

# 4 The social dimension of sustainable development

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## **Introduction**

As a complex issue, the social dimension of sustainable development is easier to define using indicators. Indicators can be a part of disaggregated scoreboards (Sustainable Development Goals (SDGs), Doughnut Economics) or highly aggregated measures. Both approaches have some advantages as well as some limitations. Non-aggregated indicators allow us to see differences in individual categories and identify areas requiring intervention. On the other hand, aggregated measures perform very well in cross-country comparisons.

## **The social dimension in SDGs and Doughnut economics**

### *SDGs related to the social dimension*

The general concept of SDGs has already been discussed in Chapter 2. In this section, the focus will be on eight SDGs related to the social dimension. These goals call for the eradication of poverty and hunger, peace and social justice, access to quality healthcare and education, and highlight the aspects of gender equality, sustainable urban development and access to clean energy (DSDG, n.d.). It should be emphasised that the goals of sustainable development are interrelated. The foundation for social development is the appropriate protection of the biosphere, and the above-mentioned social goals are the basis for those related to the economy (Stockholm Resilience Centre, 2017).

Table 4.1 presents the social goals of sustainable development and the number of targets and indicators related to these goals. In total, the social dimension is described by 74 targets and 124 indicators.

The selected problems and data related to the social goals of sustainability are discussed below. The described challenges and indicators can be a starting point for further debate about this complex issue.

Table 4.1 SDGs related to the social dimension of sustainable development

<i>Goals</i>	<i>Targets</i>	<i>Indicators</i>
Goal 1: No poverty	7	14
Goal 2: Zero hunger (No hunger)	8	13
Goal 3: Good health and well-being	13	28
Goal 4: Quality education	10	11
Goal 5: Gender equality	9	14
Goal 7: Affordable and clean energy	5	6
Goal 11: Sustainable cities and communities	10	15
Goal 16: Peace, justice and strong institutions	12	23
<b>Total</b>	<b>74</b>	<b>124</b>

Source: own study based on SDG Tracker (n.d.).

Table 4.2 Global poverty lines with harmonised national poverty lines

<i>Income classification</i>	<i>Median (2017 PPP)</i>	<i>Number of countries (observations)</i>
Low-income countries	2.15	28
Lower-middle income countries	3.63	54
Upper-middle income countries	6.85	37
High-income countries	24.36	38
<b>Total</b>		<b>157</b>

Source: Jolliffe et al. (2022).

### *No poverty*

The first challenge for the social dimension of sustainable development is to end poverty in all its forms everywhere (DSDG, n.d.). There is no single, accepted definition of poverty. Poverty is a very subjective category – poverty in Ethiopia is something different from poverty in the US. In 1990 The World Bank, together with a group of independent researchers, created a methodological framework for the international poverty line (IPL). Currently, IPL is calculated as the median of the 28 national poverty lines of the poorest countries. It is expressed in the 2017 PPP (World Bank Data Help Desk, n.d.). In September 2022, the World Bank set a new IPL at a level of \$2.15 per person per day, replacing the previous limit of \$1.90 per person per day (World Bank, 2022).

Table 4.2 shows the medians of national poverty lines for different income groups of countries. The poverty line in high-income countries is \$22.21 higher than in low-income countries (i.e. IPL). Therefore, it is very difficult to make international comparisons of this issue.

**Zero hunger**

The second social challenge is ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture (DSDG, n.d.). The Food and Agriculture Organization (FAO) defines hunger as:

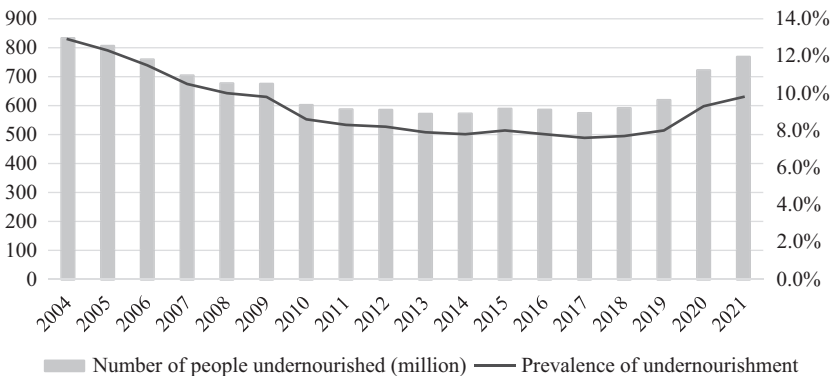
an uncomfortable or painful physical sensation caused by insufficient consumption of dietary energy. It becomes chronic when the person does not consume a sufficient amount of calories (dietary energy) on a regular basis to lead a normal, active and healthy life.

