Botswana

Botswana: Current Path

Alize le Roux

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Botswana: Current Path forecast

Chart 1: Political map of Botswana
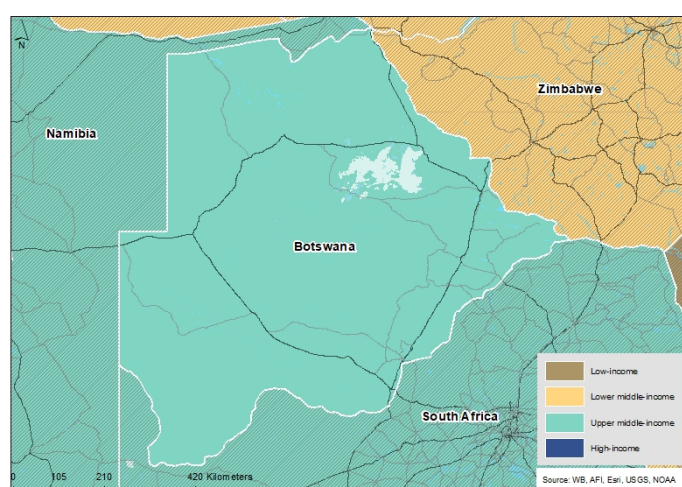
Source: African Futures

This page provides an overview of the key characteristics of Botswana 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 Botswana is a landlocked country located in Southern Africa that gained independence from the United Kingdom in 1966. It is a member of the Southern African Customs Union (SACU) and the Southern African Development Community (SADC) and is one of seven upper middle-income countries in Africa according to the World Bank's income classification. Botswana shares borders with Zimbabwe to the north-east, South Africa to the south-east and south and Namibia to the west and north. While the narrow salient Caprivi strip in Namibia makes up most of the northern border, Botswana does have a single access point to Zambia over the Kazungula Bridge that crosses the Zambezi river in the far north-eastern corner of the country.

Botswana has a relatively flat topography and consists mostly of a sand-filled basin. The Kalahari Desert makes up most of the surface area of Botswana and covers the Central, Eastern and Southern areas. The northern region is characterised by the inland river delta of the Okavango and a series of salt pans cover the east. The semi-arid country receives erratic

rainfall throughout the summer months with a high degree of variance between regions: the north-east region records 576 mm of mean annual rainfall, while in the south-west this drops to less than 280 mm per annum. Rainfall tends to be variable and the past decades have seen two devastating droughts that have had severe impacts on harvests, and ongoing desertification remains a high concern. The country's scarce water resources also force dependence on groundwater reserves.

The richness of the ecology supports a wide range of animal and bird life. With many well-protected national parks, the country is a popular destination for tourists, and tourism contributed 13% to GDP in 2019. Botswana is a mineral-rich country and mining is a vital part of the economy, with diamond mining generating the vast majority of export earnings. Since independence, the country has achieved robust resource-led growth through sound governance and sound macroeconomic and development policies, funded by diamond mining revenues. However, both the mining and tourism sectors were severely impacted by the COVID-19 pandemic, which resulted in the economy contracting by 7.9% in 2020 and subsequent increases in unemployment and poverty rates. The government is committed to its Botswana Vision 2036 plan to elevate the country to high-income status through diversifying its export-led economy and addressing high poverty and unemployment rates through inclusive and sustainable growth.

Botswana's development prospects are unpacked in more detail in the subsequent charts.
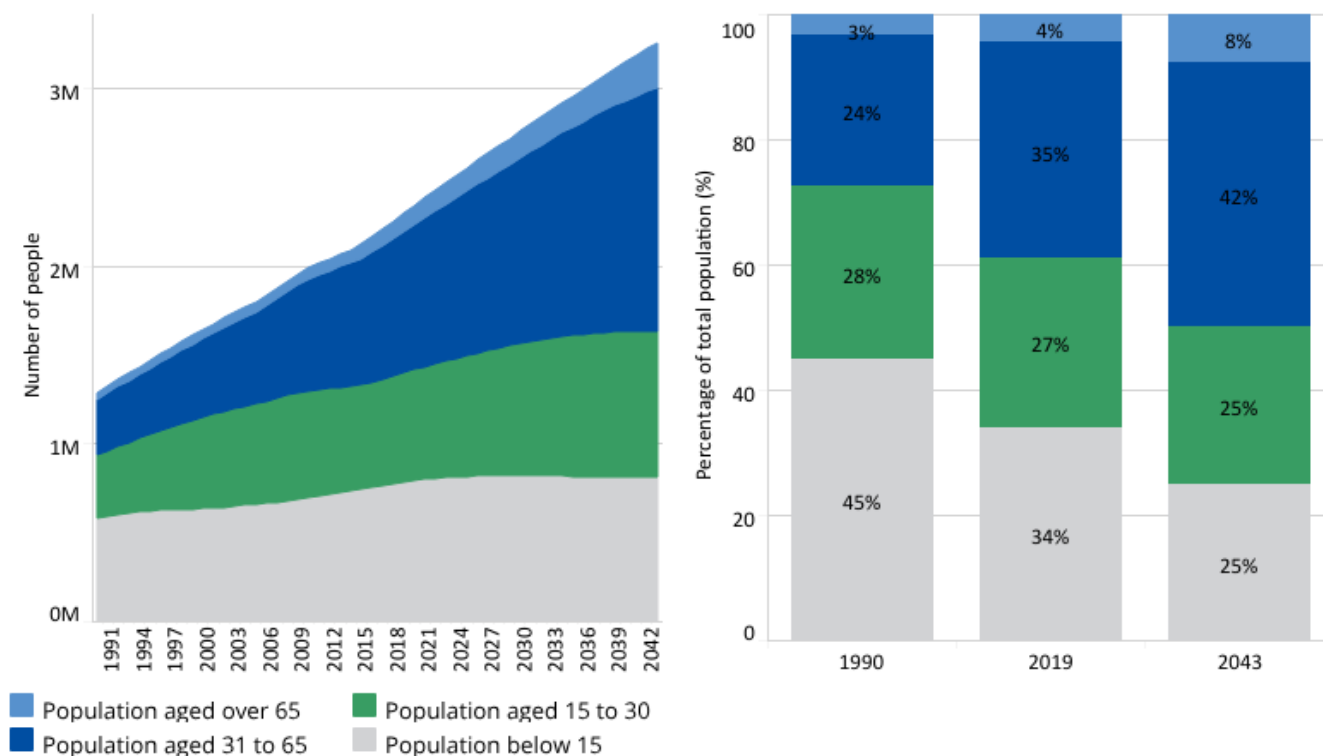
Chart 2: Population structure in CP, 1990–2043
By cohort and % of population

Botswana ▼

Population aged over 65 Population aged 15 to 30
Population aged 31 to 65 Population below 15

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

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Botswana's population of 2.3 million in 2019 ranked the country in 43rd position on the African continent for total population size. The country's large geographic size resulted in it having the third lowest population density in Africa by 2019, with only Libya and Namibia having fever people per hectare. The total fertility rate has dropped significantly in the past four decades, decreasing from 6.7 births per woman in 1970 to 2.9 in 2019. Low fertility rates and a high prevalence of HIV/AIDS in the late 1990s and early 2000s resulted in a significant drop in population growth rates with negative population growth recorded in 2004 and 2005. In response to this troubling trend, Botswana implemented a comprehensive HIV/AIDS plan, becoming the first country in the region to provide free antiretroviral treatment (ART), significantly reducing AIDS-related deaths and curbing new infections.

