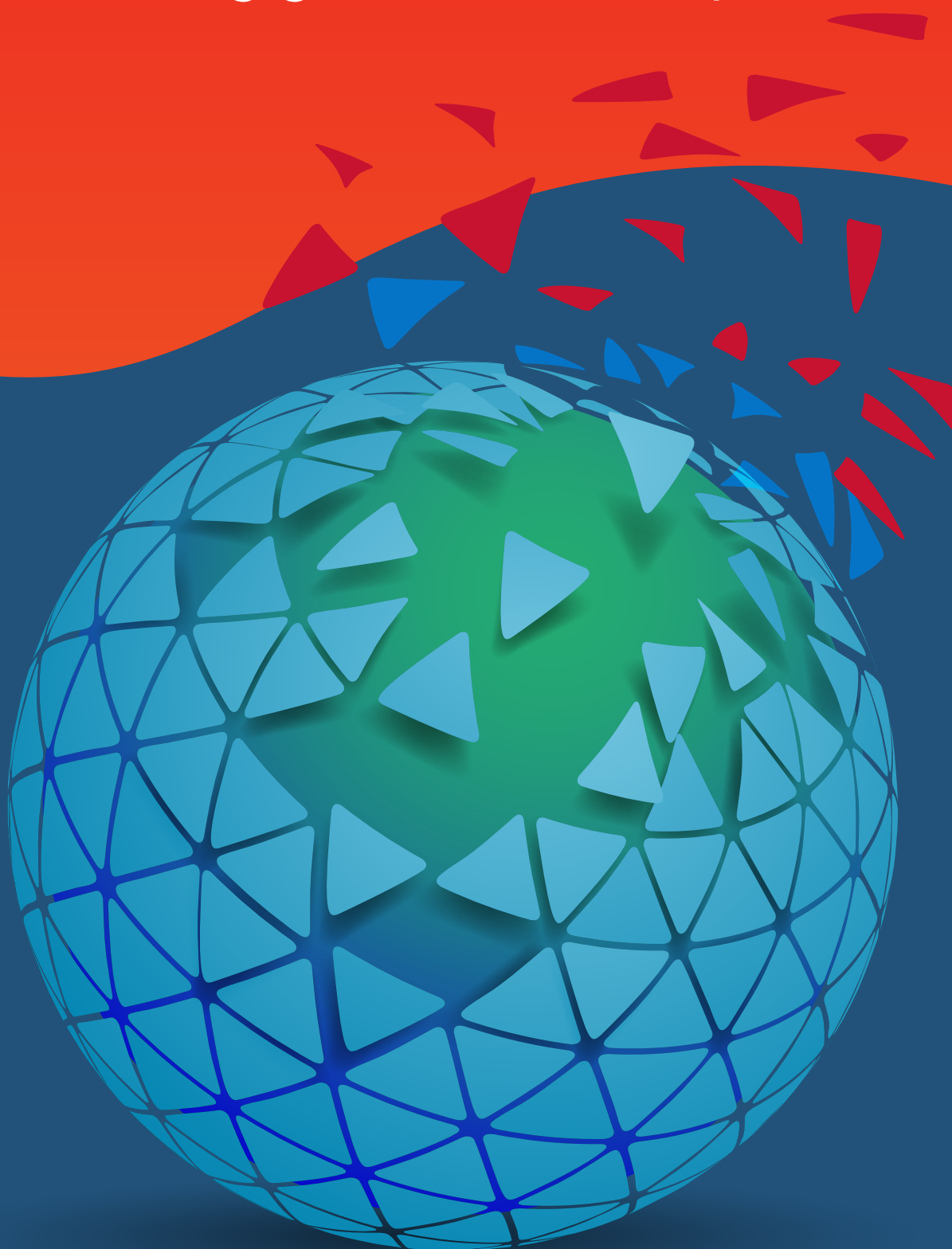


**2022** SPECIAL REPORT



# New threats to human security in the Anthropocene

Demanding greater solidarity



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SPECIAL REPORT 2022

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# **New threats to human security in the Anthropocene**

Demanding greater solidarity

## Team

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The report was prepared by a team led by Heriberto Tapia under the guidance of Pedro Conceição. The core team was composed of Ricardo Fuentes-Nieva, Moumita Ghorai, Yu-Chieh Hsu, Admir Jahic, Christina Lengfelder, Rehana Mohammed, Tanni Mukhopadhyay, Shivani Nayyar, Camila Olate, Josefin Pasanen, Fernanda Pavez Esbry, Mihail Peleah and Carolina Rivera Vázquez. Communications, operations, and research and production support were provided by Dayana Benny, Allison Bostrom, Mriga Chowdhary, Maximilian Feichtner, Rezarta Godo, Jonathan Hall, Seockhwan Bryce Hwang, Fe Juarez Shanahan, Chin Shian Lee, Jeremy Marand, Sarantuya Mend, Stephen Sepaniak, Anupama Shroff, Marium Soomro and I Younan An.

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## Foreword

We are faced with a development paradox. Even though people are on average living longer, healthier and wealthier lives, these advances have not succeeded in increasing people's sense of security. This holds true for countries all around the world and was taking hold even before the uncertainty wrought by the COVID-19 pandemic.

The pandemic has increased this uncertainty. It has imperiled every dimension of our wellbeing and amplified a sense of fear across the globe. This, in tandem with rising geopolitical tensions, growing inequalities, democratic backsliding and devastating climate change-related weather events, threatens to reverse decades of development gains, throw progress on the Sustainable Development Goals even further off track, and delay the urgent need for a greener, more inclusive and just transition.

Against this backdrop, I welcome the Special Report on *New threats to human security in the Anthropocene: Demanding greater solidarity*, produced by the United Nations Development Programme (UNDP). The report explains this paradox, highlighting the strong association between declining levels of trust and increased feelings of insecurity.

It suggests that during the Anthropocene—a term proposed to describe the era in which humans have become central drivers of planetary change, radically altering the earth's biosphere—people have good reason to feel insecure. Multiple threats from COVID-19, digital technology, climate change, and biodiversity loss, have become more prominent or taken new forms in recent years.

In short, humankind is making the world an increasingly insecure and precarious place. The report links these new threats with the disconnect between people and planet,

arguing that they—like the Anthropocene itself—are deeply entwined with increasing planetary pressure.

The contribution of this report is to update the concept of human security to reflect this new reality. This implies moving beyond considering the security of individuals and communities, to also consider the interdependence among people, and between people and planet, as reflected in the 2030 Agenda for Sustainable Development.

In doing so, the report offers a way forward to tackle today's interconnected threats. First, by pursuing human security strategies that affirm the importance of solidarity, since we are all vulnerable to the unprecedented process of planetary change we are experiencing during the Anthropocene. And second, by treating people not as helpless patients, but agents of change and action capable of shaping their own futures and course correcting.

The findings in the report echo some of the key themes in my report on *Our Common Agenda*, including the importance of investing in prevention and resilience, the protection of our planet, and rebuilding equity and trust at a global scale through solidarity and a renewed social contract.

The United Nations offers a natural platform to advance these core objectives with the involvement of all relevant stakeholders. This report offers valuable insights and analyses, and I commend it to a wide global audience as we strive to advance *Our Common Agenda* and to use the concept of human security as a tool to accelerate the achievement of the Sustainable Development Goals by 2030.

**António Guterres**  
Secretary-General  
United Nations



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## Acknowledgements

This Report builds on cumulative contributions over close to three decades that started with the seminal 1994 Human Development Report (led by Mahbub ul Haq), which popularized the concept of human security, continuing with the groundbreaking work of the Human Security Commission, led by Sadako Ogata and Amartya Sen, published in 2003.

The preparation of this Report would not have been possible without the support, ideas and advice from numerous individuals and organizations.

The Report benefited deeply from the intellectual advice, guidance and continuous encouragement provided by the High-Level Advisory Panel of Eminent Experts. We are particularly grateful to Co-Chairs Laura Chinchilla and Keizo Takemi for their intellectual leadership, commitment and hard work through countless sessions (virtual, hybrid and in person) throughout 2021. The other members of the Advisory Board were Amat Al Alim Alsoswa, Kaushik Basu, Abdoulaye Mar Dieye, Ilwad Elman, María Fernanda Espinosa Garcés, Haishan Fu, Toomas Hendrik Ilves, Amy Jadesimi, Jennifer Leaning and Belinda Reyers.

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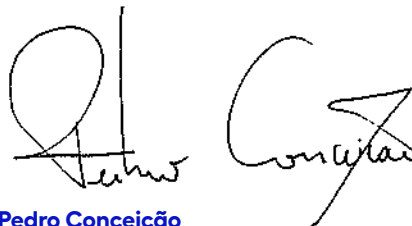
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To conclude, we are extremely grateful to UNDP Administrator Achim Steiner, for giving us the space, encouragement and support to write this report on human security and for pushing us to make sense of the insecurities faced by people everywhere in our interconnected planet, which we hope will help set the foundations for a new generation of human security strategies.

A handwritten signature in black ink, appearing to read 'Pedro Conceição', with a stylized, flowing script.

**Pedro Conceição**

Director

Human Development Report Office



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## OVERVIEW

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# **New threats to human security in the Anthropocene: Demanding greater solidarity**

# **New threats to human security in the Anthropocene: Demanding greater solidarity**

As the Covid-19 pandemic got under way, the world had been reaching unprecedented heights on the Human Development Index (HDI). People were, on average, living healthier, wealthier and better lives for longer than ever. But under the surface a growing sense of insecurity had been taking root. An estimated six of every seven people across the world already felt insecure in the years leading up to the pandemic (figure 1). And this feeling of insecurity was not only high—it had been growing in most countries with data, including a surge in some countries with the highest HDI values.

The Covid-19 pandemic has now affected everyone, imperilling every dimension of our wellbeing and injecting an acute sense of fear across the globe. For the first time, indicators of human development have declined—drastically, unlike anything experienced in other recent global crises. The pandemic has infected and killed millions of people worldwide. It has upended the global economy, interrupted education dreams, delayed the administration of vaccines and medical treatment and disrupted lives and livelihoods. In 2021, even with the availability of very unequally distributed Covid-19 vaccines, the economic recovery that started in many countries and the partial return to schools, the crisis deepened in health, with a drop in life expectancy at birth. And the HDI, adjusted for Covid-19, had yet to recover about five years of progress, according to new simulations (figure 2).

It is not hard to understand how Covid-19 has made people feel more insecure. But what accounts for the startling bifurcation between improvements in wellbeing achievements and declines in people's perception of security? That is the motivating question for this Report. In addressing it, we hope to avoid returning to pathways of human development with human insecurity.

In the background of the human development-human security disconnect looms the Anthropocene, the age of humans disrupting planetary processes. Development approaches with a strong focus on economic growth and much less attention to equitable human development have produced stark and growing inequalities and destabilizing and dangerous planetary change. Climate change is an example, and Covid-19 may very well be. The 2020 Human Development Report showed that no country has achieved

a very high HDI value without contributing heavily to pressures driving dangerous planetary change. In addition to climate change and more frequent disease outbreaks that are linked to planetary pressures, we confront biodiversity losses and threats to key ecosystems, from tropical forests to the oceans. Our pursuit of development has neglected our embeddedness in nature, leading to new threats as a by-product of development: new health threats, increased food insecurity and more frequent disasters, among many others. Recognizing that our development patterns drive human insecurity forces us to revisit the human security concept and understand what it implies for the Anthropocene.

When introduced in 1994, the human security approach refocused the security debate from territorial security to people's security. This idea, which the UN General Assembly endorsed in 2012, invited security scholars and policymakers to look beyond protecting the nation-state to protecting what we care most about in our lives: our basic needs, our physical integrity, our human dignity. It emphasized the importance of everyone's right to freedom from fear, freedom from want and freedom from indignity. It highlighted the close connection among security, development and the protection and empowerment of individuals and communities. This Report explores how the new generation of interacting threats, playing out in the Anthropocene context, affect human security and what to do about it.

Part I of the Report shows how the human security concept helps identify blind spots when development is assessed simply by measuring achievements in wellbeing and suggests ways to enrich the human security frame to account for the unprecedented challenges of the Anthropocene context. Part II discusses four threats to human security that are superimposed on the Anthropocene context (figure 3): the downsides of digital technology, violent conflict, horizontal inequalities, and evolving challenges to healthcare systems. While the underlying challenge of each threat taken individually is not new, the threats are novel in the expression that they acquire in the Anthropocene context and their interlinked nature, which has been building over time. Current development journeys have often missed that point, focusing on addressing problems in silos when designing or evaluating policy.

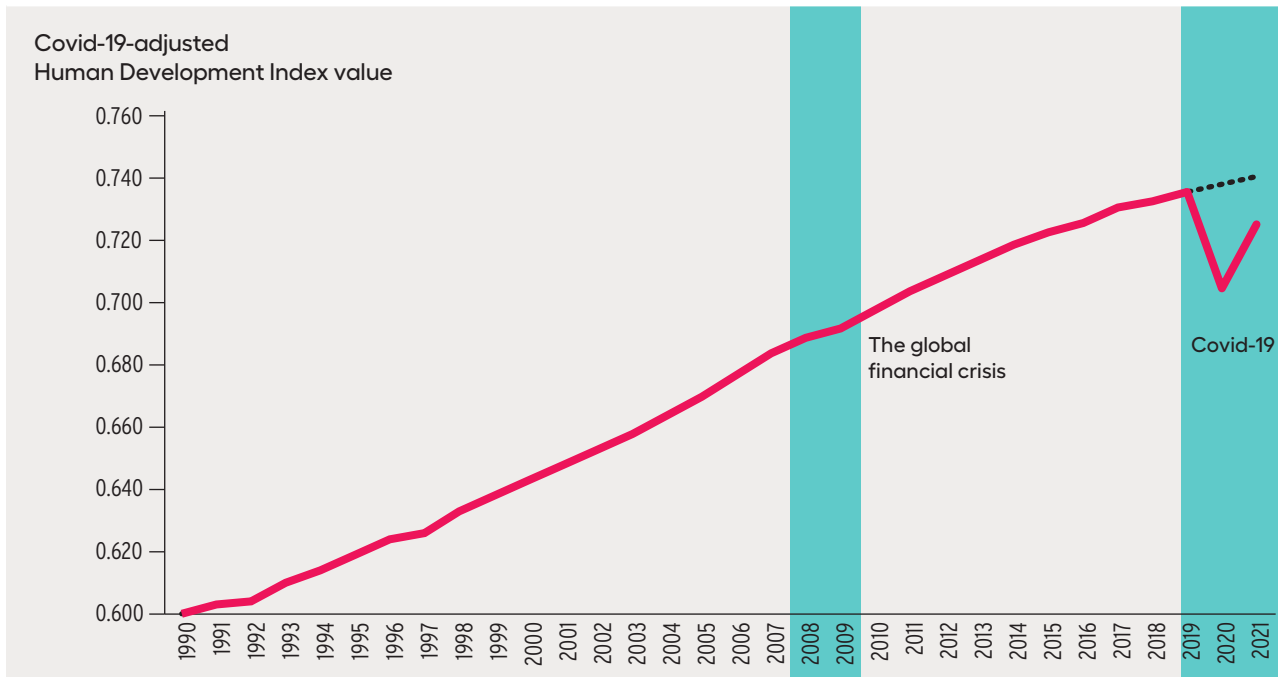
**Figure 1** Perceptions of human insecurity are widespread worldwide

More than **6 in 7** people worldwide perceived feeling moderately or very insecure just before the outbreak of the Covid-19 pandemic.



**Source:** Human Development Report Office based on data from the World Values Survey, waves 6 and 7 (mostly pre-Covid-19 data; see annex 1.2).

**Figure 2** The Covid-19 pandemic has caused an unprecedented decline in Human Development Index values



Source: Human Development Report Office (see box 1.1).

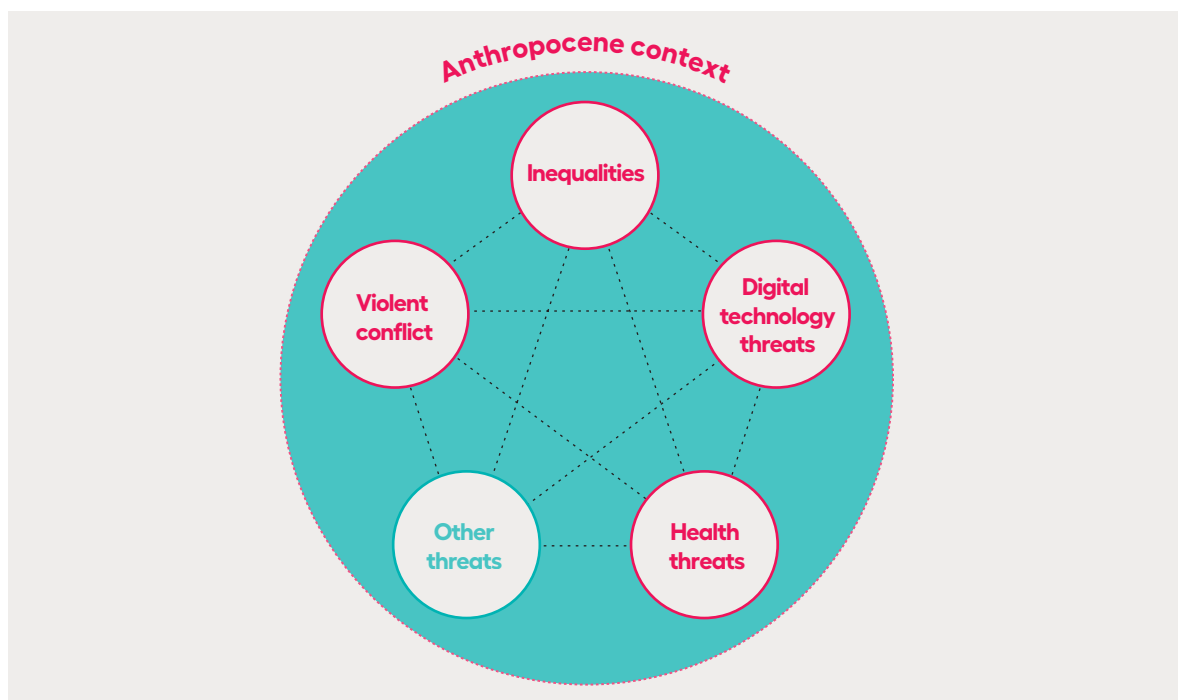
The Covid-19 pandemic makes these interconnections more apparent and unmasks new accumulating threats to human security. The uneven pain and devastation have been widely documented. Women face the brunt of adaptations to remote work and the dramatic increase in violence against them. Informal workers are left outside social protection systems. People living in urban poverty are hit particularly hard by the health and economic consequences of the pandemic. Yet Covid-19 is only one manifestation of the new Anthropocene context. The Report includes novel work and estimates of the scale of the threats in the Anthropocene context.

- Hunger is on the rise, reaching around 800 million people in 2020, and about 2.4 billion people now suffer food insecurity, the result of cumulative socioeconomic and environmental effects that had been building before 2019 but were boosted by the pandemic in 2020 and 2021.
- Climate change will continue to affect people's vital core. Even in a scenario with moderate mitigation, around 40 million people worldwide could die, mostly in developing countries, as a result of higher temperatures from now to the end of the century.
- The number of forcibly displaced people has doubled in the past decade, reaching a record high of

82.4 million in 2020.<sup>1</sup> And forced displacement may be further accelerated as long as climate change remains unmitigated.<sup>2</sup>

- Digital technologies can help meet many of the Anthropocene challenges, but the rapid pace of digital expansion comes with new threats that may exacerbate ongoing problems related to, for example, inequalities and violent conflict. Not only did the ongoing pandemic accelerate a digital shift in the productive economy, but cybercrime also skyrocketed, with annual costs projected to reach \$6 trillion by the end of 2021.
- The number of people affected by conflict is reaching record highs: today approximately 1.2 billion people live in conflict-affected areas, 560 million of them outside fragile settings, reflecting the spread of different forms violent conflict.
- Inequalities are an assault to human dignity. Lesbian, gay, bisexual, transgender and intersex people and members of other sexual minorities face particular risks of harm to their person in societies where diversity is not tolerated.<sup>3</sup> In 87 percent of 193 countries,<sup>4</sup> they lack the right of recognition of their identity and full citizenship.
- Violence against women and girls is one of the cruellest forms of women's disempowerment.<sup>5</sup> Subtle

**Figure 3** The new generation of human security threats



**Source:** Human Development Report Office.

forms of violence and so called microaggressions build up to such severe forms of violence as rape and femicide.<sup>6</sup> In 2020, 47,000 women and girls were intentionally killed by their intimate partner or their family. On average, a woman or girl is killed every 11 minutes by an intimate partner or family member.<sup>7</sup>

- The gap is large and growing between very high and low HDI countries in the universalism of healthcare systems. Countries with weaker, less universal healthcare systems also face the greatest challenges in health: the increasing burden of noncommunicable diseases and the effects of pandemics.

The Report argues for expanding the human security frame in the face of the new generation of interconnected threats playing out in the context of the Anthropocene. It proposes adding solidarity to the human security strategies of protection and empowerment proposed by the 2003 Ogata-Sen report.<sup>8</sup>

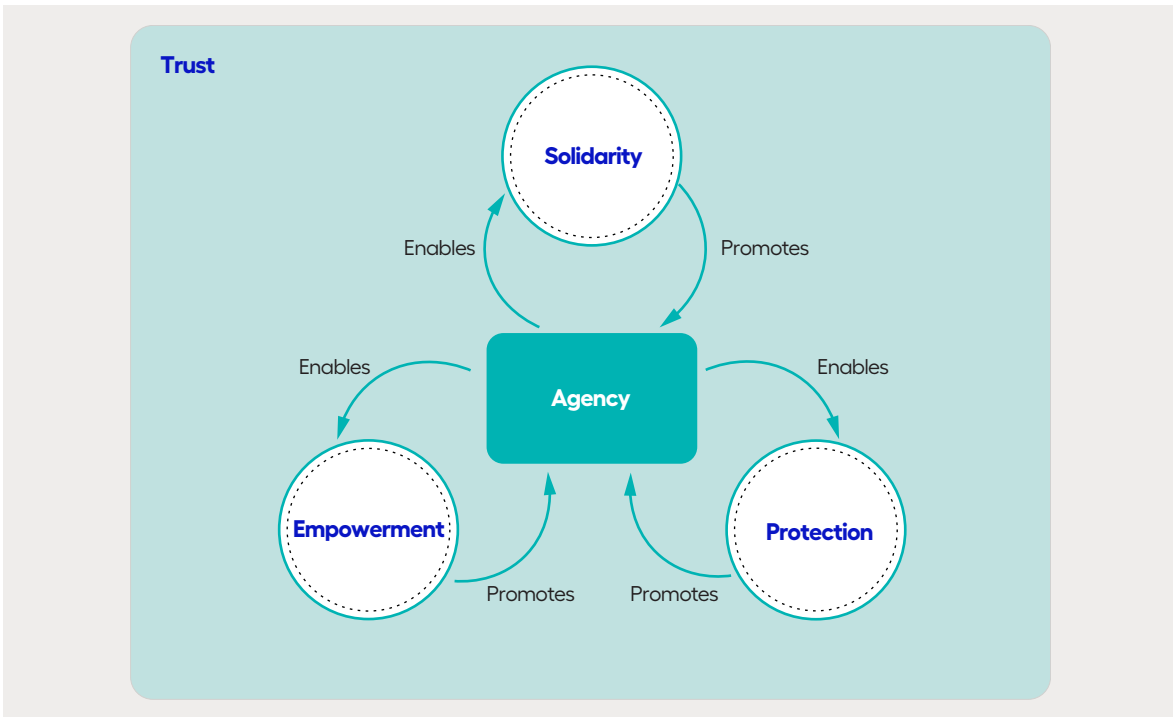
Solidarity recognizes that human security in the Anthropocene must go beyond securing individuals and their communities for institutions and policies to systematically consider the interdependence across all people and between people and the planet.

For each of us to live free from want, from fear and anxiety and from indignity, all three strategies must be deployed—for it is protection, empowerment and solidarity working together that advances human security in the Anthropocene. Agency (the ability to hold values and make commitments, regardless of whether they advance one's wellbeing, and to act accordingly in making one's own choices or in participating in collective decisionmaking) lies at the core of this framework (figure 4). Emphasizing agency is a reminder that wellbeing achievements alone are not all we should consider when evaluating policies or assessing progress. Agency will also help avoid the pitfalls of partial solutions, such as delivering protection with no attention to disempowerment or committing to solidarity while leaving some lacking protection.

