World Population Development

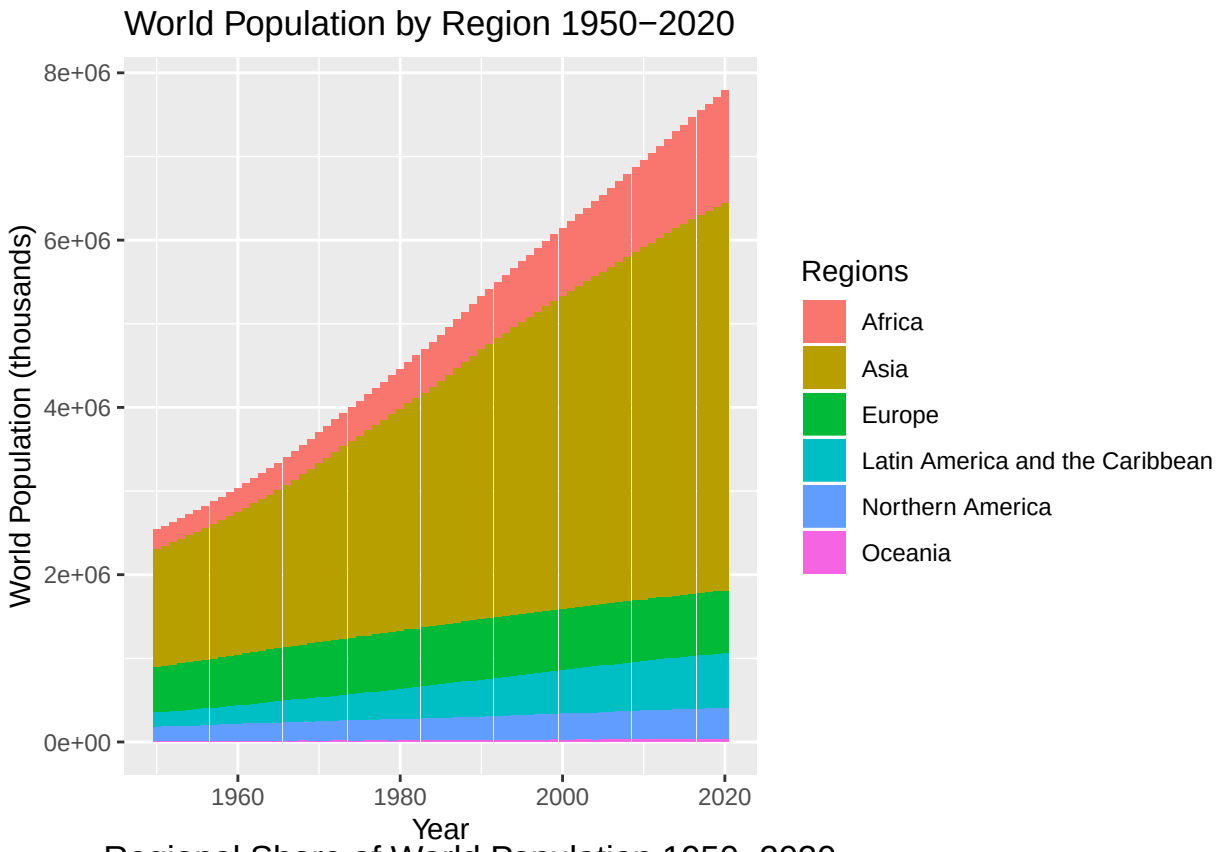
Data

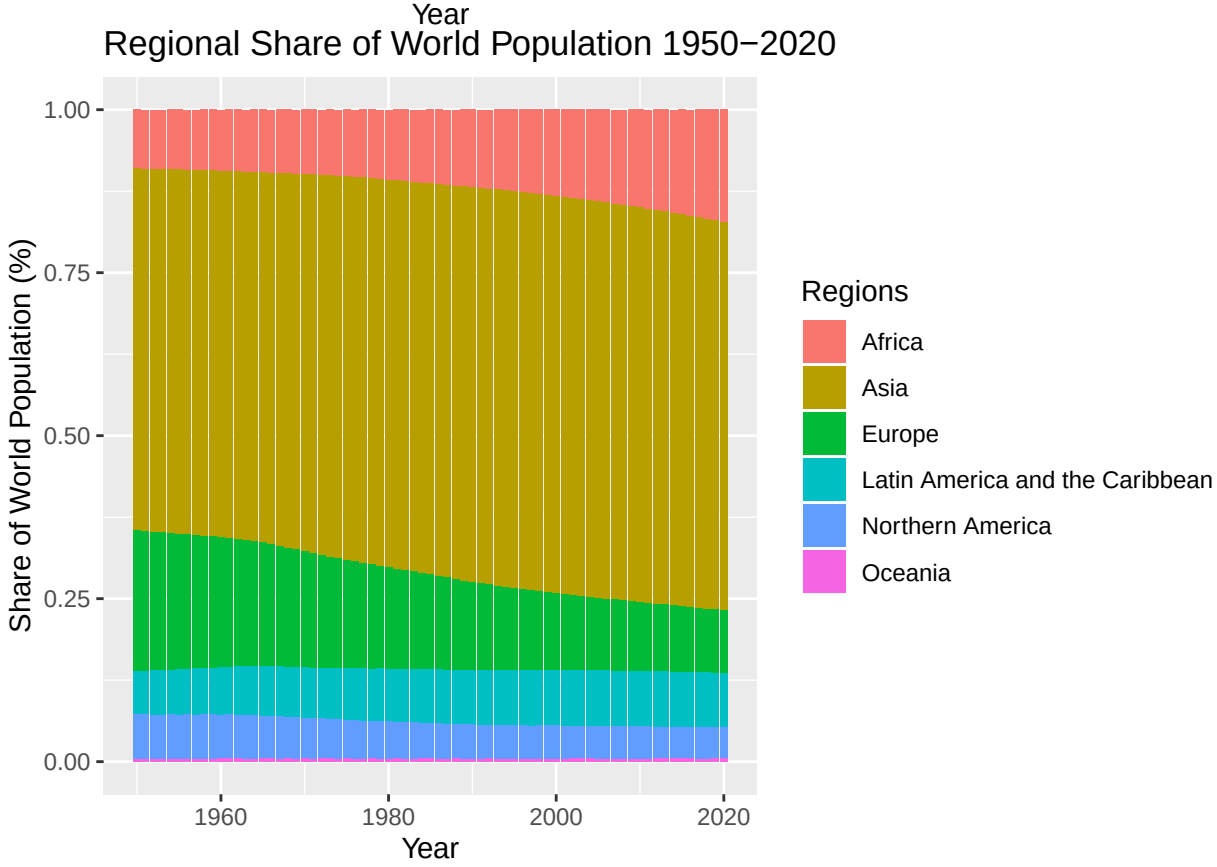
This case study is based on the population development data of the United Nations Department of Economics and Social Affairs. It can be found here. The population data is provided by country, geographic region, SDG (Substainable Development Goals) region, income group (World Bank income groups) and development group (UN development groups). One sheet of the excel file contains the historic estimates from 1950 until 2020. There are multiple prediction sheets for different scenarios (e.g. low, medium, high, constant-fertility, zero-migration). This report will use the medium variant predicitons.