In the Current Path forecast, the population is expected to reach 3.3 million people by 2043, a growth of 960 000 people in the next 24 years. The significant drop in fertility rates and universally free access to ART will continue to alter the age structure of the country with the median age expected to increase from 23.6 years in 2019 to 29.9 years by 2043. This figure is above Africa's median population age of 20 years in 2019 but significantly below the 27.2 years for upper middle-income Africa in 2019.

Botswana is at an advanced stage of the demographic transition and has a large working-age population (aged 15–64 years) that is expected to continue to grow from 1.4 million (61.6% of total population) in 2019 to 2.2 million (67.4% of total population) in 2043. The country has a small elderly, dependant population with fewer than 100 000 people aged 65 and

over in 2019. This figure will more than double, reaching 253 000 by 2043, the result of the large cohort between 30 and 65 years ageing and life expectancy climbing by 7.2 years from 2019 to 2043. Despite the growing elderly dependency, the child dependant population group is expected to shrink from 34.1% of the population in 2019 to 24.8% by 2043.

This demographic transition, together with smaller household sizes, the second lowest in upper middle-income Africa, will propel the country into a demographic dividend starting as early as 2025 and continuing throughout the forecast horizon. The country stands to reap enormous economic benefits from the increasing size of its labour force but needs to implement several reforms to fully maximise the gains from this first dividend.

Chart 3: Urban and rural population in CP, 1990–2043
% of population
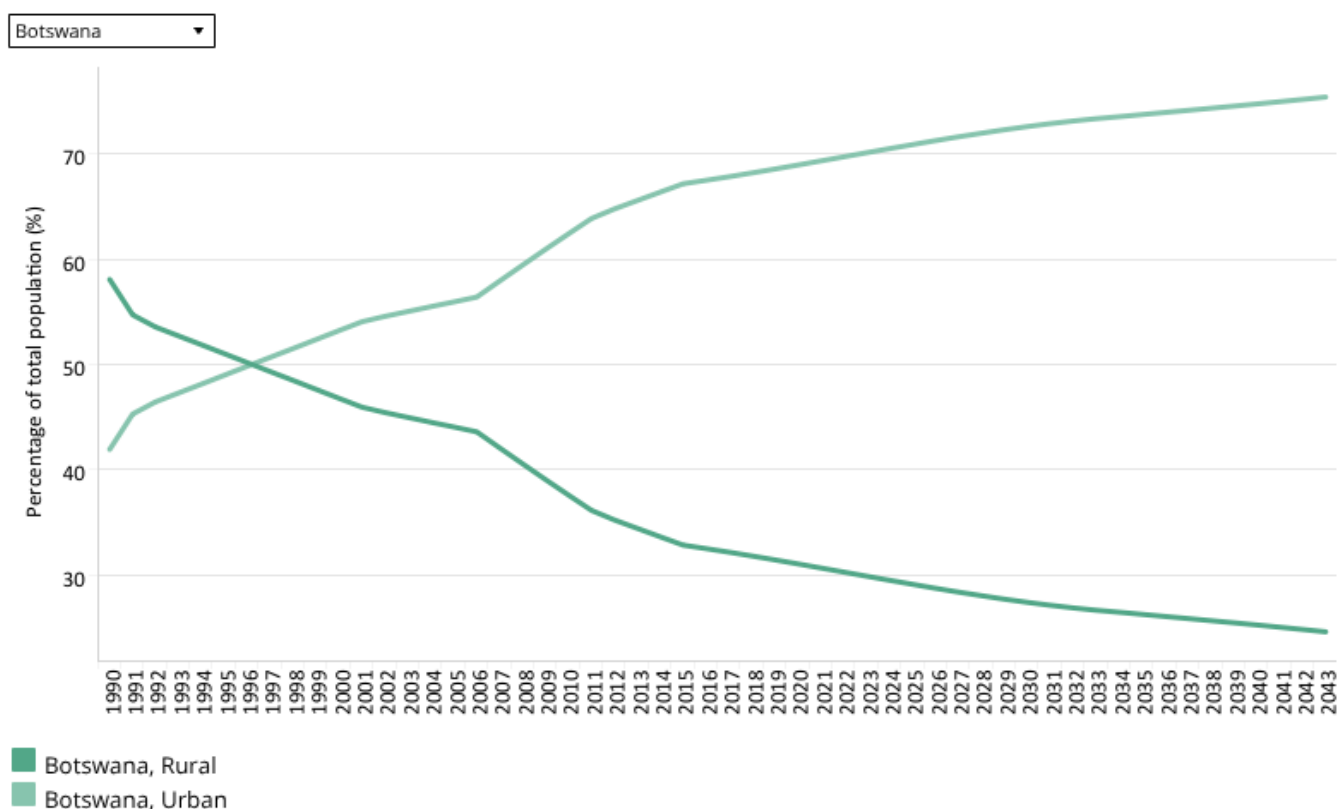
Source: IFs 7.63 initialising from UN World Urbanization Prospects estimate

In 1970, Botswana's urban population was less than 8%. This changed rapidly throughout the 1980s and early 1990s when the country experienced a period of rapid urbanisation. By 1997, the country had more urban than rural dwellers. Botswana now has a predominantly urban population, with nearly 69% of its population living in urban agglomerations in 2019, making the country the eighth most urbanised in Africa. Urban clusters throughout Botswana host 1.6 million urban dwellers and are small and scattered throughout the south-east and east of the country. Only five cities and towns host more than 50 000 people with Gaborone, the capital, hosting around 210 000 dwellers.

The urbanisation rate for Botswana was on par with that of upper middle-income Africa in 2019 but significantly above the 42.8% urbanisation rate for Africa. A sustained but much slower urbanisation rate compared to the 1990s will see Botswana's urban population grow to over 75% by 2043 and remain above the average for Africa but drop 2.2 percentage points below the average for upper middle-income Africa.