This proposal for enriching the human security frame is made in a very particular context, where perceptions of human insecurity are associated with low impersonal trust, independent of one's financial situation.<sup>9</sup> People facing higher perceived human insecurity are three times less likely to find others trustworthy,<sup>10</sup> a trend particularly strong in very high HDI countries. Trust is multifaceted and essential for everyday life, but given this association, trust—across



**Figure 4** Enriching human security for the Anthropocene



Source: Human Development Report Office.

people, between people and institutions, across countries—may enable or hamper the implementation of protection, empowerment and solidarity strategies to enhance human security.<sup>11</sup>

The Anthropocene context, with interlinked human security threats, calls for a bold agenda to match the magnitude of the challenges, put forward with humility in the face of the unknown. The alternative is accepting fragmented security approaches, with responses likely de-equalizing, likely reactive, likely late and likely ineffective in the long term. Permanent and universal attention to an enriched frame of human security can end the pathways of human development with human insecurity that created the conditions for the Covid-19 pandemic, the changing climate and the broader predicaments of the Anthropocene.

The 2030 Agenda for Sustainable Development and the Sustainable Development Goals provide an ambitious set of multidimensional objectives that

inform action at all levels (from the local to the national) and mobilize the international community. But efforts remain largely compartmentalized, dealing separately with climate change, biodiversity loss, conflicts, migration, refugees, pandemics and data protection. Those efforts should be strengthened, but tackling them in silos appears insufficient in the Anthropocene context. It is imperative to go beyond fragmented efforts, to reaffirm the principles of the founding documents of the United Nations, the Universal Declaration of Human Rights and the UN Charter, which are also the central ideas underpinning the concept of human security. Echoing the UN Secretary-General's *Our Common Agenda*, doing so in the Anthropocene implies a systematic, permanent and universal attention to solidarity—not as optional charity or something that subsumes the individual to the interests of a collective, but as a call to pursue human security through “the eyes of humankind.”



PART

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I

# **Expanding human security through greater solidarity in the Anthropocene**



CHAPTER

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1

# Human security: A permanent and universal imperative

# Human security: A permanent and universal imperative

Just before the Covid-19 pandemic hit, as the world reached unprecedented development levels, six of every seven people around the world felt insecure. Indeed, as many development indicators were moving up, people's sense of security was coming down.

The pandemic put a stop to progress in human development, deepening the continuing onslaught on people's perceptions of security (box 1.1).

It is not hard to understand how Covid-19 has led people to feel more insecure.<sup>1</sup> But what accounts for

### Box 1.1 The Covid-19 pandemic as a deep human security crisis continues into 2022

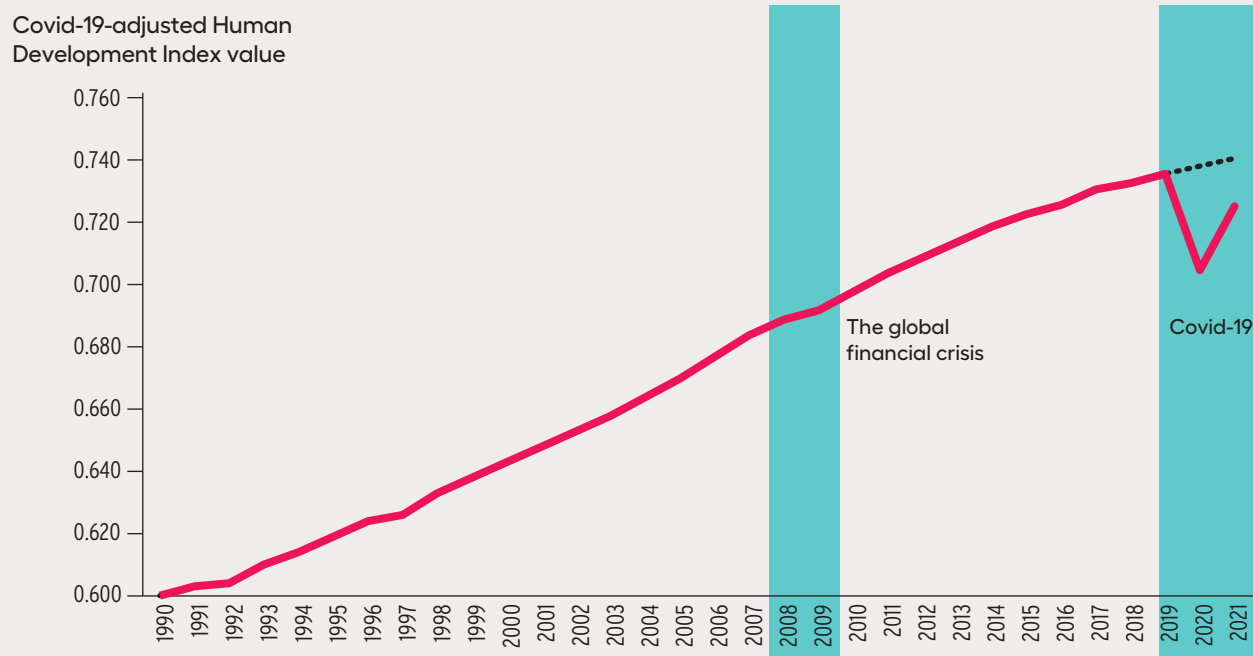
The Covid-19 pandemic has affected nearly everyone and turned into a full-fledged human security and human development crisis. The most tragic impact has been a worldwide death toll of more than 10 million (the excess mortality in 2020–2021).<sup>1</sup> But impacts go well beyond this distressing record. Most countries have suffered acute recessions. School closures and restrictions on people's movement have disrupted the education of millions of children worldwide, with the resulting costs to learning still to be assessed. Many countries turned to remote learning, but an estimated two-thirds of the world's school-age children lack internet access in their homes.<sup>2</sup> There have been serious setbacks in women's empowerment and gender equality and increasing violence against women.<sup>3</sup> Women have also been disproportionately affected by job losses.<sup>4</sup>

It is possible to track part of the pandemic's effects on human development through the Covid-19-adjusted

Human Development Index. The index retains the standard Human Development Index (HDI) dimensions but modifies the expected years of schooling indicator to reflect the effects of school closures and the availability of online learning on effective attendance rates. In 2020 there was a sharp reduction across all the three dimensions of the HDI: health, knowledge and living standards.

The crisis continued in 2021, with human development levels (as measured by the Covid-19-adjusted HDI) remaining well below pre-Covid-19 levels. Even with the availability of—very unequally distributed—Covid-19 vaccines, the economic recovery that started in many countries and the partial adaptation of education systems, the crisis deepened in health, with a continued decline in life expectancy at birth. In 2021 the global Covid-19-adjusted HDI value had yet to recover the equivalent of approximately 5 years of progress, according to new simulations (see figure).

#### The Covid-19 pandemic has caused an unprecedented decline in Human Development Index values



**Source:** Human Development Report Office. Updated from UNDP (2020c, 2020f). Simulations for 2020 and 2021 are based on data from the Institute for Health Metrics and Evaluation, the International Monetary Fund, International Telecommunication Union, the Human Mortality Database, the United Nations Department of Economic and Social Affairs and the United Nations Educational, Scientific and Cultural Organization.

#### Notes

1. IHME 2021. 2. UNICEF and ITU 2020. 2. UN Women 2021b; Vaeza 2020. 3. ILO 2021a.

the startling bifurcation between the improvements in people's wellbeing and the declines in their perception of security that was unfolding before the pandemic? That is the question that animates this Report.

To address it, the Report takes the premise that the concept of human security provides a unique perspective that is both insightful and fruitful in suggesting how to advance human development with less insecurity. And in so doing, building on decades of analytical and policy work, the Report also aims to enrich the frame of human security.

“The Report takes the premise that the concept of human security provides a unique perspective that is both insightful and fruitful in suggesting how to advance human development with less insecurity

There may be many reasons for people to feel insecure, and they will vary according to social and individual contexts. They are manifestations of objective threats. Some social imbalances<sup>2</sup> have been building for decades, as the 2019 Human Development Report highlighted.<sup>3</sup> But awareness is now growing about dangerous planetary changes that compound other well-identified drivers of human insecurity. For example, social tensions and their implications for conflict interact both with climate hazards (droughts, wildfires, storms) and with what the energy transition means for jobs and opportunities. Or indeed, how a global pandemic that followed more frequent outbreaks of new or emerging zoonotic diseases is linked to pressures on biodiversity.<sup>4</sup> As pandemic response veteran Richard Hatchett notes, “Except we’re now in a different world. This is definitely not a once-in-a-century problem. Covid-19 is the seventh global infectious-disease crisis of the 21st century: SARS, avian influenza, swine flu, MERS, Ebola and Zika preceded it. It looks like roughly every three years you’re going to have a global infectious-disease crisis, and that tempo is probably increasing.”<sup>5</sup>

As the 2020 Human Development Report explored,<sup>6</sup> dangerous planetary changes result from human pressures on planetary processes—from the climate system to material cycles disrupted by the use and introduction of materials at an unprecedented scale and speed and to the threats to the integrity of ecosystems from tropical forests to coral reefs and to

entire oceans. Those changes are so unprecedented in human history and in the 4.6 billion year geological timeline of the planet that they have been described as a new geological epoch or event: the Anthropocene, the age of humans. There are glaring inequalities in contributions to planetary pressures—now and historically—and in power between those overextracting and those bearing the consequences. This happens across countries but, crucially, within countries as well, with some groups systemically more affected than others. Human rights violations overlap with the destruction of ecosystems, as with the forced and slave labour in the very fishing fleets that are destroying ocean ecosystems. Biodiversity losses often parallel not only the destruction of livelihoods but also cultural losses, such as the disappearance of languages, affecting many indigenous peoples and local communities. Collective decisions, national and global, that could ease planetary pressures are more difficult to reach and implement, thus slowing, or even preventing, action to ease planetary pressures.

With this the dichotomy of “human development with human insecurity” may appear far less puzzling—because the patterns of development that we have been pursuing inflict many of the drivers of insecurity we are confronting. This chapter explores how the human security concept is a useful lens through which to understand this new context, elaborated further in chapter 2, and how the human security frame can be enriched to provide new perspectives on specific threats to human security that play out in this new context and are interconnected, global and mostly human-made—threats explored in part II of the Report.

This chapter has two main findings. First, the human security frame points to the limitations of evaluating policies and measuring progress by looking at wellbeing achievements alone. The chapter identifies the neglect of agency as a major blind spot and suggests making agency a central focus of attention for decisionmakers. Second, the human security frame itself can be enriched by addressing a blind spot of its own: the neglect of the new Anthropocene reality and what that implies. The chapter reaffirms the relevance of the individually centred approaches of protection and empowerment to advance human security. It suggests adding an approach based on solidarity—beyond borders and across peoples,



cognizant of our interdependencies in a globalized world and our common fate on a planet undergoing dangerous changes as a result of our actions.

## Becoming richer amid a vast sea of human insecurity

### An age of widespread—and growing—perceptions of human insecurity

Human security is about living free from want, free from fear and free from indignity. It is about protecting what we humans care most about in our lives. In 2012 the UN General Assembly reflected a consensus that human security would be considered, “The right of people to live in freedom and dignity, free from poverty and despair. All individuals, in particular vulnerable people, are entitled to freedom from fear and freedom from want, with an equal opportunity to enjoy all their rights and fully develop their human potential.”<sup>7</sup> Annex 1.1 provides a brief account about the origins and progression of the human security concept, which continues to evolve.

“Human security is about living free from want, free from fear and free from indignity. It is about protecting what we humans care most about in our lives

When the human security concept was introduced in the 1994 Human Development Report,<sup>8</sup> it was rapidly recognized as a radical departure from the predominant view of security at the time, because it shifted the focus towards the real subjects—people—and away from territorial security. That seminal work also emphasized three additional characteristics of human security—universal, multidimensional and systemic—which have heightened relevance today as issues affecting people’s security become part of a new set of interlinked threats on a planet undergoing dangerous changes because of human pressures.

Using a human security lens implies considering people’s views.<sup>9</sup> What constitutes fear, want and dignity depends largely on people’s beliefs, which are formulated based on a combination of very specific and objective factors, along with elements that may be more subjective. But this is not a problem because attention to subjectivities—considering how people

themselves view and understand their situation, vulnerabilities and limits—is core to the analytical framing of human security.<sup>10</sup> As argued in more detail later in the chapter, beliefs are important elements influencing people’s choices, values and commitments. In fact, Kaushik Basu, in exploring the relationship between law and economics, has argued for the central role of beliefs in shaping even attitudes towards the law:

“The might of the law, even though it may be backed by handcuffs, jails, and guns, is, in its elemental form, rooted in beliefs carried in the heads of people in society—from ordinary civilians to the police, politicians and judges, intertwining with and weaving into one another, reinforcing some and whittling down others, creating enormous edifices of force and power, at times so strong that they seem to transcend all individuals, and create the illusion of some mysterious diktat enforced from above. In truth, the most important ingredients of a republic, including its power and might, reside in nothing more than the beliefs and expectations of ordinary people going about their daily lives and quotidian chores.”<sup>11</sup>

So, it is useful to explore how living free from want, living free from fear and living free from indignity relate to beliefs and interact with one another, starting by considering dignity, which is most directly a belief.

- *Dignity.* Dignity is grounded on the universal belief that everyone has equal inherent worth and value, enshrined in Article 1 of the Universal Declaration of Human Rights: “All human beings are born free and equal in dignity and rights.”<sup>12</sup> Its importance was reiterated as a central aspiration of the 2030 Agenda for Sustainable Development: “to ensure that all human beings can fulfil their potential in dignity.”<sup>13</sup> Threats to one’s dignity emanate not only from objective deprivations (such as not having basic needs met, linking to the aspiration of being free from want) but also from stigma. Sometimes, the very interventions that seek to address material deprivations may hurt people’s dignity by stigmatizing them and inducing emotions of shame,<sup>14</sup> especially when poverty is attributed to negative individual dispositions.<sup>15</sup> Dignity goes beyond

avoiding being physically harmed or shamed to having autonomy<sup>16</sup> and agency—a central idea that is the core of arguments developed later in the chapter. Implications of this understanding of dignity include that interventions aimed at addressing freedom from want with dignity imply the need to both mitigate stigma and promote empowerment and that interventions need to be culturally sensitive and responsive.<sup>17</sup>

- *Fear.* Beliefs are also important in triggering emotions (even if not the only determinant; perceptual elements also matter). The emotion of fear involves beliefs about bad things that may happen in the future (if something bad is certain to happen, it is likely to trigger an emotion of despair),<sup>18</sup> often associated with perceiving “low certainty and low sense of control.”<sup>19</sup> Thus, the emotion of fear, a powerful driver of behaviour,<sup>20</sup> is influenced by a host of factors, from individual cognitive processes to external and contextual conditions. People form beliefs about the possibility that painful and harmful events may unfold in the future, often based on objective elements that can give them reason to be fearful.<sup>21</sup> This includes the possibility of suffering “assaults on their sense of dignity,”<sup>22</sup> once again showing the interlinkages across the three aspirations that define human security.
- *Want.* Beliefs also come into play when assessing want, which is determined not only by meeting basic metabolic needs but also by individual aspirations and relative assessments of what people in a community are expected to achieve. As Amartya Sen has often reminded us, Adam Smith’s definition of not being in poverty was to be able to wear a linen shirt—not because linen protects someone from the elements but because it is required to interact socially in the community, without shame. Thus, there are interlinkages between freedom from want and living in dignity. This echoes anthropological perspectives on want. As Mary Douglas put it, “At the local level, wants are part of a feedback cycle between the relations of production and consumption. Wants and needs are not ordered according to private preferences. Other people collectively try to solve problems of coordination, the solutions impose ordering on ego’s preferences. The cultural process defines wants, and poverty is culturally constructed.”<sup>23</sup>

“In addition to being high, the perception of human insecurity has increased over time for most countries with comparable data

The formulation of beliefs is thus clearly the result of a complex constellation of factors. It is not easy, and it may be impossible, to measure beliefs with the precision that we can assign to objective indicators such as income or education achievements. But that does not imply that there are not objective vulnerabilities that stimulate particular beliefs and that this is often the result of well-reasoned processes. As argued later in the chapter, and more extensively in chapter 2, there are strong reasons to associate the new context of the Anthropocene, and the inequalities that characterize it, as the background against which a new generation of threats to human security is playing out.

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### *The Index of Perceived Human Insecurity*

To get a sense of how people understand and perceive their security beyond what can be grasped from objective indicators of achievements in wellbeing, this Report introduces the Index of Perceived Human Insecurity (I-PHI; see annex 1.2 for details).<sup>24</sup> It is based on population- representative data from the World Values Survey for 74 countries and territories covering more than 80 percent of the world’s people. It captures perceived threats across different dimensions of daily life in citizen security, socioeconomic security and violent conflict.

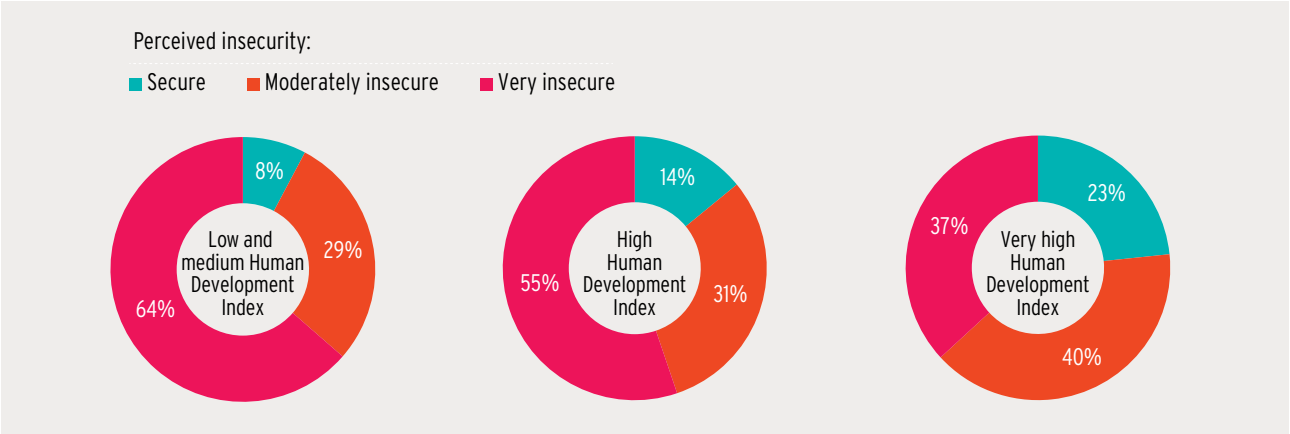
The results are striking.

Most people in the world feel insecure: fewer than 1 in 7 people at the global level feel secure or relatively secure.<sup>25</sup> More than half of the global population feels affected by very high human insecurity, as specified on the I-PHI.<sup>26</sup>

Perceived human insecurity is high across all Human Development Index (HDI) groups, with more than three-quarters of the population feeling insecure, even in very high HDI countries (figure 1.1). But lower HDI countries register even higher perceived human security, suggesting a negative association between HDI value and I-PHI value (figure 1.2).

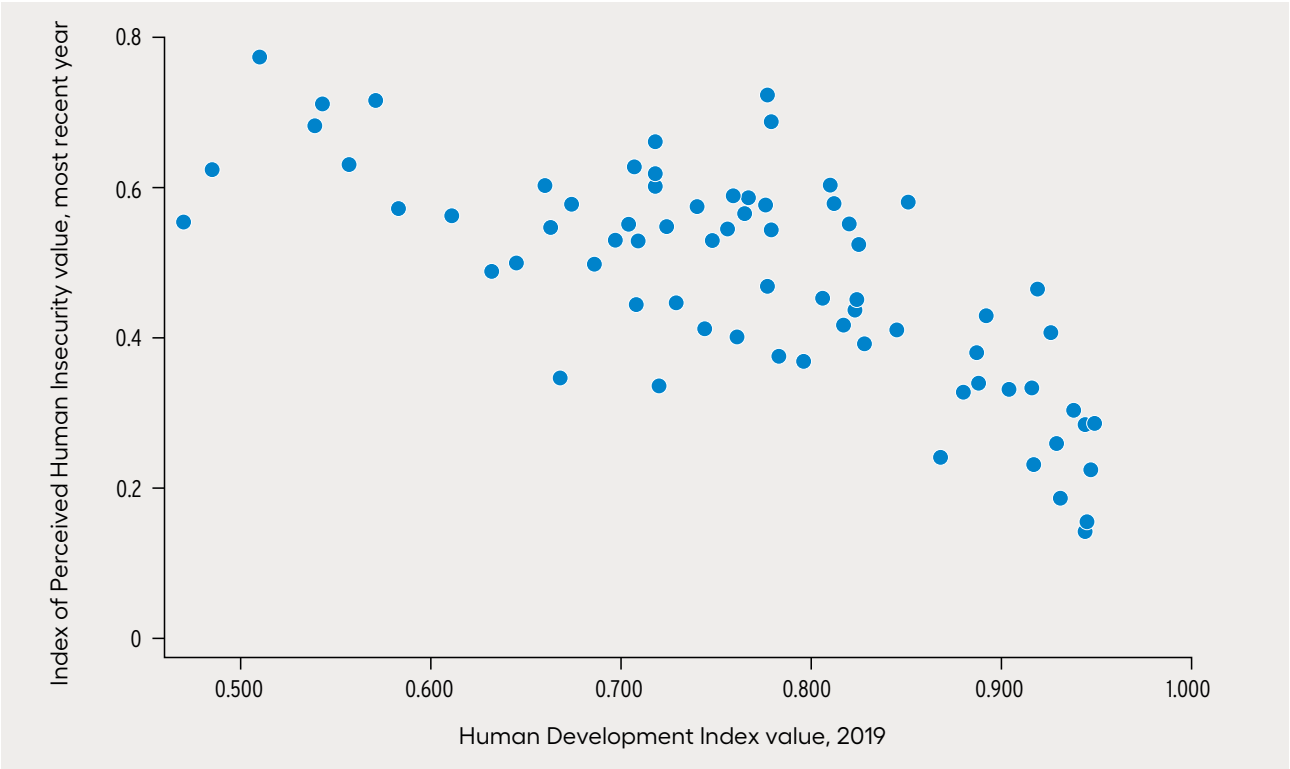
In addition to being high, the perception of human insecurity has increased over time for most countries with comparable data. This increase registered across

**Figure 1.1** Even in very high Human Development Index countries, less than a quarter of people feel secure



Source: Human Development Report Office, based on World Values Survey, latest available wave.

**Figure 1.2** Human insecurity tends to be higher in countries with lower Human Development Index values



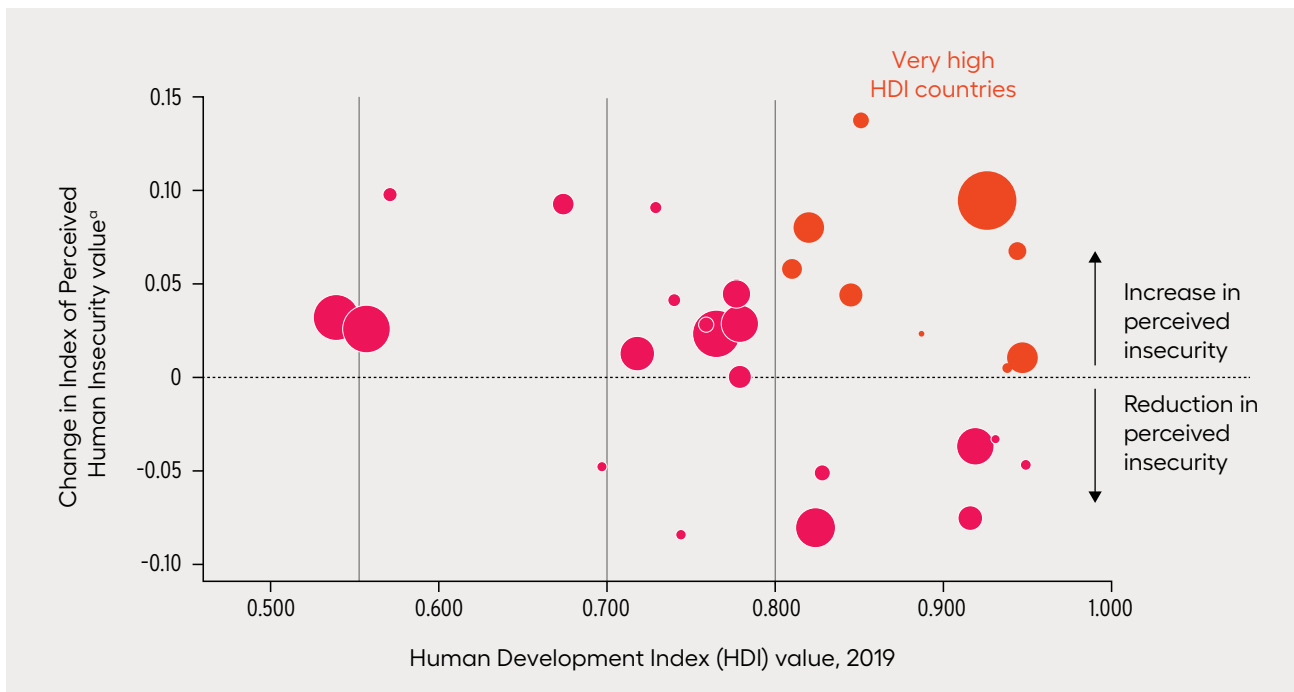
Source: Human Development Report Office, based on World Values Survey data (see annex 1.2).

all HDI groups, but some of the largest increases were in very high HDI countries (figure 1.3).

