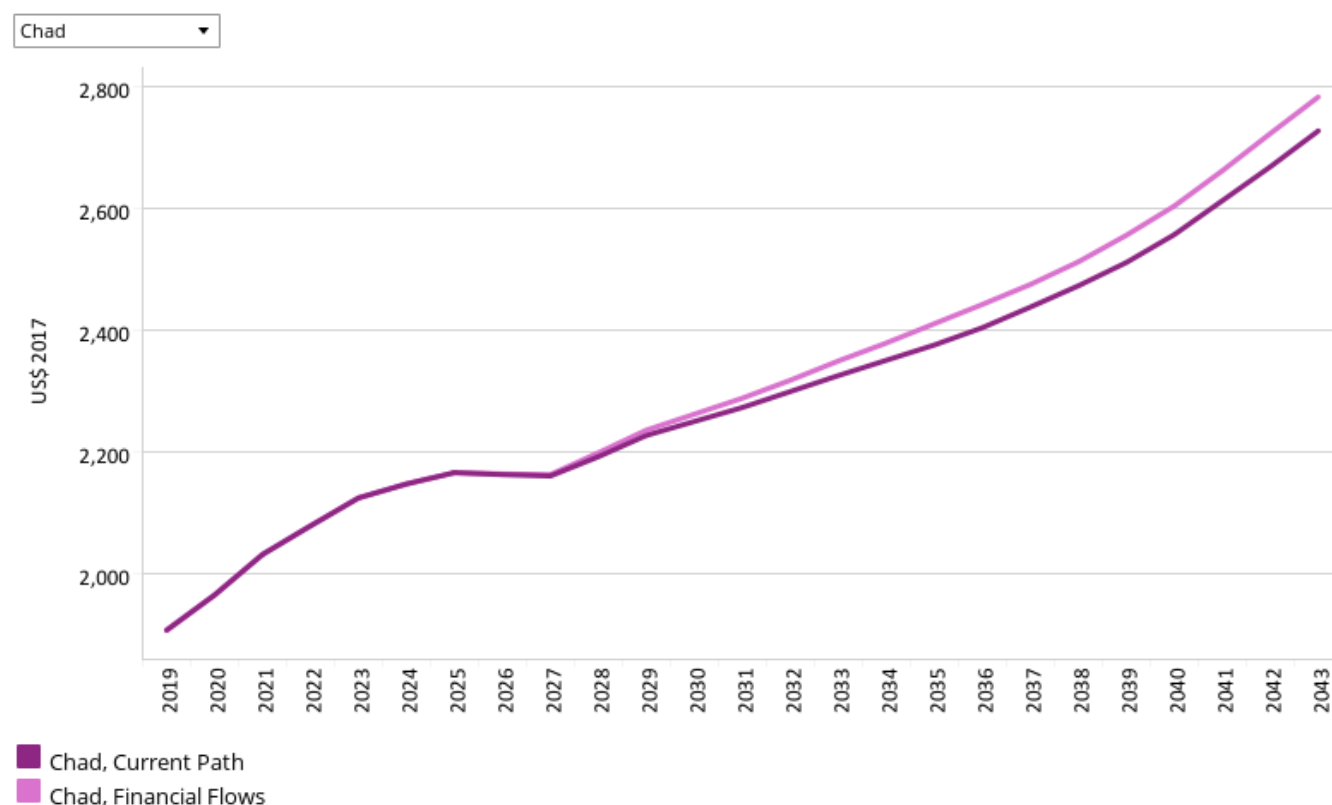
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In Chad, remittances are used to help families make ends meet and also to contribute to local development like the construction of key infrastructures in local communities. [33]

Given the low number of Chadians who send money home, net remittances in Chad are expected to reduce and be negative (i.e. there will be more money leaving the country than entering the country as remittances) by 2043. In 2019, net remittances were -US\$20 million and are projected to decrease further, reaching -US\$30 million in 2043 in the Financial Flows scenario.

Chart 45: GDP per capita in CP and Financial Flows scenario, 2019–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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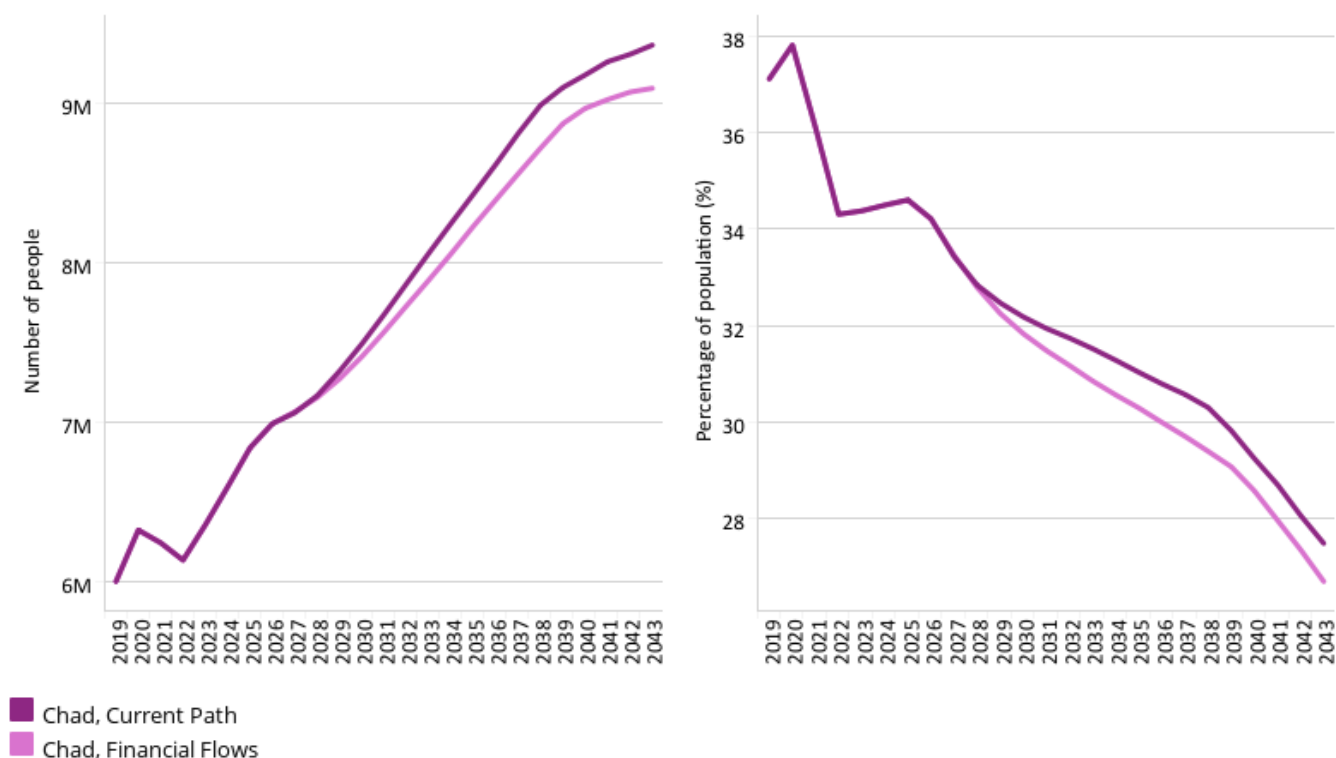
The Financial Flows scenario makes a very small contribution to the increase of the GDP per capita. By 2043, the GDP per capita is expected to increase to US\$2 782 in the Financial Flows scenario, compared to US\$2 726 in the Current Path forecast, an increase of only US\$56 per capita. The GDP per capita for Chad is expected to continue to lag behind its income peers, with a growing per capita income gap from 2030 onwards.