(FAO, n.d.)

Figure 4.1 shows two indicators: the global number of people undernourished and the prevalence of undernourishment in 2004–2021. In 2021, the number of people undernourished was 767.9 million, and the prevalence of undernourishment was 9.8%. In the years 2004–2010, there was a noticeable downward trend in both indicators, then in 2011–2018 the indicators were at a stable level, and then from 2019, an upward trend can be observed. The COVID-19 pandemic is indicated as the main cause of the increasing number of people undernourished in recent years (FAO, 2022).

**Good health and well-being**

The third social goal is to ensure healthy lives and promote well-being for all at all ages (DSDG, n.d.). One of the main factors influencing the health of a society is the quality of its healthcare. The quality of healthcare is mostly determined by the health spending in a given country. According to Global Burden of Disease (GBD) estimates, health expenditure per capita in 2016 in high-income countries



*Figure 4.1* Global number of people undernourished and prevalence of undernourishment in 2004–2021

*Source:* Based on data from FEOSTAT.

was \$5621, and in low-income countries \$125. The government plays an important role in the system of healthcare – the share of government expenditure in health expenditure in high-income countries was 79.6% and in low-income countries 26.3% (see Table 4.3).

**Quality education**

The fourth social issue is to ensure inclusive and quality education for all and to promote lifelong learning (DSDG, n.d.). Historical data on the literate and illiterate world population are moderately optimistic. The global percentage of people who could read in 2020 was around 87%, in 1950 it was around 56% (see Figure 4.2 (Roser & Ortiz-Ospina, 2016)).

Table 4.3 Health spending for different income groups of countries in 2016

Income classification	Health spending per capita, 2016 (\$PPP)	Health spending per GDP, 2016	Government health spending per total health spending, 2016
High income	5,621 (5,548–5,693)	10.8% (10.6–10.9)	79.6% (78.2–81.1)
Upper-middle income	1,009 (948–1,072)	5.0% (4.7–5.3)	53.9% (49.9–58.6)
Lower-middle income	274 (247–303)	3.2% (2.9–3.5)	32.1% (28.4–36.1)
Low income	125 (119–132)	5.1% (4.9–5.4)	26.3% (23.3–29.5)

Source: Global Burden of Disease Health Financing Collaborator Network (2019).

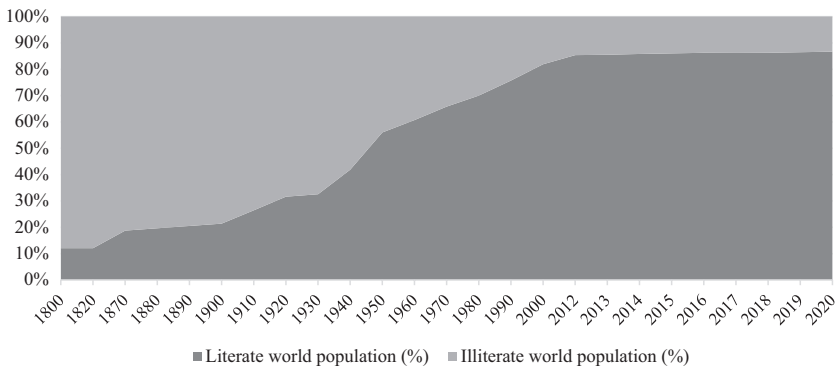


Figure 4.2 Literate and illiterate world population (among people aged 15 and older)

Source: Based on data from the website Our World in Data and The World Bank.