This suggests that the positive association between HDI value and I-PHI value gleaned from the cross-sectional analysis may not reveal much about the extent to which achievements in wellbeing can insulate people from feeling insecure. In fact, when

individuals, rather than countries, are grouped by I-PHI value, the higher the perception of human security, the higher the level of trust in others tends to be, a result that holds for different levels of satisfaction with the financial situation (figure 1.4). But the opposite is not the case: for people who feel very insecure, greater financial satisfaction is not associated

**Figure 1.3** Human insecurity is increasing in most countries—and surging in some very high Human Development Index countries

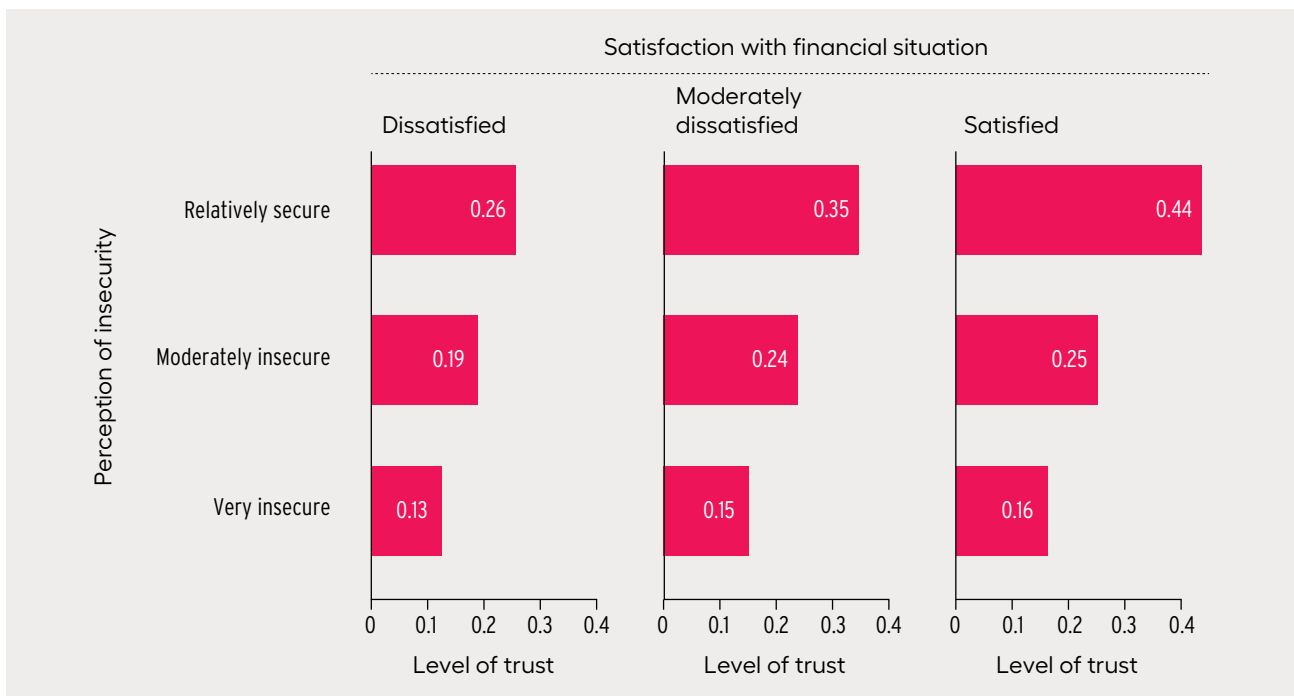


**Note:** Bubble size represents the country population.

**a.** Refers to the change between waves 6 and 7 of the World Values Survey for countries with comparable data.

**Source:** Human Development Report Office based on World Values Survey data (see annex 1.2).

**Figure 1.4** Where human security is higher, trust tends to be higher, regardless of satisfaction with one's financial situation



**Note:** Pooled individual-based data with equal weights across countries.

**Source:** Human Development Report Office based on World Values Survey data (see annex 1.2).

with a significant jump in trust. This strong link between human security and trust also holds when income and life satisfaction are controlled for.<sup>27</sup> Given the importance of this finding for the conclusions later in the chapter, it is crucial to be clear about the meaning that emanates from answers to the World Values Survey's trust question, how it can be interpreted and the cautions that must be borne in mind.

### Box 1.2 Trust's many faces

Trust is a complex concept. As sociologist Blaine Robbins wrote, "Despite decades of interdisciplinary research on trust, the literature remains fragmented and balkanized with little consensus regarding its origins."<sup>1</sup> Even with this lack of consensus in the definition and origins, there is widespread belief that trust has been an important element in the development and sophistication of societies throughout history—mainly because it has been essential for cooperation and collective action.

One of the purported paradoxes around trust relates to there being higher trust than a rational agent model where people pursue their self-interest would suggest. Most economic theory assumes that trust arises when people are optimistic about the trustworthiness of others, but evidence shows that people trust at higher rates than predicted by reasons to be trustworthy (including past behaviour). This excess trust seems to be driven by norms—either social or moral.<sup>2</sup> This result provides reason for optimism: this excess trust could be a lever for increased cooperation among strangers and beyond the close ties usually associated with reciprocal relationships.

The result has been reflected, for instance, in the voluntary payment of taxes. In 1972 Michael Allingham and Agnar Sandmo modelled tax evasion under a standard rational utility maximization framework where the agent conducts a cost-benefit calculation between the cost of being caught evading tax systems and the monetary benefit of the evasion.<sup>3</sup> But empirical evidence has shown that the model consistently underestimates the amount of taxes people pay. This paradox has promoted the literature on tax morale—or the reasons beyond pure rational maximization of self-interest driving people to comply with the tax authorities.

Trust has been important both in interpersonal relations and in institution building. Institutional

### What is trust?

Trust is yet another belief.<sup>28</sup> But what is trust, exactly? It has been defined in multiple ways in different contexts (box 1.2). In the context of the World Values Survey, it is measured by answering the question, "Generally speaking, would you say that most people can be trusted or that you can't be too careful

evolution is closely linked to trust in at least two ways, as Benjamin Ho explains. First is that institutions rely on trust to function—modern money, for instance, depends on the belief that it will be accepted as a medium of exchange regularly and independent of who carries it. The second is that institutions are often designed to create and facilitate trust, in ever expanding scales of complexity.<sup>4</sup>

Not all trust is good, though, and institutional development has been imperfect across time and countries. Some institutions have been designed to expand trust among groups sharing similar traits—known as in-group trust. In-group trust can thus promote polarization, be detrimental to equity and democracy and be exploited by some political leaders.<sup>5</sup>

The challenge when promoting trust in the context of human security strategies is to promote, support and use existing generalized trust and address the behavioural biases and institutional designs that favour in-group trust. Cosmopolitan views and moral universalism—altruism towards strangers compared with altruism towards in-group members—may be invoked when designing and implementing strategies to advance human security, as elaborated later in the chapter. Some evidence shows that universalist views are associated with demographic characteristics: age, place of residence, religious beliefs and income level.<sup>6</sup> Yet a recent study by the United Nations Children's Fund and Gallup shows that young people are almost twice as likely as older people to declare their identification with the world as opposed to local or national community.<sup>7</sup>

#### Notes

1. Robbins (2016, p. 972). See also Ho (2021).
2. Dunning and others 2014.
3. Allingham and Sandmo 1972.
4. Ho 2021.
5. Gjonneska and others 2019.
6. Enke, Rodríguez-Padilla and Zimmermann 2021.
7. UNICEF and Gallup 2021.

in dealing with people?” The answer appears to conform to actual behaviour when people interact with others.<sup>29</sup> It captures what has been characterized as generalized trust (the trust placed in others in general and not for a particular reason or interest<sup>30</sup>) or impersonal trust (establishing a default way of interacting with strangers<sup>31</sup>).

Understood in this way, it is clear that social life, in any context, would be very difficult, if not impossible, without impersonal trust.<sup>32</sup> Trust matters because it enables cooperation, which “is conditional on the belief that the other party is not a sucker (is not disposed to grant trust blindly), but also on the belief that the other will be well disposed towards us if we make the right move.”<sup>33</sup> Therefore, trust is not something that should always be maximized: even for individual welfare too much or too little trust is shown to be harmful.<sup>34</sup> And we may want less trust among groups that are threatening us (when engaged in illicit activities, for instance), so it is not possible to say that more trust is always desirable.<sup>35</sup>

Given the importance of trust for cooperation, differences in impersonal trust across countries are associated with several economic and social outcomes. Higher average impersonal trust for countries is positively correlated with income, economic productivity and government effectiveness and negatively correlated with corruption. Evidence suggests that impersonal trust is part of a cultural and psychological package of pro-social norms, expectations and motivations that are historical antecedents of these outcomes.<sup>36</sup>

This cross-country analysis needs to be interpreted carefully, for trust increases when individuals are socially closer.<sup>37</sup> And the answer to the World Values Survey question in some contexts—particularly in East Asia—is interpreted as trusting others premised on the existence of dense social networks that create social and economic interdependence, as opposed to trusting “strangers” unconditionally. More important, there are very large differences in trust within countries, even larger than across countries.<sup>38</sup> Factors associated with individual preference “types” (being more or less altruistic, for instance) appear to account for a large amount of variation in trust across people, more than can be explained by the country where people live.<sup>39</sup> In this context it is crucial to emphasize again that the findings of an association between high human insecurity and low interpersonal trust are at

the level of individuals—not based on a cross-country analysis.

The individual-level association between human insecurity and impersonal trust matters for four main reasons.

- First, evidence suggests that there are low and declining levels of trust related to important institutions and policy outcomes, especially those predicated on cooperation.<sup>40</sup>
- Second, while motives, interests and incentives are crucial for cooperation, even if people (or countries) have the appropriate motives and interests, they still need to “know about each other’s motives and trust each other”<sup>41</sup>—this takes us back to Kaushik Basu’s emphasis on the importance of beliefs noted earlier in the chapter—even if laws are codified and enforced.

“A human-development-with-human-insecurity duality emerges from how the advancement of human development has been pursued and from fragmented security approaches that focus on wellbeing achievements while neglecting agency

- Third, as this chapter develops later, agency is central to implementing strategies to advance human security. It is predicated on people having freedoms, which include the possibility of disappointing and frustrating others. That is why trust is closely associated with freedom, having even been described as a “device for coping with the freedom of others,”<sup>42</sup> something that acquires heightened relevance in contexts of uncertainty.<sup>43</sup>
- Fourth, the importance of trust is likely to increase in coming years, given that “in the twenty-first century, remote collaboration with both unknown and known counterparts is increasing (in part due to the recent pandemic), and much economic life is now happening outside the boundaries of organizations, regions, and nations, making trust a ubiquitous concern.”<sup>44</sup>

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### **Reasons to feel insecure: The Anthropocene context and a new generation of threats to human security**

This section argues that a human-development-with-human-insecurity duality emerges from how the



advancement of human development has been pursued and from fragmented security approaches that focus on wellbeing achievements while neglecting agency. Along with a persistent upward trend in wellbeing achievements across regions, a new generation of human insecurities has been emerging, to a significant degree as a byproduct of how development was being pursued. This is evident from the emergence of the Anthropocene context, in which new threats to human security emerge, all linked to human action and, for the most part, to activities that have until now fuelled improvements in wellbeing.

The unprecedented context of the Anthropocene is the backdrop for a new generation of threats that are global, systemic and interlinked. This new reality gives strong objective reasons for people not only to perceive high human insecurity but also to believe that wellbeing achievements—previously conceived of as development achievements—are insufficient to address human security concerns. This section highlights threats related to digital technologies (though much good can also come out of their diffusion), violent conflict, inequalities across groups (to focus

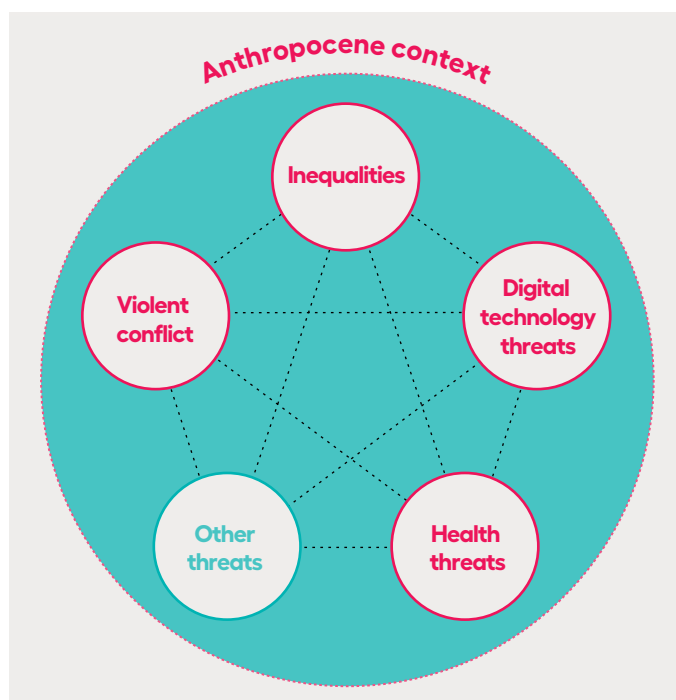
on the notion of social imbalance) and inadequacies in current healthcare systems. All these exhibit new characteristics compared with what was covered in previous seminal reports on human security, notably the 1994 Human Development Report and the 2003 Ogata-Sen report,<sup>45</sup> but are not meant to be an exhaustive list. Rather than organize the discussion around groups of people, the focus is on these four threats, as elaborated in part II of the Report, because this approach allows for a more flexible understanding of the structural challenges and the possible structural responses (figure 1.5).

“Ensuring that people live free from want, fear and indignity requires a comprehensive, systemic approach. We have come to realize that higher incomes, for instance, do not automatically bring about peace and that a society without violent conflict is not a sufficient condition for people to live in dignity

These four threats, in their interconnectedness, present a growing challenge for decisionmakers, for the development journeys unfolding have often underplayed not only agency but also the interactions across threats. The attention of the public and policymakers has been on separate aspects when designing or evaluating policy, leading to the pursuit of solutions to problems in silos, failing to recognize the possibility that each solution may have unintended consequences and may exacerbate other problems.

To address this challenge, the relevance of the human security concept becomes apparent in part because one of the most important aspects emphasized since its inception is the recognition that the three aspirations that define it cannot be thought of independently, as noted above.<sup>46</sup> Ensuring that people live free from want, fear and indignity requires a comprehensive, systemic approach. We have come to realize that higher incomes, for instance, do not automatically bring about peace and that a society without violent conflict is not a sufficient condition for people to live in dignity.<sup>47</sup> As Oscar Gomez and Des Gasper write, “Even a human development perspective, focused on improvement for persons in all major areas of life which they have good reason to value, rather than centred on measured economic growth or technological display, is insufficient for dealing with

**Figure 1.5 A new generation of threats to human security is playing out in the unprecedented context of the Anthropocene**



Source: Human Development Report Office.

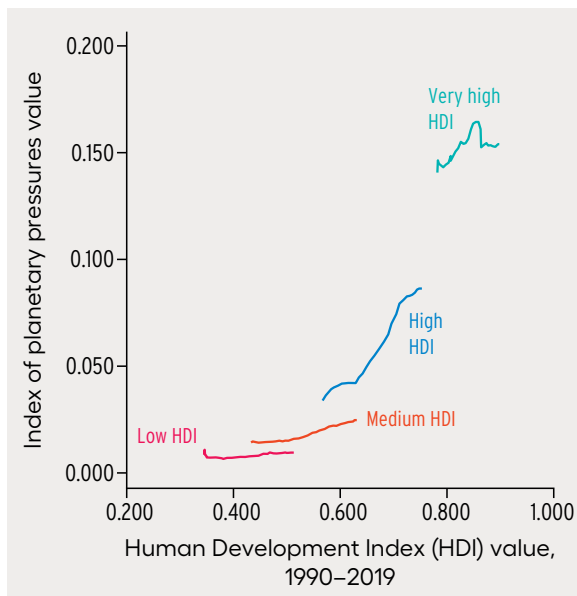
the real world of interconnecting threats and recurrent crises, if it retains the linear model.”<sup>48</sup>

One could argue that everything has always been connected to everything else, but the Anthropocene context heightens the importance of recognizing these interdependencies. Virtually all people’s efforts to find solutions to development problems result in actions that are mounting planetary pressures in one way or another.<sup>49</sup> The 2020 Human Development Report argued that industrial societies today meet their energy and material needs in ways that result in planetary pressures that drive dangerous planetary change.<sup>50</sup> To meet our energy needs, we continue to rely primarily on fossil fuels, which results in greenhouse gas emissions that are driving climate change. And we use materials with little concern for the disruptions to material cycles: the use of nitrogen in fertilizer is just one example. For an illustration of how the solving-one-problem-at-a-time approach may be problematic, consider how the increased use of renewable energy and batteries is leading to increased extraction of minerals that we know are limited and for which we have few substitutes at present, often in contexts where there are massive threats to biodiversity and violations of human rights.

As countries have increased their Human Development Index value, planetary pressures have intensified, on average, as measured by a new index of planetary pressures (figure 1.6). This index combines two indicators, carbon dioxide emissions (to account for the pressures emanating from the reliance on fossil fuels for energy) and material footprint (to indicate the extent to which we do not consider the disruption to material cycles). No country has been able to reach a very high HDI value without exerting high planetary pressures. These pressures are now causing new forms of risks linked to climate change (storms, floods, heat waves), biodiversity loss (irreparable but also with implications for the productivity and resilience of ecosystems) and zoonotic diseases (of which Covid-19 is the latest in a series of more frequent events).<sup>51</sup>

“No country has been able to reach a very high HDI value without exerting high planetary pressures. These pressures are now causing new forms of risks linked to climate change (storms, floods, heat waves), biodiversity loss (irreparable but also with implications for the productivity and resilience of ecosystems) and zoonotic diseases

**Figure 1.6 Higher Human Development Index values have come with higher planetary pressures**



**Note:** The index of planetary pressures is based on carbon dioxide emissions and material footprint (both per capita).

**Source:** Human Development Report Office based on UNDP (2020).

It is against this background that part II of the Report explores the nature and implications of four types of threats to human security.

- *Digital technology threats.* Advances in digital technologies have been key to advances in many dimensions of human development (from access to health and education services to fostering capabilities linked to access to information and communication), but they carry significant risks. Some aspects of new information and digital technologies are reshaping social and family interactions, working conditions and leisure activities. The concentration of power among some new corporate players and the speed of the changes unfolding create challenges for policymakers and societies. These dynamics affect those immersed in the digital world as well as those outside (3 billion people without access to internet).<sup>52</sup> Some of these changes present negative side effects on many fronts: abuse of power and political domination can result from the concentration of the control of information and data by technological providers



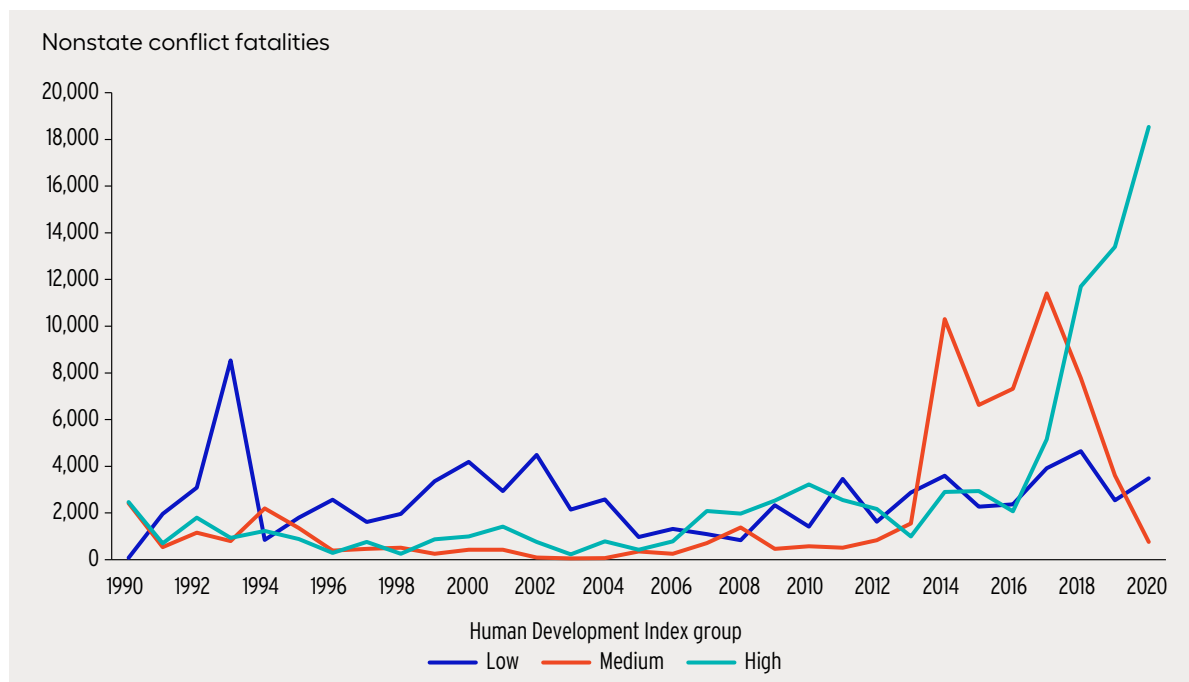
and governments, curtailing liberties, widening inequalities and spreading misinformation that fuels polarization.

- *Violent conflict.* Higher income co-exists with growing numbers of people affected by conflict—today, more than one in four people in the world is affected by conflict. In 2020 the number of forcibly displaced people—many of whom are fleeing from violent conflict—reached 82.4 million,<sup>53</sup> twice the level in 2010.<sup>54</sup> Killings of environmental activists (linked again to the intersection of violence and the Anthropocene context) have risen consistently over the last two decades.<sup>55</sup> Nonstate conflict fatalities have shot up in high HDI countries (figure 1.7).
- *Inequalities across groups.* This Report primarily explores inequalities across groups as assaults on dignity because there is no reason to treat people in a discriminatory way simply because they choose to self-identify as a member of or are otherwise associated with a group (among possibly many others). These inequalities remain pervasive today. This is true across countries but also within countries. Inequalities in power relations also hurt the

dignity of people, sometimes independent of their socioeconomic status, if they are insufficiently empowered. The #MeToo movement has shown the pervasive gender inequalities across industries and societies. Even a group of highly accomplished women faced hidden forms of violence and, for a long time, did not believe that conditions permitted them to expose their aggressors. That this happened in the high-profile entertainment industry, where women are visible and have millions listening to what they say, highlights the day-to-day abuse elsewhere when women are voiceless. It is also a reminder that what we consider success often hides areas of deep insecurity, and it provides a concrete example of the duality of human insecurity with income achievements. This Report shows how many other groups remain consistently and historically marginalized, suffering systematic assaults on their dignity and therefore their human security.

- *Healthcare systems.* The effects of Covid-19, declared a pandemic in March 2020, have spread to nearly everyone in the world, attacking all

**Figure 1.7** Nonstate conflict fatalities have been increasing in high Human Development Index countries



**Note:** Excludes very high Human Development Index countries because of the lack of reported data over time. The very high HDI countries with reported nonstate conflict fatalities over this period are Canada (52 people reported killed in 1995 and 1998), Georgia (64 people reported killed in 1997 and 1998), Israel (299 people reported killed in 2006, 2007 and 2009), the Russian Federation (529 people reported killed in 1990, 1991 and 1994) and Serbia (795 people reported killed in 1991 and 1992).