Chart 46: Poverty in CP and Financial Flows scenario, 2019–2043

Millions of people and % of total population



Chad \$1.90



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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Trade openness will reduce poverty in the long term after initially increasing it due to the redistributive effects of trade. Most African countries export primary commodities and low-tech manufacturing products, and therefore a continental free trade agreement (AfCFTA) that reduces tariffs and non-tariff barriers across Africa will increase competition among countries in primary commodities and low-tech manufacturing exports. Countries with inefficient, high-cost manufacturing sectors might be displaced as the AfCFTA is implemented, thereby pushing up poverty rates. In the long term, as the economy adjusts and produces and exports its comparatively advantaged (lower relative cost) goods and services, poverty rates will decline.

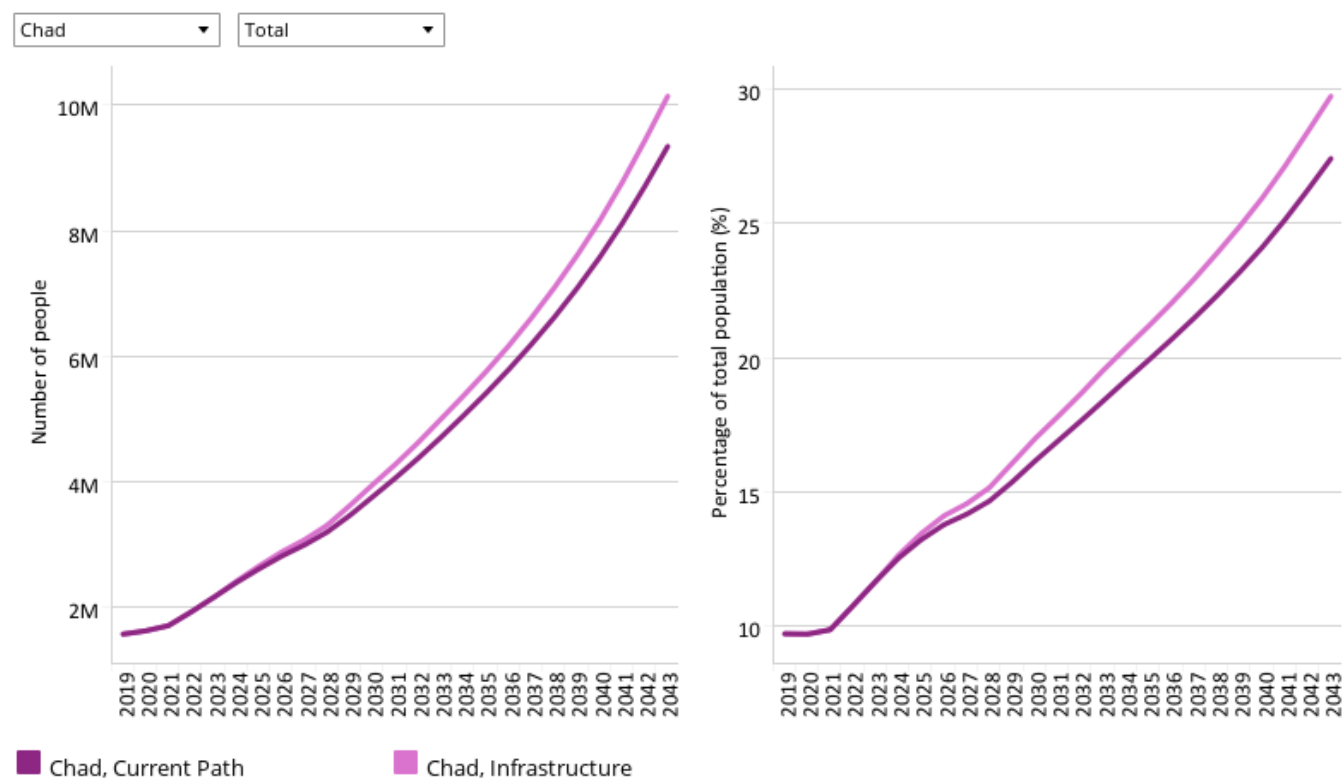
The Financial Flows scenario modestly reduces the rate of poverty from 2030 onwards, and by 2043, the rate of extreme poverty in Chad is expected to be approximately 26.7% compared to 27.5% in the Current Path forecast. The scenario has the potential therefore to lift an additional 271 000 people out of extreme poverty by 2043.



Infrastructure scenario

Chart 47: Electricity access in CP and Infrastructure scenario, 2019–2043

Millions of people and % of population



Source: IFs 7.63 initialising from World Development Indicators data

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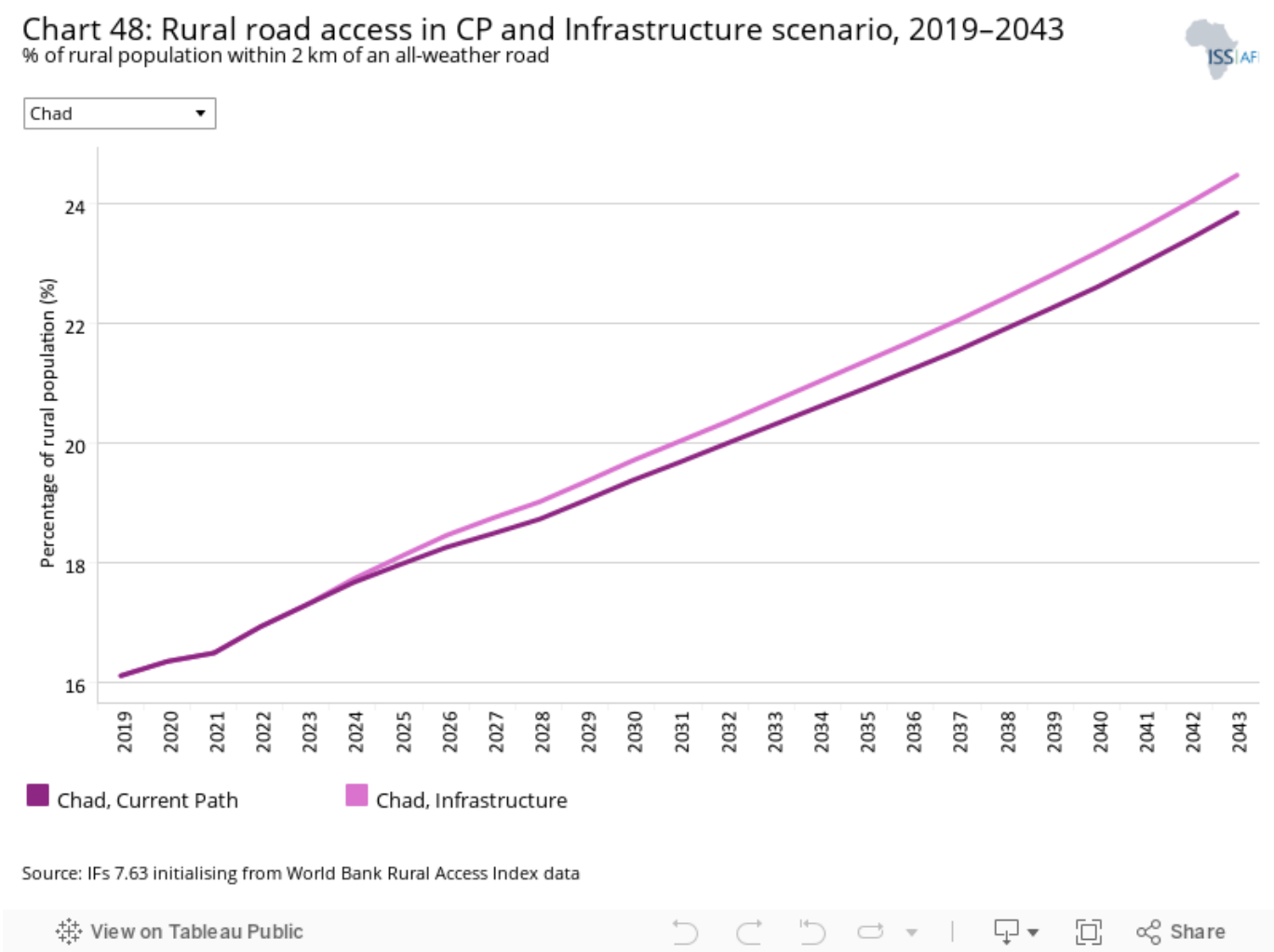
The Infrastructure scenario represents a reasonable but ambitious increase in infrastructure spending across Africa, focusing on basic infrastructure (roads, water, sanitation, electricity access and ICT) in low-income countries and increasing emphasis on advanced infrastructure (such as ports, airports, railway and electricity generation) in higher-income countries.