**Chart 4: Population density map for 2019**
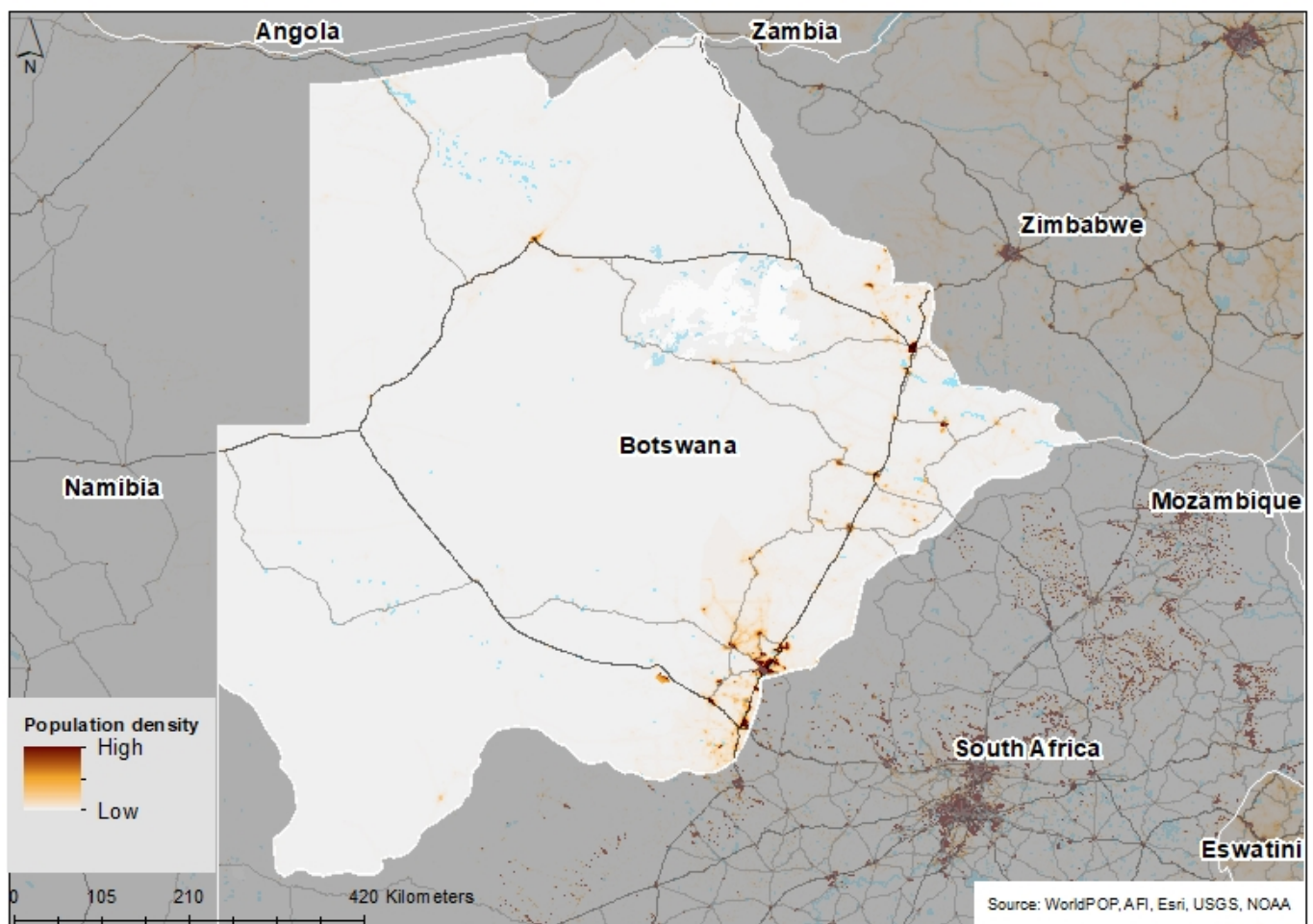
Source: African Futures

Botswana is just over 581 000 km2 with an average density of 0.04 people per hectare. This low density makes Botswana one of Africa's most sparsely populated countries, significantly below the 0.4 people per hectare average for Africa. The densities however range from 19 people per hectare in built up areas in Gaborone to uninhabitable lands in the various protected national parks.

The vast majority of Botswana's population is located in the south-east, in and around the capital of Gaborone. The eastern districts of the country are characterised by scattered and small urban clusters, while Maun is one of the few urban clusters in north-western Botswana. In the Current Path forecast, population density is likely to increase to 0.06 people per hectare by 2043.