**Source:** Human Development Report Office based on Uppsala Conflict Data Program Non-State Conflict Dataset version 21.1.

dimensions of human development.<sup>56</sup> By the second quarter of 2020, most economies were contracting at record rates, and 90 percent of children were unable to physically attend schools. This is unprecedented because it was mediated by a highly interconnected and globalized world with the highest level of human development on record. It exposed the limitations of health systems, nationally and internationally, especially the widespread lack of coordination at many scales, reflected more glaringly in large disparities in vaccine access across countries and in vaccine use within some countries.

The corollary is that improvements in wellbeing, measured by, say, the HDI, do not guarantee human security.<sup>57</sup> And this gap between human development and human security could be exacerbated by the reinforcing dynamics among the four threats. For example, climate change adds pressure to the forces displacing people and to the scarcity of some resources. However, this does not imply that human development should not be pursued or that human development never promotes human security. To the contrary, the two can be compatible and complementary. That is why, in advancing human development, human security should be a consistent—indeed a permanent—focus of attention.

**“Not every “security action” leads to greater human security, particularly if it leads to greater security for one group at the expense of the security of other groups or if it promotes some freedoms while restricting others**

However, the human security concept’s ability to account for the complexity of today’s world and generate agency cannot be taken for granted. Not every “security action” leads to greater human security, particularly if it leads to greater security for one group at the expense of the security of other groups or if it promotes some freedoms while restricting others.

Take the siloed or fragmented views of security. Policies for food security can increase planetary pressures through deforestation and single crop practices, resulting in greater risks due to climate change and biodiversity loss. Policies to enhance economic security, such as expanding financial markets to diversify risks and smooth consumption, can become

procyclical and increase systemic risks. National security policies can generate an arms race, diverting resources from human needs. Another case is the use of the security narrative to justify hegemony.<sup>58</sup> In other words we cannot rule out that the true motive behind a security policy (including one labelled as a human security policy)<sup>59</sup> is to entrench power in political, economic and social institutions. States, companies, political actors and patriarchal structures can use “security concerns” to defend or promote privileges. In such cases short-term protection can be achieved at the expense of long-term agency.

The rest of the chapter shows how the human security concept can illuminate how the gap emerges between wellbeing achievements and perceptions of human insecurity and how the human security frame itself may need to be enriched to account for the new planetary and social reality of the Anthropocene.

## **Towards human security through the “eyes of humankind”**

### **The heightened relevance of human security: Bringing agency to the fore**

The concept of human security is almost three decades old. It came about in a very specific context of geopolitical change. After the fall of the Berlin Wall, there was a renewed sense of possibility—with the expectation of a new era of peace, including a repurposing of military spending for other goals, since the cloud of military confrontation between two major powers had cleared (see annex 1.1). So, what makes it relevant today, in a very different world, with so many of the hopeful expectations of the mid-1990s shattered?

It is relevant because the expectation—or maybe hope—that higher incomes would, by themselves, bring about human security has been clearly dashed. As documented in part II of the Report, military spending shows no signs of abating—instead of a peace dividend, we confront a world with violent conflict afflicting more than a billion people. As argued in the preceding sections, even before the Covid-19 pandemic perceptions of human insecurity were high and growing—and surging in places with the highest HDI values. And in 2021, with the world hitting record high GDPs per capita, deaths related to Covid-19

surpassed 5 million people.<sup>60</sup> Poverty and hunger are greater than just five years ago, and a generation-wide education crisis will have long-lasting consequences.

Moreover, the human security concept was not frozen in 1994. Many scholars and practitioners have added nuance, extensions and claims that it represented something that was important to them. It evolved to an extent that, as Shahrbanou Tadjbakhsh put it, “What was supposed to be a simple, noble and obvious idea soon became engulfed in a cacophony of political and academic debates centred on its definitions, their advantages and weak points, and on its theoretical and practical applicability.”<sup>61</sup>

## “Under the background of the Anthropocene context, threats to human security are interlinked

And yet the concept survives and gains salience—perhaps primarily because it captures the core of the intersection of human rights, peace and development, building on the UN foundational documents: the Universal Declaration of Human Rights and the UN Charter. Many national governments and international organizations, as well as civil society and academia, have devoted considerable energy and resources to making human security a central part of the debate on international cooperation. Over time the human security concept has evolved towards what may be better described as a discourse with many different strands—as a concept and objective, as an analytical frame, as a policy philosophy and as a policy planning approach.<sup>62</sup> These different strands remain anchored on a set of ideas tied to the UN foundational documents that will continue to evolve.

So, in using the term “human security frame,” this Report means those foundational ideas, which have been used in different ways to affirm different implementation principles:<sup>63</sup> people-centred, comprehensive, context-specific, prevention-oriented and focused on promoting protection and empowerment. The previous section showed the relevance of being people-centred and having a comprehensive perspective, under the background of the Anthropocene context, where threats to human security are interlinked.

The frame of human security acquires heightened relevance in light of the protection and empowerment strategies underscored in the 2003 Ogata-Sen report. In their own words: “Protection strategies,

set up by states, international agencies, NGOs [non-governmental organizations] and the private sector, shield people from menaces. Empowerment strategies enable people to develop their resilience to difficult conditions.”<sup>64</sup> The preceding section, and the analysis in part II of the Report, make abundantly clear the major shortcomings that exist today in protecting and empowering people. So it is crucial not only to reaffirm the importance of these strategies for human security but also to strengthen them in the face of a planet undergoing dangerous changes for people and many other forms of life.

These dangerous planetary changes are the result of actions by people themselves. The main threats to human security today, in the Anthropocene context, do not emanate from a massive volcanic eruption or an asteroid hitting Earth—which we may even be able to prevent. Toby Ord has estimated that, for the first time in human history, existential threats to humankind are anthropogenic, as opposed to being linked to natural hazards.<sup>65</sup> As chapter 2 makes clear, the implications of these dangerous planetary changes are being felt all around, and in many cases they are exacerbating inequalities—even if people with high incomes are not spared from the harmful effects, as they too report feeling insecure, despite having the means to cope with many of the threats.

If people are the drivers of dangerous planetary changes, they have to be the agents that bring about what it takes to implement protection and empowerment strategies. It is in this context that agency acquires central importance. Agency is used here as defined by Amartya Sen: “someone who acts and brings about change, and whose achievements can be judged in terms of her own values and objectives, whether or not we assess them in terms of some external criteria as well.”<sup>66</sup>

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### *What is agency?*

Agency is instrumental in enacting protection and empowerment strategies, and in part it means meaningful participation at different levels of decisionmaking. When this happens, tensions between protection and empowerment may be more apparent than real, because agency implies that protection is provided in a context of participation, deliberation and dialogue. This is not a mere abstraction (box 1.3),

### Box 1.3 Agency in policy design: An example of participatory development

How could agency and active participation look in policy design?

There are some useful examples on environmental policy. Claudia Pahl-Wostl describes the European water policy under the Water Framework Directive, which “requires public information and participation and encourages the active involvement of all affected parties in the development of the management plan.”<sup>1</sup>

Pahl-Wostl clearly differentiates between participation of the general public and participation of stakeholders. In her words:<sup>2</sup>

- “General public: Citizen participation involving the public at large in issues of general concern e.g., citizens in their role as voters who have to decide on adopting energy taxes.”
- “Stakeholder participation: involving specific stakeholder groups—the various groups are addressed in their specific roles and relative to their stakes in a particular environmental issue—e.g., the inhabitants of an area directly affected by an air pollution problem.”

An additional aspect of the participatory framework refers to the stage of the decisionmaking

process that will require the participation of the general public and stakeholders. These stages, according to Pahl-Wostl, are:<sup>3</sup>

- “Agenda setting: an early stage of issue definition as soon as a problem enters the public agenda. The goal of the participatory process here is to map out the diversity of arguments and opinions on the issue.”
- “Shaping the issue: developing a plan for resolving the issue, when implementing an integrated river basin management plan for example. The goal of the participatory process here is to guarantee that the management plan takes the various perspectives into account.”
- “Implementation: in conflict situations arising from specific issues in relation to the implementation of certain measures. The goal of the participatory process here is to achieve consensus to emerge with a set of measures that can be realized.”

Elements of the participatory framework can easily be exported to issues beyond environmental policy.

#### Notes

1. Pahl-Wostl 2002, p. 5. 2. Pahl-Wostl 2002, p. 5. 3. Pahl-Wostl 2002, p. 5.

nor does it imply that designing or implementing strategies with broad participation, deliberation and dialogue is easy. Still, the challenges should not limit the ambition of participatory processes and community engagement. Some international conventions have paved the road for active participation of groups in matters that affect them directly. The International Labour Organization’s Indigenous and Tribal Peoples Convention—commonly referred to by the number, 169—includes a clear directive on the participation of indigenous peoples in identifying priorities and designing policies through free, prior and informed consent.<sup>67</sup>

A focus on agency thus brings legitimacy to specific strategies and initiatives. A way of summarizing the importance of the instrumental role of agency for human security is to consider it an enabler of protection and empowerment strategies that are legitimate and effective. Achievements related to agency do not necessarily overlap with those related to wellbeing: people can act based on values and commitments that may or may not advance their wellbeing.

For instance, people care about how others are treated and about what they see as fair and may care intrinsically about many aspects of nature, even if that has no bearing on their wellbeing—and may even be detrimental to it. If we measure development progress, or evaluate policies, on the basis of wellbeing achievements alone, we can neglect—or even ignore—agency. That blind spot was revealed in the preceding sections, and the exploration of human security in this section helps illuminate it.

**“Agency is instrumental in enacting protection and empowerment strategies, and in part it means meaningful participation at different levels of decisionmaking**

In addition, as Amartya Sen argued forcefully, agency matters beyond the achievements that emerge from people acting on their value and commitments. Not only is it crucial to illuminate the blind spots left when outcomes linked to agency are neglected, but it is also central to consider the freedoms that people

have to think and deliberate, whether they decide to act or not: “Greater freedom enhances the ability of people to help themselves and also to influence the world, and these matters are central to the process of development.”<sup>68</sup> To achieve these freedoms, protection and empowerment are often essential. There is thus a loop: agency is an enabler of protection and empowerment, and protection and empowerment provide conditions under which agency can be promoted (figure 1.8). Because agency matters intrinsically (not only instrumentally), human security needs to be a focus of permanent concern, something also already recognized in the 2003 Ogata-Sen report.<sup>69</sup>

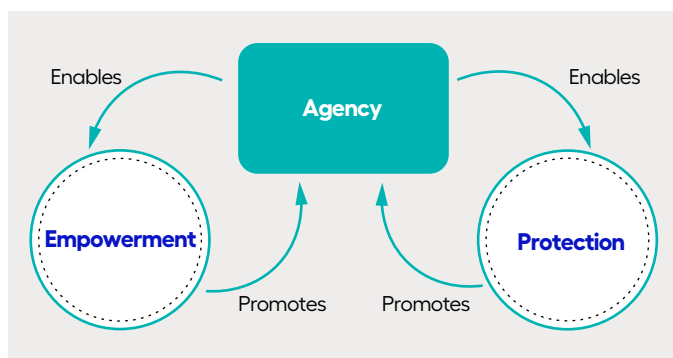
The discussion thus far has reaffirmed the centrality of empowerment and protection and justified the heightened relevance of the human security frame for today’s world. But it did so within already established frames for the human security concept—in particular, the 2003 Ogata-Sen report. In the next section the chapter concludes by exploring how to further enrich the frame of human security for the Anthropocene context and how to address more equitably and effectively the new threats discussed in part II of the Report.

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### Affirming our common humanity on a changing planet demands greater solidarity

The virtuous loop between human agency, on the one hand, and empowerment and protection, on the other, is focused mostly on individuals (or the communities they form). But Oscar Gomez and Des

**Figure 1.8** The virtuous cycle of agency, empowerment and protection



Source: Human Development Report Office.

Gasper have emphasized the need to recognize that human security depends on what happens across communities that are connected: “One group can typically only be secure if the groups with whom it is significantly connected are secure too.”<sup>70</sup> More fundamentally, the human security concept is founded in part on highlighting “human interconnectedness, including the interconnections of nations.”<sup>71</sup> The universality of human security was already acknowledged in the 1994 Human Development Report, even if its instrumentalization has been rather slow.<sup>72</sup>

Many aspects of these interconnections are not new. In the context of the Covid-19 pandemic, we have all heard that if the virus is spreading somewhere, people everywhere are vulnerable. But the movement of people has spread new and old communicable diseases across continents for millennia. Still, in today’s world this interconnection is global and expanding to more aspects of life, as a large literature on globalization has documented. How to ensure human security in this interconnected world? Who participates in, designs and implements the protection and empowerment strategies? Clearly, each sovereign state has a central responsibility, with some arguing that “human security is best guaranteed in the sovereign state which is governed under the rule of law with full respect for the human rights and fundamental freedoms of those who reside in its territory.”<sup>73</sup>

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### *States, each on its own, cannot guarantee human security*

But can each sovereign state, on its own, fulfil this responsibility? The answer in our interconnected world is clearly no, and it is possible to learn about how to enhance human security in an interconnected world from several efforts exploring how to “manage globalization” in a world governed by sovereign states. For example, the recognition of the need to provide global public goods can enhance, rather than constrain, sovereignty.<sup>74</sup> Or how global governance is already characterized by an intricate network of multiple actors.<sup>75</sup> Ngozi Okonjo-Iweala, Tharman Shanmugaratnam and Larry Summers set out a series of specific proposals on how to transform multilateralism for what they call a pandemic era—placing the Covid-19 pandemic in a broader context of shortcomings in the provision of global public goods.<sup>76</sup>



Recognizing that each state alone cannot fully guarantee human security does not absolve states of the responsibility to pursue it. Many—if not most—of the practical actions that advance human security are within the purview of national and subnational governments, including local governments. And civil society has a key role at the local level, including in violent conflict settings. As Mary Kaldor argued while defending a broad definition of civil society, “I refer to civilians or active citizens who are not involved in fighting and who are concerned about the public interest, especially women, and who offer a political alternative to sectarian identities.”<sup>77</sup>

“As a new generation of threats to human security looms large under the Anthropocene context, the response needs to recognize that much depends on the relationship between state and society—and on the mutual trust between the two

Accepting that several actors and entities are at play in enhancing human security, as a new generation of threats to human security looms large under the Anthropocene context, the response needs to recognize that much depends on the relationship between state and society—and on the mutual trust between the two. A good deal has been made about the erosion of trust in government institutions, difficult though it is to define with clarity the actual subject of trust. Is it competence? Honesty? Military institutions are often among the most trusted but also the most feared in some countries. Is this high degree of trust in institutions a good thing?<sup>78</sup> To complicate things further, evidence suggests that government institutions lack trust in people’s ability to interpret information and act responsibly and therefore to overprescribe with much precision the behaviours to follow, further hurting trust in government institutions.<sup>79</sup>

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#### *Enhanced social contracts are not enough*

One compelling way of strengthening this relationship is renewing the social contract between the state and people, as argued forcefully by UN Secretary-General António Guterres in the 2020 Nelson Mandela Annual Lecture: “A New Social Contract within societies will enable young people to live in dignity; will ensure women have the same prospects

and opportunities as men; and will protect the sick, the vulnerable, and minorities of all kinds....People want social and economic systems that work for everyone. They want their human rights and fundamental freedoms to be respected. They want a say in decisions that affect their lives.”<sup>80</sup>

In that same lecture Guterres recognized that enhanced social contracts are not enough and argued for a “new global deal,” reflecting that sovereign states need to come together in some way to address challenges related to our global interconnectedness. In *Our Common Agenda*, the Secretary-General fleshed out this broad notion in a series of more concrete recommendations, some resonating with the reflections noted above about how to manage globalization in a world governed by nation-states.<sup>81</sup> It is urgent to pursue this agenda, and, as argued next, the human security frame can support this effort, especially if enriched to account for the Anthropocene context.

Before elaborating on the implications of the Anthropocene context, it is useful to reflect further on why better social contracts alone are not enough. One reason is practical, as already noted. In an interconnected world of sovereign states, international organizations, treaties and incentives must be mobilized to bring states together to address shared challenges. But Amartya Sen, in *The Idea of Justice*, articulated a more fundamental set of reasons: “Assessment of justice demands engagement with the eyes of mankind. First, because we may variously identify with the others elsewhere and not just with our local community; second, because our choices and actions may affect the lives of others far as well as near; and third, because of what they see from their respective perspectives of history and geography may help us to overcome our own parochialism.”<sup>82</sup>

Sen’s argument is in the context of the requirements for determining the conditions under which ethical claims can be seen as impartial and fair, but his caution about the limitations of a contractual approach can apply with force to a reflection on human security in today’s world. This is because, as argued in this chapter, the world is not only interconnected but also characterized by deep interdependencies across people as well as between people and the planet. The Anthropocene context gives greater urgency to recognizing these interdependencies using the

“eyes of humankind” as we consider how to enhance human security.

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### *Enter solidarity*

When it comes to strategies to promote human security, protection and empowerment may not have sufficient force to enable us to enhance human security through the “eyes of humankind.” It is not easy or obvious what should be added or how. But here we propose two elements as a contribution to enriching the human security frame. First, to retain the centrality of agency, given that the arguments in the preceding section remain even more relevant in light of this discussion. Second, we propose to complement protection and empowerment strategies with solidarity, understood as a commitment to work together to navigate the challenges of the Anthropocene. Solidarity sometimes connotes charity, an option that people may or may not feel inclined to pursue, or implies the need for collectivized actions that subsume the interests of the individual to a collective pursuit—neither is implied here. To be clear, solidarity in our proposal takes the meaning suggested by Caesar Atuire and Nicole Hassoun: “broadly, a sympathetic and imaginative enactment of collaborative measures to enhance our given or acquired relatedness so that together we fare well enough.”<sup>83</sup> Central to this understanding is that solidarity in this context binds us in our shared humanity, above and beyond the many reasons for having solidarity within groups.<sup>84</sup>

**“We propose to complement protection and empowerment strategies with solidarity, understood as a commitment to work together to navigate the challenges of the Anthropocene**

The relevance of solidarity echoes the UN Secretary-General’s appeal in *Our Common Agenda*<sup>85</sup> and links to the concept of common security articulated by Oscar Gomez and Des Gasper.<sup>86</sup> A commitment to solidarity may appear as something inadequate in the face of the unprecedented reality of the Anthropocene and the new generation of threats to human security explored in this Report. A more concrete recommendation for something more binding and definitive certainly has great appeal. But recall the quote by Kaushik Basu at the outset of this chapter,

which reminds us how much we depend on beliefs, including when we think about laws and the institutions with the power to enforce them. In addition, appeals to protect others from threats appear to be a more evocative and powerful motivator for eliciting “cosmopolitan behaviour”—meaning, caring more about the world as a whole than one’s national in-group—than appeals to transfer from the well-off to those less privileged.<sup>87</sup> In other words appeals granting security to others are more powerful than appeals to redistribute benefits.

Moreover, the unprecedented nature of the Anthropocene—and the commitments to transform our economies and societies—implies uncertainty that might even make it impossible to specify with precision the policies and institutions needed. Some may have to be created from scratch. Adding solidarity to empowerment and protection may not give concrete answers about what these might be, but doing so may still provide for a systematic commitment to consider the reality of dangerous planetary changes. What is important to safeguard is the process that enables public deliberation and reasoning from where institutions and policies emerge to respond to evolving threats to human security, recognizing that people, in the words of Albert O. Hirschman, are “self-evaluating beings.”<sup>88</sup>

At the same time, as with the 1994 Human Development Report, this proposal is made in a very specific context. Today we confront a context with, as documented earlier in the chapter, a strong association between perceptions of lack of human security and low interpersonal trust. It is difficult to establish causality in this relationship, though it probably runs both ways. On the one hand, evidence suggests that when insecurity increases, trust goes down. On the other, low interpersonal trust spills over to low trust in many government institutions and governments themselves, creating conditions under which people may feel less secure. As discussed earlier in the chapter, trust is complex and multifaceted, with great diversity in interpersonal trust across and within countries. But it is not difficult to accept that, for the most part, with the prevailing levels of interpersonal trust and other types of trust today, it might be difficult to make systematic commitments to solidarity.

This section concludes by bringing together the threads that led to the proposal to enrich the frame

of human security (figure 1.9). Agency remains central for human security but is something that enables not only empowerment and protection but also solidarity. Solidarity, in turn, promotes agency in a way that is mindful of the deep interdependencies across people, and between people and development, in the Anthropocene. In the current context trust demands concern and attention. It is not added structurally to the framing, because other relevant issues may emerge over time that determine how the framework functions—and because, from a more hopeful perspective, it may improve to levels that no longer make it a concern. What remain central, however, are agency and the pursuit of protection, empowerment and solidarity to advance human security in the Anthropocene context.

boosted by enhanced agency. But practical questions remain about action and implementation: Who acts? For whom? Why? How? And with which objective?

“On the one hand, evidence suggests that when insecurity increases, trust goes down. On the other, low interpersonal trust spills over to low trust in many government institutions and governments themselves, creating conditions under which people may feel less secure

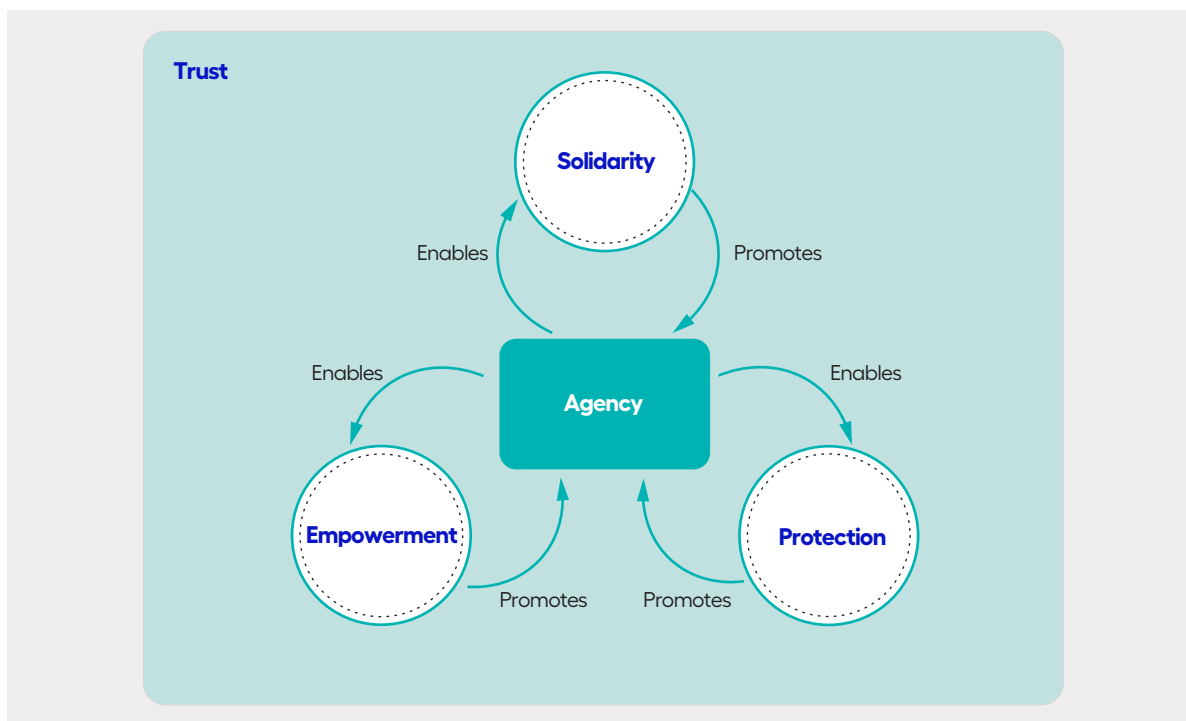
A revised framework for action in the next generation of human security is built on the shoulders of the 1994 Human Development Report,<sup>89</sup> the 2003 Ogata-Sen report<sup>90</sup> and the UN Secretary-General’s 2013 report on human security.<sup>91</sup> The innovations reflect not only the analysis previously presented in this chapter but also the cumulative learning over the last decade, including insights from the *Human Security Handbook*,<sup>92</sup> relevant academic work and discussions at the June 2021 Symposium on Human Security convened to inform the preparation of this Report.

The human security concept—based on freedom from want, freedom from fear and freedom from

### Towards the next generation of human security: From strategies to actions

The analysis of the previous sections specifies the three main strategies for human security in the Anthropocene: protection, empowerment and solidarity,

**Figure 1.9 Advancing human security in the Anthropocene context: Adding solidarity to protection and empowerment**



Source: Human Development Report Office.



indignity—and main principles for action—people-centred, comprehensive, context-specific and prevention-oriented—continue to be as relevant as ever (table 1.1).