Note that health and sanitation infrastructure is included as part of the Health/WaSH scenario and that ICT infrastructure and more rapid uptake of renewables are part of the Leapfrogging scenario. The interventions there push directly on outcomes, whereas those modelled in this scenario increase infrastructure spending, indirectly boosting other forms of infrastructure, including that supporting health, sanitation and ICT.

The intervention is explained [here](#) in the thematic part of the website.

According to the UN, Chad and the Sahel region in general are endowed with significant potential for renewable energy (such as solar and wind). [34] Despite this potential, only 9.7% of the population in Chad had access to electricity in 2019. This is significantly lower than the average level of access for low-income countries in Africa at just over 32% in the same year. Rural populations in Chad had an extremely low electricity access rate of 2.3% in 2019 compared to the 19.1% access for the average of low-income countries in Africa.

In the Infrastructure scenario, electricity access increases modestly, and by 2043, 29.7% of the population (10.1 million people) will have access to electricity. This is a 2.3 percentage-point difference from the Current Path forecast in that year.



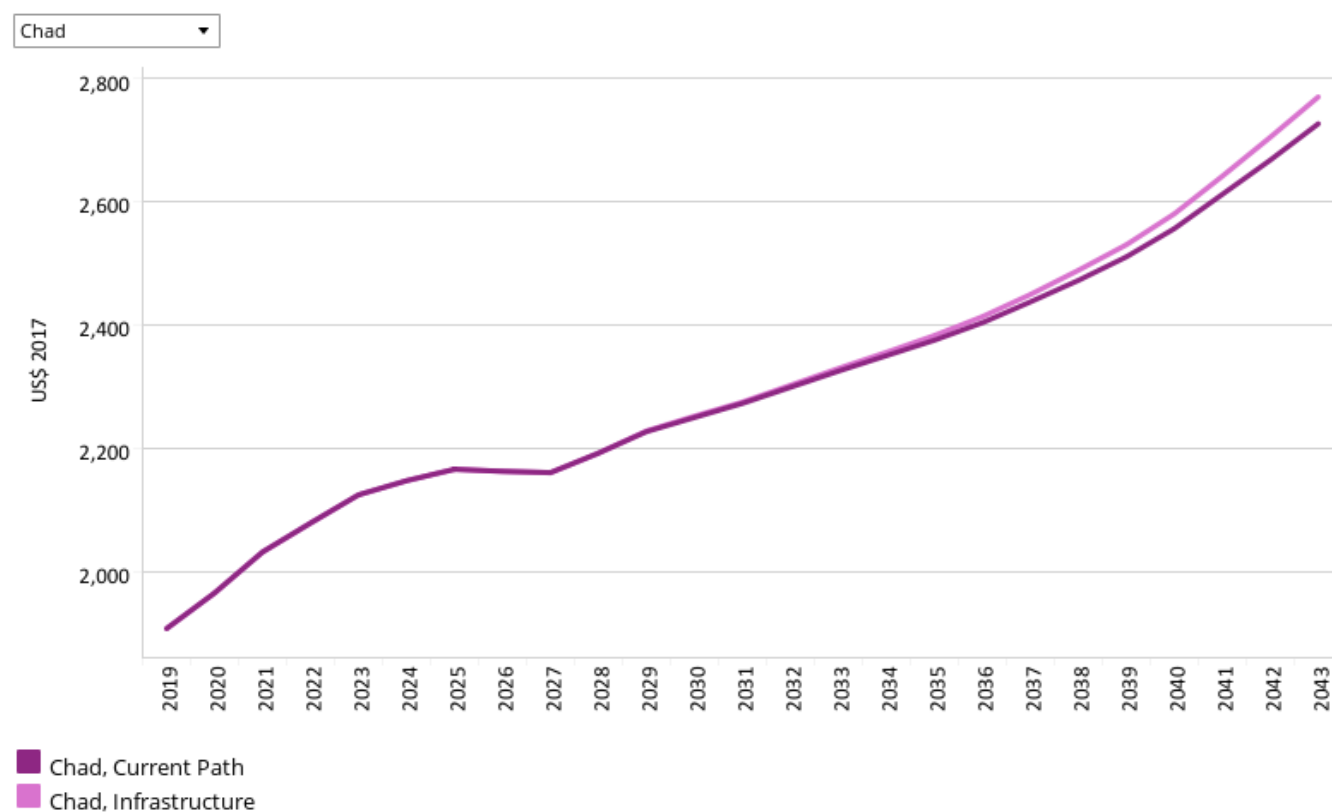
Indicator 9.1.1 in the Sustainable Development Goals refers to the proportion of the rural population who live within 2 km of an all-season road and is captured in the Rural Access Index.

Chad has a huge infrastructure deficit. The road network, both paved and unpaved, is very poorly maintained. In 2019, Chad had a total road network of just more than 43 000 km with approximately 1.5% paved, mostly in the capital city of N'Djamena. In 2019, only 16.1% of the population had access to an all-weather road, compared to an average of 43% for low-income countries in Africa. This is a significant obstacle to the country, as limited road access constrains access to critical services, delivery of aid and makes participating in economic activities much more difficult.

In the Infrastructure scenario, the per cent of rural population within 2 km access from an all-weather road increases to 24.5%, only 0.6 percentage points above the Current Path forecast in 2043 (Chart 48).

This points to the severe backlog in providing critical access roads as well as to the dispersed nature of the population in Chad (Chart 4).

Chart 49: GDP per capita in CP and Infrastructure scenario, 2019–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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Chart 49 displays the impact that the Infrastructure scenario will have on the GDP per capita in Chad. By 2043, the GDP per capita is expected to increase to US\$2 770 in the Infrastructure scenario compared to US\$2 726 in the Current Path forecast, an increase of only US\$51 per capita. The GDP per capita for Chad is expected to continue to lag behind its income peers, with a growing per capita income gap from 2030 onwards.

