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North Africa

North Africa: Current Path

Enoch Randy Aikins

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North Africa: Current Path

North Africa: Current Path forecast

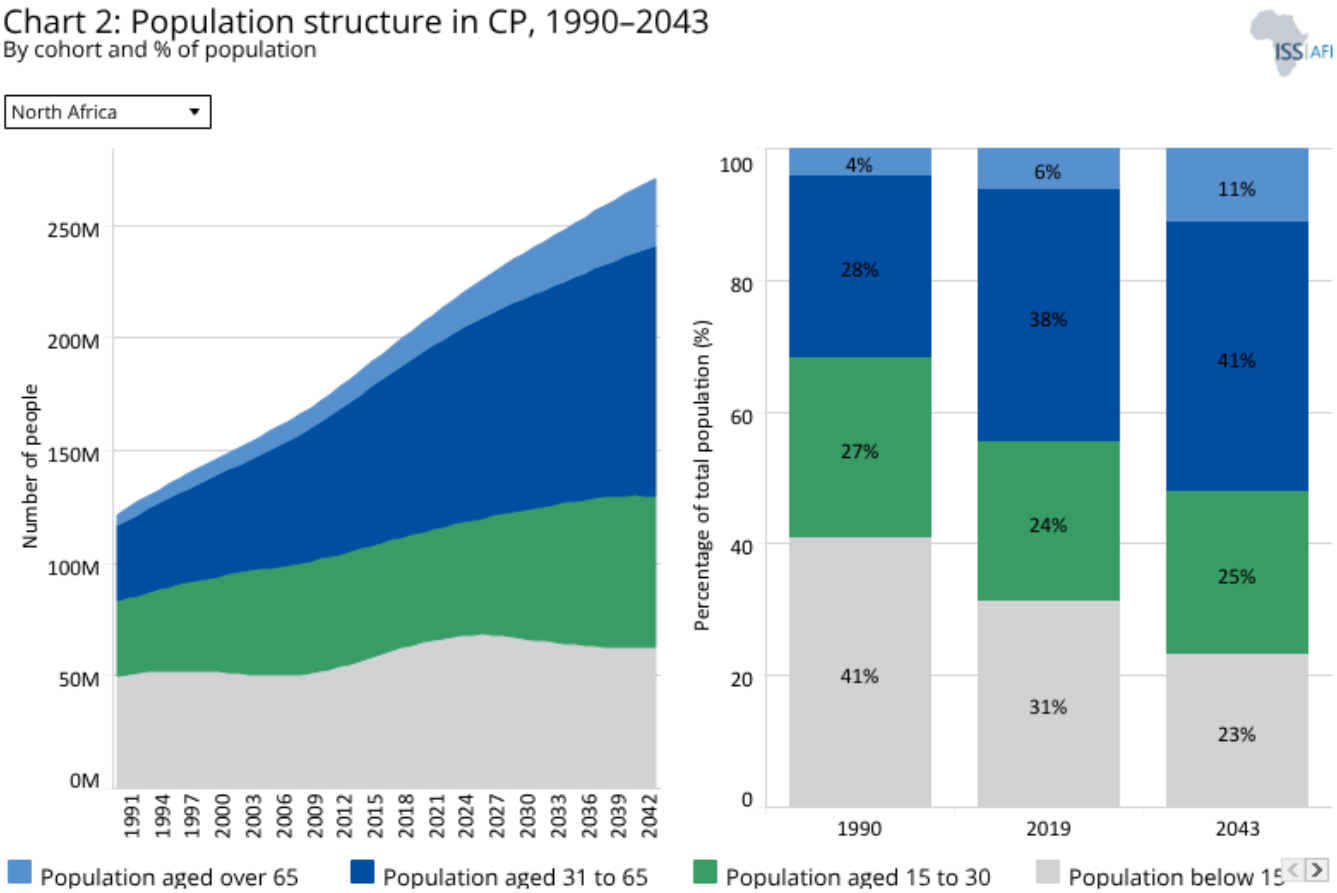
Chart 1: Political map of North Africa

Chart goes here

This page provides an overview of the key characteristics of North Africa 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.

North Africa is the most developed region on the continent, mainly owing to its large oil and gas deposits and the extent to which its governments have used much of that income to invest in education, health and infrastructure. The region intersects with both the Arab region and Africa, and its geographic features consist of the Atlas Mountains (and Atlantic Ocean) in the west, the Nile River and Delta in the east, the Sahara desert in the south, and the Mediterranean Sea to its north. For the purpose of this study, we define North Africa to include Morocco, Algeria, Tunisia, Libya, Egypt and Mauritania. No data is available for Western Sahara. According to the World Bank income group classification, Mauritania, Algeria, Egypt, Morocco and Tunisia are considered lower middle-income countries. Libya is classified as an upper middle-income country. The region was mainly stable and ruled by monarchs until the Arab Spring, which occurred between 2010 and 2012. This led to massive protests demanding constitutional reforms and a transition to democracy. Since then, the stability of the region has been an issue of concern, characterised by recurring protests and violence and the overthrow of a number of authoritarian regimes, most notably in Tunisia and Libya. Significant reforms have occurred in Algeria and Egypt.