But the analysis in this Report suggests possible updates in emphasis and some new elements.

- *On the agents: Move beyond traditional agents for change.* While governments and multilateral organizations retain their fundamental roles, the next generation of human security builds on the role of a wider set of agents acting in new ways. For instance, the Covid-19 pandemic has shown how everyone can be an active agent of human security by following rules of social behaviour. Similarly, indigenous groups should be acknowledged as agents of human security through their local actions in the sustainable management of forests.
- *On the targets: Move beyond human security for developing countries.* The Anthropocene is global, with differentiated (and often interconnected) local effects. Several of the compounded effects of climate change, biodiversity loss, technology-led threats, conflicts, forced displacement, inequalities and pandemics require action of global scope from

multilateral organizations, national governments and local actors. This new view should strengthen action for human security in developing countries—but as part of a broader framework that stresses both the universal and intrinsic importance of human security and its instrumental role. The Covid-19 pandemic shows how the local containment of new variants can have positive global effects.

“Move beyond traditional agents for change: While governments and multilateral organizations retain their fundamental roles, the next generation of human security builds on the role of a wider set of agents acting in new ways

- *On the threats: Move beyond siloed security approaches.* Human security in the face of the interlinked threats of the Anthropocene context cannot be attained in silos. The human security framework for action can be an integrator. Again, the health shock of the Covid-19 pandemic affected all dimensions of human development. Future preventive approaches should be integrated across

**Table 1.1 Evolution of the action framework for human security in the Anthropocene context**

Component	Existing	Next generation
Principles	<ul style="list-style-type: none"> <li>→ People-centred</li> <li>→ Comprehensive</li> <li>→ Context-specific</li> <li>→ Prevention-oriented</li> </ul>	<ul style="list-style-type: none"> <li>→ People-centred</li> <li>→ Comprehensive</li> <li>→ Context-specific</li> <li>→ Prevention-oriented</li> </ul>
Agents	<ul style="list-style-type: none"> <li>→ Governments and UN entities</li> <li>→ Nongovernmental actors</li> </ul>	<ul style="list-style-type: none"> <li>→ Governments and UN entities</li> <li>→ Nongovernmental actors</li> <li>→ Enhanced role for the agency of people everywhere. Integrated networks of agents: networked multilateralism, greater emphasis on collective action and greater space for social norms at the local and global levels.</li> </ul>
Targets	<ul style="list-style-type: none"> <li>→ Universality</li> <li>→ People, mainly in developing countries</li> </ul>	<ul style="list-style-type: none"> <li>→ Universality</li> <li>→ People everywhere through common security, for one's security depends on the security of others.</li> <li>→ Reduce planetary pressures.</li> <li>→ Enhance resilience of ecosystems</li> </ul>
Threats	<ul style="list-style-type: none"> <li>→ Widespread in communities, cross-cutting across sectors, mainly physical (excluding Responsibility to Protect situations)</li> </ul>	<ul style="list-style-type: none"> <li>→ Widespread in communities, cross-cutting across sectors, both physical and mental (excluding Responsibility to Protect situations)</li> <li>→ Anthropocene context of compounded threats</li> <li>→ Anthropocene risks</li> <li>→ Advanced technologies</li> <li>→ Inequalities as an assault to dignity</li> <li>→ Violent conflict</li> <li>→ New health challenges</li> </ul>
Key strategies	<ul style="list-style-type: none"> <li>→ Protection–empowerment</li> </ul>	<ul style="list-style-type: none"> <li>→ Protection–empowerment–solidarity</li> <li>→ Foster agency to strengthen the links among protection, empowerment and solidarity</li> </ul>

**Source:** Human Development Report Office, adapted from Hoshino (2021).

sectors, with a global view. For instance, the inequality in the distribution of vaccines in 2021 can have enormous costs for human security in coming years if it contributes to the emergence of new variants.

“Move beyond siloed security approaches: Human security in the face of the interlinked threats of the Anthropocene context cannot be attained in silos. The human security framework for action can be an integrator

- *On the key strategies: Add solidarity for human security in an interconnected world.* Agency simultaneously boosts the strategies of protection, empowerment and solidarity. These strategies can be expanded and scaled up under a human security policy framework if they are backed by a broader set of implementation tools. At the global level the

key strategies should lead to the adequate and equitable provision of global public goods.

Human security is an intrinsic complement to human development in the Anthropocene context. Permanent and universal attention to the next generation of human security can end the development-with-human insecurity pathways that produce pandemics, climate change and the broader predicaments of the Anthropocene. The 2030 Agenda for Sustainable Development and the Sustainable Development Goals set ambitious multidimensional objectives that not only inform action at these levels but also mobilize the international community. But current efforts are still largely compartmentalized, dealing separately with climate change, biodiversity loss, conflicts, migration, refugees, pandemics and data protection. Those efforts should be strengthened, but tackling them in silos is insufficient in the Anthropocene. The next generation of human security should

#### Box 1.4 Human security and the Sustainable Development Goals

The 2030 Agenda for Sustainable Development and Sustainable Development Goals (SDGs) were agreed in September 2015<sup>1</sup> because of the recognition that the world would not be sustainable unless “we the peoples” take transformative steps in mindset, norms and lifestyle. The 2030 target seemed symbolic, but it turned out to be prescient. If we, everyone on the planet, fail to change course, we may miss the last opportunity to make our world sustainable. The 2030 Agenda resolution stressed this point succinctly:

Today we are also taking a decision of great historic significance. We resolve to build a better future for all people, including the millions who have been denied the chance to lead decent, dignified and rewarding lives and to achieve their full human potential. We can be the first generation to succeed in ending poverty; just as we may be the last to have a chance of saving the planet. The world will be a better place in 2030 if we succeed in our objectives.

The resolution stresses that “the dignity of the human person is fundamental,” that “we wish to see the Goals and targets met for all nations and peoples and for all segments of society” and that “we will endeavour to reach the furthest behind first.” It also includes elements of resilience and prevention as

part of the SDGs, though none of the 17 goals refers explicitly to crisis management or shock responses.

Asystemic approach and a consultative nature are two common guiding features from the SDGs and of policies inspired by the human security concept. The SDGs explicitly recognize the interlinkages of current threats and challenges. Moreover, the 2030 Agenda was the result of a consultative process—and the ideas of collaboration and partnership are embedded in SDG 17. The SDGs also recognize multilayered responsibilities and actions to tackle current threats.

Successful implementation of both the 2030 Agenda and the pursuit of human security would benefit from the constant learning between the two connected and similar, if distinctive, approaches. Specifically, SDG reporting, analysis and policy design can use some ideas explored in human security analysis: asking people about their perceptions of priority values, threats and security; identifying hotspots and using indexes; alternating comprehensive comparative studies with in-depth studies focusing on priorities (an approach called flexible focusing); and systematically comparing alternative policy routes.<sup>2</sup>

**Source:** Human Development Report Office.

#### Notes

1. UN 2015a, para. 4. 2. Gasper 2011.

match the interlinked nature of the Sustainable Development Goals with comprehensive action that has a system view (box 1.4).

“Human security is an intrinsic complement to human development in the Anthropocene context. Permanent and universal attention to the next generation of human security can end the development-with-human insecurity pathways that produce pandemics, climate change and the broader predicaments of the Anthropocene

The role of human security as an integrator is not simple—because social and natural systems are complex, with high nonlinear interrelations among their elements. Sensible implementation warrants

constant identification of the dynamics within the system, by decisionmakers, stakeholders and citizens. And the action framework needs to be embedded within the different layers—local, national and global—that affect people’s human security. It is a high challenge but one that, as the Covid-19 pandemic has shown us, cannot be avoided.

The human-development-with-human-insecurity pathway, paired with the new generation of threats to humanity, are powerful drivers to reassess and rethink how we take action to ensure that all of humanity lives free from want, free from fear and free from indignity. The rest of this Report uses integrated analysis of compounding threats to show how we may respond to the epochal changes in the way humans live—together and in relation to our natural environment.

## Annex 1.1. A brief account of the origins, achievements and challenges of the human security concept

Based on **Fuentes-Nieva and Lengfelder (2021)**.

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### The origins and the 1994 Human Development Report

The 1994 Human Development Report introduced the modern concept of human security with a simple central idea: moving away from national protection towards individual security.<sup>93</sup> It was initially based on the goals of freedom from want and freedom from fear that were part of the foundational narrative behind the creation of the international institutions of the post-World War 2 era, including the Universal Declaration of Human Rights, whose preamble envisioned “a world in which human beings shall enjoy the freedom of speech and belief and freedom from fear and want has been proclaimed the highest aspiration of the common people.”<sup>94</sup>

By 1994 the end of the Cold War had created enormous opportunities to rethink elements of the world order. It was time, the 1994 Human Development Report argued, to move away from the discussion of nuclear threats and potential conflict between states and to start paying attention to the day-to-day plight of people around the world. In the report’s own words: “For most people, a feeling of insecurity arises more from worries about daily life than from the dread of a cataclysmic world event. Will they and their families have enough to eat? Will they lose their jobs? Will their streets and neighbourhoods be safe from crime? Will they be tortured by a repressive state? Will they become a victim of violence because of their gender? Will their religion or ethnic origin target them for persecution?”<sup>95</sup>

The effort to put the individual at the centre of security discussions and policies was a radical one at the time. As later observers noted, “The overall goal was to expand the concept of security, which had ‘for too long been interpreted narrowly, as security of territory from external aggression, or as protection of national interests in foreign policy or as global security from the threat of nuclear holocaust.’ Human security was thus meant to change the referent object of security ‘from an exclusive stress on

territorial security to a much greater stress on people’s security.”<sup>96</sup>

The human security concept was conceived as a central part of an ambitious policy agenda under the proposal of a new world social charter. This overarching proposal included specific recommendations such as increased resources for closing gaps in human development to meet a set of global targets (a precursor to the Millennium Development Goals), a global human security fund to finance responses to crises with a global logic and the establishment of the UN Economic Security Council “to review the threats to global human security and agree on the necessary actions.”<sup>97</sup>

A fundamental point in the 1994 Human Development Report was capturing the peace dividend (the savings from military spending) to support human development. During the Cold War a large share of fiscal resources were devoted to maintaining the military balance, with an ensuing arms race. But total military spending fell by 15 percent in industrialized countries between 1987 (when it peaked) and 1991. This change in spending priorities created an opportunity to relocate these resources elsewhere (and to reduce deficits). Most military spending focused on national security, and merely suggesting to use some of these resources to finance individual wellbeing was important. The proposal included setting aside this money in a demilitarization fund and then identifying the development needs on where to use them.<sup>98</sup>

The 1994 Human Development Report highlighted four key characteristics of human security: universalism, interdependence, prevention and people-centredness. Seven dimensions were identified as part of a people-centred concept of security:

- Economic security (an assured basic livelihood derived from work or reliable social safety nets).
- Food security (ready physical and economic access to basic food).
- Health security (access to personal healthcare and protective public health regimens).
- Environmental security (safety from natural disasters and resource scarcity attendant upon environmental degradation).
- Personal security (physical safety from violent conflict, human rights abuses, domestic violence, crime, child abuse and self-inflicted violence, as in drug abuse).

- Community security (safety from oppressive community practices and from ethnic conflict).
- Political security (freedom from state oppression and abuses of human rights).

This characterization—admittedly overlapping and incomplete—was effective to communicate the idea of human security on several fronts, by matching common policy portfolios (linked to ministries or department titles) and facilitating the generation of sectoral agendas.<sup>99</sup>

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### Evolution of the concept: The 2003 Ogata-Sen report and the UN General Assembly definition

The opportunity to revise the human security concept came in the context of the 2000 UN Millennium Summit, as UN Secretary-General Kofi Annan called for a world free of want and free of fear. In response, the Commission on Human Security was established in January 2001, co-chaired by Sadako Ogata and Amartya Sen. Its final report, *Human Security Now*, was presented in May 2003.<sup>100</sup>

*Human Security Now* offered a new definition of human security centred around ensuring the integrity of a “vital core” in human lives, often interpreted as set of basic capabilities: “to protect the vital core of all human lives in ways that enhance human freedoms and human fulfilment. Human security means protecting fundamental freedoms—freedoms that are the essence of life. It means protecting people from critical (severe) and pervasive (widespread) threats and situations. It means using processes that build on people’s strengths and aspirations. It means creating political, social, environmental, economic, military and cultural systems that together give people the building blocks of survival, livelihood and dignity.”<sup>101</sup>

This definition was not static; it was meant to be adapted to different contexts and to evolve over time: “The vital core of life is a set of elementary rights and freedoms people enjoy. What people consider to be ‘vital’—what they consider to be ‘of the essence of life’ and ‘crucially important’—varies across individuals and societies. That is why any concept of ‘human security’ must be dynamic. And that is why we refrain from proposing an itemized list of what makes up human security.”<sup>102</sup>

The report also pushed for two reinforcing spaces of action. First, empowerment strategies, enabling people to act on their behalf—and on behalf of others—to develop resilience to difficult conditions. People are agents of their destiny if given the tools. Agency, dignity and opportunities are particularly crucial for people facing vulnerability. Second, protection strategies, setting up institutions to shield people from menaces beyond their control. The report emphasized the complementarity of both strategies: “People protected can exercise many choices. And people empowered can avoid some risks and demand improvements in the system of protection.”<sup>103</sup> In so doing, the report sought to bridge the gap between those working in the humanitarian space and those working in the development space. Conventional approaches had followed separate tracks, with humanitarian crisis responses getting immediate, short-term, reactive support that was politically driven and the development interventions seen as the outcome benefits that accrued to, and was afforded by, stable countries already on the path towards peace and economic prosperity. What was highlighted was the intrinsic humanitarian–development–peace nexus: that peace was necessary for spurring development and that development was critical for establishing lasting peace, which the human security approach effectively pointed out.

Building on the Ogata-Sen report, in 2012 the UN General Assembly reflected a consensus that human security would be considered “the right of people to live in freedom and dignity, free from poverty and despair. All individuals, in particular those facing vulnerability, are entitled to freedom from fear and freedom from want, with an equal opportunity to enjoy all their rights and fully develop their human potential.”<sup>104</sup>

As researchers have argued, since the (re)inception of the idea of human security in the 1994 Human Development Report, three elements are constant in the discussion: freedom from want, freedom from fear, and human dignity.<sup>105</sup>

- Freedom from want: conditions that allow for protection of basic needs, quality of life, livelihoods and enhanced human welfare.
- Freedom from fear: conditions that allow individuals and groups protection from direct threats to their safety and physical integrity, including

various forms of direct and indirect violence, intended or not.

- Freedom from indignity (human dignity): conditions where individuals and groups are assured of the protection of their fundamental rights and allowed to make choices and take advantage of opportunities in their everyday lives.

These three elements, acknowledged by the UN General Assembly's definition, are the basis for current work on human security by international organizations.<sup>106</sup>

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### Human security in practice

The human security approach has shown practical value. First, it appeals to numerous national governments and international organizations. In the past 25 years many of these stakeholders and decisionmakers have invested financial, human and political resources to push forward a human security agenda. There have been some achievements as a result of these efforts and debates in both practical and analytical terms. Recent years have seen the human security approach take on a more practical role for programme design or policy recommendations.<sup>107</sup> A recent survey by the UN Human Security Unit found, particularly among stakeholders of the UN system and nongovernmental organizations, an appreciation for the human security approach, specifically in the following areas:<sup>108</sup>

- As an analytical and planning tool that helps improve the conception, design and execution of policies and programmes.
- As a tool that helps identify interlinkages across insecurities and promotes multisectoral solutions to address interconnected issues.
- As a tool that fosters multistakeholder partnerships and improves the coherence of responses across sectors.
- As an approach that emphasizes and guides practical strategies to reach those most vulnerable, enhances local capacity and community-driven solutions to stem the cycle of crisis and promotes a preventive lens essential to reducing vulnerability and building resilience.
- As a tool that ensures greater sustainability and resilience by combining protection and empowerment and enhancing state–society relationships.

The human security approach has been interpreted as a bottom-up approach, mainly because it puts people at the centre of security concerns, where the process of debate and deliberation in communities and people facing vulnerability is just as important as the end result of a process. The importance of a bottom-up approach in practice is close to Amartya Sen's idea of agency (or the ability to act on behalf of what is important). This flexibility has been useful as a supporting tool for the Sustainable Development Goals.<sup>109</sup>

A review of the academic literature on human security shows that the first and most obvious success of the human security approach was the fundamental challenge it represented to traditional security studies. It adapted methodologies to understand and manage the day-to-day threats that people face in different contexts. "Human security analyses of what are or should be priorities bring a focus on questions of what it is to be human."<sup>110</sup> By focusing on people and not states, the approach allowed a broader understanding of the requirements to protect and prevent against different and changing threats and risks. However, there is no explicit connection with systems thinking that provides a common ground for understanding the interdependencies and complexity of current realities.<sup>111</sup>

These broad characteristics have particularly benefitted critical studies on security.<sup>112</sup> Critical feminist literature was an early adopter of the human security approach and extended the work of the women, peace and security agenda initiated by UN Security Council Resolution 1325 in October 2000.<sup>113</sup> The human security approach allowed critical feminist authors to highlight different forms of insecurities, expanding the search for empowerment and dignity.

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### Challenges and concerns over the years

The same ambition and broad perspective that some people interpret as strengths of the human security approach are interpreted by others as two of the main weaknesses. As some observers described it, the concept is so broad and elusive that "everyone is for it, but few people have a clear idea of what it means."<sup>114</sup> Others have argued that by having so many elements under the approach's umbrella, "we end up prioritizing everything."<sup>115</sup> And that the consequence is "if everything is being prioritized, then by definition,



nothing is.”<sup>116</sup> These types of criticisms came very early on during the debate on human security.

A more general contention relates to the idea that the human security approach has securitized development and human rights, a point that has led to political disagreement about the scope of the concept. This has been reflected over the years in the different interpretations by national governments and their respective foreign affairs ministries.

Criticism of the human security approach can be grouped into five categories.<sup>117</sup>

- Conceptual: The approach could be interpreted as too wide ranging but without the accompanying rigour to provide policy insight or to unpack complex dynamics among peace, development and human rights.<sup>118</sup>
- Analytical: The lack of methodology and recognition of the systemic nature of the approach are only partially responsible for the “siloed” analysis of the approach’s different elements. Measurement also remains unresolved, as it would be difficult enough to identify the variables and indicators that could describe the elements of human security in a meaningful way for the different contexts existing in a given moment around the world.
- Political: The approach undermines the traditional view of the state as the sole provider of security.

- Moral: Security can be used to promote hegemonic interests of some states. Opposed to this concern is the idea that the approach could fail to distinguish between individual and universal security concerns, which could undermine attention to issues of common public good, collective interests and solidarity.

- Operational: The broad nature of the approach makes operationalization difficult because the vast number of elements make prioritization difficult—a challenge that afflicts the humanitarian–development–peace nexus. Moreover, the many bidirectional interplays among dimensions of peace, development and human rights create difficulties in identifying specific initial actions.

As the world faces another historic juncture, with a truly global catastrophe (the Covid-19 pandemic) and the looming climate crisis, we are well poised to revisit the concept of human security and the human security approach. It is in light of these truly collective threats and downturn risks that afflict us as a common humanity, albeit with different resources and capability to cope and adapt to the challenges ahead. An enriched human security approach is one of the fundamental ways in which we can reconceptualize the solidarity needed to tackle these collective challenges as a truly global, international community.

## Annex 1.2. The Index of Perceived Human Insecurity

The experimental Index of Perceived Human Security is based on waves 6 (2010–2016) and 7 (2017–2020) of the World Values Survey.<sup>119</sup> It therefore reflects the pre-Covid-19 period for the most part. The index is computed for 74 countries and territories, covering around 81 percent of the world’s people. Intertemporal comparisons are possible for only 31 countries and territories (with 27 percent of the world’s people). The index combines 17 variables covering insecurities from violent conflict, socioeconomic insecurities and insecurities at the personal and community levels (table A1.2.1). These insecurities reflect challenges to freedom from want, freedom from fear and freedom from indignity.

- For violent conflict insecurities the index uses variables reflecting worries about a war involving the country of residence, a civil war or a terrorist attack.
- For socioeconomic insecurities the index uses variables representing explicit worries (losing job, not being able to give children education) and

actual deprivations in health, food and economic security.

- For personal and community insecurities the index uses variables of exposure to crime, changes in habits because of security concerns, perceptions of safety in the neighbourhood and assessments of specific risks, including robbery, alcohol and drugs on the streets, abuse by law enforcement and racism.

The socioeconomic insecurity variables predominantly capture challenges to freedom from want. The deprivations (hunger, having no money, not being able to afford medicines) and worries about the future (about children’s education or having a job) also indicate a threat to human dignity, in line with the common aspirations defined the Universal Declaration of Human Rights and the 2030 Agenda for Sustainable Development.

The variables on violent conflict and personal and community insecurities capture challenges to freedom from fear. They also capture challenges to human dignity and the “right to life, liberty and security of person,” as acknowledged in the Universal Declaration of Human Rights. The variables relating

**Table A1.2.1 Dimensions and subdimensions of the Index of Perceived Human Insecurity**

Weights		Freedom from:		
Dimensions	Subdimensions	Want	Fear	Indignity
(1/3)	Fear of violent conflict			
	(1/3) War			
	(1/3) Civil war			
	(1/3) Terrorist attack			
(1/3)	Socioeconomic insecurity			
	(1/5) No cash income (experience over last 12 months)			
	(1/5) No access to needed medicines or treatment (experience over last 12 months)			
	(1/5) Not enough food to eat (experience over last 12 months)			
	(1/5) Worried about giving children a good education			
	(1/5) Worried about losing/finding job			
(1/3)	Personal and community insecurity			
	(1/4) Incidents of insecurity in neighbourhood (robbery, enforcement abuse, racist behaviour, alcohol on the streets, drug sale) <sup>a</sup>			
	(1/4) Felt unsafe from crime (experience over last 12 months)			
	(1/4) Changed behaviour because of insecurity (carrying money, mobility at night) <sup>a</sup>			
	(1/4) Overall insecurity in neighbourhood			

a. Each indicator within the subdimension is equally weighted.

Source: Human Development Report Office.



to incidents of racism and abuse from enforcement authorities reflect some of the effects of horizontal inequalities on dignity.

The aggregation follows a standardized approach: each indicator is transformed into a binary variable,

with 1 indicating insecurity and 0 indicating freedom from insecurity. Then, the indicators are aggregated using a weighted arithmetic average through different subdimensions and dimensions of insecurity, using equal weights (see table A1.2.1).

## Exploring how the human security approach can illuminate the overlaps between the response to Covid-19 pandemic and climate change

Based on [Hoshino \(2021\)](#)

Contrary to the general perception, many concrete policies, both global and local, already can contribute to enhancing the human security interests of those affected by the new generation of threats in the Anthropocene context. Probably the best examples, with challenges and achievements, are the local and global responses to the Covid-19 pandemic and climate change. The two challenges are enormous, and the efforts are still fragmented. Yet the concept of human security, if used strategically, has the power to enhance policy outcomes by integrating and aligning those fragmented policy efforts to protect the vital core of all humans in ways that enhance human freedoms and human fulfilment.<sup>1</sup>

New challenges to human security emanate from both the Covid-19 pandemic and the climate crisis, reflected in the Anthropocene context. Specific issues from different areas show that, while each has its distinctive solutions, they are often interrelated. Moreover, by putting people at the centre, there is an opportunity to explore cross-sectoral collaboration (table S1.1). Global implementation and local implementation have the potential to be connected—and linked to the Sustainable Development Goals. Global implementation of human security approaches includes providing global public goods, using global governance norms and mechanisms and promoting people's own efforts to change their mindsets and pursue more transformative lifestyles. Local implementation includes the two main human security strategies of protection and empowerment, based on the existing frame of human security.

Responses to the Covid-19 pandemic include pursuing universal health systems, reviewing

international health regulations, introducing a new international pandemic facility and creating new mechanisms for vaccine development and distribution, notably the Access to Covid-19 Tools Accelerator and COVAX. The global health governance architecture, though still in the formative stage, started sharing vaccines. The World Health Organization took the lead, despite many challenges, and other UN entities contributed their expertise. Public-private partnerships, private foundations, businesses and civil society organizations have all worked in tandem. And strategic partners have committed to international cooperation, even when each state had its own domestic challenges.

This type of response could inspire action to tackle the climate crisis and other processes of dangerous planetary change, with global, macro-level tools and local, micro-level tools. The human security frame can assist in designing, mapping and implementing policy tools for climate action. Consider how many people are highly vulnerable to both Covid-19 and climate change-induced extreme weather events. This overlap suggests the possibility of supporting those facing multiple crises through a human security lens.





