Chart 50: Poverty in CP and Infrastructure scenario, 2019–2043
Millions of people and % of total population



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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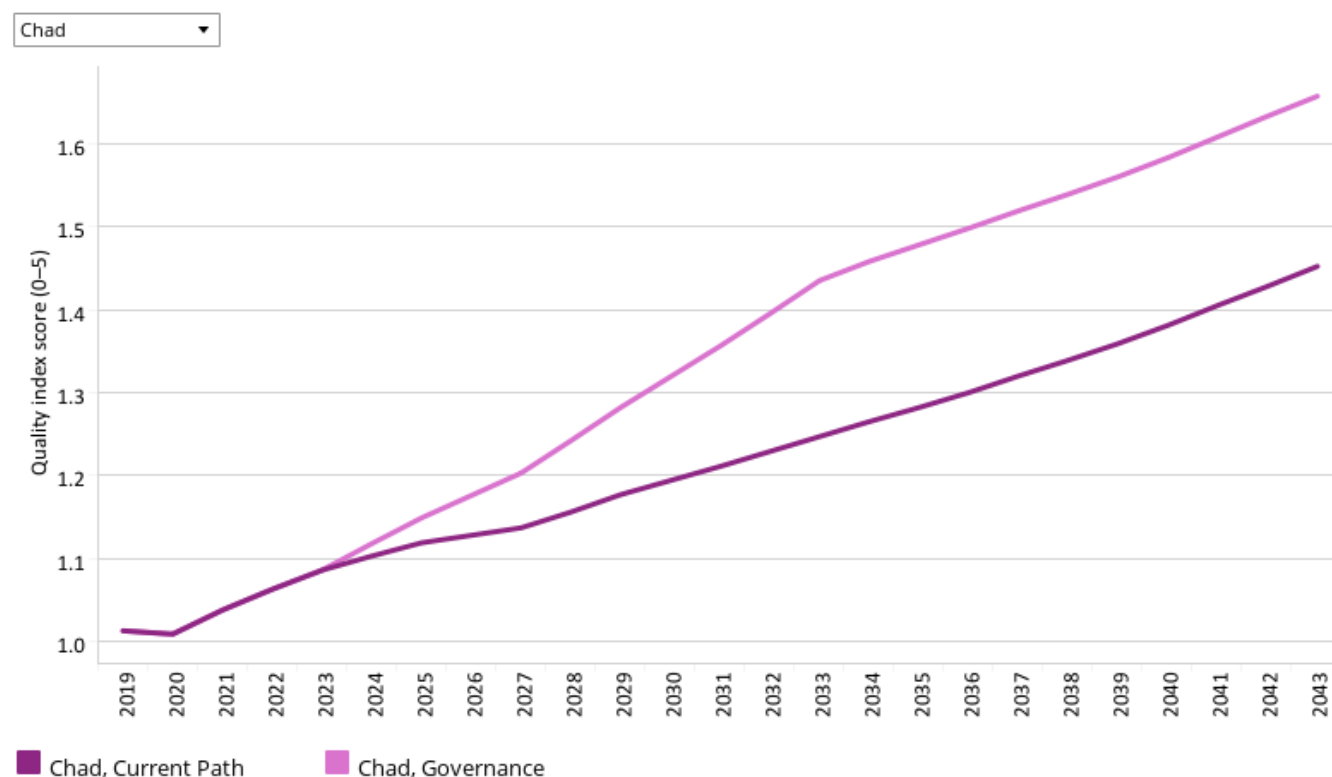
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The Infrastructure scenario barely impacts the rate of extreme poverty in Chad in the forecast horizon. This is likely because the country would need to make huge investments in infrastructure that are inherently expensive. Given Chad's infrastructure deficit and the fact that it is coming off a very low base, funds will be concentrated on such projects and this will come with a number of trade-offs in light of limited resources.



Governance scenario

Chart 51: Gov effectiveness in CP and Governance scenario, 2019–2043
World Bank quality index score for government effectiveness



Source: IFs 7.63 initialising from Kaufmann, Kraay and Mastruzzi (2010) data

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The Governance scenario represents a reasonable but ambitious improvement in accountability and reduces corruption, and hence improves the quality of service delivery by government.

The intervention is explained [here](#) in the thematic part of the website.

As defined by the World Bank, 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’.

Chart 51 presents the impact of the interventions in the Governance scenario on government effectiveness.

Good governance is a pillar for development and Chad’s governance system is characterised by poor government effectiveness, corruption and political patronage. The state of governance in the country is a factor of historical challenges and persistent conflict and political crises within the country and in the region. As a result, poor governance has affected the level of development in the country.

The recent military take over does not lend credibility to Chad’s future to build a democratic society. [35] Going forward, Chad needs to focus on the long-term stability of the country and augment the legitimate security challenges with a

tangible economic development agenda to lift it out of the vicious cycle of underdevelopment and poor leadership.

Reducing corruption and wastage in the Chadian economy would have a significant impact on government effectiveness. It would mean increased ability of the government not only to raise revenue but also to use it efficiently to provide basic services for its population. In particular, the government would better use the proceeds from its oil revenues to improve the economy and infrastructure and alleviate the suffering of the Chadian people.

In the Governance scenario, the government effectiveness index improves from 1 in 2019 to 1.66 by 2043. This is an improvement over the Current Path forecast that is forecast to be 1.45 by 2043.

Although this will be an improvement of nearly 13% over the Current Path forecast in that year, Chad will still be lagging behind the average of low-income countries in Africa (Chart 51).

