



One Doughnut for all



1) Please, try out the applet: <https://www.geogebra.org/m/gg8hgavw>

2) Please, choose a variable out of the list. Start to work on the doughnut model with this variable. Note the name of the variable on the worksheet.

3) Find the variable on <https://www.gapminder.org/tools/>

4) Read the variable's value of your country and document it on the worksheet!

5) Reflect on the choice of the colour for this variable in the doughnut. For some variables there are prepared scales, for the others you have to make up your mind on your own. Please, write down a reason for your choice on the worksheet.

6) Adjust the slider in the applet for this variable.

7) Continue to work on the model until you are finished with at least 3 ecological and 4 social variables.

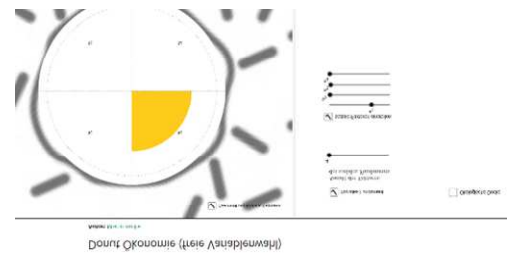
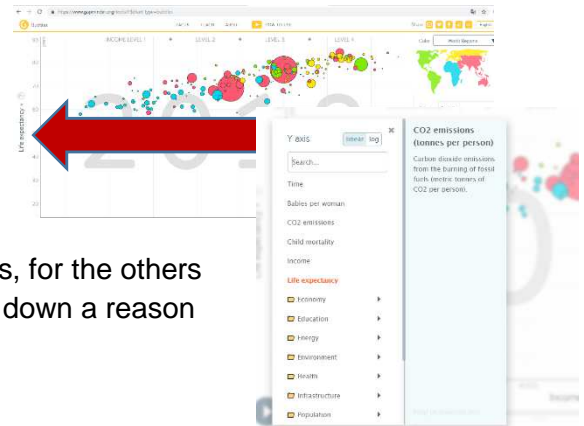
8) Make a screenshot of the doughnut and include it in the worksheet.

9) Documentation and description

a) Please, describe the situation in the country you have worked on. How does the doughnut graphic look like, generally? What does that mean for the development of the country? Is there anything exceptional to recognize?

b) Visit the site <https://www.gapminder.org/dollar-street/> and search for "most loved toys". Adjust the slider of income in a way that the country you work on is represented by the photos. Please, describe how the toys in this country may look like. Search for more categories that will fit to describe the situation in this country. Try to substantiate the variables, that you have used to compile your doughnut, with these photos.

11) Don't forget to save the document!



Country:

Name:

Variable	Social or ecological factor?	Value of the variable	Reason for classification (colour)

(Screenshot)

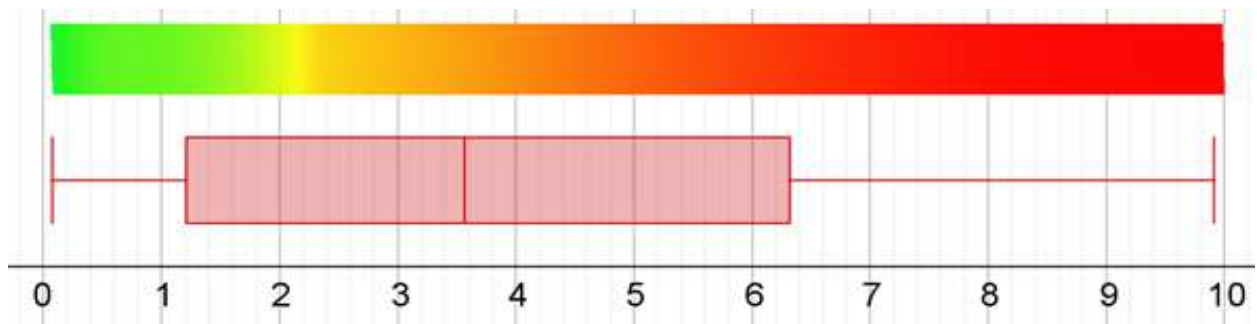
Text, graphics and photos to describe the country

Gapminder Variables

You can find these variables in Gapminder. Find some aspects you are interested in. Search in Gapminder for these terms. If the variable is bold, there are sheets with more information and a given scale.