Demographics: Current Path



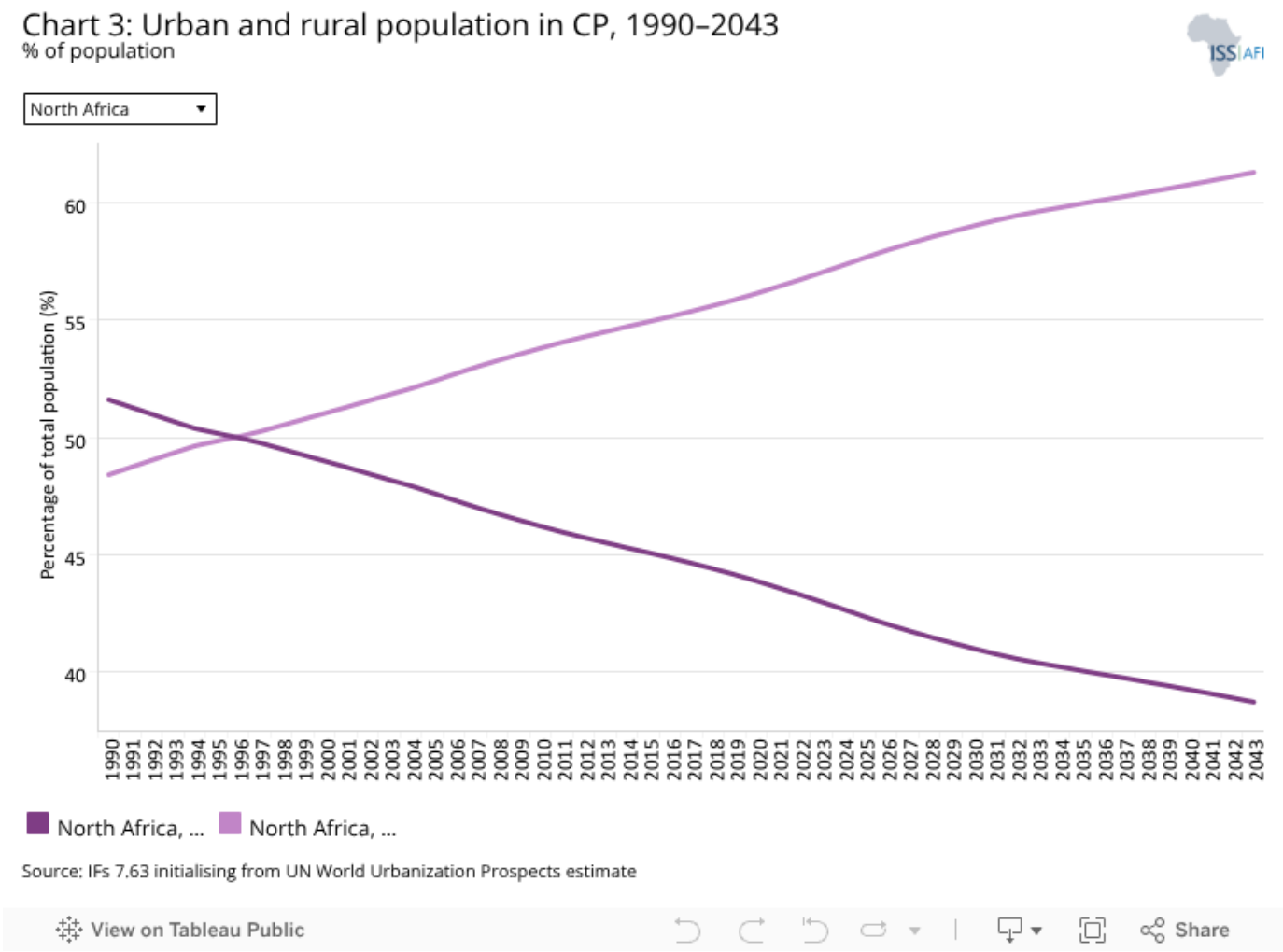
After Southern Africa, North Africa is the least populated region in Africa, with an estimated population of 202.8 million in 2019. This represents an increase of 67% from a recorded population of 121.4 million in 1990. On the Current Path, it is projected that the region's population will grow to 270.5 million by 2043. The population of Egypt accounts for half of the population in the region. Algeria and Morocco account for 21% and 18%, respectively, while Tunisia, Libya and Mauritania account for the remaining 11%.

North Africa currently has the lowest fertility rate (3.0 births per fertile woman) among all the regions in Africa, ranging from 4.6 in Mauritania to 2.2 in Tunisia. By 2043, the total fertility rate in the region is expected to be 2.1 births per woman, generally considered as the replacement number. Mauritania will still have the highest fertility rate in the region (3.2 births per woman), while fertility rates in the other countries will be around 2 births per woman.

The cohort of people younger than 15 declined from 41% to 31% between 1990 and 2019, and the group between 15 and 30 years of age reduced from 27% to 24% in this period. This depicts a significant shift in the structure of the population, signalling a more mature population structure. The median age in North Africa was 26.7 years in 2019, the highest among the regions in Africa. Across the respective countries in the region, the median age ranged from 32.6 years (Tunisia) to 19.9 years (Mauritania). By 2043, the region will still have the highest median age (31.7 years) on the continent.

The region had the lowest youth bulge (35.2%) on the continent by 2019, which is projected to decline to 32.3% by 2043.

This share is significantly lower than in other regions. Despite this larger adult population, the presence of a significant proportion of youth in the region remains a concern for instability, especially since the region has witnessed major political instability in the past two decades. Mauritania has the highest youth bulge in the region – estimated at 44.9% in 2019 – whereas at 28.6% Tunisia has the lowest. Egypt (37.6%), Morocco (33.6%), Libya (33.2%) and Algeria (32.1%) all have youth bulges above 30%. The Current Path forecast shows that by 2043, the proportion of people under the age of 15 will decline to 23%, while the proportion of people above 30 will increase from 44% in 2019 to 52%.



An estimated 60% of the region's population live in urban areas, owing to a combination of geographical factors (large areas of the region consisting of desert) and generally high levels of education. In contrast, approximately 43.8% of people lived in urban areas in the rest of Africa in 2019. At the country level, aside from Mauritania (with an urban population of 42.8%), all the North African countries have an urban population rate above 50%. Libya has the highest urban population (82%), followed by Algeria (73%) and Tunisia (69%). On the Current Path, it is projected that by 2043, 62% of the population of North Africa will reside in urban centres, which is much higher than any other region on the continent.