Historic Population Development of the World

Population by Region

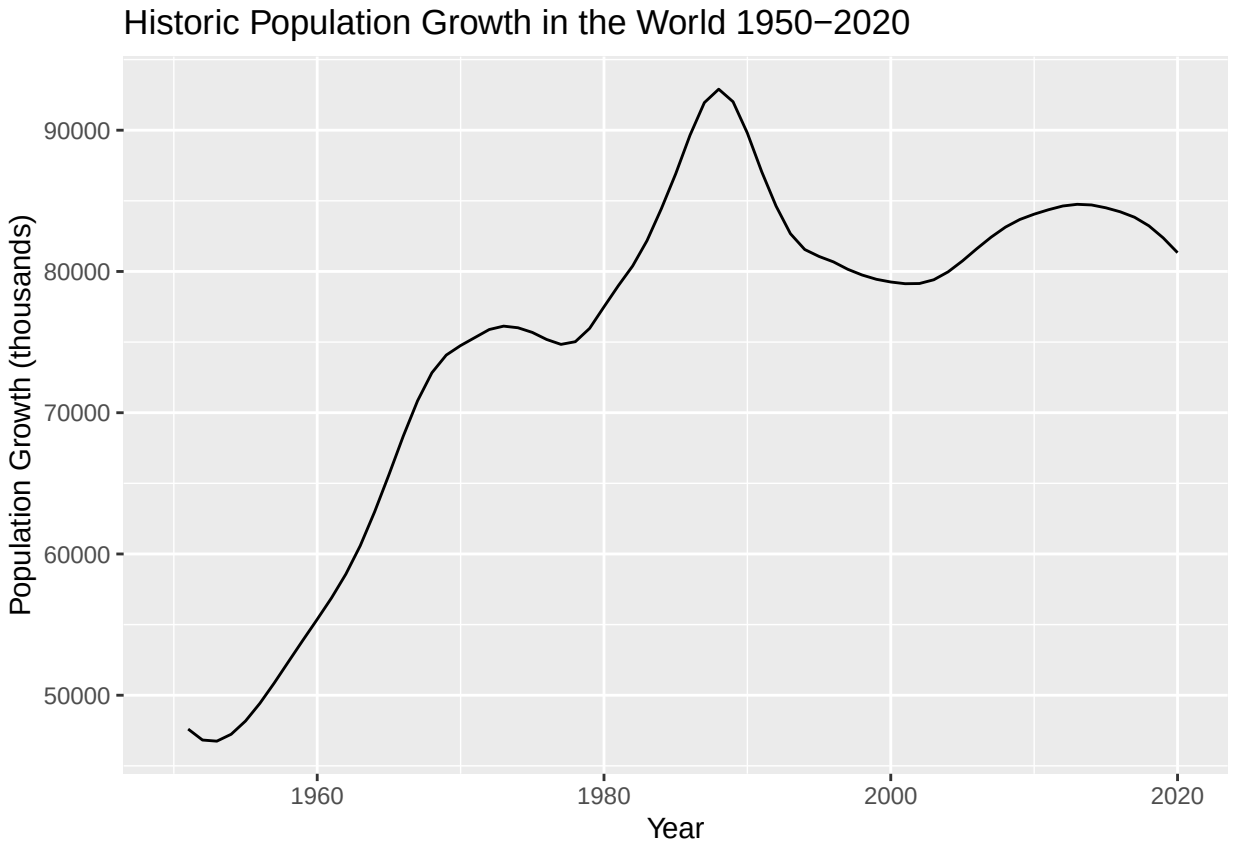
In the past seventy years the majority share of the population of the world was always held by Asia. The share of the regions Asia, Latin America and the Carribean and North America was roughly constant over the period. Africa's share increased while Europe's share decreased.