	Did you use this variable?	
	yes	no
Co2 Emissions		
Water Withdrawal (cu meters per person)		
Energy Use		
Industry (% of GDP)		
Threatened Species (mammals + fish + birds)		
Threatened Plant Species		
Babies per Woman		
Medical Doctors (Aussage über Gesundheit)		
Child Mortality		
Life Expectancy		
Food Supply		
Sugar per Person		
Years in School		
Progression to Secondary School (%)		
Democracy Score		
Corruption Perception Index		
Gini Index (world bank estimate)		
Access to Electricity		
At least basic Sanitation, overall access (%)		
At least basic Water Source, overall access (%)		
HDI		
Traffic: Cars, Trucks & Buses per 1000 Persons		
Cell Phones/ 100 people		
Income		
Working Hours/week		
Extreme Poverty (below 1,90\$)		
Aged 15+ Unemployment rate (%)		

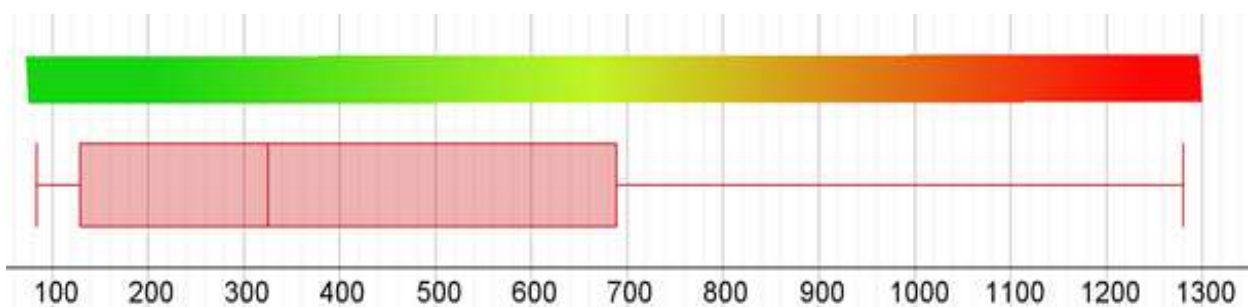
CO2-Emission in tonnes per person



CO2-Emission in tonnes per person

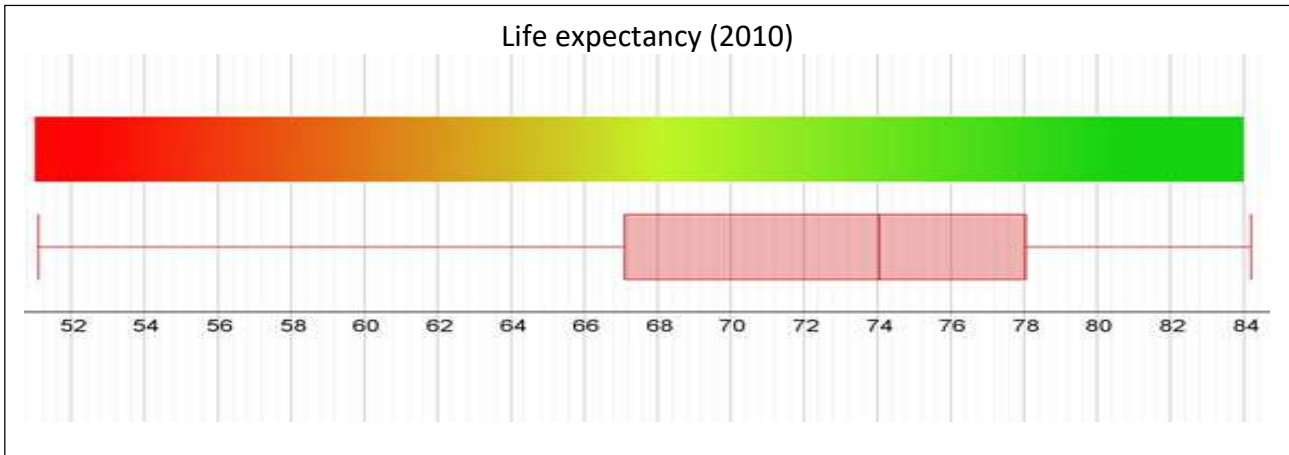
- Gapminder: “CO2 emissions (tonnes per person)”
- Description: This variable shows the carbon dioxide-emission in tonnes per person. Burning fossil fuels raises the value of CO2 in the atmosphere.
- Most of the countries produce too much CO2. Nature can equalize 2 tonnes of CO2 per person. The median value is around 3.5 tonnes. As higher value is bad for nature, these countries are jointly responsible for climate change.