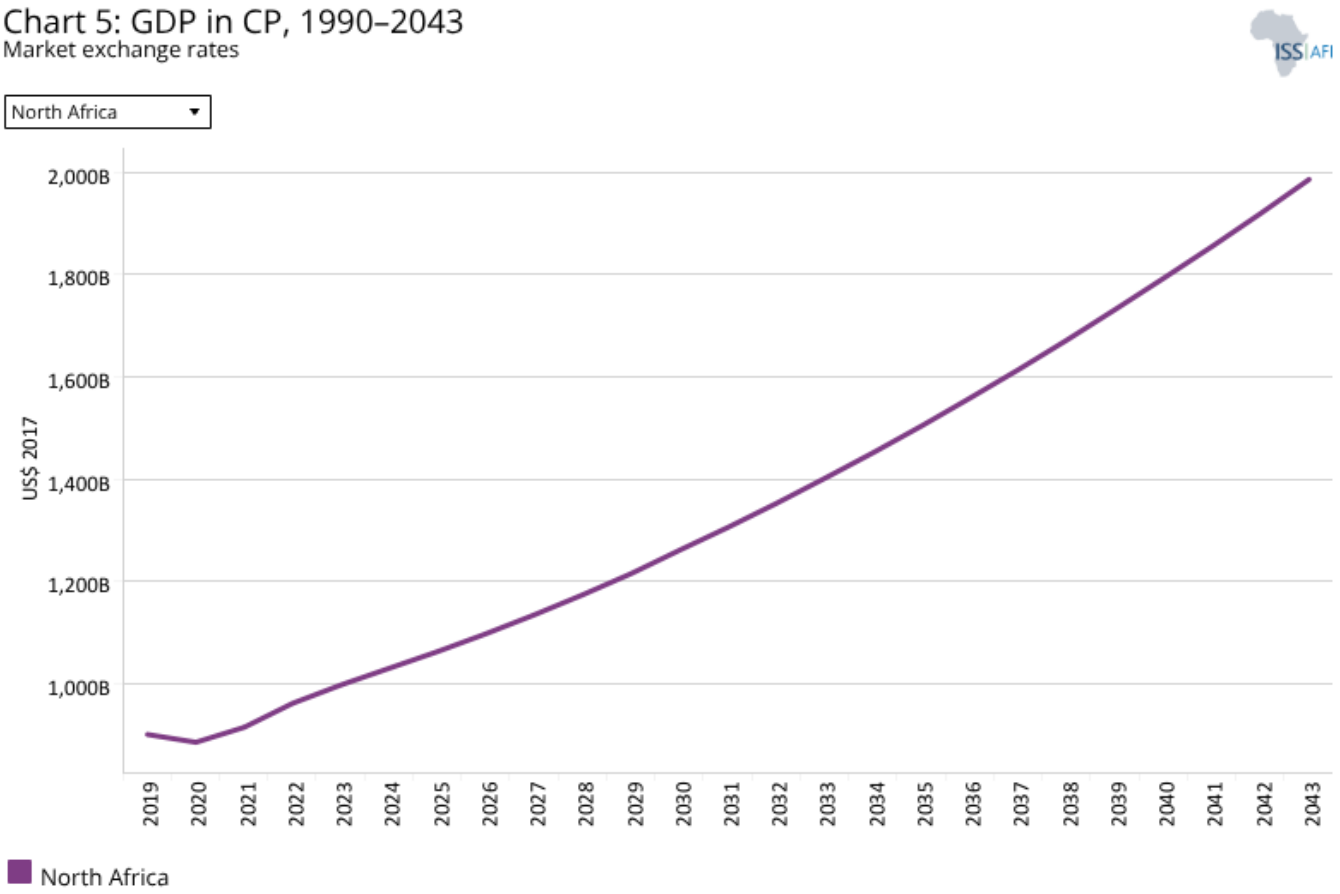
Chart 4: Population density map for 2019

Source: Source goes here

The population of North Africa is settled on a total land area of approximately 683 million hectares. The population density of the region was estimated to be 0.30 people per hectare in 2019, which was the second lowest among the regional

groupings in Africa, second to Central Africa, and below the average of 0.45 for Africa. Egypt and Morocco have the highest population densities in North Africa, with estimated densities of 1.01 and 0.82 people per hectare, respectively. Mauritania and Libya have the lowest population densities in the region, namely 0.044 and 0.037 people per hectare, respectively. The majority of people in North Africa reside along the Mediterranean coast in the north or along the Nile River.

Economics: Current Path

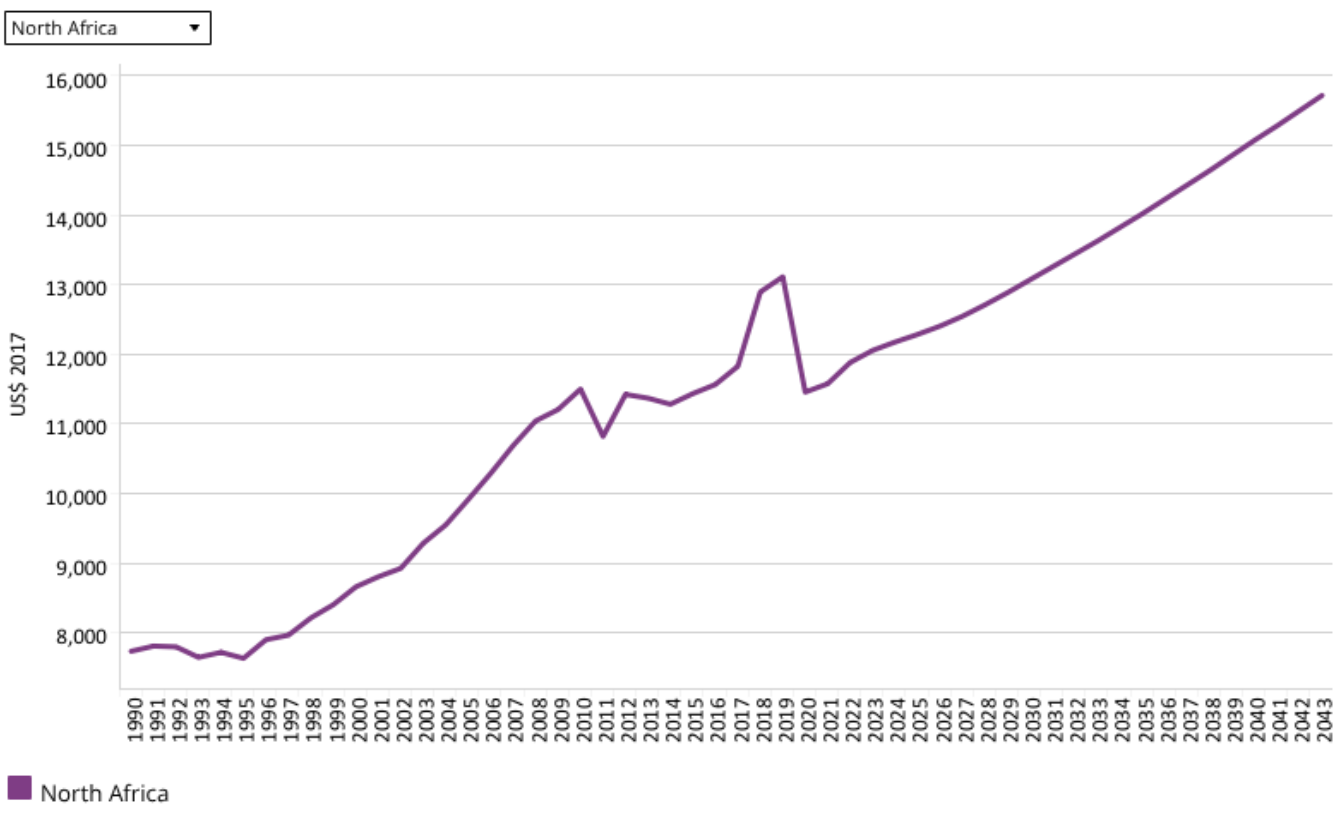


In 2019, North Africa had the largest regional economy in Africa, mainly owing to the effect of its large oil and gas deposits. With an estimated GDP of US$900.3 billion, the region constitutes about 30% of Africa's economy. The current GDP represents an increase of 151.1% from the 1990 estimate of US$358.6 billion. At the country level, Egypt has the largest economy, with an estimated GDP of US$348.8 billion in 2019, representing 38.8% of the economy in the region. This is followed by Algeria and Morocco, whose shares of the total economy are 29.6% and 15.8%, respectively. Mauritania has the smallest economy in the region, with a GDP equivalent to only 1.1% of the total economy in the region.