Economics: Current Path

Chart 5: GDP in CP, 1990–2043
Market exchange rates
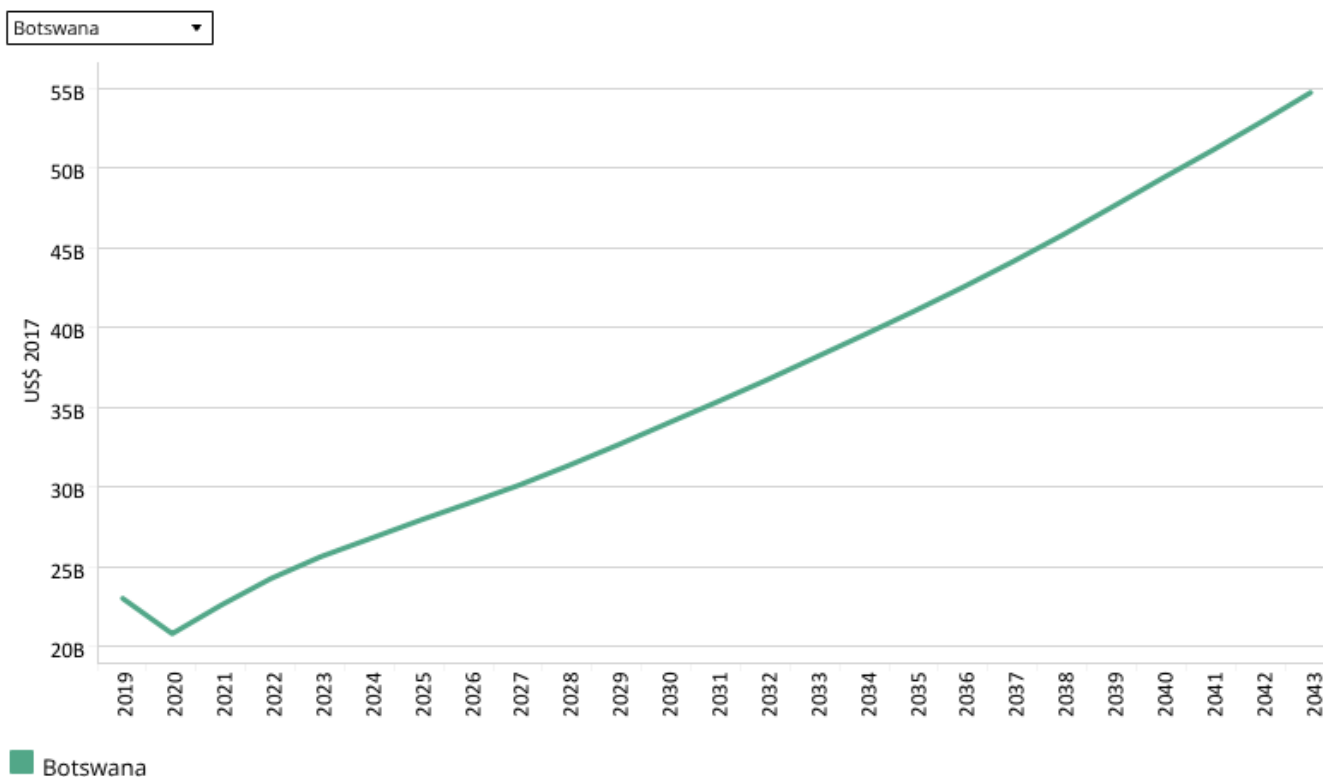
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Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database
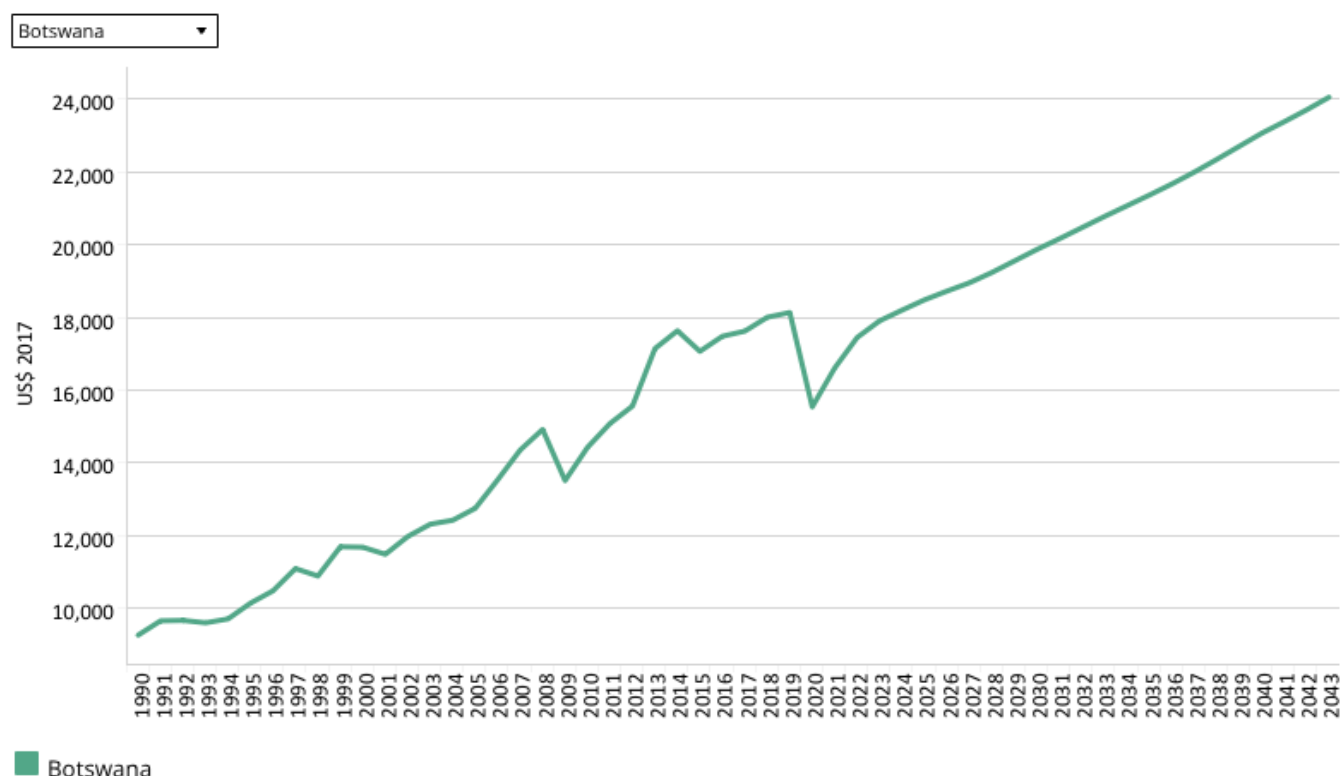
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Botswana has experienced sustained economic growth throughout much of its post-independence years. The country enjoyed prominent economic growth throughout much of the late 1960s, 1970s and early 1980s. These periods of growth were a direct result of sensible macroeconomic policies, good governance and effective institutions that saw the wealth generated from diamond mining ploughed back into the country. The overdependence of the country's economy on diamond mining has however made the country especially vulnerable to global diamond demand fluctuations and global economic crises.

Botswana experienced three noticeable economic retractions as a direct result of its mining dependency on diamonds. The first was a demand fluctuation caused by the 1997 Asian financial crises that impacted the economy in 1998/99, the second the result of a global reduction in demand due to the global economic crisis of 2008/09, and the third was the result of a reduction of in-house diamond production that negatively affected the economy in 2015. The country's economy has also been severely impacted by the COVID-19 pandemic as global tourism and demand for diamonds contracted in 2020.

Botswana currently has the fourth largest economy in upper middle-income Africa with a value of US$23 billion in 2019. The economy is slowly diversifying and the tourism sector and associated services have grown substantially in recent years. The opening up of global borders and the global economic recovery will allow Botswana to recover, and in the Current Path forecast GDP is expected to grow to US$54.8 billion by 2043.

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

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 Botswana.

The country's strong economy, good governance and small population give rise to some of the highest average income levels in Africa. In 2019, Botswana ranked fifth in Africa with regards to GDP per capita with income levels exceeding US$18 000. The country's GDP per capita is US$3 903 higher than the average for upper middle-income Africa and more than four times higher compared to its regional neighbours in SADC. The gap between Botswana's income and that of upper middle-income Africa is expected to widen as Botswana's rate of population growth continues to slow down and the country transitions into a demographic dividend.

In the Current Path forecast, GDP per capita is expected to increase to US$24 056 in 2043, US$6 322 above the average for upper middle-income Africa and US$18 337 above the average income for Africa.