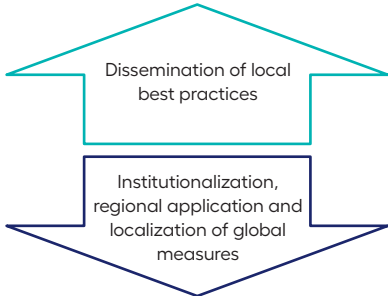
























The human security approach is comprehensive. Even if a policy is meant to be human-centred, it is not part of a full human security approach unless it is packaged and implemented to fulfil people's multifaceted needs to ensure their freedom from want, fear and indignity. As the responses to the Covid-19 pandemic have shown, a health focus cannot satisfy people's human security unless it is combined with socioeconomic measures and measures that uphold human rights.




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### NOTE

1 Ogata and Sen 2003.

**Table S1.1 Promoting empowerment, protection and solidarity in a world of interconnected threats: Example**

		Health threats: Pandemics, including reference to COVID-19 (Sustainable Development Goal 3)		Links	Anthropocene context: climate change (all Sustainable Development Goals directly or indirectly affected)	
Global implementation	Global institutional mechanisms and public goods	A new International Pandemic Financing Facility	  ↔	Incorporating health issues in monitoring climate impacts and formulating action	New compact for climate action	   ↔
		Network of national pandemic coordinators who are accountable to heads of state and government	   ↔	Including climate-related health threats in pandemic preparedness efforts	Integrated systems to monitor hazards and response	 ↔
		Clinical reagents, tests, vaccines and medicines, COVID-19 Tools Accelerator, prenegotiated platform for tools and supplies	  		Risk-sharing mechanisms to both address adaptation needs and promote mitigation	   ↔
					New standards to consistently measure the effects of climate change across human development dimensions and across local areas	  
	Global social norms	Open data and scientific collaboration	  ↔	Cross-disciplinary collaborations on climate-health nexus		
Local-global links						
National and local implementation	Promoting agency	Universal healthcare systems	  	Equipping healthcare systems to better address health risks due to climate change	Community participation in monitoring hazards disaster response, mitigation and adaptation	  
		Participation and accountability in health and response measures	   ↔		Inclusion of indigenous peoples and knowledge	 
	Social norms	Social distancing and masking	 	Social norms based on the idea of common security and responsible behavior	Nature-based solutions	   ↔
					People's values can contribute to mitigation efforts through direct action and demands for change from companies and governments	  ↔
	Upholding human rights	Right to health	   ↔		Right to life, right to self-determination, right to development, right to health, right to food, right to water and sanitation, right to adequate housing, cultural rights	   ↔

 Protection       Solidarity  
 Empowerment      ↔ Opportunity for integration (health-climate change)



CHAPTER

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2

**The Anthropocene  
context is reshaping  
human security**

## The Anthropocene context is reshaping human security

We live in a moment of dangerous and unprecedented planetary changes. In 2020 the human-made mass overtook the total living biomass on Earth, and at current rates of growth, it is expected to double over the next two decades.<sup>1</sup> Current atmospheric concentrations of carbon dioxide are higher than at any time in at least 2 million years, and increased pollution in our air, water and land causes some 9 million premature deaths a year.<sup>2</sup> This new context can be characterized as the Anthropocene—the age of humans.<sup>3</sup>

With societies closely interconnected, through the flow of people, goods and information, the human security of one group is closely linked to that of others (a notion that has been characterized as “common security”).<sup>4</sup> The inequalities and interdependencies between people and societies have made the relevance of common security plain to see, but the analysis in this chapter suggests that the Anthropocene reality adds another more forceful reason to reaffirm the importance of solidarity for human security, together with protection and empowerment.

The Anthropocene context demands far-reaching changes in how we manage human embeddedness in

nature (box 2.1), moving away from actions that drive planetary imbalances in the pursuit of narrow notions of development and security. The uncharted territory of the Anthropocene makes greater demands on the capacity of societies to broaden and reassess what it means to pursue development and security amid great uncertainty. Solidarity strategies in the context of an enriched frame of human security gain special significance for navigating this reality, supporting deliberations to act responsibly and collaboratively so that we are all more secure amid truly existential challenges.

“The Anthropocene reality adds another more forceful reason to reaffirm the importance of solidarity for human security, together with protection and empowerment

This chapter describes some of the dangerous planetary changes already under way and their implications in several areas that are posing threats to human security. It is not meant to be comprehensive in covering all dimensions of the Anthropocene—but to use

### Box 2.1 Human security for a more-than-human world

In the wake of the Covid-19 pandemic, have we reached an inflection point in thinking critically about our interconnected sense of planetary precariousness? Has the pandemic elicited enough reflection on the wider set of overlapping human–environmental crises to have an impact on how we define and frame security for our overarching human and nonhuman worlds?

In seeking to build a consensus on visions of security for the future, it is important to consider how global human–environmental security is about shared interests and can be enhanced by acting collectively, responsibly and cooperatively. In this endeavour transcending anthropocentric conceptualizations of security could be helpful but would necessitate carefully documenting the planet’s intersecting human and environmental precariousness and detailing why and how we must address them holistically.

Human security strategies in practice have typically involved compartmentalized engagements with artificially separate human and environmental concerns. The concept of human security would benefit from recognizing the planet’s intertwined

human–environmental precariousness. A reframing of security in the context of the Anthropocene reaffirms the systemic view of humans as part of the natural world.

Consider climate change. Confronting it as an exclusive concern for environmental security will ultimately be ineffective if it ignores other human security elements such as food security, health security and community security, as highlighted in the 2020 Human Development Report.<sup>1</sup> Siloed security strategies for the environment have “become increasingly divorced” from their “heterodox and critical roots in human security” and thus overlook how security threats arise “out of the interconnections between different aspects and forces in particular situations.”<sup>2</sup> This is why “the value added from human security analysis comes [from its] functioning as a boundary concept to transcend those divisions, flexibly.”<sup>3</sup> In this sense the very elasticity of the concept of human security is its strength in responding to nonhuman security challenges in context-sensitive ways.

**Source:** Morrissey 2021.

#### Notes

**1.** UNDP 2020c. **2.** Elliott 2015, p. 11. **3.** Gasper and Gómez 2015, p. 100.

a few illustrations to unearth what the broad process of planetary changes means for human security. It highlights agency and the importance of adding solidarity to protection and empowerment for human security in the Anthropocene.

## The self-reinforcing interaction between dangerous planetary changes and social imbalances

Dangerous planetary changes are part of a self-reinforcing cycle, resulting from the interaction of planetary imbalances<sup>5</sup> and social imbalances (inequalities in opportunities, wealth and power across groups of people that can have social destabilizing impacts; figure 2.1). This interaction shows how the Anthropocene context compounds threats to human security, which is indicated by the arrow flowing from planetary to social imbalances. However, social imbalances feed through social, economic and political processes that exacerbate planetary imbalances (thus the arrow in the other direction). Countries with lower human development will face the worst effects, due in part to their limited ability to adapt. Within countries the negative impacts will be felt the most by those already otherwise vulnerable. Those experiencing the worst impacts are also

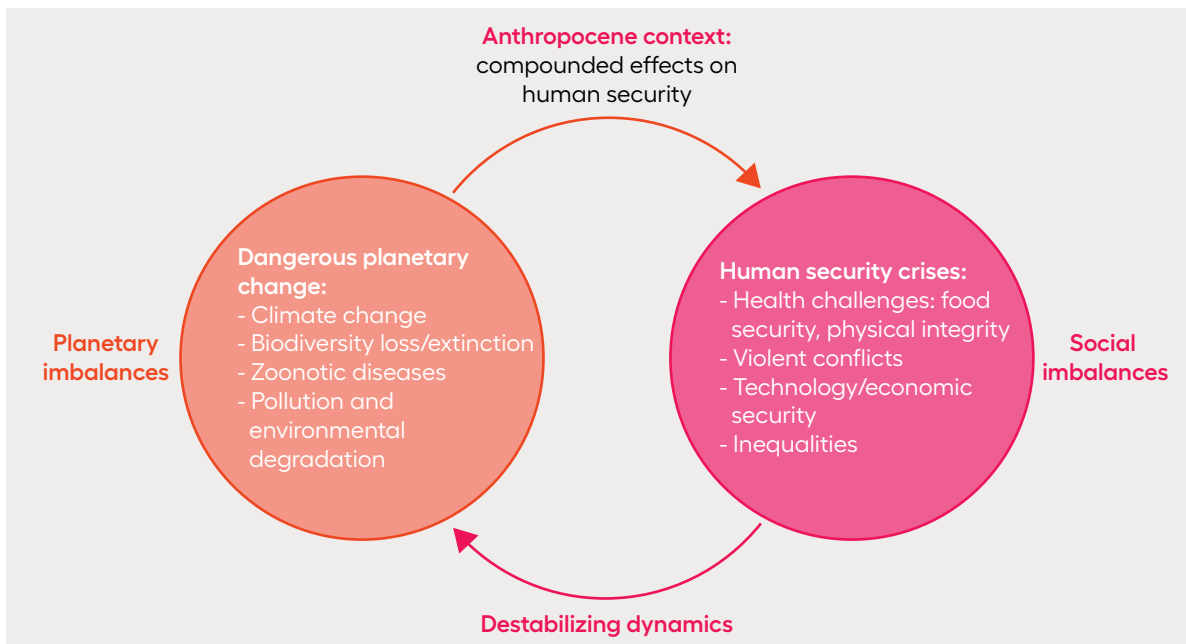
those with less power and opportunity to shape policy and decisionmaking. And the lack of agency diminishes the prospects of breaking this vicious cycle through deliberation and collective action.<sup>6</sup>

“Those experiencing the worst impacts are also those with less power and opportunity to shape policy and decisionmaking. And the lack of agency diminishes the prospects of breaking this vicious cycle through deliberation and collective action

### Dangerous planetary change

Climate change, already considerable, is accelerating. Without decisive reductions in emissions over the next two decades, temperatures may surpass the threshold of 1.5 degrees Celsius above preindustrial levels—and may do so earlier than previously estimated.<sup>7</sup> Even under relatively optimistic scenarios, the threshold of 2 degrees Celsius could be reached by mid-century.<sup>8</sup> Human influence has unequivocally impacted the planet, with greenhouse gas emissions causing global surface temperature and sea levels to rise, Arctic ice area to diminish, extreme weather events to multiply and intensify and annual global

**Figure 2.1** The Anthropocene context is reshaping human security through the interaction of dangerous planetary changes and social imbalances



Source: Human Development Report Office.



precipitation to increase.<sup>9</sup> In the most ambitious scenarios for reducing greenhouse gas emissions (coupled with targeted air pollutant reduction and anthropogenic removal of carbon dioxide), air quality could improve in the medium term, and ocean acidification would be reversed. But even in this case, rising sea levels and ice and glacier loss are likely to be beyond the point of reversal and set to continue their path for decades or millennia to come.<sup>10</sup> This reality reframes the context for expanding human development<sup>11</sup> and advancing human security, as ambitious emissions reduction and carbon dioxide removal strategies will need to be urgently considered.

Biodiversity loss and threats of extinction are alarming. The population of species of mammals, fish, birds, reptiles and amphibians fell by an average of 68 percent between 1970 and 2016.<sup>12</sup> Up to 1 million species are estimated to be facing extinction.<sup>13</sup> For instance, wild mammals today account for only 4 percent of the global mammal biomass, while livestock and pets account for 62 percent and humans the remaining 34 percent.<sup>14</sup> This process is driven by human action. A direct driver of substantial biodiversity loss has been food production, which involves converting animal habitats into agricultural land.<sup>15</sup> An estimated 420 million hectares of forest have been lost through conversion to other land uses since 1990.<sup>16</sup> More than a third of the world's land surface and nearly 75 percent of freshwater resources are now devoted to crop or livestock production,<sup>17</sup> increasing pressures on scarce water resources (2.3 billion people live in water-stressed countries<sup>18</sup>). These imbalances in the planetary system have become the source of threats to human security through multiple channels: from disrupting food and water systems to the emergence of zoonotic diseases.

**“Greater resilience to natural hazards that fit with longer-term historical patterns has allowed for the reduction of human vulnerability to shocks. But the natural hazards, as well as exposure and vulnerability patterns, are changing in the Anthropocene. Climate- and weather-related disasters have increased rapidly in the last few decades**

Biodiversity loss is projected to continue, given that 121–219 species will become threatened under current rates of forest loss over the next 30 years in the

high-risk zones of Borneo, the central Amazon and the Congo Basin.<sup>19</sup> The intensity of land use and rising temperatures can also lead to major reductions in pollinating species, with knock-on effects on food security and resilience, mostly in the tropics.<sup>20</sup> The diversity of life on Earth also represents a source of adaptive capacity to navigate future risks. As biodiversity losses increase, this adaptive capacity is undermined, with consequences for human security.

Pollution and environmental degradation have reached dangerous levels. Anthropogenic air pollution is related to the combustion of various types of fuel. Only 4 of 45 megacities with measurements satisfied World Health Organization guidelines for air quality.<sup>21</sup> Burning fossil fuels emits pollutants, such as sulphur dioxide and nitrogen oxides, which can cause acid rain, damage soil and plants and put aquatic life in danger by increasing acid levels of rivers and lakes.<sup>22</sup> Today the biomass of plastic is double the total biomass of animals on the planet.<sup>23</sup> Water pollution has worsened over the past two decades: it is estimated that up to 400 million tons of solvents, heavy metals and other industrial waste enter the world's water each year.<sup>24</sup>

The effects of natural hazards appear to be at an inflection point. Greater resilience to natural hazards that fit with longer-term historical patterns has allowed for the reduction of human vulnerability to shocks.<sup>25</sup> But the natural hazards, as well as exposure and vulnerability patterns, are changing in the Anthropocene. Climate- and weather-related disasters have increased rapidly in the last few decades. The 2010s had 360 distinct disasters a year, up from around 100 in the 1980s.<sup>26</sup> Recorded damage and the number of affected people (through deaths, injuries and homelessness) suggest an inflection point in recent decades—after reductions in most of the 20th century—with evidence of more severe events.<sup>27</sup>

These changes are also reflected in the high number of people displaced by natural hazards: 31 million in 2020.<sup>28</sup> Some estimates indicate that 1 billion people worldwide could face forced displacement by 2050.<sup>29</sup> Flooding events are expected to increase, threatening the more than 1 billion people who live in low elevation coastal zones.<sup>30</sup> They are vulnerable not only to average sea level rise but also to fluctuations caused by storms and high tides. The number of people vulnerable to permanent sea level rise is estimated to jump from 110 million today to almost 200 million by

2100.<sup>31</sup> These changes threaten the very existence of some Small Island Development States,<sup>32</sup> where the livelihoods and basic infrastructure of many communities are vulnerable to sea level rise, ocean acidification and extreme weather events.<sup>33</sup>

### Social imbalances reflect the unequal distribution of benefits and costs of planetary change

Social imbalances (reflecting inequalities in human development) result from a combination of existing distribution of power and the unequal effects of dangerous planetary change across countries and groups of people within countries. The distribution of power, which determines the ability to take advantage of existing planetary resources, defines who benefits from behaviour that drives planetary pressures, and the unequal effects of the resulting planetary changes determine the distribution of the costs.<sup>34</sup> A human security lens helps capture both.<sup>35</sup>

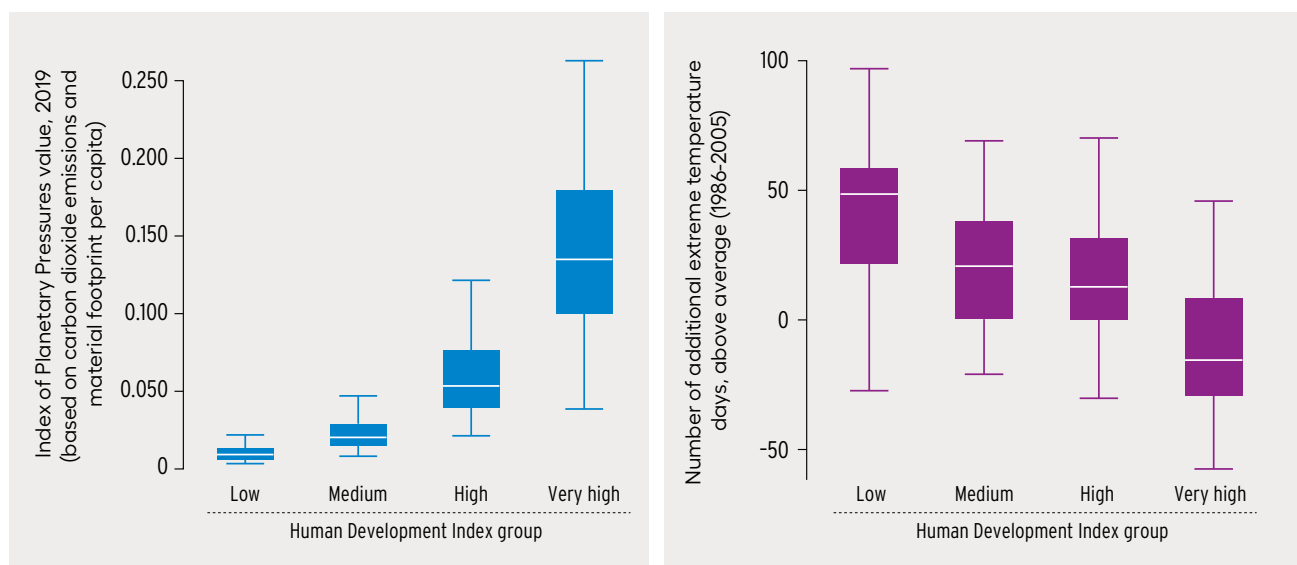
Low Human Development Index (HDI) countries will face the strongest negative effects of dangerous planetary change across multiple dimensions, both because of direct impact and because of limited adaptation capacity. And within countries many of those living in already marginal and vulnerable contexts will tend to fare worse.<sup>36</sup>

Higher HDI countries, in turn, are likely to experience climate change very differently. There will be changes in weather patterns, with some substantial negative effects for parts of the population. But the actual risk to people will, on average, be much lower than in developing countries. The typical developed country might experience reductions in some dangerous hazards, as in the number of days with extreme temperatures.<sup>37</sup> The capacity to adapt to the effects of climate change is much greater in wealthier countries than in poorer countries. This depends on income and on enhanced capabilities, linked to access to technological advances, education and infrastructure. In all these areas global inequalities are already enormous. And some of the gaps in these enhanced capabilities are widening.<sup>38</sup>

“While the distribution of costs and benefits is asymmetric across countries, no country is immune to the human security implications of the Anthropocene context

The contribution to planetary pressures by very high HDI countries is already large and still growing. It is much larger than the contribution of lower HDI countries<sup>39</sup> (figure 2.2, left panel). The distribution of planetary pressures—the emissions of carbon dioxide and the consumption of material resources—is

**Figure 2.2** The destabilizing dynamic of climate change: More developed countries tend to capture more benefits from planetary pressures and less of their costs



Source: Human Development Report Office based on Carleton and others (2020) and UNDP (2020).

unequally distributed in favour of higher HDI countries. As an indicator of the impact of dangerous planetary change, consider the additional days of extreme temperatures (figure 2.2, right panel). When it comes to bearing the consequences, countries with fewer resources to adapt, with lower HDI values, bear the brunt of the costs.

“When planetary imbalances interact with intersecting horizontal inequalities, they can reinforce historical patterns of disempowerment directly linked to recognitional, procedural and distributional inequities

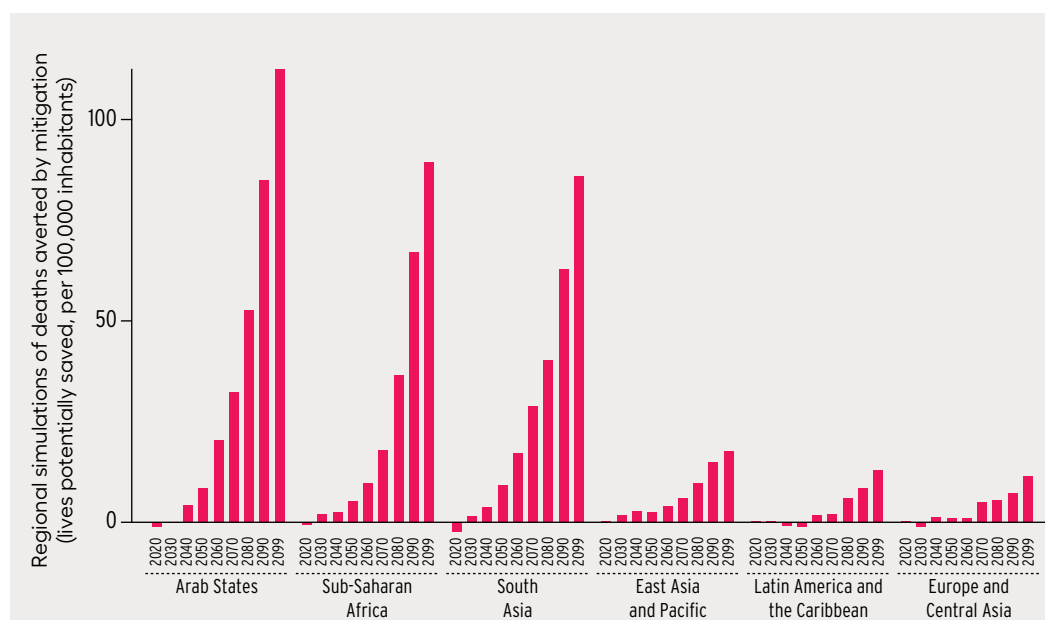
Climate change has increased annual economic growth in richer countries with colder temperate climates while reducing economic growth in poorer countries with warmer climates. The estimated net effect is a 25 percent larger gap between the top and bottom deciles of the country-based income distribution than in a world without climate change.<sup>40</sup> These asymmetries are central when considering the human security benefits of acting now to curb climate change, which can be huge in countries in the Arab States, South Asia and Sub-Saharan Africa (figure 2.3).

While the distribution of costs and benefits is asymmetric across countries, no country is immune

to the human security implications of the Anthropocene context. The effects are widespread, multiple and interlinked. A disaggregated view can uncover how some areas of developed countries face high mortality risks due to climate change and how some territories in developing countries face low mortality risks (figure 2.4). Moreover, territories with limited exposure to some risks, such as mortality (Florida in the United States and the west coast of India), can face high vulnerability to other threats, such as flooding and rising sea levels.

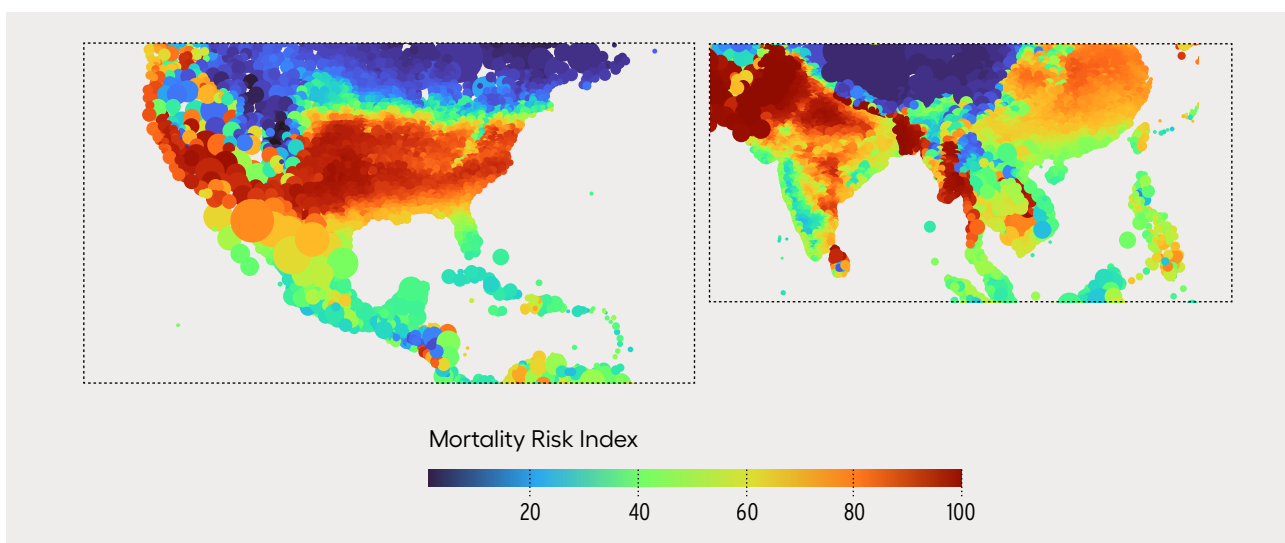
Within countries, group-based inequalities are important in defining the impacts of the Anthropocene context on people (see chapter 5). When planetary imbalances interact with intersecting horizontal inequalities, they can reinforce historical patterns of disempowerment directly linked to recognitional, procedural and distributional inequities.<sup>41</sup> For recognitional equity women and indigenous peoples face barriers to land ownership linked to identities and traditional social norms. For procedural equity the unequal distribution of impacts from planetary imbalances exacerbates exclusion and discrimination, as with polluting industries locating in areas where Black people or indigenous peoples live. For distributional equity different groups face unequal access to resources and unequal impacts of planetary

**Figure 2.3 Increasing asymmetries—net lives saved by mitigation**



**Note:** Comparisons are between Representative Concentration Pathways 4.5 and 8.5. Aggregates are weighted by population.  
**Source:** Human Development Report Office based on Carleton and others (2020).