It is projected that the GDP of North Africa will rise to US$1.99 trillion by 2043. Despite this growth, West Africa, with its much larger population, will overtake North Africa to become the region with the largest economy in 2029 and, by 2043, North Africa will constitute about 22.8% of Africa's economy, then only marginally larger than the economy of East Africa. The projected increase in the GDP of North Africa will largely be driven by the anticipated economic growth in Egypt, which will account for almost half of the economy in the region 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

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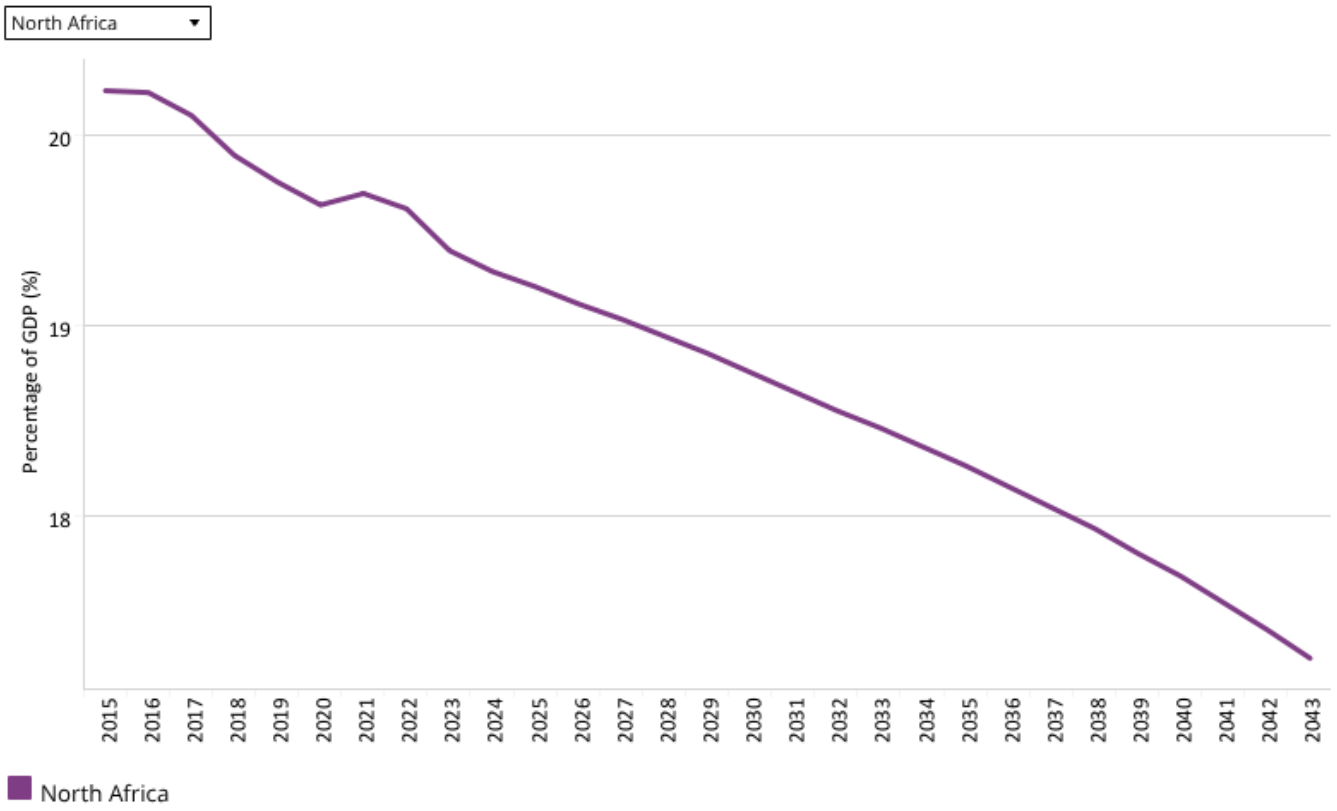
Although many of the charts in the sectoral scenarios also include GDP per capita, this overview is an essential point of departure for interpreting the general economic outlook of North Africa.

The GDP per capita of North Africa increased by 70% between 1990 and 2019, going from US$7 732 to US$13 113 in this period. The region has the highest GDP per capita on the continent, far above Africa's average of US$5 289. In 2019, Libya had the highest GDP per capita (US$20 296), followed by Algeria (US$14 802) and Egypt (US$12 426), although exact numbers for Libya will likely be lower given the impact of the civil war in that country. As a result, all these countries are classified as upper middle-income countries according to the World Bank income group classification. Mauritania – which is a lower middle-income country – had the lowest GDP per capita (US$4 138) in 2019, set to increase to US$5 879 by 2043.

It is projected that the GDP per capita of North Africa will rise to an average of US$15 718 by 2043, which will be higher than Africa's average of US$6 842 and the highest among the regions in Africa. By then Egypt will have overtaken Algeria and have the second highest GDP per capita among the North African countries.

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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In 2019, the informal sector in North Africa contributed 19.8% to the region's GDP, equivalent to US$163 billion. Although in absolute terms this was the second largest among the regions in Africa, it was proportionally the second lowest after Southern Africa (17.1% of GDP) and lower than the average of 25.9% for Africa. This suggests that, compared with other parts of Africa, the region has performed better at formalising its economy.