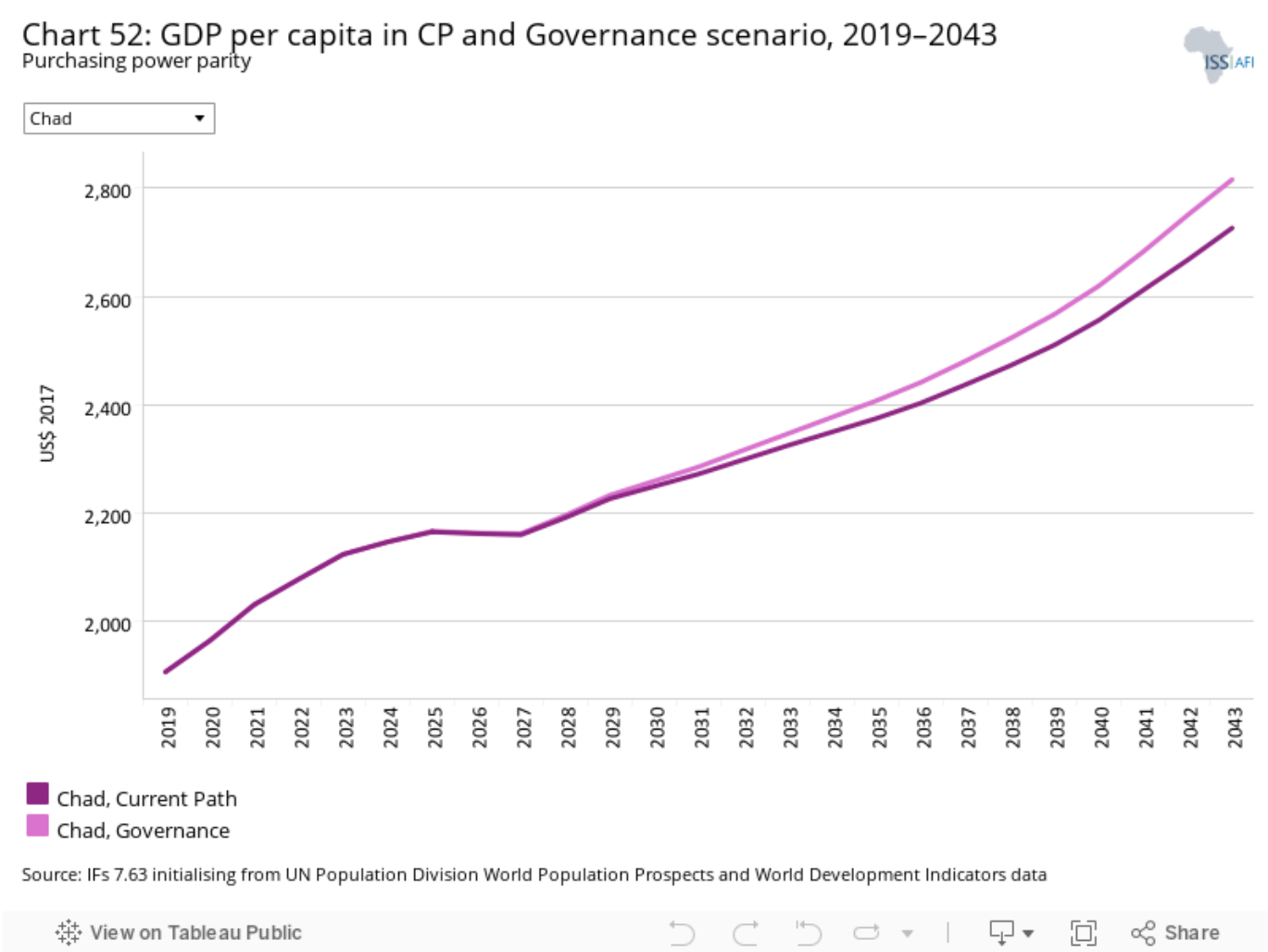


Chart 53: Poverty in CP and Governance scenario, 2019–2043
 Millions of people and % of total population



Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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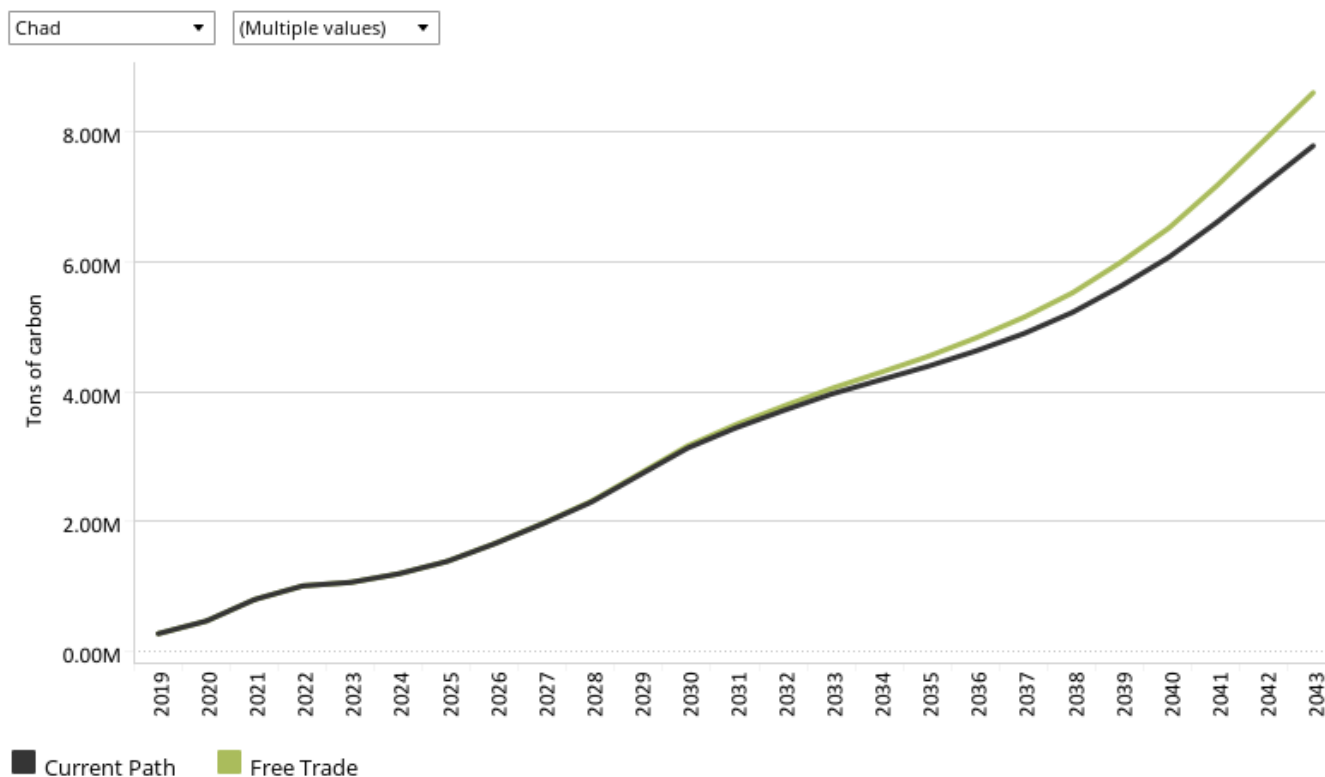
The Governance scenario only starts to make modest improvements in poverty after 2033. By 2043, Chad’s extreme poverty rate will be approximately 26.8% compared to 27.5% in the Current Path forecast. This will result in 247 000 fewer people living below US\$1.90 per day extreme poverty threshold.



Impact of scenarios on carbon emissions

Chart 54: Carbon emissions in CP and scenarios, 2019–2043

Million tons of carbon (note, not CO₂ equivalent)



Source: IFs 7.63 initialising from Carbon Dioxide Information Analysis Center data

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This section presents projections for carbon emissions in the Current Path for [Chad] and the 11 scenarios. Note that IFs uses carbon equivalents rather than CO₂ equivalents.

When the thematic scenarios are compared against each other, the Agriculture scenario makes the greatest contribution to carbon emissions throughout the forecast horizon.