Water withdrawal per person in m³ (2010):

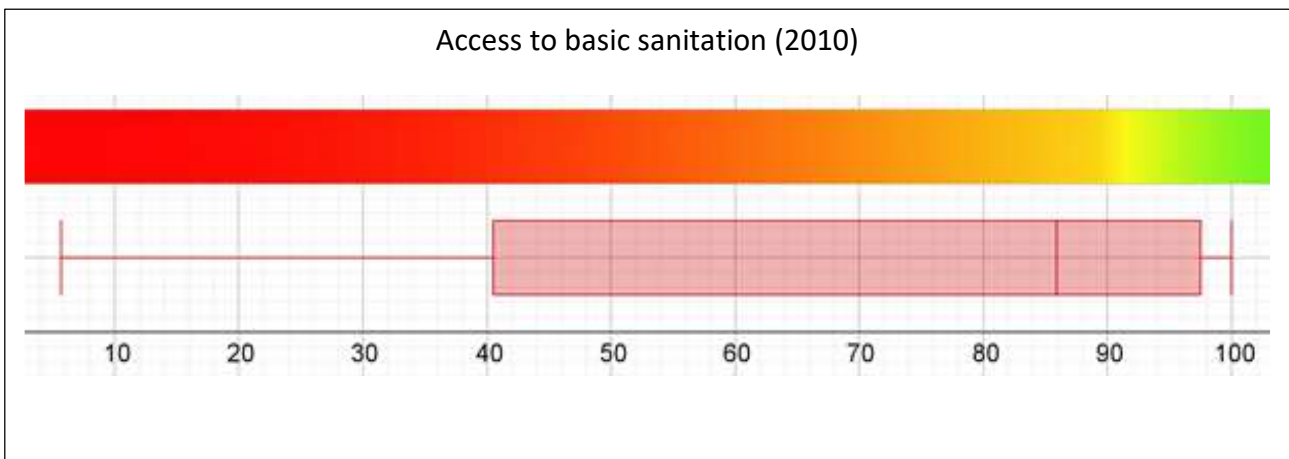


Water withdrawal per person in m³ (2010):

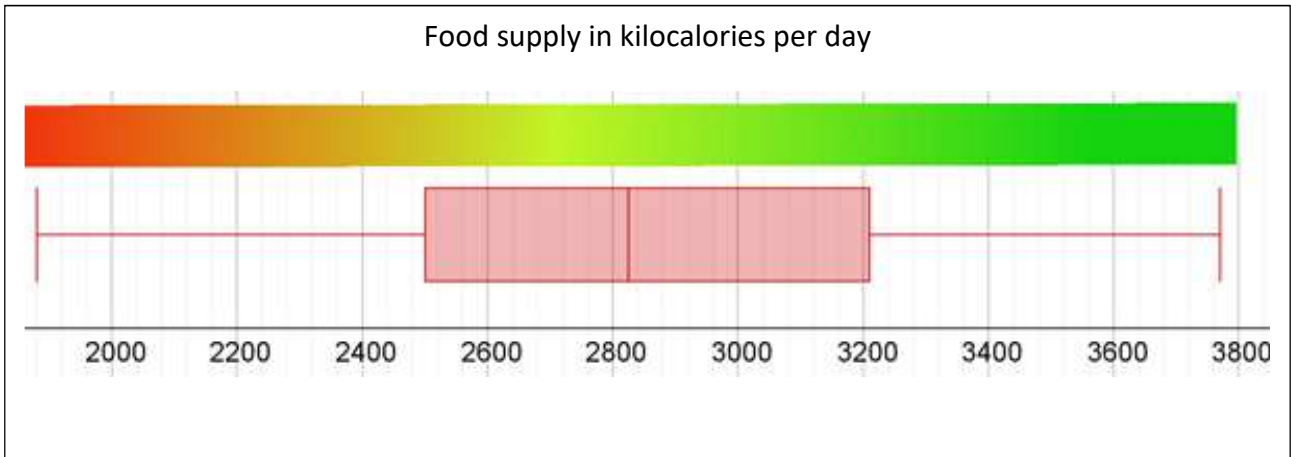
- Gapminder: “Water withdrawal (cu meters per person)”
- Description: The variable shows how much water is used by each person in m³. Water comes from various sources including purified or desalinated water.
- It is better for the environment when we use less water. The critical value is around 500 m³ per person depending on the countries’ water resources. Some countries have much water and do not harm the nature when they use more water.