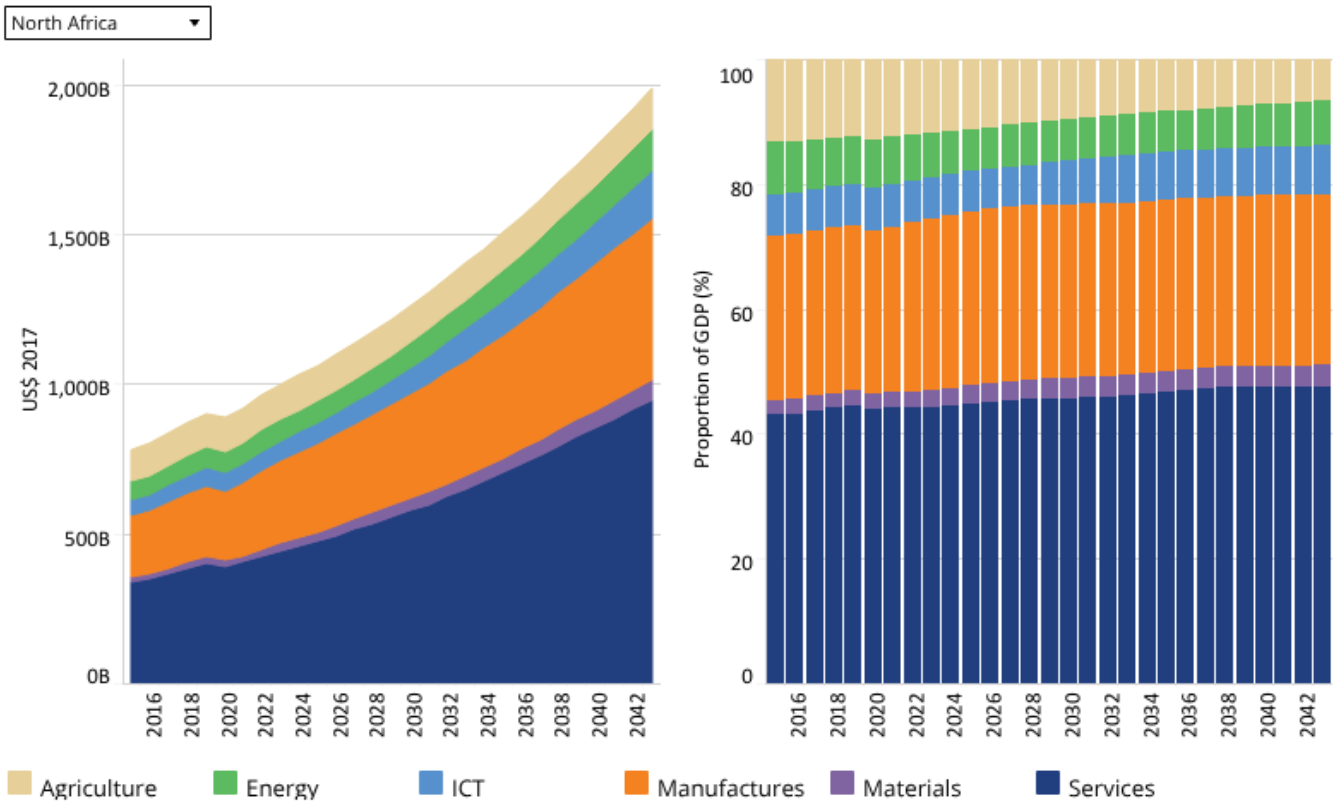
The contribution of the informal sector in member countries differs. Mauritania has the highest contribution by the informal sector (estimated at 23.3%), while Libya has the smallest contribution (13.8%). Tunisia, Morocco and Egypt all have informal sector contributions to GDP above 20%.

The proportion of people employed in the informal sector in North Africa averaged 40.9% in 2019, which was the lowest among the regions in Africa. At the country level, this ranges from 50.5% (Egypt) to 20.8% (Libya). In Algeria, less than 30% of the labour force is employed in the informal sector.

On the Current Path, it is projected that the informal sector's contribution to GDP will decline to 17.3% by 2043, which will still be 7.4 percentage points lower than the average for Africa and the lowest among all the regions on the continent. By 2043, only Mauritania will have its informal sector contributing more than 20% to GDP. Libya will have the smallest contribution from the informal sector to GDP, estimated at 9%. Similarly, the proportion of informal labour in the region is projected to decline to 36.2% (ranging from 46.2% in Egypt to 13.2% in Libya).

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.

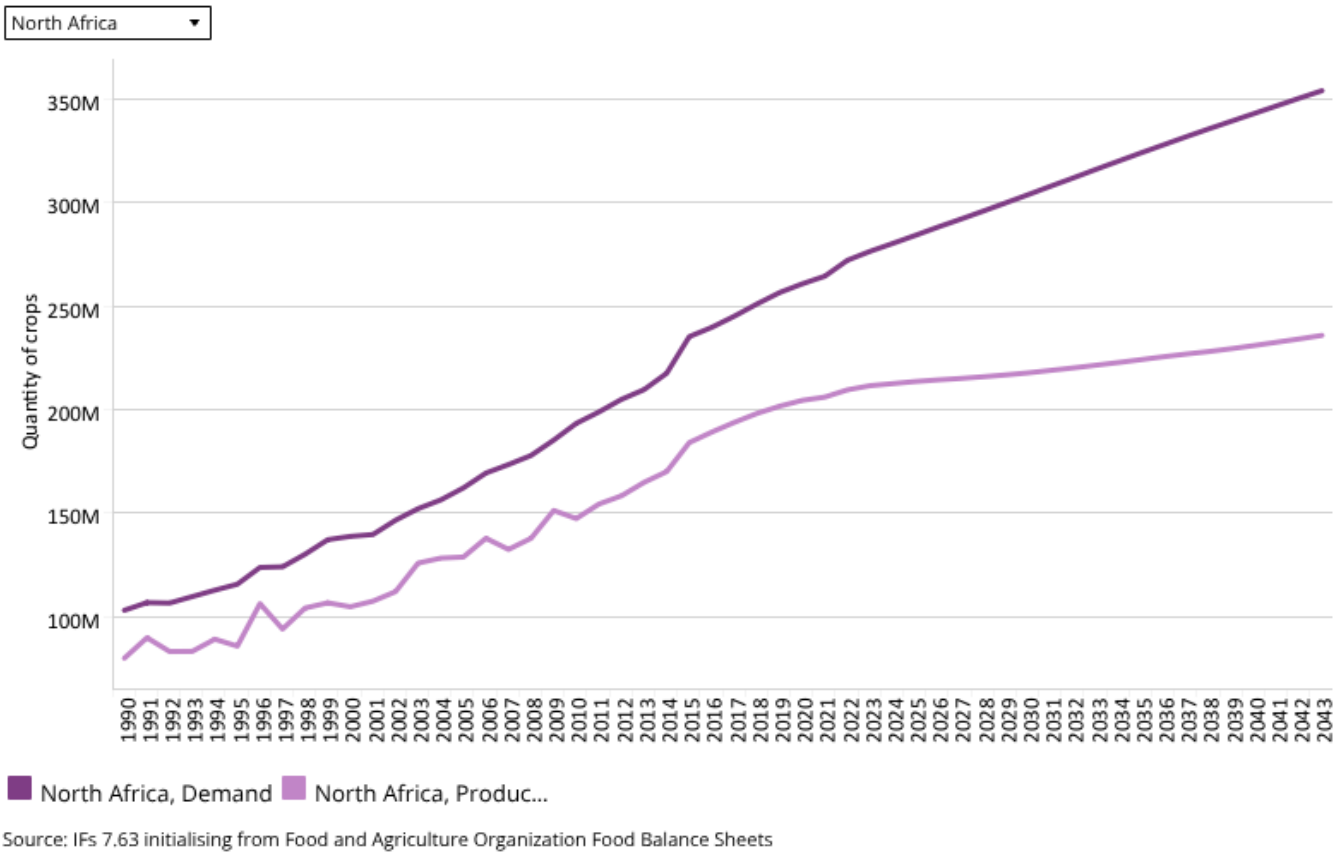
The three largest contributors to the economy are the service, manufacturing and agriculture sectors. The service sector dominates the North African economy and is valued at US$399.8 billion – equivalent to 44.4% of GDP. However, this is below Africa's average of 50.4% and the smallest among the regional groupings. The contribution of the service sector to GDP among member countries ranges from 51.4% in Morocco to 31.8% in Algeria. Countries such as Egypt, Tunisia and Libya all had a service sector contributing close to 50% to GDP in 2019. In the same year, manufacturing contributed 26.5% to GDP, equivalent to US$238.2 billion, while agriculture's contribution amounted to US$111.8 billion, representing 12.4% of GDP.