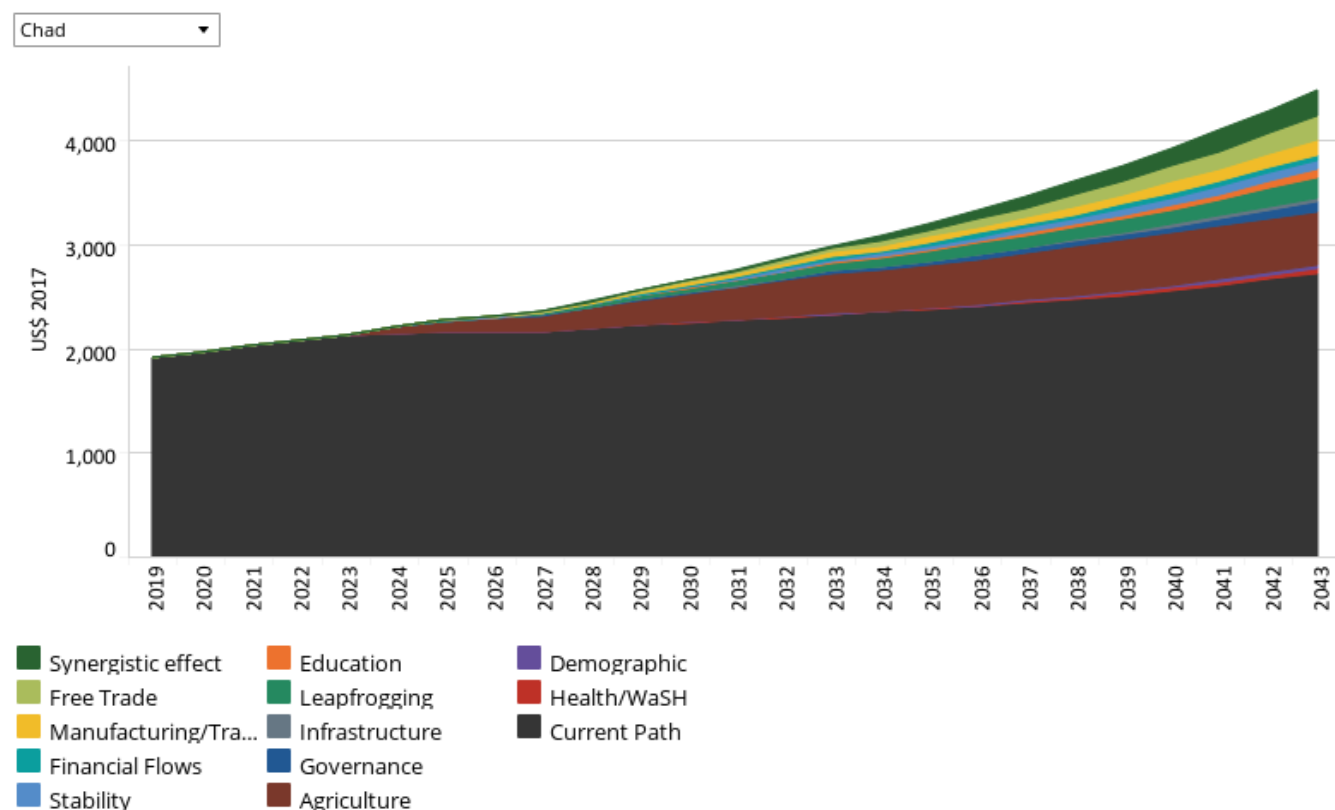
Chad's carbon emissions are projected to increase most in the Agriculture scenario, emitting an additional 9.5 million tons of carbon by 2043 compared to 2019, and 2 million tons of carbon more than the Current Path forecast for 2043. This increase is brought about by the increased agricultural production associated with this scenario.

In the Demographic scenario, emissions are forecast to be the lowest. In 2043, emissions in the Demographic scenario are likely to be 0.01 million metric tons less than emissions in the Current Path forecast for the same year. This is the result of a slightly smaller population in the Demographic scenario compared to the Current Path forecast.

Chad's carbon emissions are projected to increase most in the Agriculture scenario, emitting an additional 9.5 million tons of carbon by 2043 compared to 2019, and 2 million tons of carbon more.

Chart 55: GDP per capita in CP and scenarios, 2019–2043

Additional GDP per capita per scenario, purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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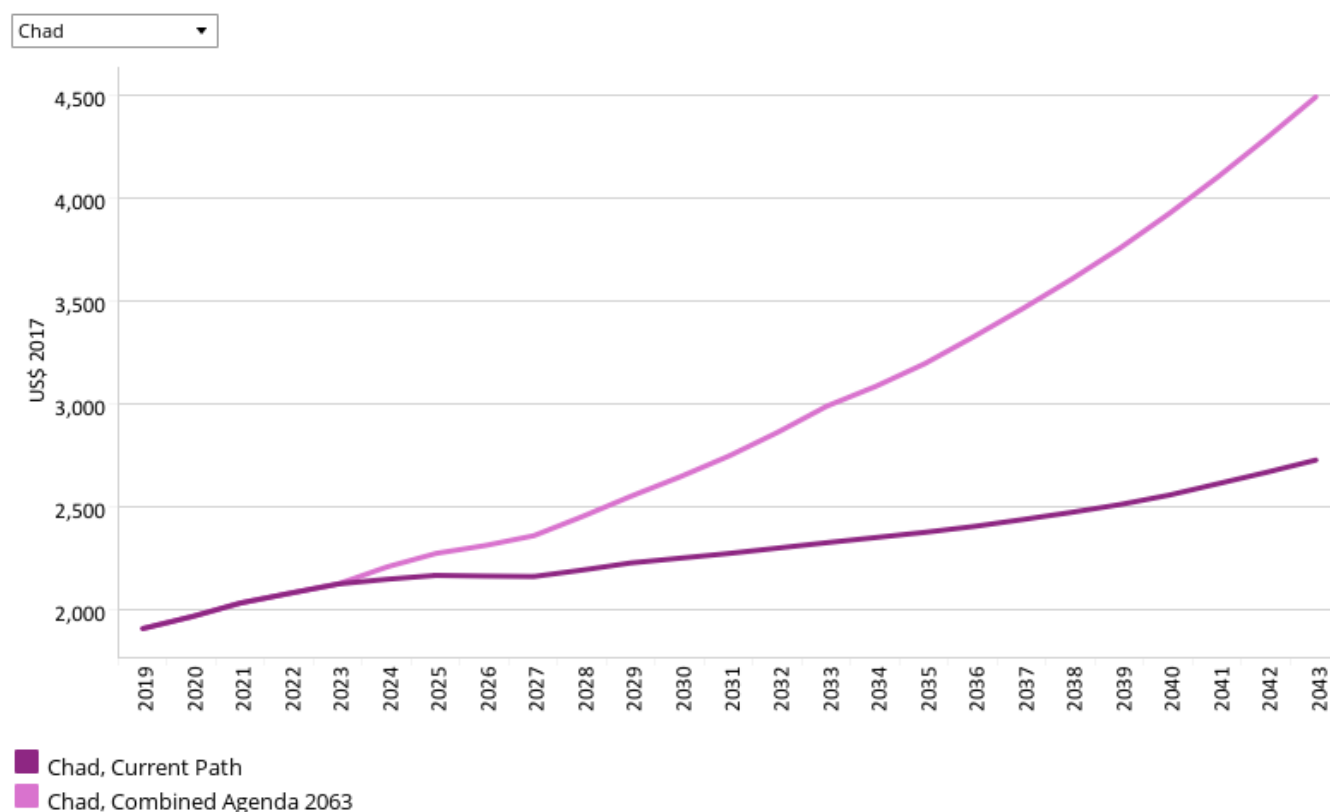
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The Combined Agenda 2063 scenario consists of the combination of all 11 sectoral scenarios presented above, namely the Stability, Demographic, Health/WaSH, Agriculture, Education, Manufacturing/Transfers, Leapfrogging, Free Trade, Financial Flows, Infrastructure and Governance scenarios. The cumulative impact of better education, health, infrastructure, etc. means that countries get an additional benefit in the integrated IFs forecasting platform that we refer to as the synergistic effect. Chart 55 presents the contribution of each of these 12 components to GDP per capita in the Combined Agenda 2063 scenario as a stacked area graph.

By 2043, the Agriculture scenario will make the greatest contribution to the GDP per capita of Chad owing to its importance to the country's population which is forecast to remain largely dependent on this sector. It will be followed by the Free Trade, Leapfrogging, Manufacturing/Transfers and Governance scenarios making significant contributions.