World Population by Region 1950−2020
World Population (thousands)
8e+06
6e+06
4e+06
2e+06
0e+00
1960
1980
2000
2020
Year
Regions
Africa
Asia
Europe
Latin America and the Caribbean
Northern America
Oceania


Regional Share of World Population 1950−2020
Share of World Population (%)
1.00
0.75
0.50
0.25
0.00
1960
1980
2000
2020
Year
Regions
Africa
Asia
Europe
Latin America and the Caribbean
Northern America
Oceania

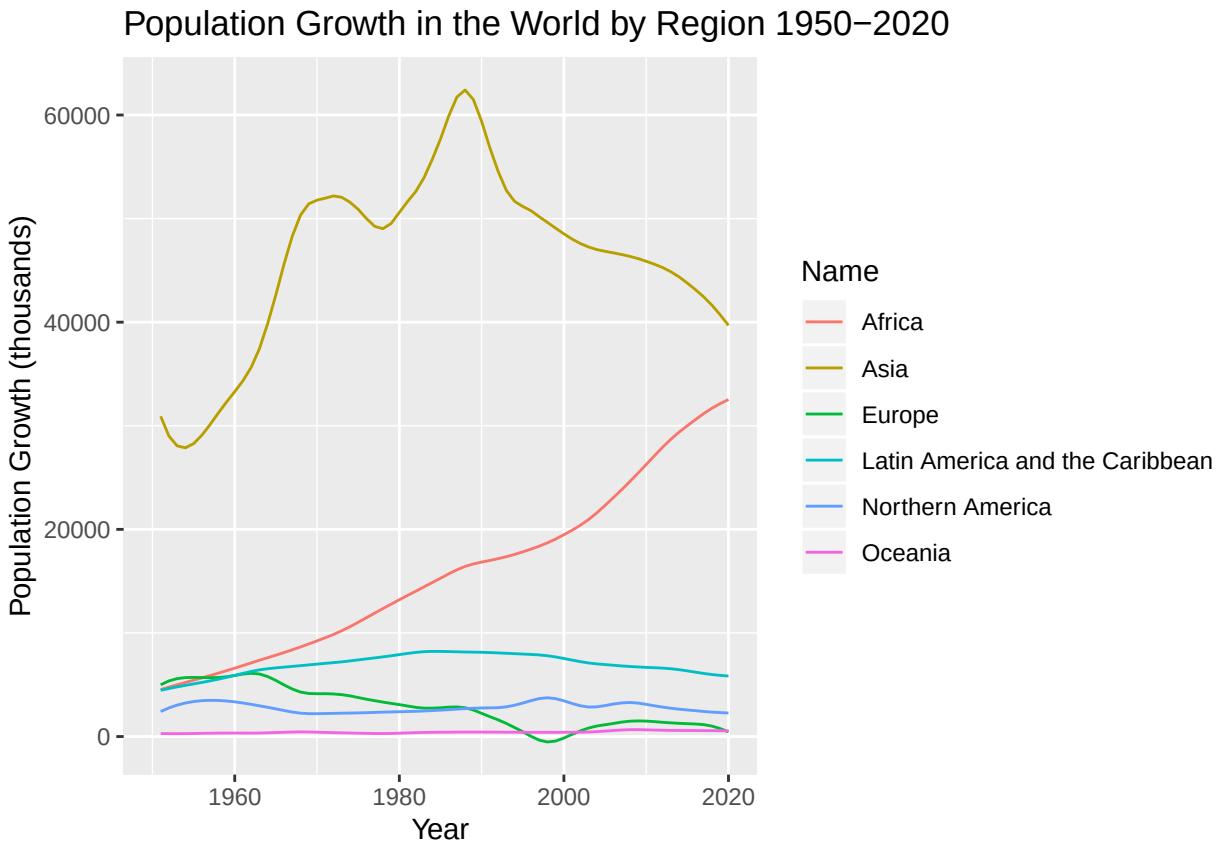
Historic Population Growth in the World

The total population growth (e.g. difference of the population between the past year and the current year) of the world reached its peak in the late 1980s. Another peak was in the mid 2010s.