The contribution of agriculture to GDP among member countries differs substantially, from 23.1% in Mauritania to 3.6% in Libya, with the remaining countries all gaining between 11% and 16% from the sector. With regard to manufacturing, Algeria and Tunisia have the highest contributions to GDP from manufacturing, estimated at 33.1% and 29.1%, respectively. Mauritania has the smallest contribution (13.5%), with the sector's contribution averaging between 21% and 25% of GDP in Morocco, Egypt and Libya. Mauritania has a relatively large materials sector, accounting for almost 13% of GDP in 2019, while Algeria and Libya have the biggest contributions from energy in the region (15.6% and 11.8%, respectively). The ICT sector in Libya contributes 12.6% of GDP.

The structural transformation of economies dictates that the share of the service sector increases while other sectors, such as agriculture, decline. By 2043, the contribution of the service sector in the region is projected to balloon to about US$946.3 billion, representing 47.3% of GDP, which will be lower than Africa's average of 55.4%. This will be driven by the projected service contribution to GDP in Egypt (54%), Morocco (52.3%) and Libya (50.1%). The contribution of agriculture to GDP will decline to 6.7%, equivalent to US$133.5 billion, while that of manufacturing will rise to 27.3%, translating to US$542.5 billion.

By 2043, the manufacturing sector is projected to contribute 31.4% to GDP in Tunisia while contributing only 13.2% in Mauritania. Only Mauritania and Morocco will have agriculture contributing above 10% to GDP by 2043; in the remaining countries contributions will range from 9.4% (Algeria) to 1.8% (Libya). The biggest contribution to GDP from the ICT sector (about 15.2%) will be in Libya, while the lowest will be in Algeria (about 4.8%). The materials sector's contribution will be the biggest in Mauritania (16.3%), whereas in Tunisia it will be less than 2%. In Algeria, the energy sector will contribute 23.5% to GDP by 2043, which will be the highest in the region, while it will contribute less than 1% to the economies of Tunisia and Morocco.

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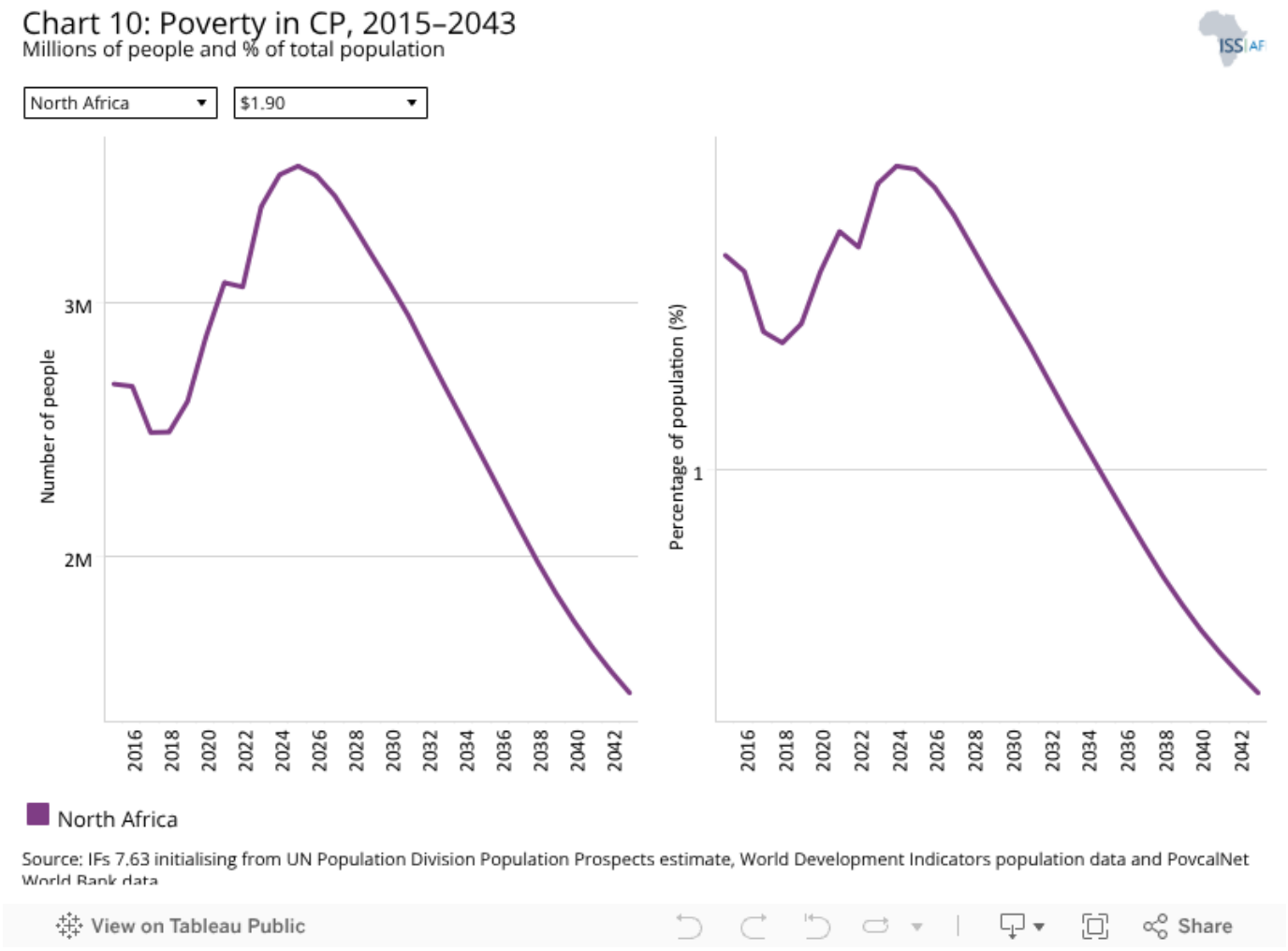
The data on agricultural production and demand in the IFs forecasting platform initialises from data provided on food balances by the Food and Agriculture Organization (FAO). IFs contains data on numerous types of agriculture but aggregates its forecast into crops, meat and fish, presented in million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