However, the disparities between high and low-income countries in this basic indicator are still significant. In 2020, in low-income countries, the proportion of the literate population was at the level of 61%, and in upper-middle income countries 96% (see Table 4.4).

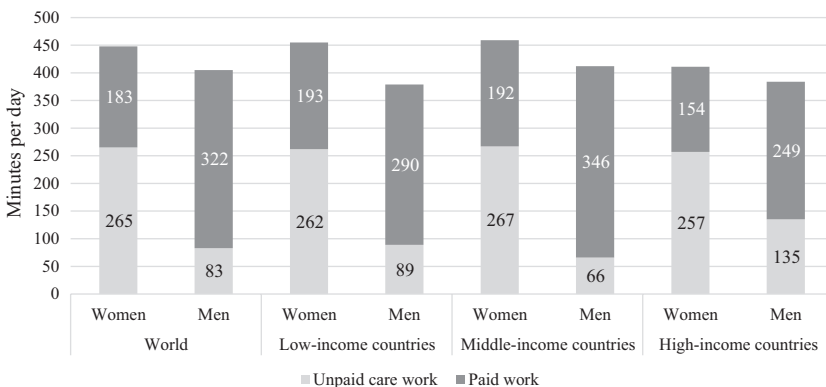
### **Gender equality**

The next social challenge is to achieve gender equality and empower all women and girls (DSDG, n.d.). Gender inequality is a problem in most countries of the world. It manifests itself, for example by gender division of labour, occupational segregation, or gender wage gap. Figure 4.3 presents the distribution of work time based on data from the report International Labour Organization (ILO, 2018). The main conclusion from the data is that women work longer than men per day, regardless of the country's income group. Additionally, women mainly

*Table 4.4* Literacy rate, adult total (% of people ages 15 and above)

<i>Income classification</i>	<i>2005</i>	<i>2010</i>	<i>2015</i>	<i>2020</i>
Low income	53%	54%	59%	61%
Lower middle income	67%	71%	74%	76%
Middle income	81%	84%	85%	87%
Upper middle income	92%	94%	95%	96%

*Source:* Based on data from the World Bank website.



*Figure 4.3* Gender division of labour

*Source:* based on data from ILO (2018).

do unpaid work. Even in high-income countries, the disparities are significant (women's unpaid work is 257 minutes a day, men's 135 minutes).

### *Affordable and clean energy*

The next social issue is ensuring access to affordable, reliable, sustainable and modern energy (DSDG, n.d.). This problem can be divided into two aspects: ensuring access to energy and changes toward clean energy. Map 4.1 shows the percentage of the population with access to electricity – there are still many countries (especially in Africa) with limited access to electricity. The second aspect of the problem concerns the sources of energy. Clean energy is related to the ecological dimension of sustainable development and is one of the main challenges of highly developed countries.

### *Sustainable cities and communities*

The next goal of the social dimension is to make cities inclusive, safe, resilient and sustainable (DSDG, n.d.). There is a link between sustainable urban development and human health. Table 4.5 lists the diseases that are the most common cause of death (top 10) and shows the impact of faulty urban design and planning policies. The World Health Organization has launched a new Urban Health Initiative. This new initiative is to create a model of a city that is more climate-friendly and supports a healthy lifestyle for residents. The results obtained by the WHO can be used by the city authorities to conduct urban policy more effectively (World Health Organization, 2019).



*Map 4.1* Access to electricity (% of the population)

*Source:* Based on data from the website Our World in Data.

Table 4.5 Link between the top causes of death and faulty urban design and planning policies

<i>Top causes of death</i>	<i>Impact of faulty urban design and planning policies</i>
Heart attack (1), stroke (2), chronic respiratory disease (4), lung cancers (5)	More than a quarter to one-third of deaths are caused by air pollution – with urban traffic, waste, industry, cooking, heating and power production, as leading sources.
Pneumonia (3)	Air pollution causes more than one-half of deaths.
Diabetes (6)	The disease is linked to obesity and physical inactivity common in car-dependent cities lacking robust transit and walking/cycling networks, as well as urban fresh food markets.
Diarrhoeal diseases (8), Tuberculosis (9)	The diseases closely related to poor sanitation and waste management and unhealthy housing
Traffic injuries (10)	Pedestrians and cyclists, including children, older people, and the poor are exposed to traffic injury due to lack of safe, rapid transit, walking and cycling facilities.