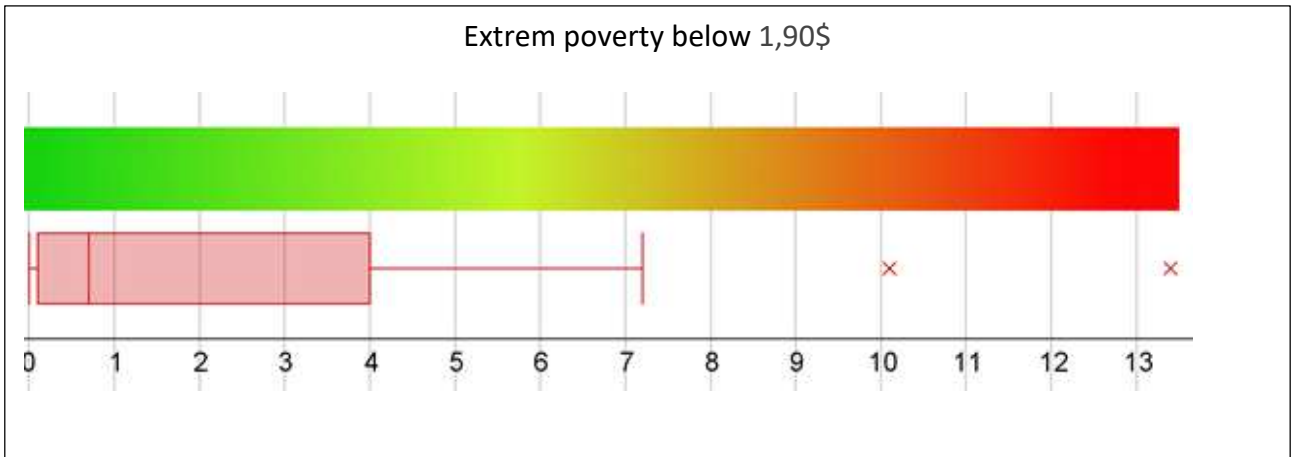
- Life expectancy (2010)
- Gapminder: “Life expectancy”
 - Description: This variable shows an estimation for people’s average age. Considering the actual living circumstances, we can estimate how old a baby born in this year will grow in average.
 - Generally, living standards (e.g., medicine, nutrition) constantly get better. People live longer nowadays. Median age is around 74 years. In $\frac{3}{4}$ of the countries people’s life expectancy is fine.



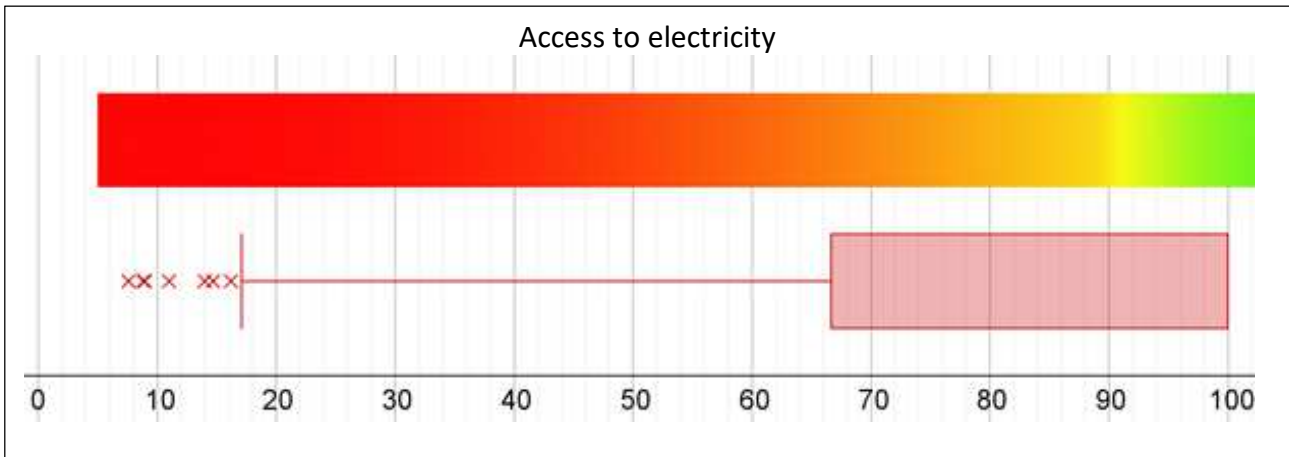
- Access to basic sanitation (2010)
- Gapminder: “At least basic sanitation, overall access (%)”
 - Description: The variable shows the percentage of people who have access to basic sanitation.
 - A country is rated badly, if not even 40% of the people have access to basic sanitation. The median value is around 86%. As basic sanitation should be standard in every country, good ratings starts when more than 90% of people having access to basic sanitation.