Total agricultural demand exceeded production by 23.2 million tons in 1990, indicating a heavy import dependence for

agricultural products in the region. Between 1990 and 2019, agriculture import dependence grew to 54.9 million tons, representing a 136.6% increase over the period. In terms of production, Egypt – as expected with its large population – produced about 113.9 million tons of crops, meat and fish, the most in the North African region; this accounted for 56.5% of total production. Morocco produced 36.8 million tons of crops, representing 18.2% of total production in the region, while Libya and Mauritania had the lowest production capacity (8 and 1.4 million tons, respectively).

Libya has the lowest agricultural import dependency in the region, estimated at 70 000 tons. Egypt has the greatest dependency on food imports in the region, with domestic demand exceeding production by 25 million tons. Import dependence to supplement domestic production is expected to grow in the region, such that by 2043, domestic demand will exceed production by 118.2 million tons. This constitutes a growth of 115.3% in import dependency, which will largely be driven by the anticipated increased import dependency in Egypt, projected to be about 82 million tons. Algeria and Tunisia will have food shortages estimated at 28.8 million and 3.3 million tons, respectively.

Poverty: Current Path



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.

North Africa is the most developed region in Africa and has the lowest poverty rate. In 2019, the total number of people living in extreme poverty (below the poverty line of US$1.90 a day) was estimated to be 2.6 million people, representing only 1.3% of the population – far below the average of 34.8% for Africa. This means that the region has already met the target of Goal 1 of the Sustainable Development Goals, namely to reduce extreme poverty to below 3%.

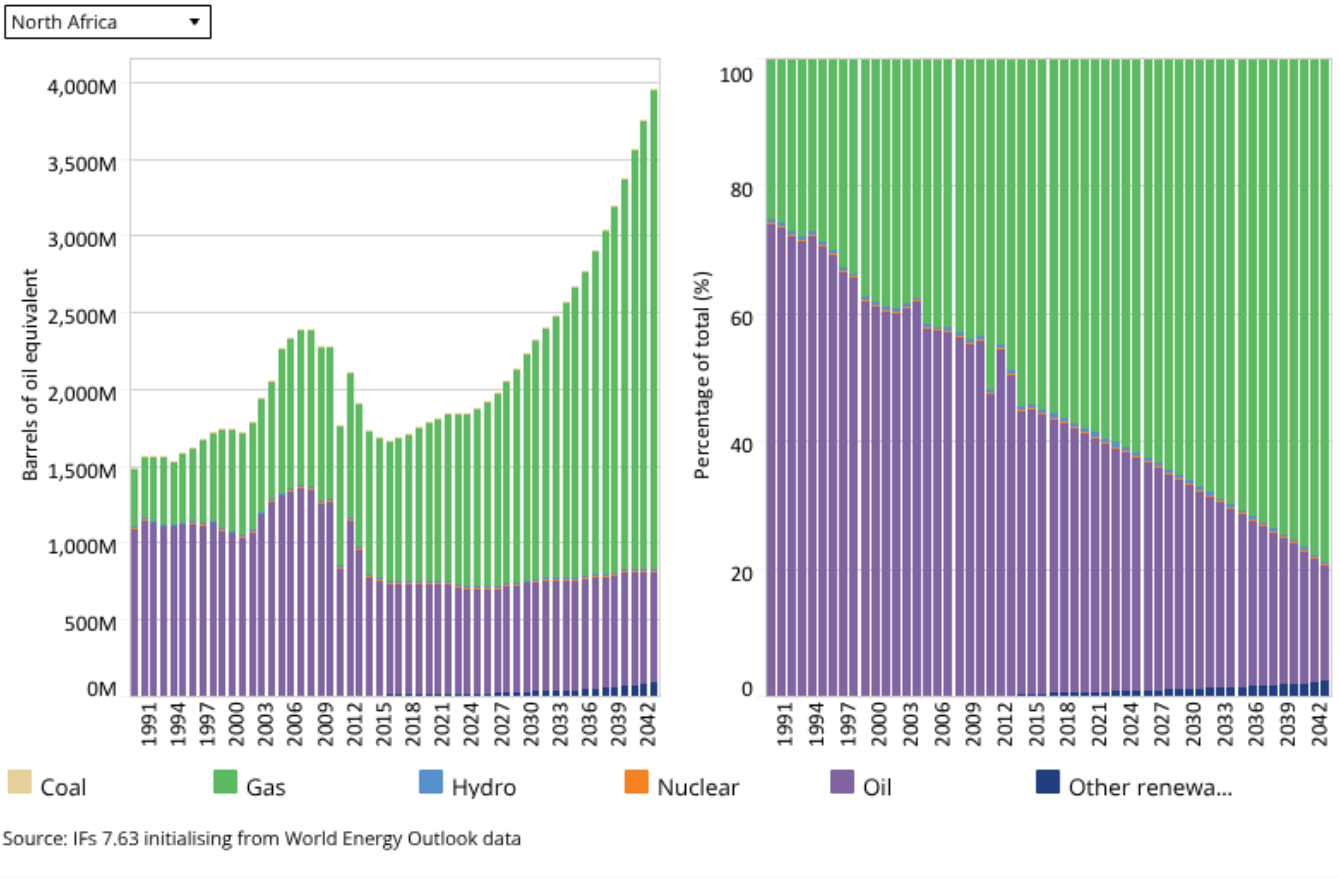
At the country level, only Mauritania has an extreme poverty rate above 10%; in all the others the poverty rate is below 2%

(in fact, Morocco, Tunisia and Algeria all have poverty rates below 1%). Extreme poverty is projected to increase in the short term and peak at 3.5 million people (1.6% of the population) in 2025. This can be attributed to the impact of the COVID-19 pandemic on businesses and livelihoods in the region. Poverty is subsequently forecast to decline such that by 2043, the number of people living below the poverty line of US$1.90 in the region will be 1.5 million, constituting 0.6% of the population. This will be 20.3 percentage points below the average for Africa. Extreme poverty in the region will be driven by the high poverty rate in Mauritania, estimated to be at 7.1% by 2043, and will constitute 86.7% of all poor people in the region. The other countries in the region will all have an extreme poverty rate of less than 1% by 2043.