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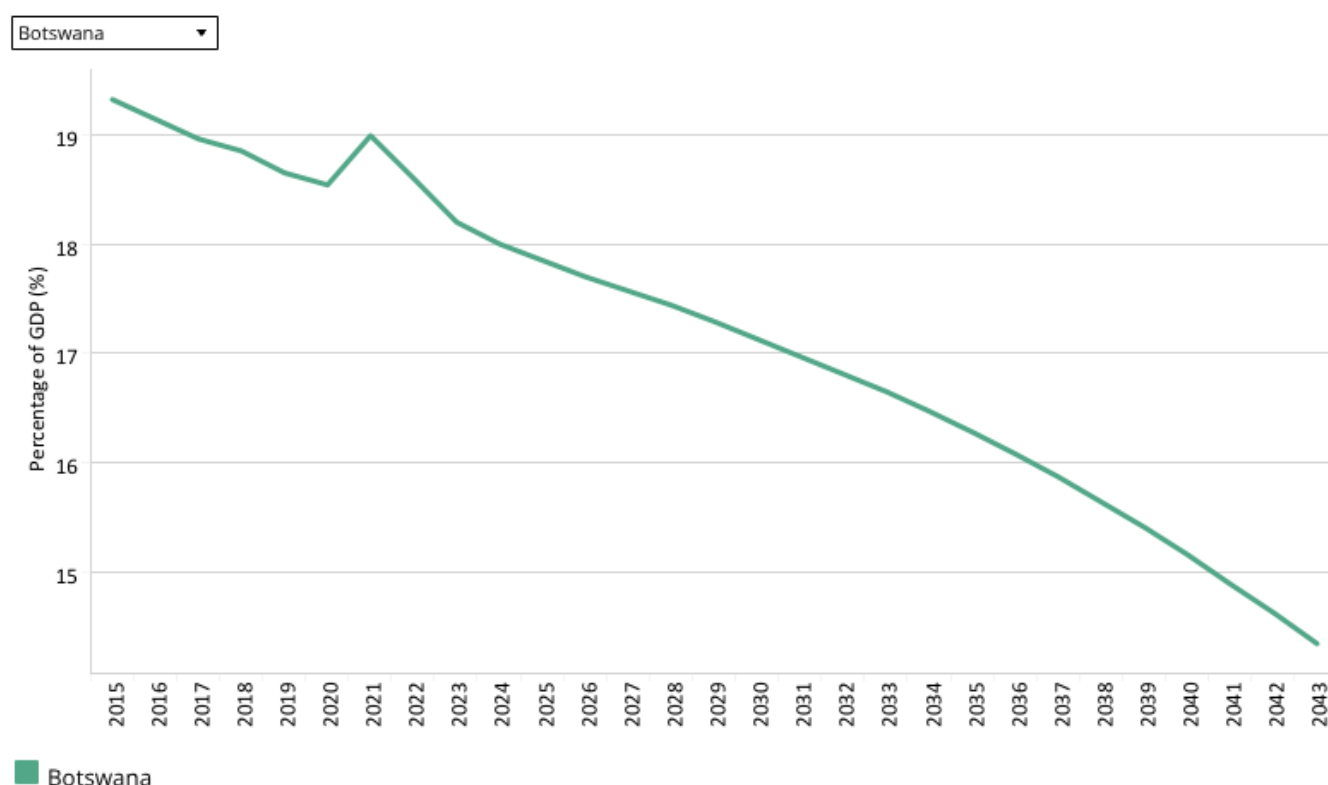
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Botswana

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

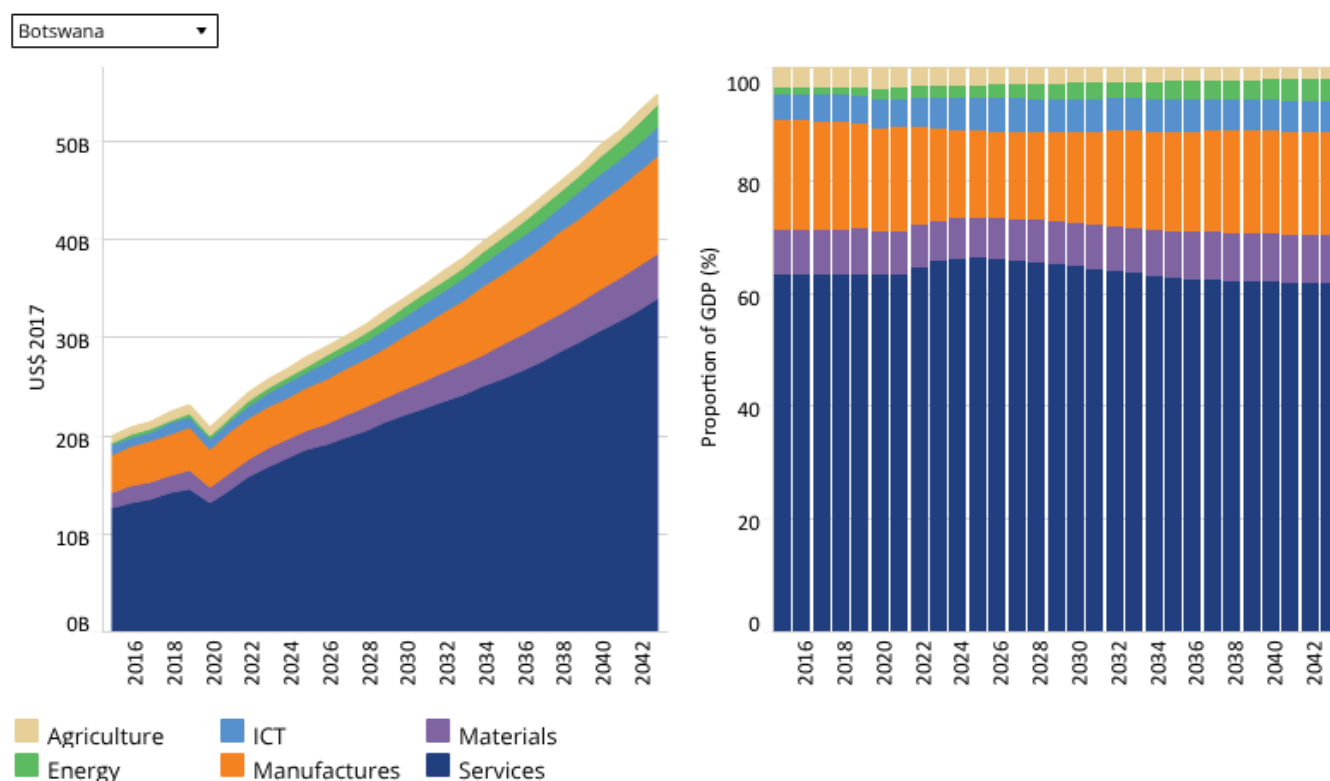⁙ View on Tableau Public ↶ ↷ ↺ ↻ ▼ | ⬇▼ 🗖 ⚬⚬ Share

Botswana has a small informal sector compared to the rest of Africa and SADC but is larger than the average size for upper middle-income Africa. In 2019, the size of the informal economy was estimated at 18.7% of GDP, amounting to a value of US$3.9 billion. This is 4.7 percentage points higher than the average for upper middle-income Africa and 3.4 percentage points lower than SADC. In 2019, 28% of Botswana's labour force worked in the informal economy.