Source: World Health Organization (2019).

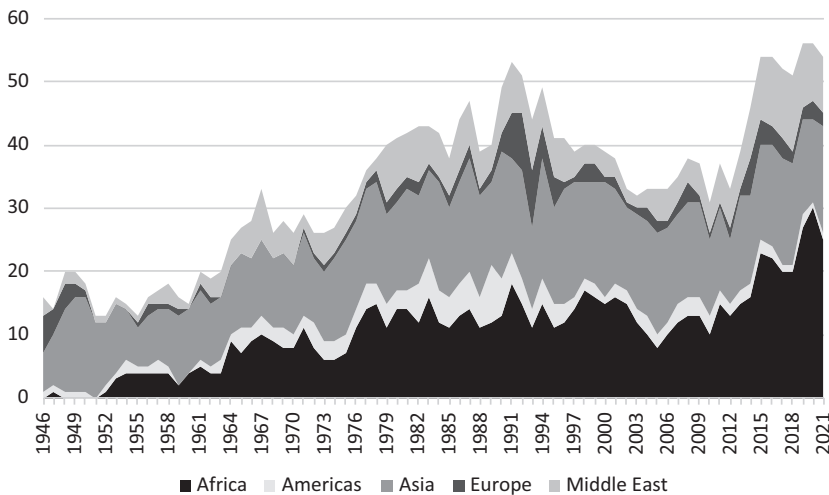


Figure 4.4 State-based Armed Conflict in the years 1946–2021

Source: Based on Gleditsch et al. (2002), Davies et al. (2022).

### ***Peace, justice and strong institutions***

The last social goal is to promote just, peaceful and inclusive societies. Referring to the issue of peace, Figure 4.4 presents the number of state-based armed conflicts all around the world in the years 1946–2021. A state-based armed conflict is defined as: “a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in a calendar year” (Pettersson, 2022). Two trends can be seen in Figure 4.4: most state-based armed conflicts take place in Africa and Asia and the number of conflicts has been rising since 2010. Safety is one of the basic needs of every human being.

### **Social foundations of Doughnut economics**

The Sustainable Development Goals inspired Kate Raworth to create social foundations in the concept of Doughnut Economics. The Doughnut is an economic model that allows us to visualise the components of sustainable development. This model defines both social and planetary boundaries. Between social foundations and the ecological ceiling is the safe and just space for humanity and a regenerative and distributing economy (Raworth, 2017). The model takes into account the following social foundations: food security, health, education, income and work, peace and justice, political voice, social equity, gender equality, housing, networks, energy and water (see Table 4.6). The main challenge for humanity is meeting the above-mentioned social foundations without exceeding the ecological ceilings. An initiative has been launched at the University of Leeds to use the Doughnut concept to observe whether countries meet the basic needs of their inhabitants with sustainable use of global resources (University of Leeds, n.d.). The following social indicators are used in their research: life satisfaction, healthy life expectancy, nutrition, sanitation, income, access to energy and education (see Table 4.6). The Doughnut model confirms that the boundaries of Social foundations of sustainable development are usually exceeded by low-income countries, and the ecological ceiling is overshoot usually by highly developed countries (Fanning et al., 2022).

### **The social dimension in aggregated measures of sustainable development**

The social dimension of sustainable development is a very complex category covering many aspects related to human well-being. Its inclusion in the overall, aggregated measurement of sustainable development is based on a subjective assessment of the importance of specific indicators (Fuchs et al., 2020). In this part of the chapter, selected aggregated measures of sustainable development will be presented. These measures take into account the social aspect of sustainable development. The section also presents maps with the current data for selected components describing social well-being.