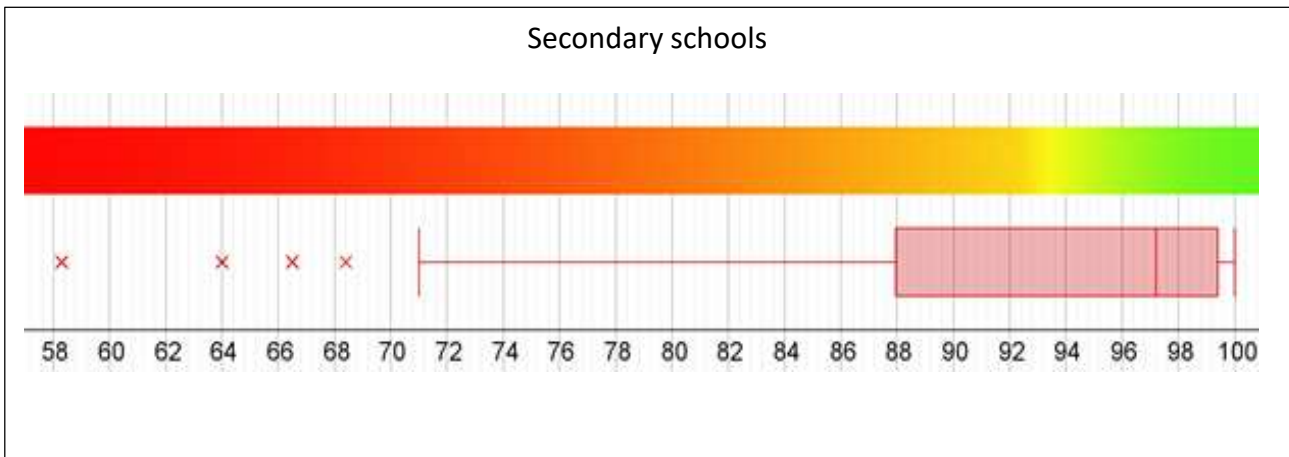
- ### Food supply in kilocalories per day
- Gapminder: “Food supply (kilocalories/ person & day)”
 - Description: The variable shows how much food (measured in kilocalories) is available per person. Depending on age, weight or size a normal person needs around 1500 to 2500 kcal. But, too much food and bad nutrition is unhealthy and negatively influences life expectancy.
 - The median food supply of all countries is around 2820 kcal/person/day. Good food supply is valuable for society, but food production also holds the risk of environmental problems.