In the Current Path forecast, the informal sector will rapidly decrease in size, dropping 0.2 percentage points below the average for upper middle-income Africa by 2043, while the size of the informal labour force will drop by 4 percentage points. It is expected that the value of the informal sector as a per cent of GDP will decline to 14.4% by 2043. This will amount to an informal economy valued at US$7.2 billion in 2043.

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

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 communication technologies (ICT). Most other sources use a threefold distinction between only agriculture, industry and services with the result that data may differ.

Botswana's economy transformed in the 1970s when diamond mining started taking off. Prior to this discovery, the economy was heavily dependent on agriculture, which constituted as much as 44% of the country's GDP in 1968. The agriculture sector value-added contribution has shrunk significantly as a per cent of GDP and by 2019 contributed only 3.6%. In the Current Path forecast, the sector will decline to 2.1% with an associated value of US$1.2 billion.

The manufacturing and mineral sectors have played an important role in the economy, their combined value equating to 26.8% of GDP (a value of US$6.1 billion) in 2019. In the Current Path forecast, the contribution of these two sectors remains unchanged at 26.6% in 2043, but the absolute value rises to US$14.5 billion. The service sector has grown significantly in recent years with the tourism industry and its associated services playing an increasingly important role in the economy. In 2019, the service sector constituted 63.4% of GDP (valued at US$14.6 billion), but its relative size is expected to decline slightly, constituting 61.8% of GDP (valued at US$33.8 billion) by 2043.

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

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- Botswana, Demand
- Botswana, Production
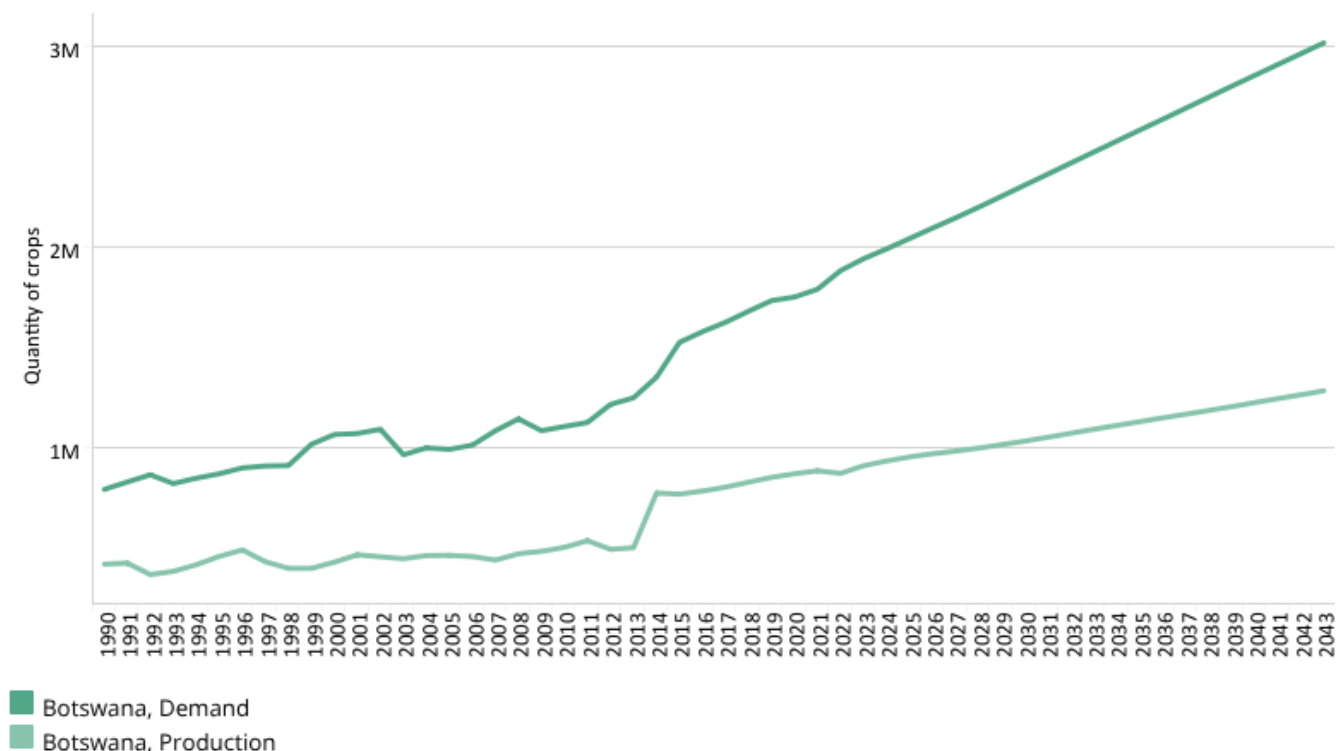
Source: IFs 7.63 initialising from Food and Agriculture Organization Food Balance Sheets

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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.

Botswana has been a net food importer since independence but has become increasingly dependent on importing basic foodstuffs since the investment attention shifted to the extraction of minerals (diamonds) since the 1970s. Botswana's livestock sector has performed much better than its crop sector, which is heavily dependent on rain-fed agriculture and subsistence farming practices. While Botswana has seen some diversification in its economy, with the tourism industry becoming a prominent player in recent decades, the agriculture sector has continued its decline.

In 1970, agriculture's contribution to the economy equated to 43.7% of GDP, but its contribution fell to 5.3% in 1986. The significant decline is explained by a variety of challenges facing the sector including: 1) the sector's reliance on rain-fed agriculture in a drought-prone climate that is extremely vulnerable to rainfall variability, 2) low production volumes and low efficiency levels, 3) a dominant livestock sector which encroaches on protected nature conservation areas, and 4) the over-reliance on diamond extraction. In 2019, agricultural production contributed 3.6% to GDP and in the Current Path forecast is likely to decline further to 2.1% in 2043.