*Table 4.6* The Doughnut – social indicators

<i>Social indicator</i>	<i>Description</i>
Life satisfaction	The national average of responses to the Gallup World Poll's Cantril life ladder question
Healthy life expectancy	Number of years that an individual is expected to live in good health (without major debilitating disease or infirmity)
Nutrition	Average calorific intake of food and drink per day
Sanitation	Percentage of the population with access to improved sanitation facilities
Income	Percentage of the population living on more than \$1.90 (2018 study) or \$5.50 (2021 study) a day
Access to energy	Percentage of the population with access to electricity
Education	Gross enrolment in secondary school (i.e. the ratio of total enrolment, regardless of age, to the population that is of secondary-school age)
Social support	The national average of responses to the question "If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?"
Democratic quality	Average of two Worldwide Governance Indicators: voice and accountability, and political stability
Equality	One minus the Gini coefficient of household disposable income (i.e. after taxes and transfers), multiplied by 100
Employment	Percentage of the labour force that is employed

*Source:* University of Leeds (n.d.).

Aggregated measures cover the dimensions of sustainability to varying degrees. There are measures, like the Living Planet Index, related just to one dimension (in this case ecological), and like the Happy Planet Index (HPI) that takes into account two dimensions (ecological and social). And there are also aggregated measures that cover all three dimensions of sustainability, for example, the Genuine Progress Indicator (GPI) and Sustainable Development Index (SDI) (Roman & Thiry, 2017). Table 4.7 presents selected aggregated measures of sustainable development, taking into account the social aspect, and indicates the components related to this dimension.

### ***Happy Planet Index***

The HPI was created by the New Economics Foundation in 2006. It incorporates three elements: well-being, life expectancy and ecological footprint. Well-being is based on data collected by the Gallup World Survey. In this survey respondents are asked to use the Cantril Ladder to rate their quality of life on a scale from 0 to 10 (0 being the worst possible life and 10 being the best possible life, Wellbeing Economy Alliance, n.d.). The map below shows the diversity of well-being in 2019.

Table 4.7 Indicators related to social dimension in selected, aggregated measures of sustainability

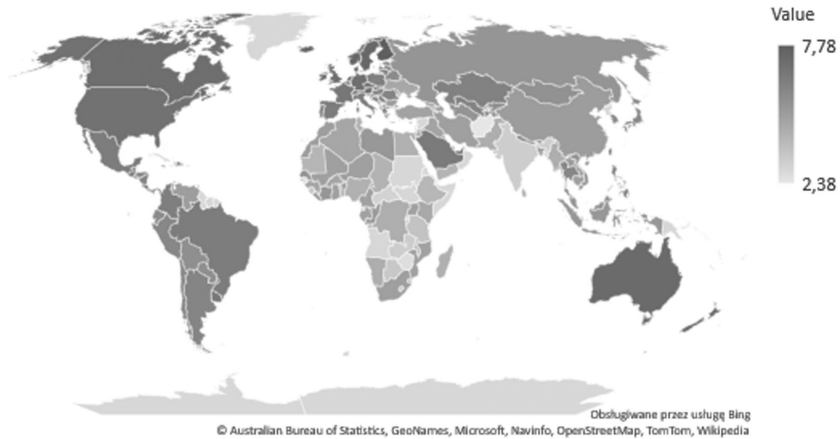
<i>Measure</i>	<i>Dimension of sustainability</i>	<i>Components related to the social dimension</i>
Happy Planet Index (HPI)	Ecological, social	Well-being, life expectancy
Sustainable Development Index (SDI)	Ecological, social, economic	Long and healthy life; knowledge
Sustainable Society Index (SSI)	Ecological, social, economic	Basic needs, personal development and health, a well-balanced society
Better Life Index (BLI)	Ecological, social, economic	Community, education, civic engagement, health, housing, jobs, life satisfaction, safety and work-life balance
Genuine Progress Indicator (GPI)	Ecological, social, economic	Value of housework and parenting, cost of family changes, cost of crime, cost of household pollution abatement, the value of volunteer work, loss of leisure time, the value of higher education, the value of highways and streets, cost of commuting, cost of motor-vehicle crashes

Source: Own study.