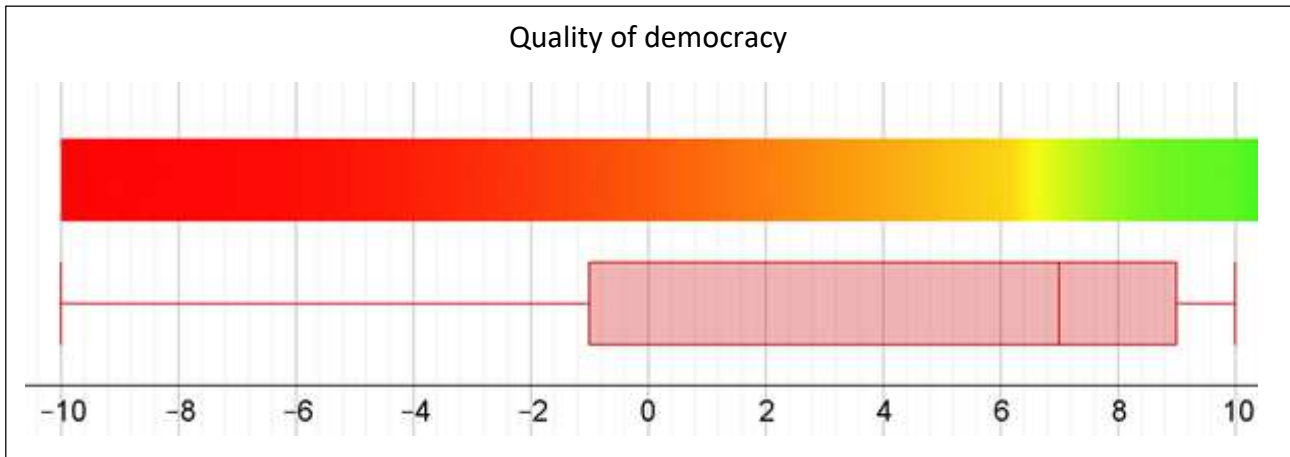
- ### Extrem poverty below 1,90\$
- Gapminder: “Extrem poverty (% below 1,90\$)”
 - Description: The variable shows the percentage of very poor people in a country. These people have to live on 1,90\$ per day.
 - The median value of all countries lies below 1% of the people living in poverty. Nearly every country lies below 7%, but there are also some very poor countries.



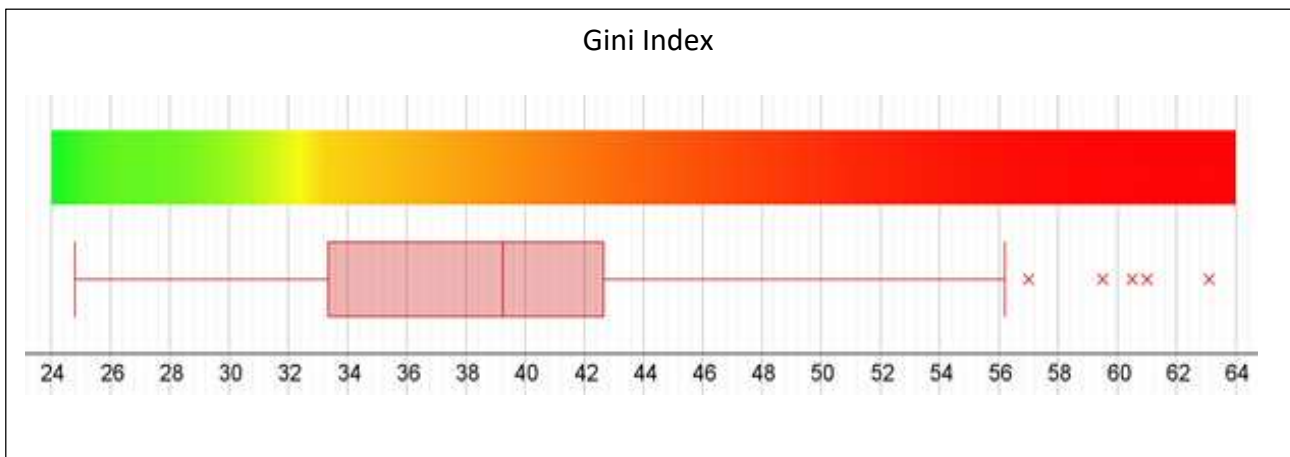
- ### Access to electricity
- Gapminder: "Access to electricity (% of population)"
 - Description: The variable shows the percentage of people in a country who have access to electricity.
 - Boxplot: On the one hand, in half of the countries worldwide all people have access to electricity. On the other hand, there are also countries where just 10% of people have access to electricity. The critical value lies around 90%.