The synergistic effect of an Agenda 2063 scenario that assumes improvements are made in all 11 broad intervention areas could add an additional US\$254 to per capita income in 2043.

Chart 56: GDP per capita in CP and Combined scenario, 2019–2043
Purchasing power parity



Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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Whereas Chart 55 presents a stacked area graph on the contribution of each scenario to GDP per capita as well as the additional benefit or synergistic effect, Chart 56 presents only the GDP per capita in the Current Path forecast and the Combined Agenda 2063 scenario.

Overall, when all the scenarios are integrated in a Combined Agenda 2063 scenario, improvement in GDP per capita is much larger. By 2043, per capita income is projected to be US\$4 491 in the Combined Agenda 2063 scenario, US\$1 765 more than the Current Path forecast at US\$2 726.

Chart 57: Poverty in CP and Combined scenario, 2019–2043
Millions of people and % of total population



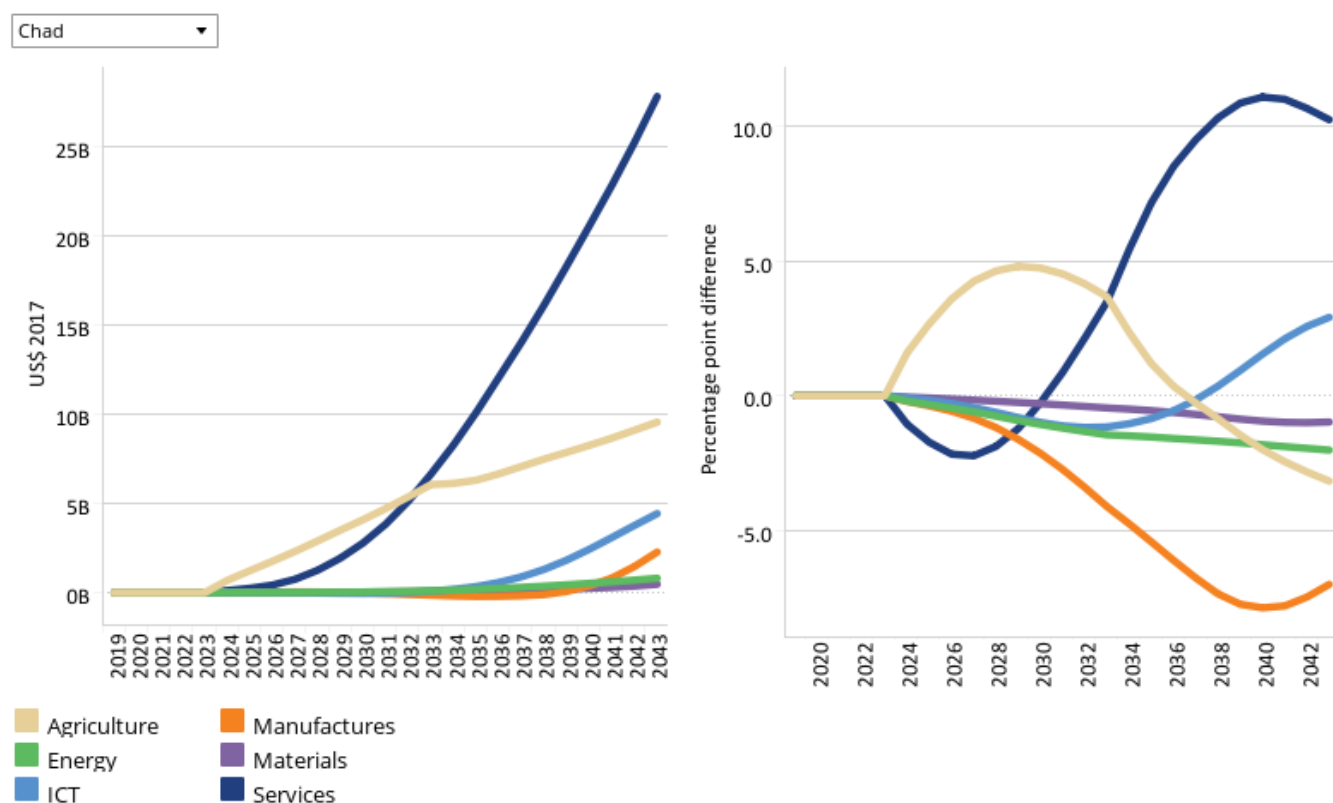
Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

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The Combined Agenda 2063 scenario has a much greater impact on reducing extreme poverty in Chad. By 2043, Chad records a poverty rate of 13.3% (4.4 million people) compared to about 27.5% (9.4 million people) in the Current Path forecast. The Combined Agenda 2063 scenario has the potential to lift an additional 5 million people out of extreme poverty compared to the Current Path forecast.

Chart 58: Value added by sector in CP and Combined scenario, 2019–2043
Absolute and % point difference GDP



Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

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See [Chart 8](#) to view the Current Path forecast of the sectoral composition of the economy.

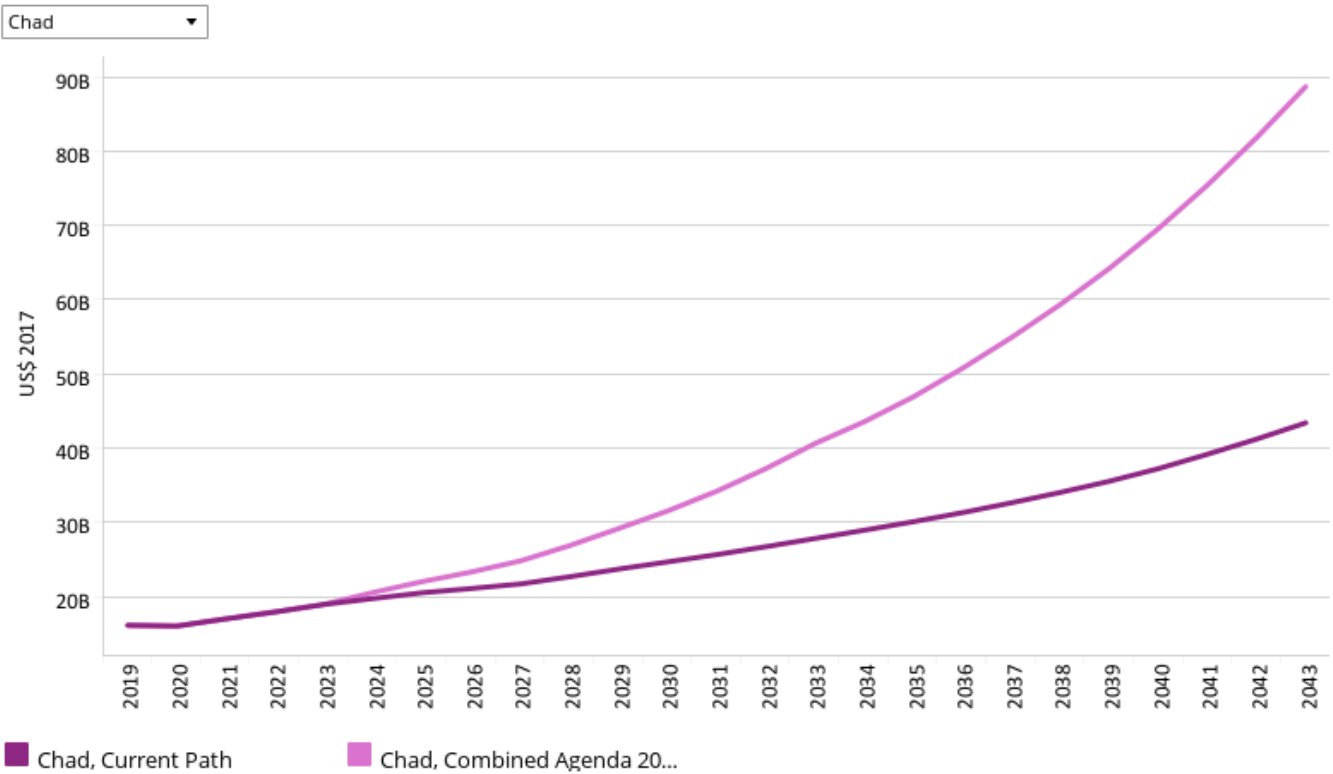
Chart 58 displays the percentage-point difference and the value difference between the Current Path forecast and the Combined Agenda 2063 scenario for the six sectors of the economy modelled in IFs.