The following countries obtained the highest averaged results of the quality of life surveys in 2019: Finland (7.78), Switzerland (7.69), Denmark (7.69), Iceland (7.53), Norway (7.44), Netherlands (7.43), Luxembourg (7.40), Sweden (7.40), Israel (7.33), Ireland (7.25), Australia (7.23), New Zealand (7.21), Austria (7.20), United Kingdom (7.16) and Canada (7.11). On the other hand, the lowest values were recorded by the following countries: Ethiopia (4.10), Lebanon (4.02), Malawi (3.87), Burundi (3.78), Tanzania (3.64), Haiti (3.61), Lesotho (3.51), Botswana (3.47), Sierra Leone (3.45), Zambia (3.31), Rwanda (3.27), India (3.25), Central African Republic (3.08), Zimbabwe (2.69) and Afghanistan (2.38, see Map 4.2).

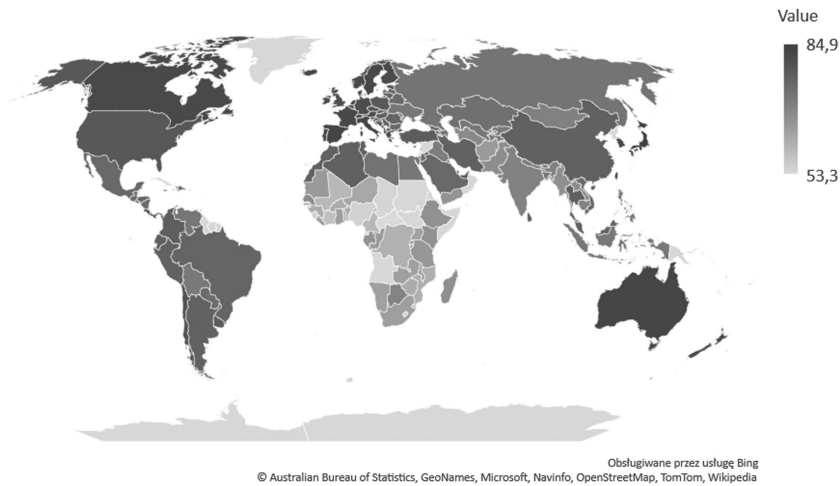
The second component describing the social dimension of sustainable development is the life expectancy of an average person. Data on the life expectancy of an average person in a given country are from the United Nations Development Program (Wellbeing Economy Alliance, n.d.).

The following countries achieved the longest life expectancy in 2019: Hong Kong (84.9 years), Japan (84.6), Switzerland (83.8), Spain (83.6), Singapore (83.6), Italy (83.5), Australia (83.4), Israel (83.0), Iceland (83.0), South Korea (83.0), Sweden (82.8), France (82.7), Malta (82.5), Norway (82.4) and Canada (82.4). The lowest values of the analysed feature were recorded in Guinea



Map 4.2 Ladder of life in 2019 (scale 0–10)

Source: Own study based on HPI data.



Map 4.3 Life expectancy 2019 (years)

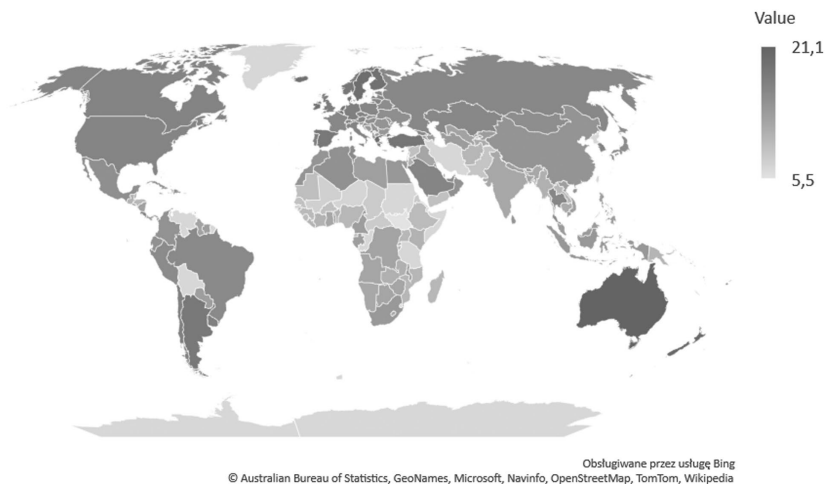
Source: Own study based on HPI data.