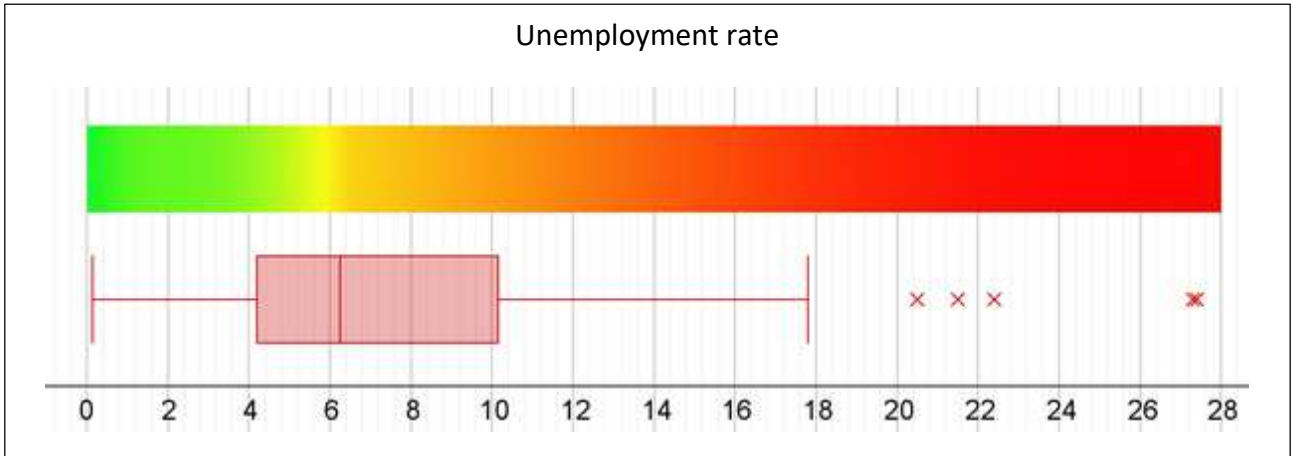
- ### Secondary schools
- Gapminder: "Progression to secondary school (%)"
 - Description: The variable shows the percentage of pupils in a country who visit a secondary school after primary school.
 - Visiting a secondary school is compulsory in many countries. The critical value lies around 94 %. The median value of all countries is even higher with 97% of the pupils visiting school for longer than 4 years.



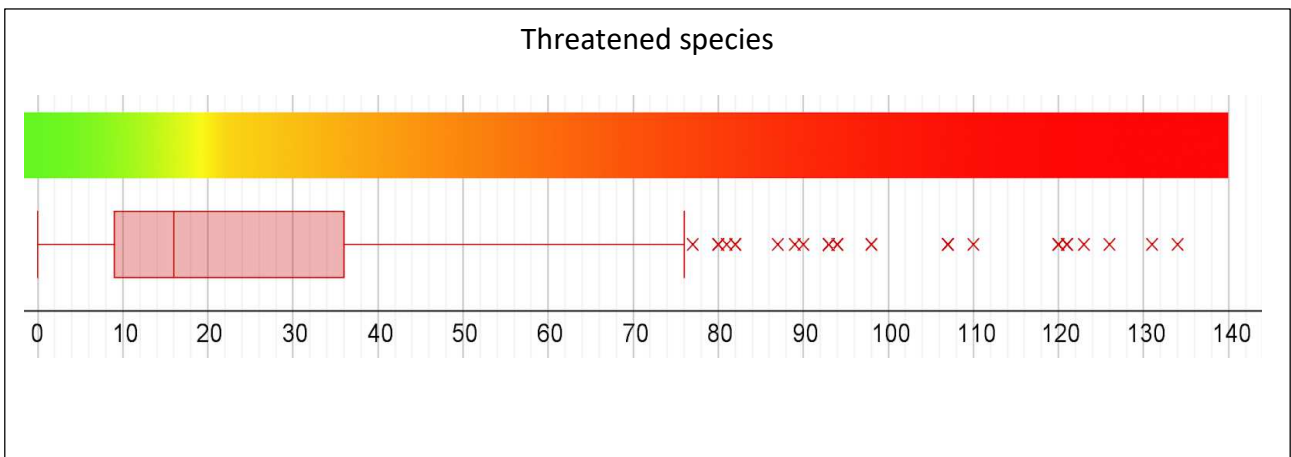
- ### Quality of democracy
- Gapminder: “Democracy score“
 - Description: The variable describes the quality of democracy in a country. The range of the values reach from -10 (very bad) to +10 (very good).
 - Boxplot: High democratic standards are important for the citizens of a country. The critical value and, also, the median of all countries can be found around 7 points.