**Figure 2.4** The distribution of mortality risks caused by climate change is expected to be unequal between and within countries



**Note:** Data are for 2080–2099 and refer to Representative Concentration Pathway 8.5.

**Source:** Human Development Report Office and Climate Impact Lab based on Carleton and others (2020).

imbalances, as with the large percentage of women facing water shortages, low human development and high gender inequality (figure 2.5).

The next section drills down in more detail on how the Anthropocene context is compounding threats to human security on several dimensions. While climate change is a focal point, the discussion suggests not only the intrinsic importance of this particular challenge but also the broader implications of the Anthropocene context for human security. In addition, climate change interacts with biodiversity loss, natural hazards and pollution, all with compounding effects on human security.

## Compounding threats to human security

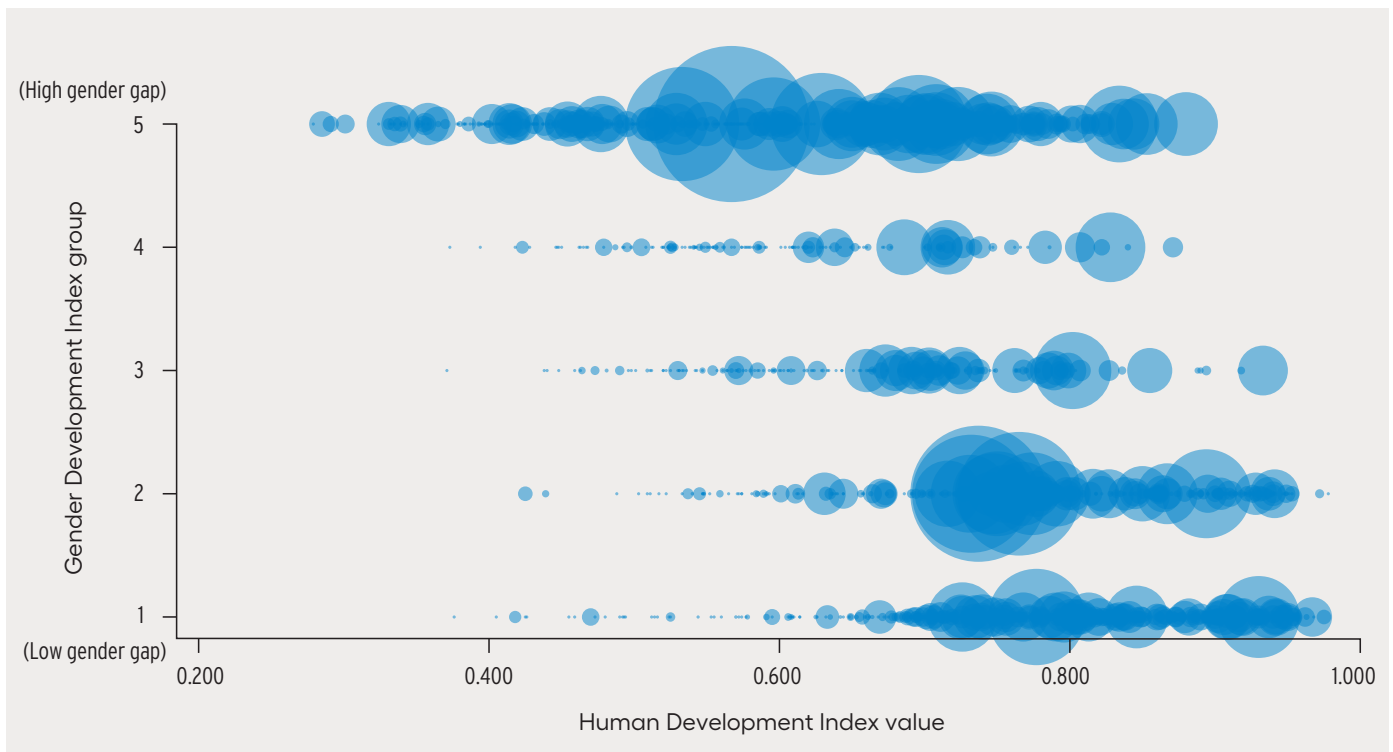
The impacts of the Anthropocene context on people's lives are yet to be fully understood, but there is emerging evidence on their likely effects through multiple dimensions that affect human development and human security.

From a risk perspective (based on the combination of hazard, exposure and vulnerability), the Anthropocene context presents a new reality.<sup>42</sup> First, the baseline of hazards is changing, given the scale of climate change, biodiversity loss and environmental degradation just described. Second, the exposure

patterns are shifting. The Covid-19 pandemic—likely a zoonotic disease, one of several to emerge or re-emerge this century alone—shows the broad implications of the possibility of facing ever more systemic negative surprises. Third, because of the change in hazards and exposure patterns and the limited knowledge of potential new events and their probabilities, societies are ill-prepared for this complex new reality.

Threats to human security in the Anthropocene context are multidimensional, because they affect people through multiple channels, many of them yet to be fully understood; interconnected, because they interact as part of self-regulating planetary systems, including interactions between ecosystems and social systems; universal, because they have global—though unequally manifested (see the next characteristic)—reach; and unequally distributed, because their effects are geographically asymmetrical and the impacts on people are mediated by existing social, economic and political structures. The following sections discuss the effects of Anthropocene-related threats on some dimensions of human security, including those associated with disruptions to food systems, heightened health threats, amplifiers of the drivers of tensions and violent conflict, and threats to economic production and productivity.

**Figure 2.5** A large fraction of the population facing water shortage lives in subnational territories with low Human Development Index values and high gender inequality



**Note:** Bubble size represents the population facing water shortage in each subnational area.

**Source:** Human Development Report Office based on City University of New York/Human Development Report Office project.

“After two decades of progress, the number of people affected by hunger has increased from a low of 607 million in 2014. The estimate for 2020 ranges from 720 million to 811 million, reflecting the considerable effect of the Covid-19 pandemic

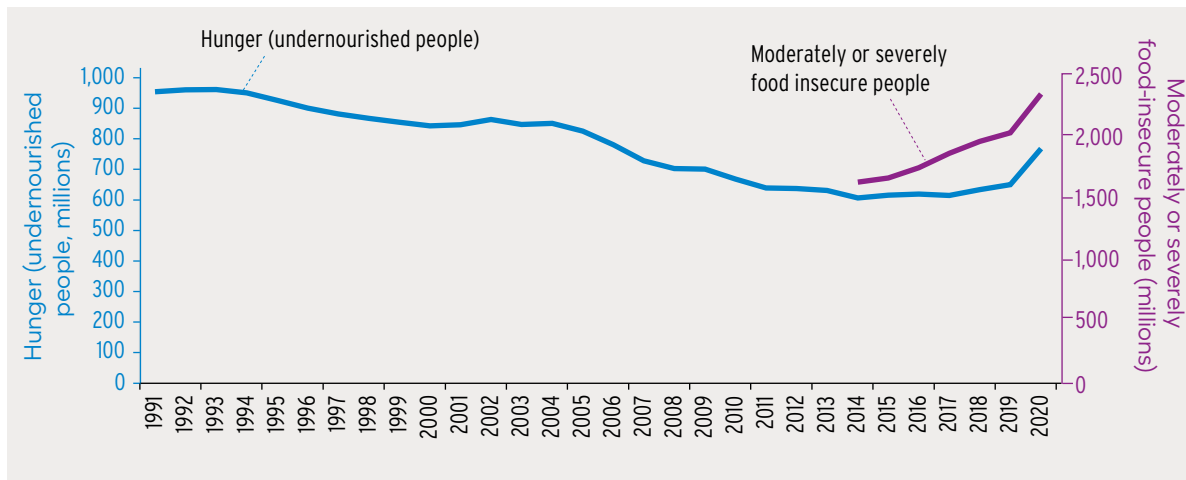
### Threats disrupting food systems

After two decades of progress, the number of people affected by hunger (undernourishment) has increased from a low of 607 million in 2014. The estimate for 2020 ranges from 720 million to 811 million, reflecting the considerable effect of the Covid-19 pandemic (figure 2.6). So, the world is getting further away from the goal of Zero Hunger by 2030.<sup>43</sup> This trend is also evident with a broader definition of food insecurity: in 2020, 2.4 billion people were moderately or severely food insecure, up 44 percent (or 723 million people) from 2014. In 2020 alone more than 300 million people

became affected by food insecurity. In 2019, 7.9 million people died because of different forms of dietary risks.<sup>44</sup> Changes in environmental factors alone, even when they have implications for food supply, do not determine food access and use. A complex set of compounded environmental and social factors (in the Anthropocene context) underpins these changes,<sup>45</sup> with effects that can intensify in the future. The main argument here is that the Anthropocene context presents new threats to human security through a range of interlinked factors that affect food entitlements (ranging from loss of purchasing power, through a combination of higher food prices and lower incomes, through the erosion of social and political support for vulnerable communities in the face of multiple demands for attention and to the sheer uncertainty and novelty of some environmental conditions that underpin food production, distribution, access and use).

Changes in temperature and precipitation have altered land quality and crop yields. Intense and frequent extreme events pose a threat not only to the production and distribution of food but also to the

**Figure 2.6 Hunger and food insecurity are on the rise**



**Source:** Adapted from FAO and others (2021) using data for 1991–2011 from FAO (2021a) and UNDESA (2015).

livelihoods of a large number of people engaged in agriculture—in particular, the approximately 3 billion people living on 500 million small farms in low- and middle-income countries.<sup>46</sup> Small Island Developing States experience a higher frequency of disasters than the rest of the world and tend to be more water-scarce than other regions—climate change is exacerbating both of these challenges.<sup>47</sup>

Climate change is already affecting crop production, with an average annual reduction of 1 percent in consumable food calories from the top 10 global crops.<sup>48</sup> And estimated availability of calories has fallen in nearly half of food-insecure countries.<sup>49</sup> Climate variability has reduced income and increased food insecurity in Ghana and Ethiopia, which have a large share of employment in the agricultural sector.<sup>50</sup> In Bangladesh and India crop yields have fallen due to temperature changes.<sup>51</sup> Smallholder farmers in drier regions are particularly affected by climate variability, because they depend primarily on rainfed agriculture.<sup>52</sup> Below normal rainfall is worsening the pre-existing drought conditions, and delayed heavy rainfall is flooding some areas.<sup>53</sup> Therefore, variability in temperature and precipitation, as well as more frequent natural hazards, exacerbates threats to human security.

“Crop diversity is declining; the contraction of agrobiodiversity increases people’s vulnerability to extreme temperatures and weather events, diseases and pathogens, and crop failures

Crop diversity is declining, with considerable effects on food security and resilience to disasters. Although our species has evolved to consume more than 7,000 species, today just 3—wheat, rice and maize—provide more than half of our plant-derived calories.<sup>54</sup> Genetic diversity within species is also declining.<sup>55</sup> Taken together, this contraction of agrobiodiversity increases people’s vulnerability to extreme temperatures and weather events, diseases and pathogens, and crop failures (box 2.2).<sup>56</sup>

Climate change also drives notable changes in oceans, increasing surface temperature, acidification and sea level rise. Countries that depend heavily on fisheries for protein intake and employment are exposed to these threats.<sup>57</sup>

### New and heightened health threats

The Anthropocene context has multiple effects on health.<sup>58</sup> Biodiversity loss and land use changes can increase disease transmission.<sup>59</sup> For example, the Ebola outbreak in West Africa resulted from the transmission of viruses from wild animals to humans that spread in a context of deforestation and great population density.<sup>60</sup> Forest loss in Bangladesh has drastically reduced native habitats of fruit bats, which has increased the chances of virus spillover between bats and humans.<sup>61</sup> And Amazon rainforest deforestation has increased malaria transmission in Brazil: a 10 percent increase in deforestation led to a 3.3 percent increase in malaria incidence.<sup>62</sup>



## Box 2.2 Biodiversity loss, food security and disaster risk reduction

The sharp decline of pollinators due to pesticides and habitat loss, documented in numerous recent studies,<sup>1</sup> affects food security and nutrition around the world. Of the leading global food crops directly consumed by humans and traded on the global market, 85 percent rely on animal pollination. Without pollinators, production of some of the leading global crops would decrease by as much as 90 percent.<sup>2</sup> The decline of pollinators affects not only absolute food supply but also the availability of nutrients. Pollinated crops account for 35 percent of global food production, more than 90 percent of available vitamin C and more than 70 percent of available vitamin A.<sup>3</sup>

Forests contribute to global food security, as wild foods harvested from forests provide a wide range of nutrients and micronutrients.<sup>4</sup> Wild animals, or bush meat, provide more than 6 million tons of food to communities in the Congo and Amazon basins alone.<sup>5</sup> Yet tropical forest loss is large: since 2002 the world has lost more than 60 million hectares of tropical forest.<sup>6</sup>

Biodiversity loss also has consequences for disaster risk. Increased diversity among species in an ecosystem generates diverse physical and biological traits and supports ecological resilience and the protective function of ecosystems. For instance, seagrass ensures the generation of oxygen and improves water quality by capturing sand, dirt and silt particles. Its roots trap and stabilize sediment, reducing erosion and buffering coastlines against storms.

**Source:** Based on UNDP (2020c).

### Notes

1. Soroye, Newbold and Kerr 2020. 2. Potts and others 2016. There were 13 crops in this category: atemoya, Brazil nut, cantaloupe, cocoa, kiwi, macadamia nut, passion fruit, pawpaw (Indian banana), rowanberry, sapodilla, squashes and pumpkins, vanilla and watermelon. See Klein and others (2007). 3. FAO 2019. 4. Sunderland and others 2013. 5. Nasi, Taber and Van Vliet 2011. 6. Weisse and Dow Goldman 2020.

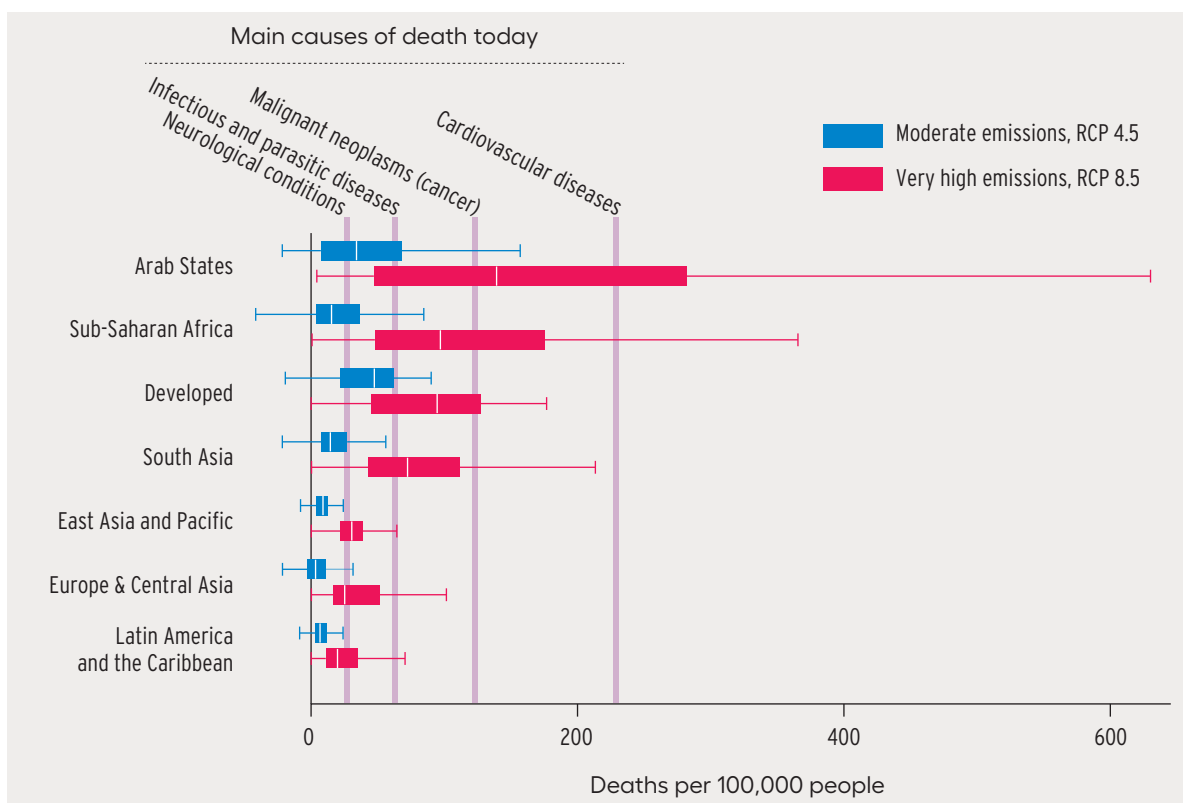
Long-term exposure of humans to air pollution enhances the risk of cardiovascular and respiratory diseases, reproductive and central nervous system dysfunction, and cancer—increasing mortality and reducing life expectancy.<sup>63</sup> Nearly 4.2 million deaths occur every year due to ambient air pollution and 3.8 million due to smoke from dirty cookstoves and fuels.<sup>64</sup> The global loss of life expectancy due to air pollution is 2.9 years compared with a loss of 0.3 year caused by violence.<sup>65</sup> This can be greatly reduced by decreasing the net use of fossil fuels.<sup>66</sup>

Globally an estimated 80 percent of industrial and municipal wastewater is released into the environment without any treatment, with detrimental effects on human health and ecosystems.<sup>67</sup> Heavy metals are produced by industries and disposed into water bodies without proper processing and treatment, exposing humans and animals to pollution. For example, commonly consumed fish in Bangladesh had various levels of heavy metals, suggesting a link between the consumption of these contaminated fish and cancer.<sup>68</sup> And around the Ankobra River in the Western Region of Ghana, fish contamination has exceeded the suggested safe amount.<sup>69</sup> In addition, cholera and typhoid can spread through contaminated water.

Plastic pollution has contributed to soil contamination, which can reduce the safety of food for humans and many other organisms that depend on soil.<sup>70</sup> Humans are also exposed to microplastics via ingestion, inhalation and dermal absorption, which can cause several health complications. Microplastics may also contain vectors for microorganisms and toxic chemicals that cause ill health.<sup>71</sup> High exposure to microplastics pollution can affect the central nervous system and the reproductive system.<sup>72</sup>

Climate change alone—beyond the effect of pollution or zoonotic diseases—is expected to have substantial effects on mortality. By 2100 the number of estimated deaths associated with climate change (in a scenario with very high greenhouse gas emissions)<sup>73</sup> could be comparable to those associated with some of the leading causes of death today (figure 2.7).<sup>74</sup> Globally, under the assumptions of population growth of Shared Socioeconomic Pathway 3 and with moderate mitigation, around 40 million people cumulatively might die because of climate change in the 2020–2100 period. These estimates consider current adaptation capacities,<sup>75</sup> which are notoriously insufficient to avert significant deaths in the moderate mitigation scenario.

**Figure 2.7** In a very high emissions scenario some regions of the world might face climate change–induced mortality rates similar to those of the main causes of deaths today



**Note:** RCP is Representative Concentration Pathway. Includes only areas with increased mortality due to climate change, home to more than 80 percent of the global population.

**Source:** Human Development Report Office based on Carleton and others (2020) and data from the World Health Organization.

Under a very high greenhouse gas emissions scenario the projected net cumulative deaths during the same period because of climate change could surpass 190 million.<sup>76</sup>

The climate change burden of disease is expected to be greatly unequal. Most territories—with an estimated 80 percent of the world’s population—are expected to see major increases in death rates.<sup>77</sup> In some localities in the Arab States and Sub-Saharan Africa, death rates due to climate change might surpass today’s leading causes of death (cancer and heart disease). Meanwhile, the other territories that make up the remaining 20 percent of the world’s population are expected to record lower net death rates because of a reduction in extremely cold temperatures.<sup>78</sup>

“By 2100 the number of estimated deaths associated with climate change could be comparable to those associated with some of the leading causes of death today

### Threats exacerbating tensions and violent conflict

The Anthropocene context might be a threat amplifier and multiplier behind a new generation of conflicts.<sup>79</sup> Human-driven pressures on the planet are producing a warmer climate, a more volatile natural environment prone to climate shocks and damaged ecosystems with reduced resilience and fewer services to humans, some of which were documented above. Volatility in weather patterns, shocks to food supply and distribution, and land and resource scarcity—typically interacting with horizontal inequalities and contestation of political power—have all been linked to heightened conflict risks.<sup>80</sup>

While a changing natural environment may increase tensions, it is the interlinkage with structural development challenges, socioeconomic-political conditions and horizontal inequalities with attendant power imbalances that tends to trigger conflict.<sup>81</sup> Recent meta-analyses and reviews find that climate



change, particularly through warming temperatures as well as precipitation changes, is coupled with heightened conflict risks.<sup>82</sup> But violent conflict outbreaks are channelled through socioeconomic-political conditions, and they are manifested in horizontal inequalities, deprivation and exclusion of particular groups, and power imbalances between parties to the conflict.<sup>83</sup> Violent conflict itself may also contribute to dangerous planetary change, directly through attacks on the natural environment or indirectly through diversions of political attention and resources.<sup>84</sup> Focusing on the interlinkages helps detect blind spots in the ongoing policy debate that might add to the factors explaining the development-human security gap described in chapter 1.

**“While a changing natural environment may increase tensions, it is the interlinkage with structural development challenges, socioeconomic-political conditions and horizontal inequalities with attendant power imbalances that tends to trigger conflict**

Climate-related hazards, such as large-scale flooding, can increase political unrest<sup>85</sup> and instigate violent conflict when interacting with political exclusion of and deprivation among certain groups.<sup>86</sup> The climate change–conflict interrelationship may be particularly relevant in developing countries with large agricultural sectors that depend heavily on rainfall and environmental conditions, coupled with low economic diversification. In these settings droughts,<sup>87</sup> changes in precipitation<sup>88</sup> and dry spells during crop growing seasons<sup>89</sup> increase conflict risks as livelihoods are threatened and food prices surge,<sup>90</sup> and food insecurity increases as asset prices drop, leading to a loss of entitlements to food and other resources. Coupled with horizontal inequalities and perceptions of injustice, stressors such as reduced incomes or increased competition can fuel uprisings—and may escalate to violent conflict.

Conflicts compound with food insecurity, deteriorated livelihoods and other effects of climate change, driving the forcible displacement of people.<sup>91</sup> According to the United Nations High Commissioner for Refugees, about 9 of 10 refugees come from the countries most vulnerable to the impacts of climate change. These countries also host about 70 percent

of all people internally displaced by conflict and violence.<sup>92</sup> In 2020, 40.5 million people were added to the global population of internally displaced people (almost 10 million because of conflict and violence), a number expected to continue to increase (figure 2.8).<sup>93</sup> Forcibly displaced people—no matter the cause: conflicts, violence, disasters or a combination—face multiple human security threats in their place of origin and in host locations (see chapter 5).

Academic and policy debates on the climate–security nexus have focused mostly on fragile contexts and low-income and developing countries. Yet the Anthropocene context is universal, and climate-related conflict and violence can occur across countries at all incomes. For example, there is an association between high temperatures and short-run increases in crime in high-income contexts, suggesting that a higher temperature can elevate discomfort and boost hostility and violence. A recent study of climate change and interpersonal violence in 57 countries found that each Celsius degree increase in annual temperatures is associated with a nearly 6 percent average increase in homicides.<sup>94</sup> A warming climate also has strong geopolitical implications, as power balances may shift and new rivalries may develop over, for example, rare earth minerals that are crucial for low-carbon technologies, affecting countries globally.<sup>95</sup> This illustrates the broader set of threats to human security in the Anthropocene context.