(61.6), Burundi (61.6), Zimbabwe (61.5), Togo (61.0), Mozambique (60.9), Congo (Kinshasa, 60.7), Eswatini (60.2), Cameroon (59.3), Mali (59.3), Cote d'Ivoire (57.8), Nigeria (54.7), Sierra Leone (54.7), Lesotho (54.3), Chad (54.2) and Central African Republic (53.3, see Map 4.3).

**Sustainable Development Index**

SDI is a measure based on Human Development Index (HDI). HDI is the most common composite index of well-being. It was launched in 1990 and is managed by United Nations Development Programme. The indicator consists of three elements: long and healthy life (assessed by life expectancy at birth), knowledge (measured by two indicators: mean of years of schooling for adults aged 25 years and more, expected years of schooling for children of school entering age) and the decent standard of living (assessed by gross national income *per capita*, UNDP Human Development Reports, n.d.b). HDI does not cover the ecological dimension of sustainability. There is a link between HDI and CO<sub>2</sub> emissions and material footprint *per capita*. Countries with high HDI typically have also high CO<sub>2</sub> emissions and material footprint *per capita*. This correlation triggered the creation of a new measure SDI. The numerator of SDI is based on the HDI components, and the denominator takes into account the ecological overshoot (Hickel, 2020). From the social perspective, the most important components of SDI and HDI are long and healthy life and knowledge. Map 4.4 shows the expected years of schooling in 2021.

At the top of the ranking for expected years of schooling in 2021 are the following countries: Australia (21.1 years), New Zealand (20.3), Greece (20.0), Belgium (19.6), Sweden (19.4), Iceland (19.2), Finland (19.1), Ireland (18.9), Denmark (18.7), Netherlands (18.7), Grenada (18.7), Turkey (18.3), Norway (18.2), Spain (17.9) and Argentina (17.9). The lowest positions in the ranking took: Mauritania (9.4), Tanzania (9.2), Syrian Arab Republic (9.2), Burkina Faso (9.1), Yemen (9.1), Senegal (9.0), Pakistan (8.7), Eritrea (8.1), Central African



Map 4.4 Expected years of schooling in 2021 (years)

Source: Own study based on UNDP Human Development Reports data.

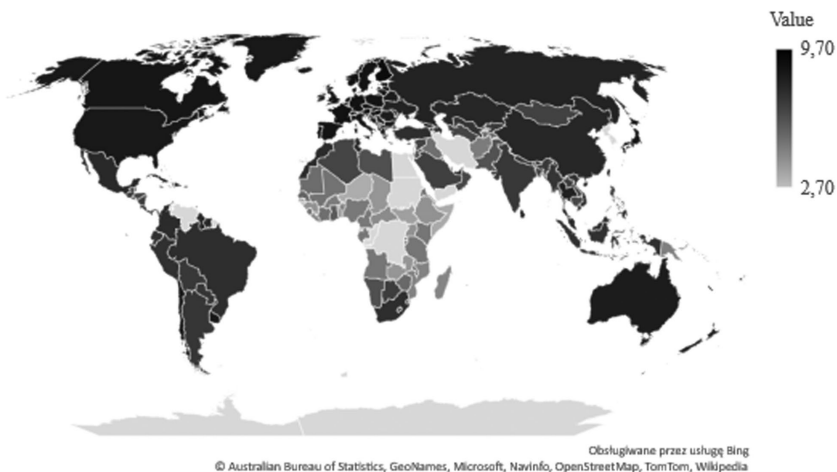
Republic (8.0), Chad (8.0), Sudan (7.9), Djibouti (7.4), Mali (7.4), Niger (7.0) and South Sudan (5.5, see Map 4.4).