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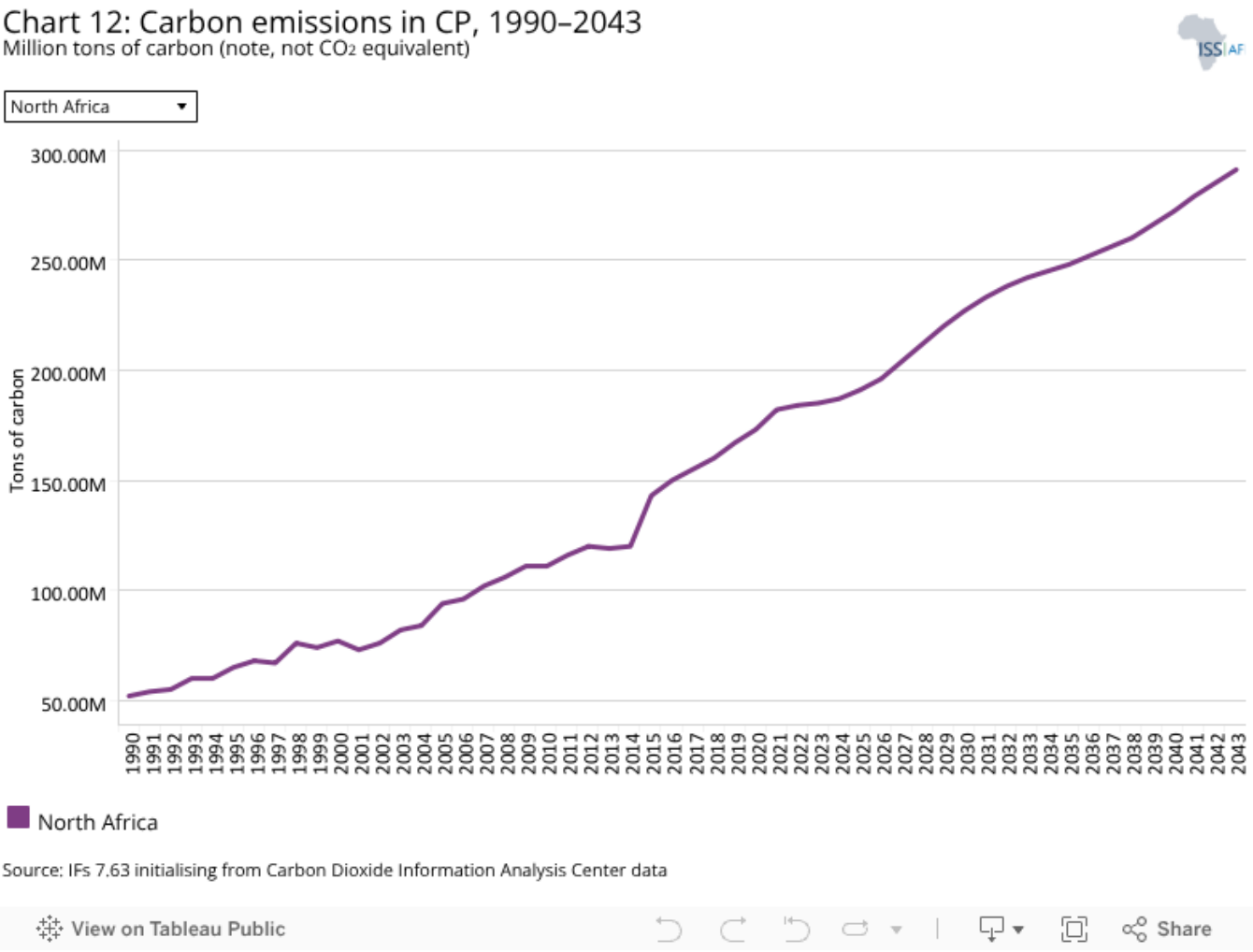
The IFs platform forecasts six types of energy, namely oil, gas, coal, hydro, nuclear and other renewables. To allow comparisons between different types of energy, the data is converted into billion barrels of oil equivalent (BOE). The energy contained in a barrel of oil is approximately 5.8 million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

Oil and gas are the main types of energy produced in North Africa. In 1990, the region's oil production was estimated to be 1.1 billion BOE, equivalent to 74% of total energy production. This was complemented by 374 million BOE in gas production. By 2019, total oil production in the region declined to 731 million BOE, constituting 42% of total energy production. The production of gas grew to 1 billion BOE, representing 57% of total energy production. Oil production in the region is mainly driven by the large oil reserves in Algeria and Egypt, accounting for 51.8% and 30.6% of total oil production, respectively. The two countries also together account for over 90% of total gas production in the region, with Algeria producing 61.3% and Egypt 29%.

By 2043, gas will be the dominant type of energy produced in the region, with a projected output of 3.1 billion BOE, representing 79% of total energy production. This will be complemented with oil production, estimated to be at 725 million BOE and constituting 18% of total energy production. The rest is expected to be sourced from other renewable energies, which will constitute 2% of total energy production by 2043. The share of Algeria in total gas production will increase to 83.9%, while the share of Egypt will decline to 11.3% by 2043. Also, the share of Algeria and Egypt in oil production will rise

to 55.8% and 41.1%, respectively, by 2043. This means that the region is likely to depend on Algeria and Egypt for its energy demand in the future.



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.

The total amount of carbon emitted by North Africa more than tripled between 1990 and 2019, from 52 million tons to 167 million. Among member countries, Egypt and Algeria are the highest emitters of carbon in the region, accounting for 40.6% and 26.9% of total emissions, respectively. This is mainly due to higher production of gas and oil in these countries, as well as relatively larger manufacturing sectors. Mauritania is the smallest contributor to carbon emissions, accounting for less than 1% of total emission in the region.

By 2043, total carbon emission is projected to increase to 291 million tons, equivalent to a 74.3% increase over the forecasting period. Egypt will increase its share of carbon emissions in the region to 51.5%, while the share of Algeria will decline to 23.8%. Libya is projected to also reduce its share of total carbon emissions from 15.2% in 2019 to 9.7% by 2043.

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Cite this research

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About the authors

Mr Enoch Randy Aikins joined the AFI in May 2021 as a Researcher. Before that, Enoch was a research and programmes officer at the Institute for Democratic Governance in Accra in charge of local governance reforms, poverty and inequality and public sector reforms. He also worked as a research assistant (economic division) with the Institute for Statistical Social and Economic Research at the University of Ghana. Enoch's interests include African politics and governance, economic development, public sector reform, poverty and inequality. Enoch is a Young African Fellow at the School of Transnational Governance, European University Institute in Florence and has an MPhil in economics from the University of Ghana, Legon.

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