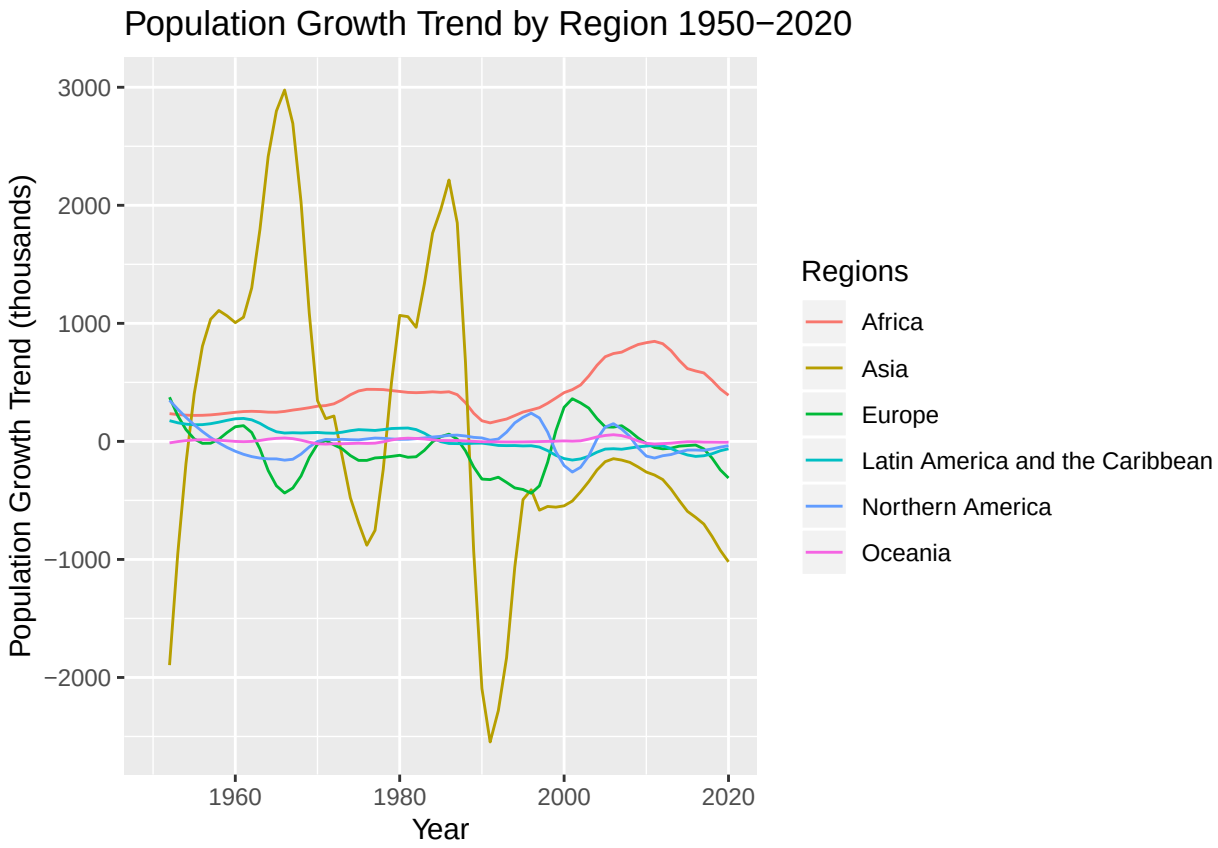


Population Growth in the World by Region

When looking at the population growth by region it becomes apparent that most of the historic population growth stems from Asia. However, the growth in Asia has been slowing since its peak in the 1980s. At the same time the growth in Africa is increasing and if the current trend continues it will surpass Asia. It is also interesting to note that Europe is the only region where the population has been shrinking (depicted by negative growth) for a period in the late 1990s.

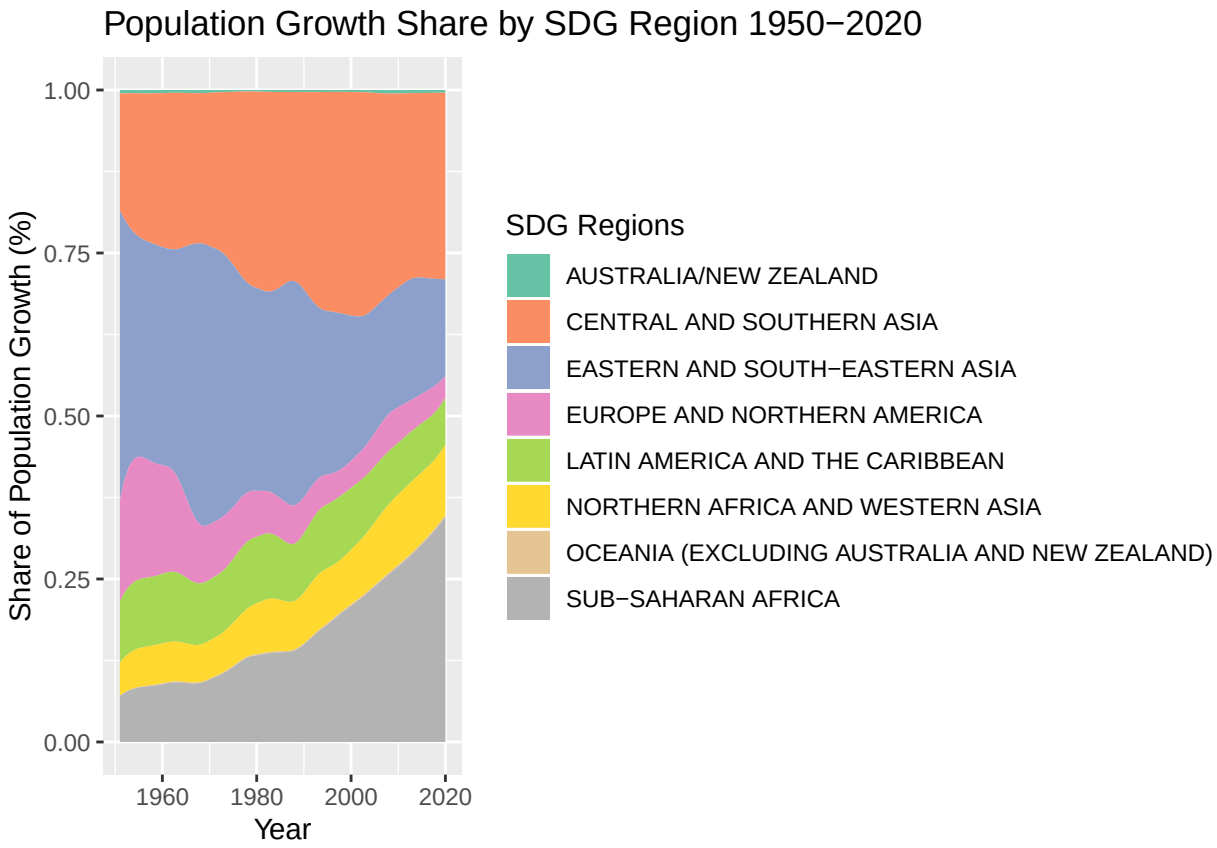


Population Growth Trend by Region While the growth metric can be mathematically seen as the first derivaive of the population, the growth trend is the second derivative. It measures the difference between the growth of the current year and the last year. When looking at the plot of the growth trend it becomes appearent that Africa is the only region with a constant positive growth trend.