### ***Sustainable Society Index***

The Sustainable Society Index (SSI) was developed by the Dutch Sustainable Society Foundation in 2006. Since 2019, the SSI has been managed by TH Köln. Now it is available for 213 countries/territories. The SSI is made up of three dimensions of well-being: human, environmental and economic. These dimensions are not aggregated in this measure (TH Köln, n.d.). Human well-being consists of three categories and nine indicators:

- 1 Basic needs (sufficient food, sufficient drinking water and safe sanitation);
- 2 Personal development and health (education, healthy life and gender equality);
- 3 Well-balanced society (income distribution, population growth and good governance).

Each indicator is rated on a scale from 1 to 10, where 1 denotes the weakest value and 10 denotes the strongest. The geometric mean is used to aggregate the individual dimensions (Van de Kerk, 2008). Map 4.5 shows the values of the human well-being dimension in 2018.



*Map 4.5* SSI – human well-being dimension in 2018

*Source:* Own study based on TH Köln data.

The highest scores in the human well-being dimension of SSI in 2018 were achieved by the following territories: Bermuda (9.7), Virgin Islands (9.5), Andorra (9.4), Gibraltar (9.3), Faroe Islands (9.1), Finland (9.1), French Polynesia (9.1), Liechtenstein (9.1), New Caledonia (9.1), Hong Kong SAR, China (9.0), Puerto Rico (9.0), Barbados (8.9), Denmark (8.9), Portugal (8.9) and Slovenia (8.9). The lowest results were obtained by: Togo (4.4), Central African Republic (4.2), Yemen, Rep. (4.1), Congo, Rep. (4.0), Ethiopia (4.0), Guinea (4.0), Uganda (4.0), Chad (3.9), Zambia (3.9), Congo, Dem. Rep. (3.7), South Sudan (3.6), Guinea-Bissau (3.3), Somalia (3.3), Niger (3.2) and Equatorial Guinea (2.7).

### ***Better Life Index***

The Better Life Index (BLI) is an online, interactive tool, launched in 2011 and designed for the Organization for Economic Co-operation and Development (OECD) countries. The Better Life dashboard allows the user to set the level of importance for 11 components, including the following social ones: community, education, civic engagement, health, housing, jobs, life satisfaction, safety and work-life balance. The indicator combines all three dimensions of sustainability and it can be a good starting point in the discussion about what is essential from a welfare perspective (OECD, n.d.).

### ***Genuine Progress Indicator***

The GPI was developed in 1995 as a variant of the Index of Sustainable Economic Welfare. The GPI is a comprehensive sustainability indicator that incorporates all its three dimensions. This index consists of 26 components grouped into three categories. The social category is represented by the following elements: the value of housework and parenting, the cost of family changes, the cost of crime, the cost of household pollution abatement, the value of volunteer work, loss of leisure time, the value of higher education, the value of highways and streets, cost of commuting and cost of motor-vehicle crashes (Gross National Happiness USA, n.d.). The GPI is a monetary measure, which distinguishes this measure from those discussed above. The GPI is not yet ready for use in cross-country comparisons, mostly because of the evolving methodology, a large number of components and high data demands. So far, it has been estimated only for about 30 countries. However, the GPI is the indicator that measures overall well-being by adjusting for several negative externalities. What is important, as a monetary indicator, the GPI can be useful to evaluate the well-being impact of political actions (including social policy, Berik, 2020).

## Conclusions

The complexity of the social dimension of sustainable development makes it difficult to define and consequently to measure. Overall, the social dimension covers problems related to human well-being such as poverty, hunger, health, education, gender equality, energy supply, sustainable cities, peace and justice. Each of those components can be measured by various indicators. Due to the multifaceted nature of this dimension, it is necessary to define, explicitly and precisely, what we want to measure and for what purpose.

Indicators describing the social dimension are elements of both disaggregated and aggregated measures of sustainable development. The eight SDGs are directly related to social problems, and the social foundations are a key part of the Doughnut model. Aggregated measures of sustainable development cover only selected social aspects that require a subjective assessment of the importance of the specific indicators.

Finally, a country's income level has a great impact on the goals and measurement of the social dimension, therefore, international comparisons should be approached with caution. It also has a very big influence on the selection of appropriate instruments of social policy to meet the most important challenges of this dimension.

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