In 2019, agricultural production stood at 850 000 metric tons, while demand stood at 1.74 million metric tons, exceeding production by 890 000 metric tons. This production and demand gap is expected to increase in the Current Path forecast. By 2043, agricultural production is forecast to be 1.3 million metric tons and demand exceeds 3 million metric tons,

translating to a 1.7 million metric ton shortfall. This paints a picture of a growing food-dependent country with a heavy importation bill, reliant on and vulnerable to external markets in South Africa and Zimbabwe. The agriculture sector however remains vital in the country's fight against poverty as a large percentage of rural dwellers are dependent on subsistence, rain-fed agriculture.
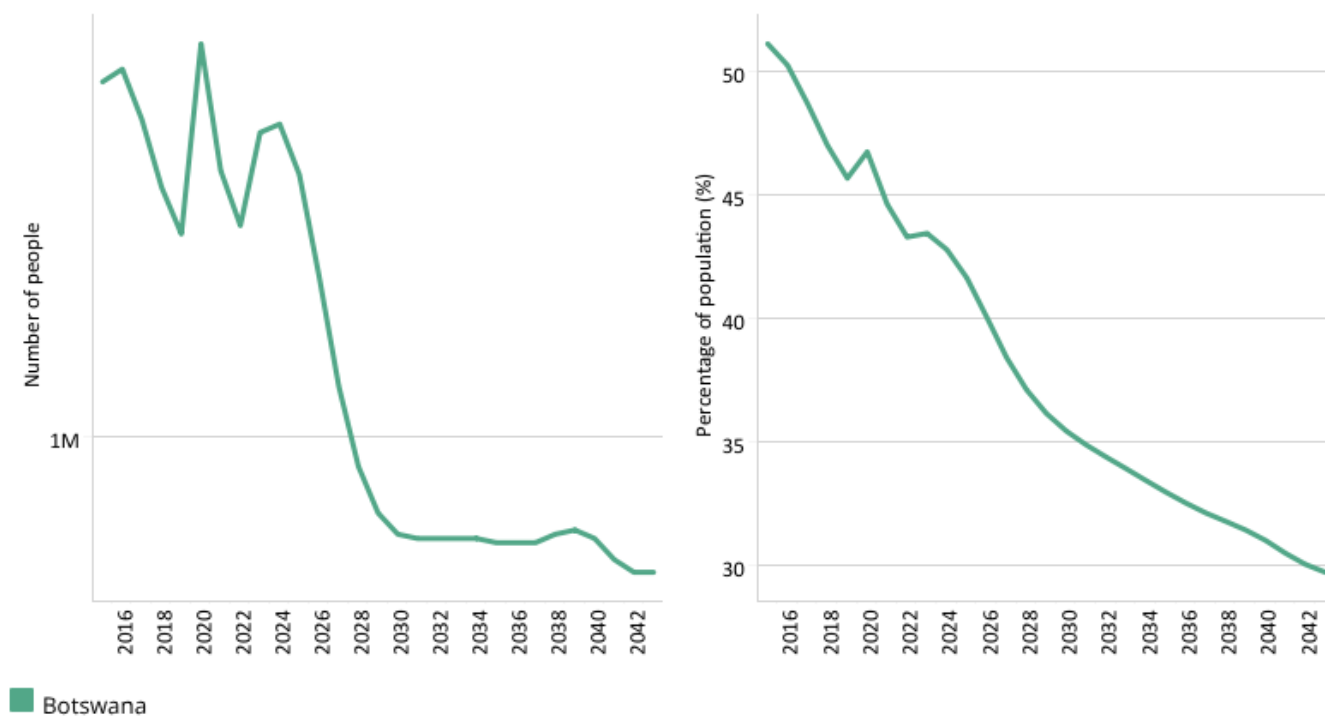
Chart 10: Poverty in CP, 2015–2043
Millions of people and % of total population

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| Botswana ▼ | $5.50 ▼ |

Botswana

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 for 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 (SDG) 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.

Botswana has made great strides in reducing poverty. In 1980, the country's poverty rate (using the US$1.90 measure) was 52%. This has dramatically declined and in 2019 it was estimated that 11.8% of the population lived below the US$1.90 poverty level. Using the US$5.50 measure for upper middle-income countries, Botswana still has 45.7% (1.1 million people) of its population living below the poverty line, on par with the average for upper middle-income Africa. Amidst a thriving economy, poverty remains a problem in Botswana and income inequality continues to be a major problem. The country had a Gini index score of 0.53 in 2019, the tenth highest globally, and eighth highest in Africa.

The impact of the COVID-19 pandemic on specifically the country's diamond exports and tourism sector has resulted in worsening unemployment and poverty levels in 2020. In the Current Path forecast, the poverty rate is forecast to decline as the country recovers and reach 29.7% in 2043 (using the US$5.50 benchmark), ten percentage points below the average for upper middle-income Africa.
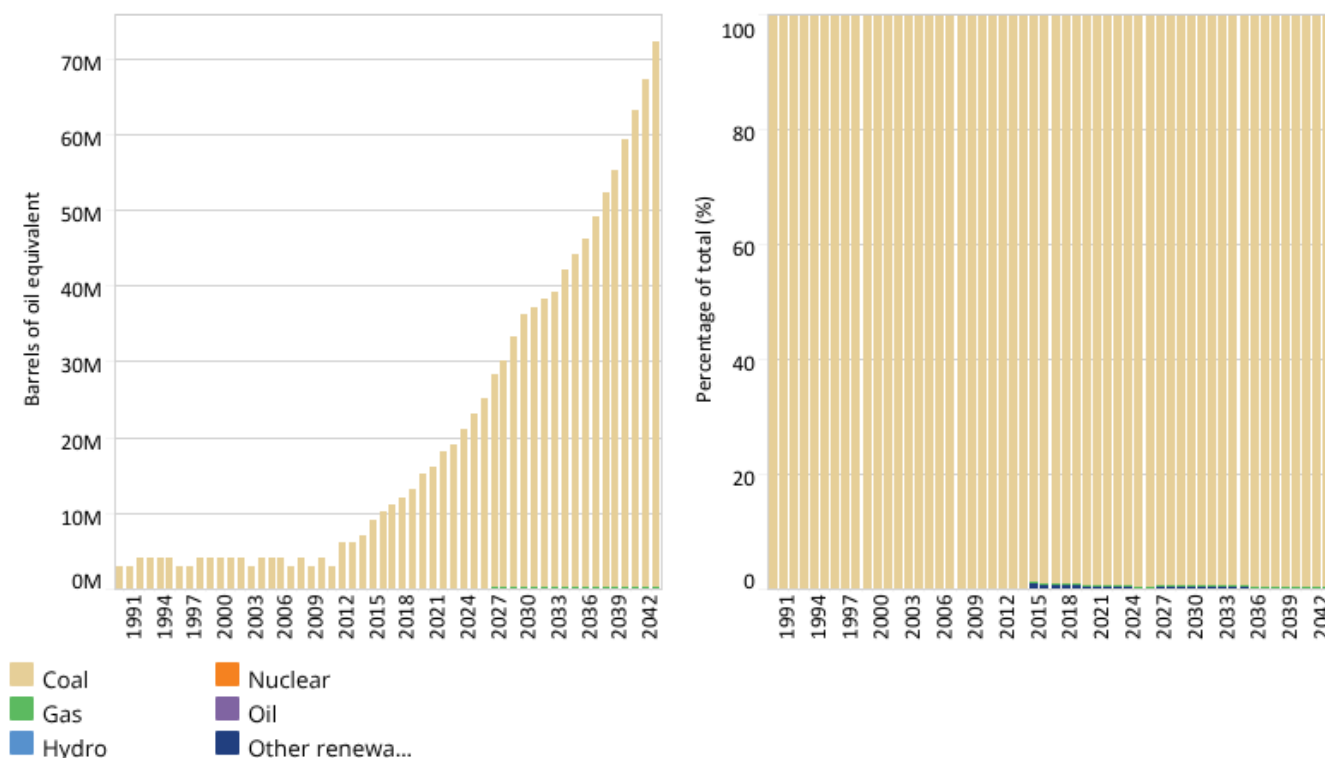
Chart 11: Energy production by type in CP, 1990–2043
Barrels of oil equivalent and % of energy production