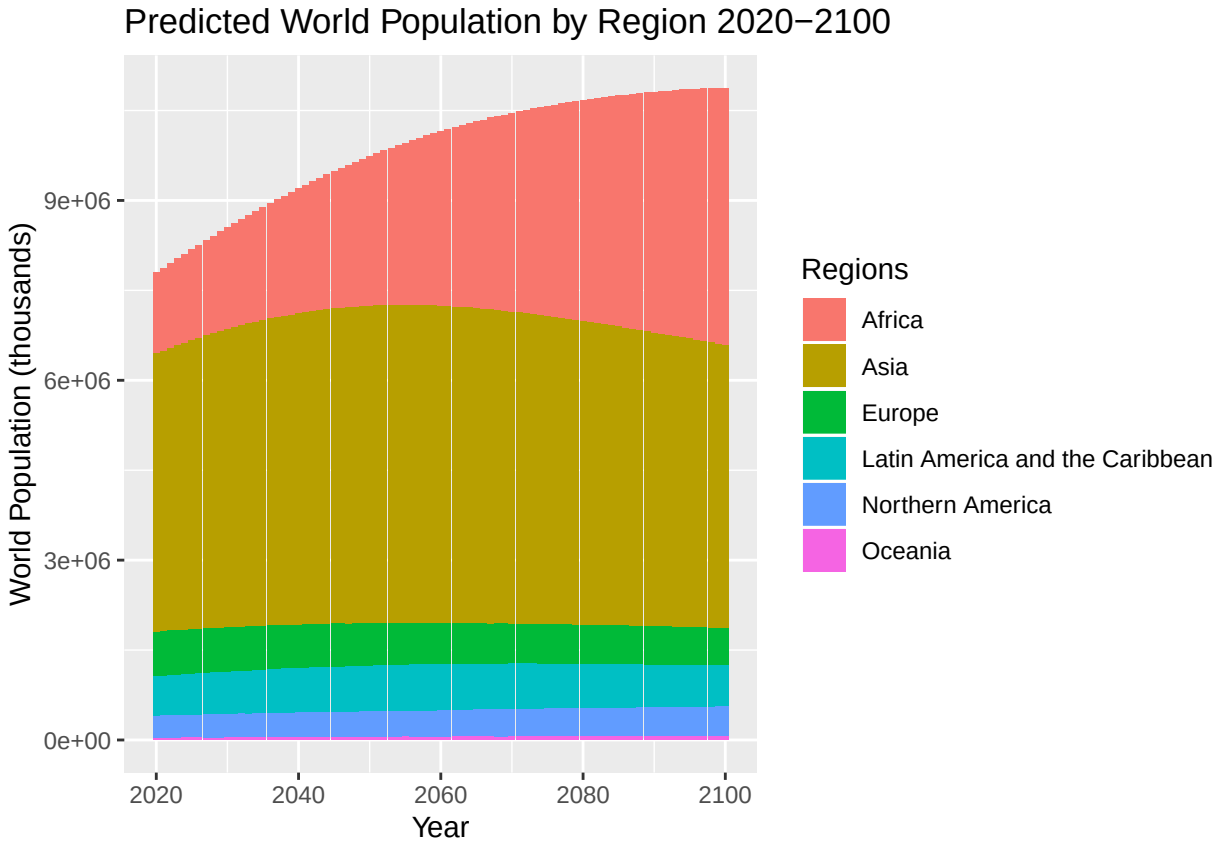
Population Growth Share by SDG Region

In order to have a better understanding of the differences in the share of growth it is interesting to consider the growth by SDG regions instead of geographic regions. The SDG regions are more culturally and economically homogeneous than the simple geographic regions.