- ### Gini Index
- Gapminder: “GINI Index (World Bank estimate)“
 - Description: The variable is a measure for the distribution of money and properties in a country. If property is distributed equally and everyone possess the same, the number is small. When just a few people in a country own everything, the number is high. The variable reaches from 0 to 100.
 - There are many countries with a high Gini index. There, properties are not distributed equitably. Die Grenze für den grünen Bereich liegt bei rund 32. Darunter ist die Aufteilung gerecht.

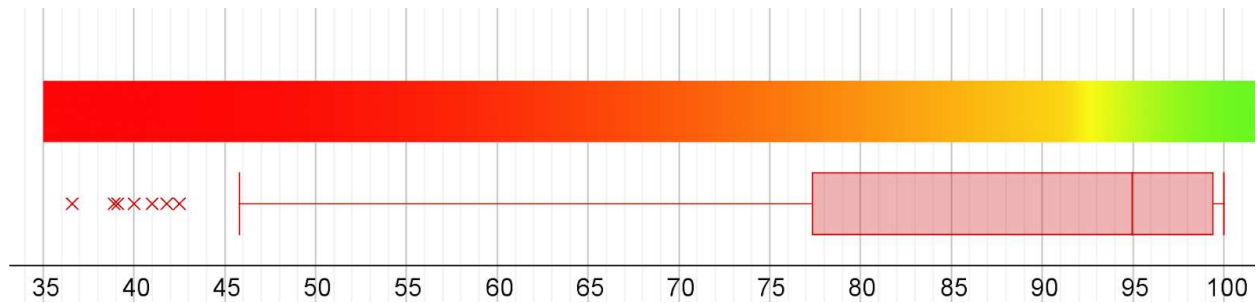


- ### Unemployment rate
- Gapminder: “Aged 15+ unemployment rate (%)”
 - Description: The variable shows the percentage of unemployed people in a country aged 15 or higher.
 - The critical value of the unemployment rate lies around 5%. The median value of all countries is at 6%. Some countries have a high unemployment rate of 20% and higher.



- ### Threatened species
- Gapminder: “Bird species, threatened”, “fish species , threatened”, “mammal species, threatened”
 - Description: The Variable shows the sum of all threatened species – birds, fish and mammals – in a country.
 - Every threatened specie is one too much. The critical value and the median value of all countries is around 17 threatened species. In some countries there are much more species endangered than that.

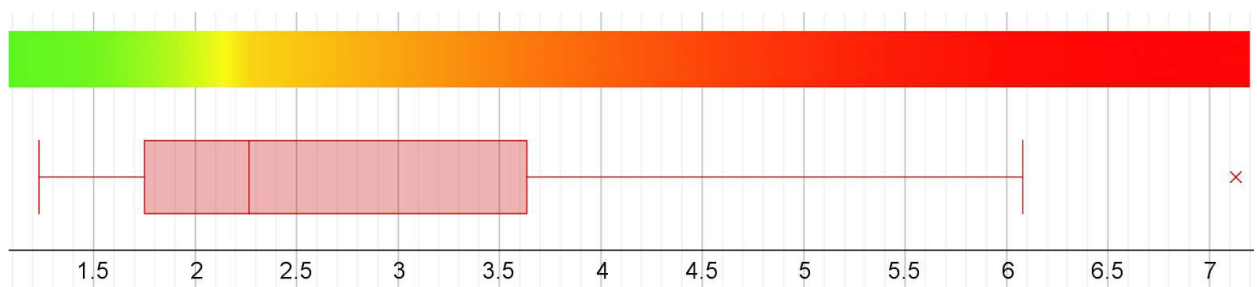
Access to basic water source



Access to basic water source

- Gapminder: "At least basic water source, overall access (%)"
- Description: The variable shows the percentage of people in a country who have at least access to a basic water source from a well or out of a pipe.
- In most of the countries more than 95% of people have access to a basic water source. This is also the critical value. In some countries not even half of the people have such an access.

Babies per woman



Babies per woman

- Gapminder: "Babies per woman"
- Description: The variable shows the rate of fertility in a country estimating the number of babies a woman will get in her lifetime on average.
- Boxplot: With 2.1 children per woman on average the number of people living in a country would be fixed. Too many children would cause overpopulation with major consequences on environmental and social issues.