The service sector will contribute 10.2 percentage points more to GDP in the Combined Agenda 2063 scenario compared to the Current Path forecast, equivalent to a difference of US\$27.8 billion by 2043. The ICT sector will also benefit from the interventions made in the Combined Agenda 2063 scenario contributing an additional US\$4.4 billion (2.9 percentage points) above the Current Path forecast by 2043.

In 2043, the agriculture sector scenario will contribute 3.2 percentage points less in this Combined Agenda 2063 scenario compared to the Current Path. However, until 2033, it benefits the most from the interventions proposed in the Combined Agenda 2063 scenario.

Chart 59: GDP in CP and Combined scenario, 2019–2043

Billions US\$ 2017, market exchange rates



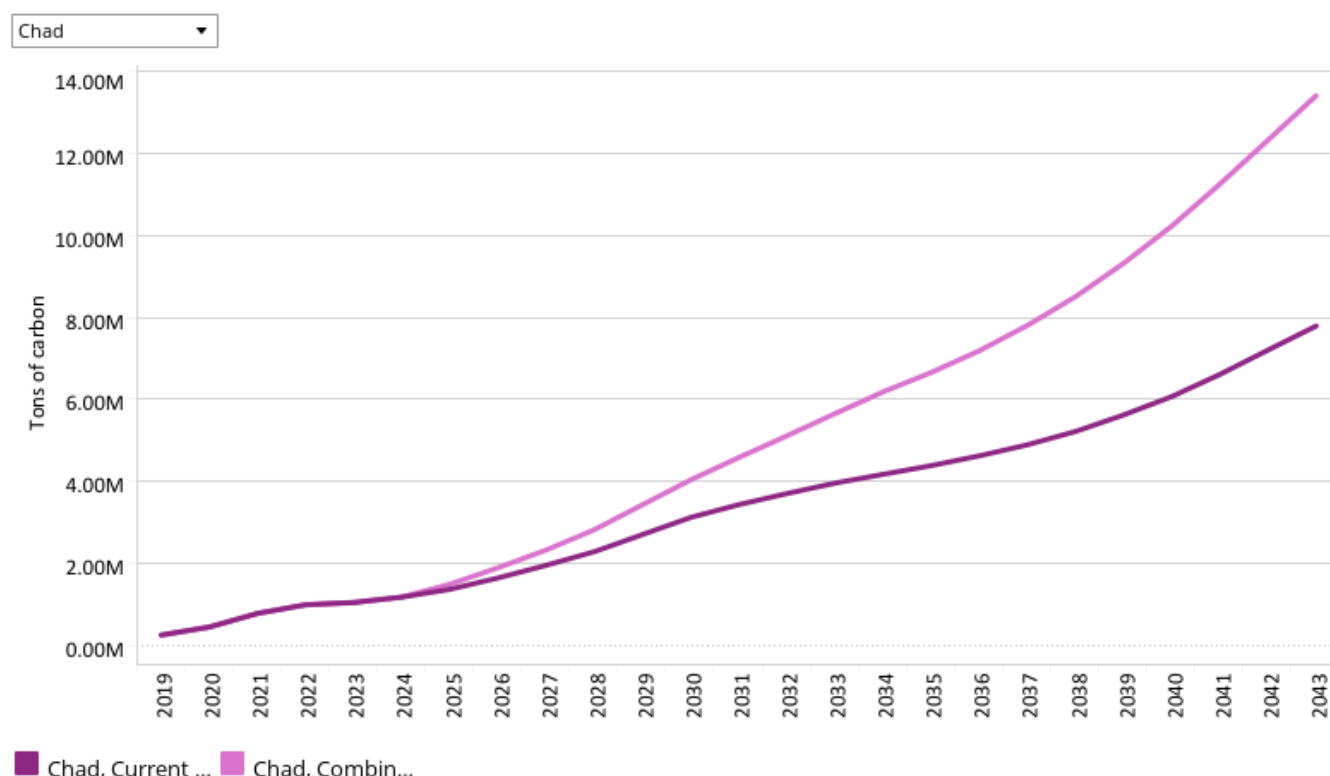
Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

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In the Combined Agenda 2063 scenario, the size of the economy is US\$45.3 billion larger in 2043 compared to the Current Path forecast. In the Combined Agenda 2063 scenario, the economy grows to US\$88.7 billion by 2043, compared to US\$43.4 billion in the Current Path forecast.

Chart 60: Carbon emissions in CP and Combined scenario, 2019–2043
 Million tons of carbon (note, not CO₂ equivalent)



Source: IFs 7.63 initialising from Carbon Dioxide Information Analysis Center data

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Due to increased economic activity in the Combined Agenda 2063 scenario, carbon emissions increase significantly by 2043 to 13.4 million tons of carbon compared to 7.8 in the Current Path forecast, nearly double in that year.

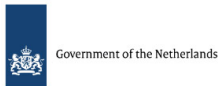
Although these will be significant increases, Chad is coming off a very low base and its emissions will not even rival the current carbon emissions of developed and emerging economies. Chad's contribution to global emissions is close to negligible but it is the most environmentally degraded country and is among the most vulnerable to the impacts of climate change. [36] Therefore, assisting Chad in adapting to the disproportionate impact of climate change should be a priority.

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Ms Alize le Roux joined the AFI in May 2021 as a senior researcher. Before joining the ISS, she worked as a principal geo-informatics researcher at the CSIR, supporting various local and national policy- and decision-makers with long-term planning support. Alize has 14 years of experience in spatial data analysis, disaster risk reduction and urban and regional modelling. She has a master's degree in geographical sciences from the University of Utrecht, specialising in multi-hazard risk assessments and spatial decision support systems.

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Scenarios and forecasting can help Africa identify and respond to opportunities and threats. The work of the African Futures & Innovation (AFI) program at the Institute for Security Studies aims to understand and address a widening gap between indices of wellbeing in Africa and elsewhere in the world. The AFI helps stakeholders understand likely future developments. Research findings and their policy implications are widely disseminated, often in collaboration with in-country partners. Forecasting tools inspire debate and provide insights into possible trajectories that inform planning, prioritisation and effective resource allocation. Africa's future depends on today's choices and actions by governments and their non-governmental and international partners. The AFI provides empirical data that informs short- and medium-term decisions with long-term implications. The AFI enhances Africa's capacity to prepare for and respond to future challenges. The program is headed by Dr Jakkie Cilliers.