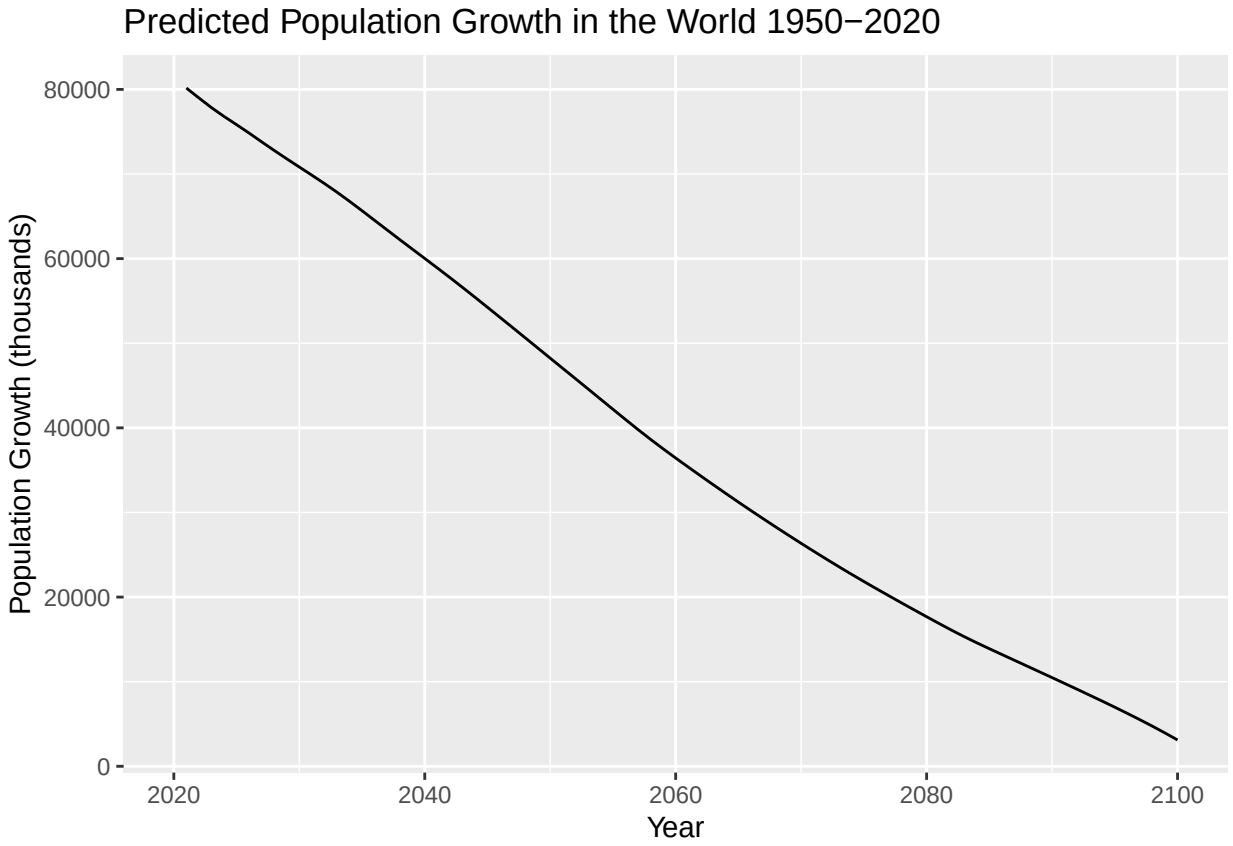


Predicted World Population by Region 2020-2100

The population of Africa will be growing more rapidly than the population of Asia. In the 2050s Asia is expected to reach a peak of its population. After this date the population will start to decline. Africas share of the world population will be almost the value of Asia by 2100.

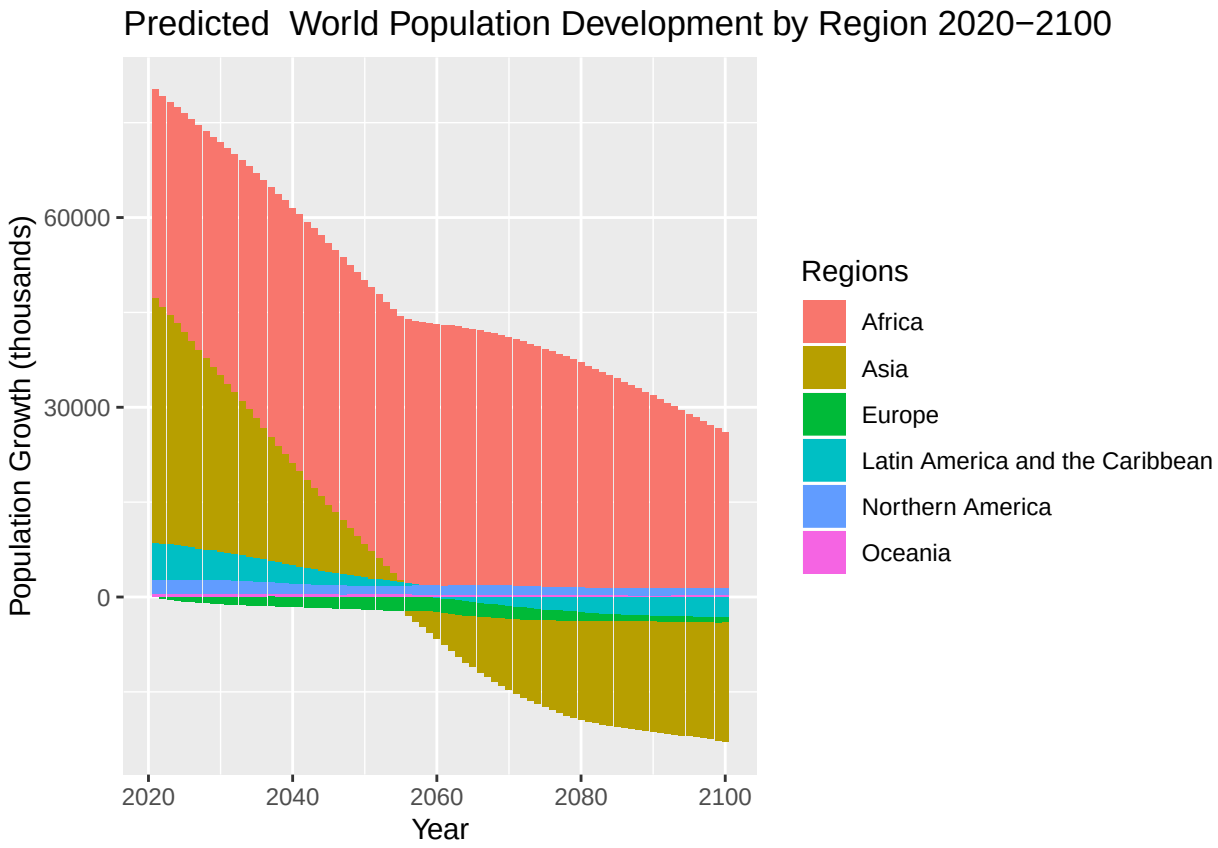


Predicted Total World Population Growth 2020-2100 The total population growth of the world is expected to fall continously from its current value of roughly 80 million people per year to almost zero by the year 2100. This is the population developemnt of the whole world combined.