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Legend:
- Coal
- Gas
- Hydro
- Nuclear
- Oil
- Other renewa...

Source: IFs 7.63 initialising from World Energy Outlook data

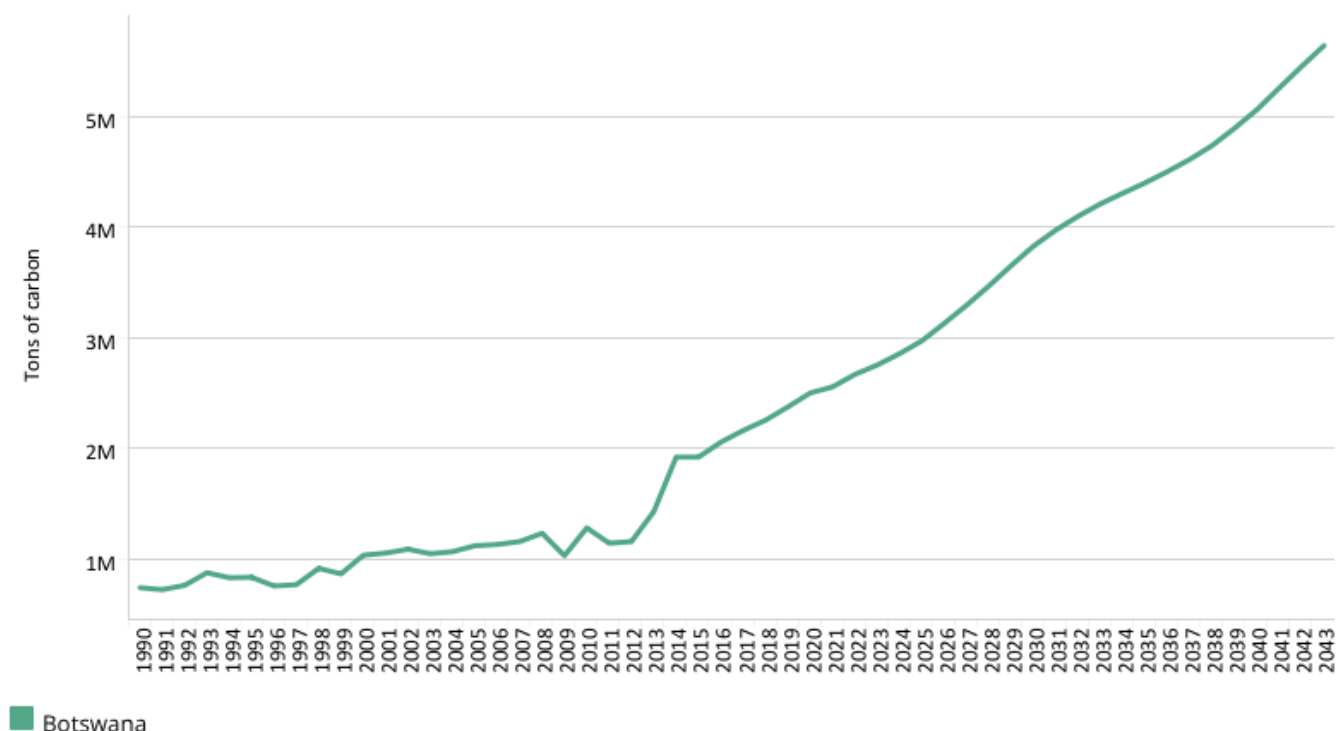⁂ View on Tableau Public   ↶ ↷ ↺ ↻ ▾ | ⬇▾ ⛶ ⤳ Share

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.

Botswana is reliant solely on fossil fuels for its energy production, using coal and diesel generators to meet domestic electricity demand. A significant portion of the country's energy requirements are met through imports from South Africa, which is also largely produced through the use of fossil fuels. In 2019, Botswana's energy production from coal stood at 13 million barrels of oil equivalent. This is expected to increase to 72 million barrels of oil equivalent by 2043. The government has historically shown no real urgency for a green energy transition and renewable energy sources such as solar, wind and bioenergy remain unexploited. Recent developments however, such as the country's readiness assessment, the new Integrated Resource Plan for electricity and the National Energy Policy has paved the way for the introduction of renewables into the energy mix, as the government targets 15% of energy production being renewable by 2030.

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

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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.

Despite its reliance on fossil fuels, Botswana remains a low carbon emitter with carbon emissions of 2.3 million tons in 2019. The country's emissions are dwarfed by neighbouring South Africa, yet it relies on South African energy exports to meet domestic demand. In 2019, Botswana's emissions placed it in 20th position in Africa and 111th in the world, and among upper middle-income countries in Africa it ranked third. In the Current Path forecast, carbon emissions are likely to increase to 5.6 million tons by 2043, the direct result of the country's dependency on coal-fired power stations. The country has great renewable (specifically solar) potential and needs to urgently implement its energy plan to bring renewables into the energy mix, as discussed in Chart 11.

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About the authors

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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