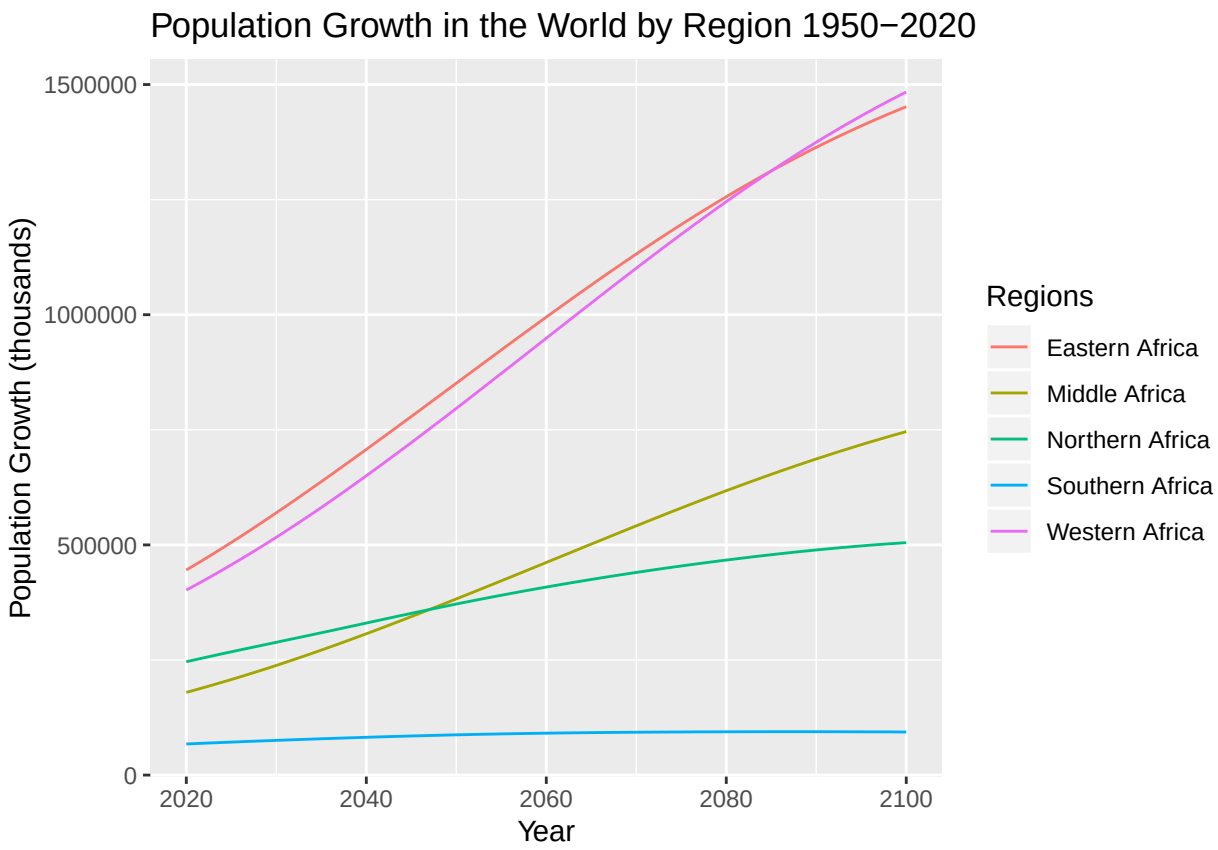
Predicted World Population Development by Region 2020-2100

Once again, the change of the Asia region from a region with positive population development to a region with a negative population development in the 2050s becomes clear. Africa and North America will be only Regions with a significant positive population development, where Africa is responsible for the majority of the growth.



Predicted African Population by Regions 2020-2100

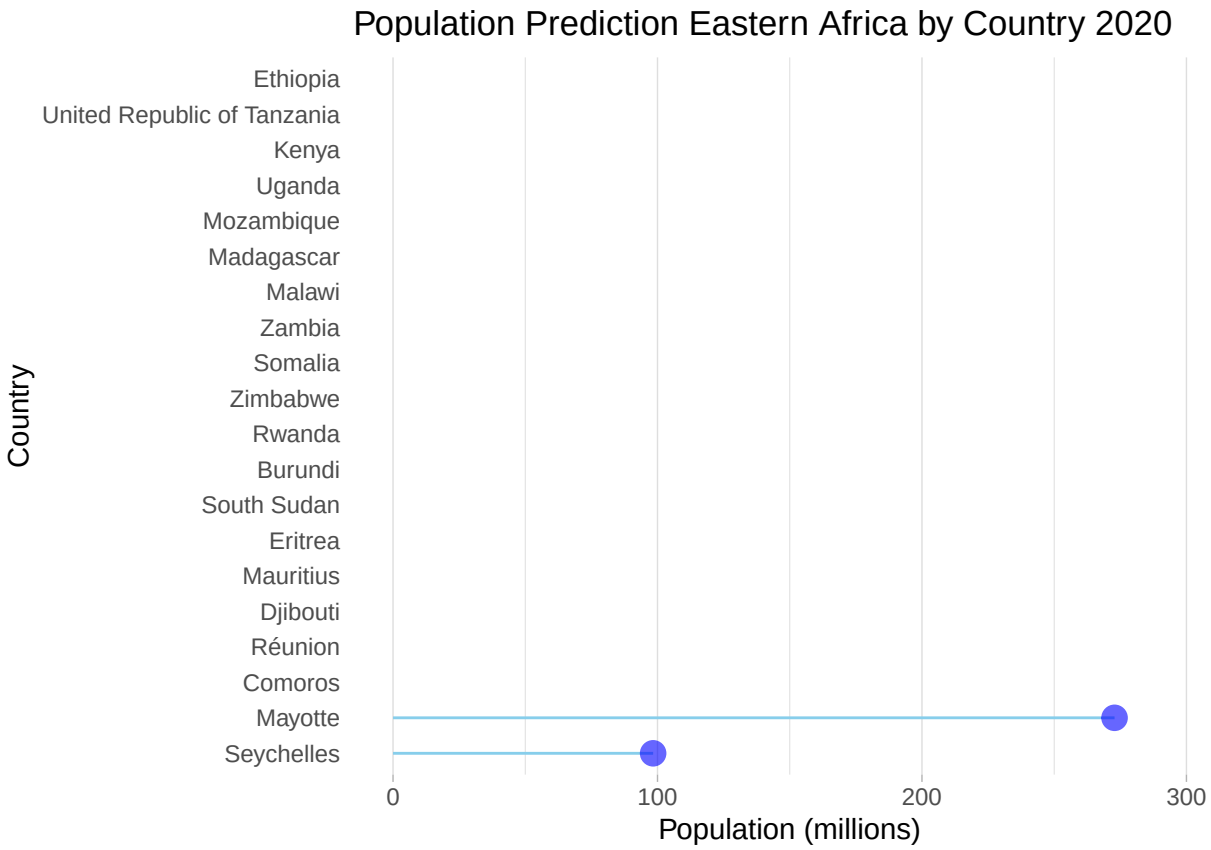
Eastern and Western Africa are today by far the most populated Regions in Africa. This trend will continue all the way until 2100 when both regions will have a population of 1.5 billion people each. Middle Africa starts out with a lower population today and also has a less growth. However, it is still expected to be the third populous African region by 2100 with 750 million inhabitants. Northern Africa is expected to have a slower growth and have a population of 500 million people, while Southern Africa will fail to make up a significant part of the overall African population. In the following parts of this case study I will focus on the three most populated Regions in 2100: Eastern, Western and Middle Africa.



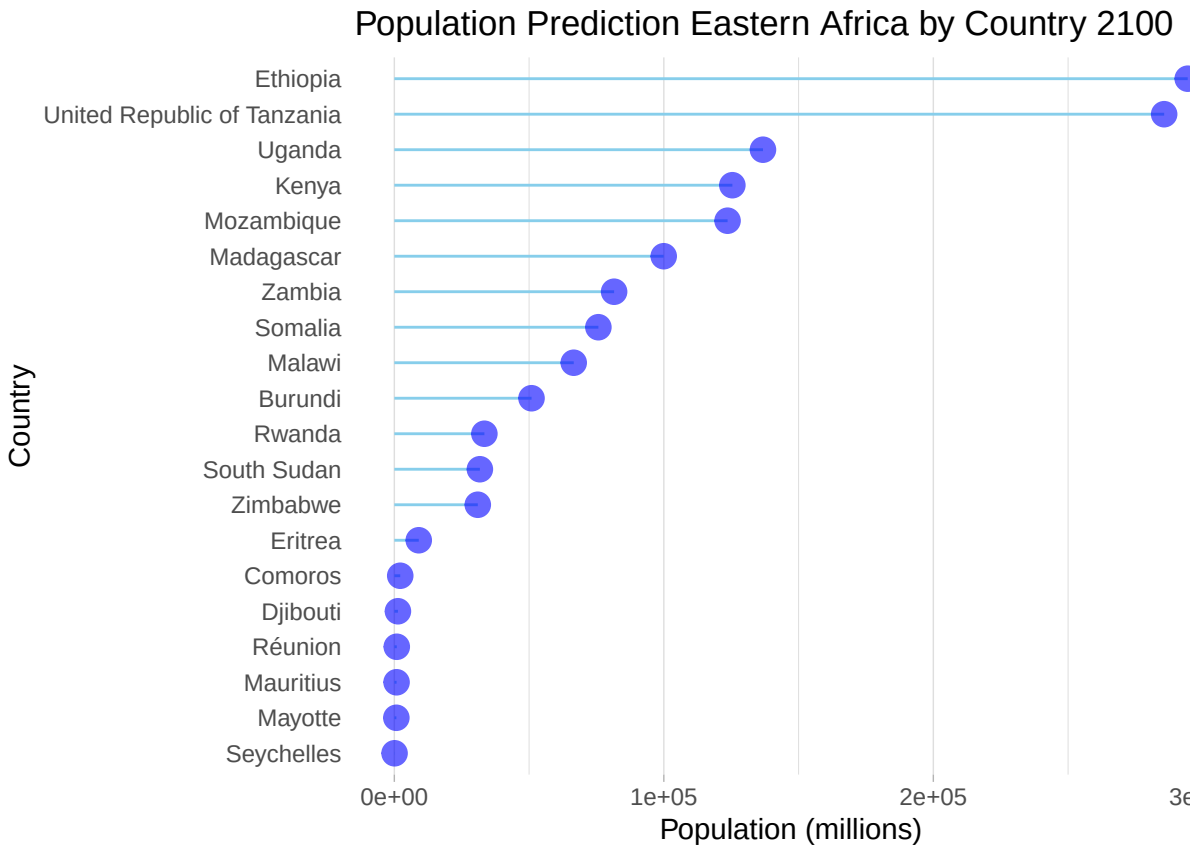
Eastern Africa

Population Overview 2020

Eastern Africa is made up by 20 different countries. Ethiopoa, Tanzania, Kenya and Uganda have the largest population in 2020. The following table displays the population of all East African nations in 2020:



Population Overview 2100 By 2100 the population of Ethopia and Tanzania is expected to reach almost 300 million people for each country. The following table displays the population of all East African nations 2100



in million inhabitants:

When looking at the population of Eastern Africa on a map three major zones of population are visible: a northern one in Ethiopia (see map). A central one around Lake Victoria (see map). And a southern one around Lake Malawi (see map). There are also smaller population hubs along the coast of the Indian Ocean.

```
##         2020     2100
## 1: 114963.58 294392.9
## 2: 184089.50 632177.3
## 3:  97248.12 557404.4
```