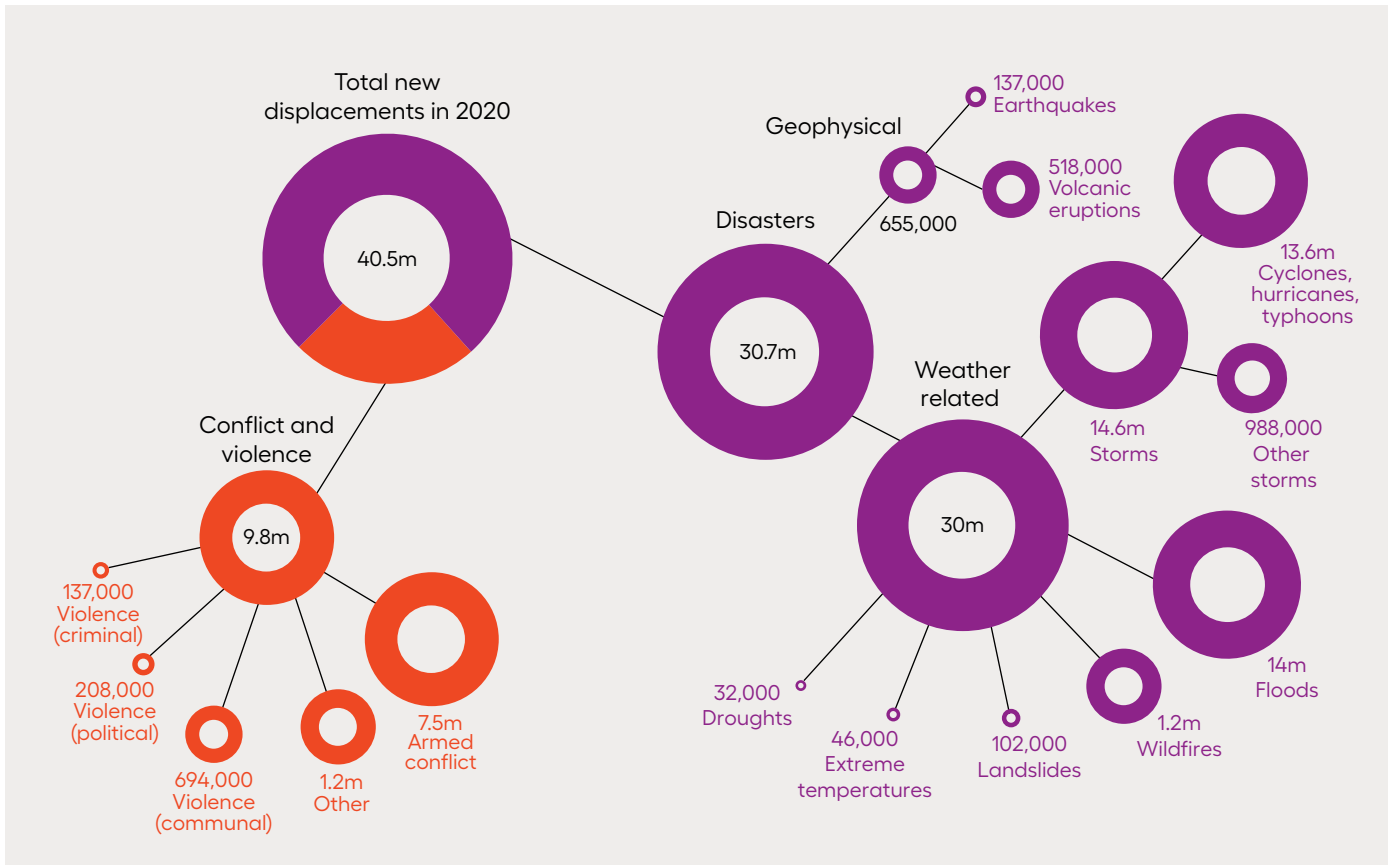
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### Threats to economic production and productivity

The Anthropocene context is affecting human security by challenging both the expansion of human development and the ability to reduce pressures on the planet. It is already eroding some foundations of economic productivity, directly affecting more than just the factors of production (labour, natural capital and physical capital). The threats to economic productivity have implications for dimensions of human security linked to income, employment and economic prospects.

The Anthropocene context has—through climate change, natural hazards and pollution—reduced not only people’s ability to learn and live healthy lives (the direct impact on health was discussed above), intrinsically important from a human development perspective, but also the foundations for economic production and, in particular, improvements

**Figure 2.8** The Anthropocene context affects forced internal displacements



Source: IDMC 2021.

in economic productivity. Short-run temperature changes can impair cognitive performance.<sup>96</sup> High temperatures inhibit learning, with disproportionate impacts on minority students.<sup>97</sup> Exposure to high temperatures around the time of birth can have long-term consequences for educational attainment and earnings.<sup>98</sup> And exposure to pollution in childhood has been linked to poorer education performance and long-term reductions in human capital.<sup>99</sup>

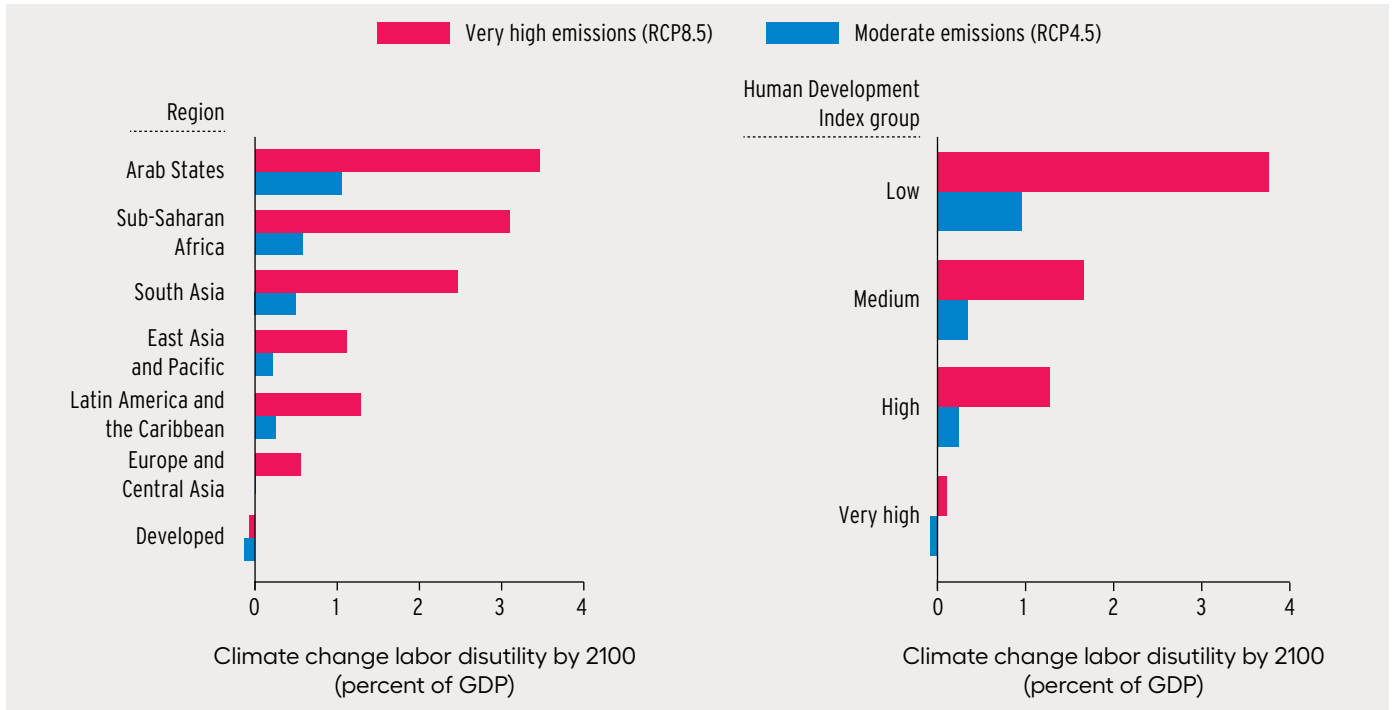
“Academic and policy debates on the climate–security nexus have focused mostly on fragile contexts and low-income and developing countries. Yet the Anthropocene context is universal, and climate-related conflict and violence can occur across countries at all incomes

Climate change is increasing the frequency of extreme weather events. Given that disasters can affect education and health outcomes, this can erode labour

productivity.<sup>100</sup> School enrolment often drops following a disaster, and child labour increases.<sup>101</sup> After the 1988 earthquake in Nepal, children born in districts severely affected by the disaster were 14 percent less likely to complete middle school and 10 percent less likely to complete high school.<sup>102</sup> Only children from high caste groups were able to mitigate this negative shock in the long run, widening the gap in human capital between low and high caste groups.<sup>103</sup>

Climate change also has an impact on worker productivity and labour supply through health impacts.<sup>104</sup> The Arab States, South Asia and Sub-Saharan Africa are worst affected by heat stress-induced reductions in worker productivity (figure 2.9, left panel). In Australia absenteeism and reductions in work performance caused by heat stress generated \$655 per person in annual cost, amounting to 0.33–0.47 percent of GDP.<sup>105</sup> In Guangzhou, China, an increase in daily maximum wetbulb globe temperature (a measure of heat stress) was associated with a higher risk of

**Figure 2.9 Climate change is expected to affect's people ability to work**



**Note:** Aggregates are based on median values. RCP is Representative Concentration Pathway.  
**Source:** Human Development Report Office based on Rode and others (2021a).

work-related injuries.<sup>106</sup> Under a very high emissions scenario declining labour productivity is predicted to reduce global gross domestic product (GDP) by 1.5 percent towards the end of the century relative to the reference scenario with no climate change.<sup>107</sup> The impact of higher temperatures is expected to reduce purchasing power in Europe and the United States, but the strongest impacts would be felt in low and medium HDI countries (figure 2.9, right panel).<sup>108</sup>

“The Anthropocene context is affecting human security by challenging both the expansion of human development and the ability to reduce pressures on the planet

In some settings climate change is contributing to reallocations of labour supply. In India warmer temperatures have contributed to lower agricultural productivity and a shift in labour to nonfarm sectors.<sup>109</sup> Individuals whose livelihoods and incomes are endangered by climate change may also turn to migration. In rural Mexico wage laborers in poor rural households were most vulnerable to extreme heat. Extreme heat has reduced the probability, in the

short run, that a person works locally and increased the probability of migration to urban areas or abroad.<sup>110</sup>

Natural systems—in addition to providing food, water, fuel and other material goods—provide wider ecosystem services such as watershed protection, pest regulation, climate control and hazard mitigation. And in many parts of the world, natural systems are of social, cultural and spiritual value to people.<sup>111</sup> But natural capital (understood as the contribution of nature to people, recognizing that there many other reasons for why nature should be a matter of concern) is being rapidly depleted.<sup>112</sup> In 123 countries an increase in wealth between 1990 and 2014 was accompanied by a decline in natural capital.<sup>113</sup> The loss of natural capital is evident in deforestation,<sup>114</sup> land degradation<sup>115</sup> and the global depletion of fish stocks.<sup>116</sup> Some forms of natural capital help protect people from disasters, and their loss therefore heightens vulnerability to natural hazards. For example, mangroves provide protection from coastal flooding, but mangrove forests have declined globally.<sup>117</sup> By one estimate the loss of mangroves would result in 15 million more people facing floods around the world,<sup>118</sup> with Small Island Developing States among those

most vulnerable to mangrove loss.<sup>119</sup> Desertification arising from climate change and other human activity is set to diminish dryland ecosystem services and reduce biodiversity.<sup>120</sup> Between 1982 and 2015 climate change contributed to the desertification of about 5.43 million km<sup>2</sup> of land, affecting an estimated 213 million people, 93 percent of them in developing economies.<sup>121</sup>

Climate change is also affecting economic productivity through different demands for physical capital, particularly in the energy sector. Energy production and consumption are the source of three-quarters of global greenhouse gas emissions, including from the generation of electricity to regulate temperatures.<sup>122</sup>

The net effect of climate change on energy demand is undetermined, reflecting the opposing forces of reduced heating needs and increased cooling needs.<sup>123</sup> But even if climate change reduces average global energy demand, some countries will face substantial challenges. Higher temperatures will increase demand for electricity, especially in warmer places, such as the tropics and the southern regions of China, Europe and the United States.<sup>124</sup> But in colder regions, such as the Scandinavian countries, temperate weather will reduce demand for heating.<sup>125</sup> Therefore, the burden on increased energy demand falls mainly on developing countries, which tend to depend on fossil fuel for energy.<sup>126</sup>

The limited adaptation capacity in poorer countries will make their energy transition harder as they seek to increase their productive capacity (to expand their human development) because they will have to invest more to get the same output. In a scenario with very high emissions through 2100, the annual increase in electricity consumption (relative to current consumption) due to climate change is expected to be 1.8 percent in the European Union and 2.7 percent in the United States—but more than 2,000 percent in Nigeria.<sup>127</sup> Because of this asymmetry, navigating the challenges of expanding human development and easing planetary pressures will be harder for the typical developing country.

“The limited adaptation capacity in poorer countries will make their energy transition harder as they seek to increase their productive capacity (to expand their human development) because they will have to invest more to get the same output

Against this background, technology is evolving rapidly, with the potential to increase economic productivity, opening room for expanding human development with lower planetary pressures. Energy production might be decoupled from carbon dioxide emissions through a mix of renewable sources (including solar photovoltaics), new storage systems (including lithium-ion batteries), complemented by smart grids and technologies that capture and store carbon dioxide.<sup>128</sup> Other advances can reduce material consumption—by improving efficiency, enhancing recycling and sharing resources.<sup>129</sup> In particular, the digital transformation promises a more efficient use of decentralized resources, through new algorithms,<sup>130</sup> blockchains,<sup>131</sup> platforms and sharing apps.<sup>132</sup> But as chapter 3 discusses, some of these technologies can have unintended consequences that might harm human security.

## Human security in the Anthropocene context

Dangerous planetary changes that interact with global and local social imbalances result in wide inequalities in people's ability to survive and adapt to the compounding effects of the Anthropocene context. The planetary and social imbalances of the Anthropocene overlap and interact with the main threats described in part II, including health challenges, conflicts, digital technologies and horizontal inequalities. The Anthropocene context demands transformations in human security and development—to recognize human embeddedness in nature and navigate uncertainty and how to respond to these challenges through the eyes of humankind.

Today's approaches are far from adequate, as highlighted the recent Dasgupta Review and the 2020 Human Development Report.<sup>133</sup> Most security approaches have failed to consider the implications of the embeddedness of social systems as part of Earth systems in a context where human-induced planetary pressures are driving dangerous planetary change. This is the case of some narrow views of food security, for instance. While livestock production is important for food security in many developing countries,<sup>134</sup> mass meat production intended primarily for export has contributed to deforestation and had adverse

health impacts, including increasing the probability of zoonotic diseases.<sup>135</sup>

Scientific work on Anthropocene risks (with a focus on raising awareness of the scale of the problems) is not fully informing the preparedness and crisis management work of multilateral, national and local institutions.<sup>136</sup> The effects of global changes are likely to be increasingly heterogeneous both across countries and within countries, as documented above, and this knowledge beyond averages would need to be systematically considered when navigating the new context of the Anthropocene.

The human security concept gains heightened relevance in the Anthropocene context, as argued in chapter 1, but also needs to be fully cognizant of this new context. The compounding effects of Anthropocene-related threats pose clear demands not only for protection and empowerment strategies but also for solidarity—recognizing that the security of people across different parts of the world is connected, as is the resilience of ecosystems and people.<sup>137</sup>

**“In the Anthropocene context agency empowers people to drive the transformations needed to improve human security for everyone**

As chapter 1 argues, agency is the critical node bringing together human security strategies aimed at protection, empowerment and solidarity in the Anthropocene context. Across the globe there is overwhelming support for the 2030 Agenda for Sustainable Development, with most people agreeing that it is important to protect the planet, even if this would mean sacrificing income.<sup>138</sup> But this wide agreement has not been enough to fully shift policy-making: today, most of the consequential actions are not in the hands of those willing and able to build securer systems. Recognizing the centrality of agency can help bridge this gap.

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### **The centrality of agency in human security strategies in the Anthropocene context**

As argued throughout this Report, enhancing agency has benefits beyond its direct effects in improving the human security of groups excluded from or disempowered in decisionmaking. In the Anthropocene

context agency empowers people to drive the transformations needed to improve human security for everyone.

Consider the transformative potential of enhancing the agency of indigenous peoples. Indigenous groups are already greatly contributing to reducing planetary pressures.<sup>139</sup> Indigenous practices over many generations have led to comparable or greater biodiversity richness in indigenous lands today, even compared with protected areas, as shown in Australia, Brazil and Canada.<sup>140</sup> Indigenous land tenure and management have been critical to securing forest carbon stores in the Amazon forests.<sup>141</sup> Indigenous practices are being recognized to address the impacts of severe wildfires, as through prescribed burns.<sup>142</sup> The wealth of knowledge and experience within indigenous communities on coping with environmental change is vital for shaping nature-based approaches to human security, so our common security depends on their empowerment. Indigenous practices focus not only on stewardship of environment but also on livelihoods, security and resilience of communities amid change. These communities are thus well positioned to shape responses to human security threats.<sup>143</sup> But that requires protecting their rights and expanding their agency.

An important starting point in this respect is protecting indigenous rights, including land tenure and freedom from violence. Indigenous peoples' initiatives to safeguard their ways of living have often brought them into conflict with powerful actors and interests. Approximately 40 percent of environmental activists killed in 2019 were from indigenous groups, and more than a third of fatal attacks between 2015 and 2019 targeted indigenous peoples.<sup>144</sup> Indigenous groups have often been excluded from environmental movements. Biodiversity conservation campaigns focused on creating protected wilderness areas often involved displacement or forced relocation of indigenous peoples from their territories.<sup>145</sup> Indigenous peoples have also been among the hardest hit by development policies involving large-scale modification of natural environments, such as extractive industries. Moreover, indigenous groups are exposed to the negative impacts of climate change, due to their location in vulnerable areas and their exclusion from decisionmaking.<sup>146</sup> In this context indigenous activism goes beyond efforts against



degradation of nature and biodiversity loss to also advance human rights and justice.<sup>147</sup>

“The wealth of knowledge and experience within indigenous communities on coping with environmental change is vital for shaping nature-based approaches to human security, so our common security depends on their empowerment

Policies drawing on indigenous knowledge will be most effective when they are open and accountable to indigenous groups and take into account their long-term marginalization. Supporting the direct contributions of indigenous communities, by promoting their empowerment and their struggles for justice, is key to advancing nature-based human security.

There is also a broad space for local communities. Involving local actors in policy responses to new human security threats is crucial, not only because of environmental justice considerations and the implications for their political capabilities<sup>148</sup> but also because local communities wield enormous strengths and assets that are key to the success of strategies to face Anthropocene-related threats. Local communities possess first-hand knowledge of changes in weather patterns, demographic characteristics, social norms (including women’s roles in the community) and skills, practices and resources that may reduce vulnerability and increase adaptability to different forms of risks.<sup>149</sup> Top-down plans that ignore these local assets might not have such knowledge. Indeed, case studies in Kenya, Myanmar, Pakistan and Senegal have all demonstrated that local communities are critical in monitoring local changes, contributing to early warning systems that help inform cropping, farming practices and evacuation decisions and minimizing economic losses and the loss of lives and livelihoods.<sup>150</sup>

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### Enhanced agency for the stewardship of nature

There are opportunities to promote human security through actions that protect, sustainably manage and restore natural or modified ecosystems, taking advantage of nature’s contributions to people.<sup>151</sup> Indeed, human societies have shaped and sustained most of terrestrial nature for much of the past 12,000 years.<sup>152</sup>

Today’s biodiversity crisis stems primarily from the fairly recent appropriation and intensifying use of land once held and used sustainably by many societies.<sup>153</sup>

These actions can scale up nature-based solutions since their results and ability to respond to the magnitude of today’s interlinked threats depend on their systemic implementation. The broad framework of nature’s contribution to people brings explicit mechanisms to integrate diverse values in the decisionmaking process, including both intrinsic and instrumental valuation of nature services.<sup>154</sup> This can be a formidable way of achieving both protection and empowerment, with initiatives that rely on the agency of local communities, including historically disempowered indigenous groups. Some of the following action areas—with multiple co-benefits—can help people deal with the risks from natural hazards, enhance water and food security and mitigate the effects of climate change more broadly.

- *Managing risks from natural hazards.* Expanding green areas can be effective in managing extreme temperature risks in urban spaces, particularly the risks of heatwaves.<sup>155</sup> Managing ecosystems is a tool of disaster risk reduction: through the conservation of vegetation to reduce the risk of landslides. And different ecosystems—dunes, floodplains, forests and mangroves, oyster and coral reefs, salt marshes, wetlands—are natural defenders of shorelines against storms, winds and erosion. They can also contribute to food security, economic development and carbon storage.
- *Employing biodiversity for resilience.* Diversity in agricultural landscapes and crops is important for the adaptive capacity of global food systems.<sup>156</sup> For example, pollinator-mediated crops are crucial for global nutrition and agriculture more broadly, and strategies to stem pollinator decline will enhance food security.<sup>157</sup> Moreover, diversity in species variety can make ecosystems more resistant to destabilizing risks. For instance, plant species with varying types of roots (in thickness, depth and orientation) planted on erosion-prone slopes can protect against soil slippage and landslides.<sup>158</sup>
- *Improving water availability and quality.* The management of natural wetlands, soil moisture and groundwater recharge are some sustainable nature-based approaches for water availability.<sup>159</sup> In cities catchment management and green infrastructure can

help ease pressure on water supply. For water quality nature-based solutions offer alternatives to existing “end of pipe” water treatment approaches. For instance, constructed wetlands mimic natural systems for filtering runoff rainwater and can remove up to 88 percent of suspended solids, 92 percent of organic matter, 46–90 percent of phosphorus and 16–84 percent of nitrogen from water,<sup>160</sup> as well as pathogens.<sup>161</sup> These initiatives should be part of blended approaches (combining green and grey infrastructure) to adequately respond to water security threats in the 21st century.<sup>162</sup>

“Adaptation to ongoing dangerous planetary change needs to be enhanced with a global view; otherwise, there is the risk that inequalities will continue to widen, creating human crises at the local level and humanitarian crises at the international level

- *Enhancing food security.* Forestry and agricultural activity, which support the global food supply, are vulnerable to climate change and biodiversity loss. Nature-based agricultural practices that support food security include regenerative agriculture (increasing soil fertility and productive capacity over time), agroforestry (growing crops on land interspersed with trees) and silvopasture (integrating trees, forage pasture and grazing livestock on the same land).<sup>163</sup> These initiatives strengthen the resilience of agricultural ecosystems, support biodiversity and benefit farmer livelihoods.
- *Contributing to climate change mitigation.* It is possible to contribute to climate change mitigation while also benefiting communities and ecosystems.<sup>164</sup> A systemic approach can deliver global outcomes: a group of 20 cost-effective actions across forests, wetlands, grasslands and agricultural lands could provide 37 percent of the global mitigation needs of this decade to keep temperature rise below the 2 degrees Celsius threshold.<sup>165</sup> Indigenous peoples and local communities have made important contributions to climate mitigation by protecting forest areas. Forest conservation efforts, particularly in biodiversity hotspots, could be implemented alongside, but faster than, the transition from fossil to renewable fuel.<sup>166</sup> Other nature-based solutions include wetland restoration and agroforestry.<sup>167</sup>

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## Solidarity—beyond protection and empowerment

The self-reinforcing cycle between dangerous planetary changes and social imbalances lies behind climate change and biodiversity loss and other challenges that continue to be addressed primarily in a piecemeal way. Social imbalances are often linked to cross-national inequalities.<sup>168</sup> Adaptation to ongoing dangerous planetary change needs to be enhanced with a global view; otherwise, there is the risk that inequalities will continue to widen, creating human crises at the local level and humanitarian crises at the international level. And, similarly, actions to ease planetary pressures could build on the Paris Agreement to widen coordination mechanisms to reduce greenhouse gas emissions with a renewed sense of urgency and purpose. Binding state-contingent agreements could offer an effective mechanism to link global crisis response action (providing finance to cope with major shocks, wherever they occur) with mitigation efforts (incentives to penalize in the future the failure to act today).

An important element in driving the policy and broader behaviour response needed to ease planetary pressures is the availability of data-for-human-security around Anthropocene-related threats. Understanding the complexity of human security challenges—interconnected, multidimensional and universal, with heterogeneous effects on people—depends on disaggregated and forward-looking estimates of the effects of the Anthropocene context on the planet and on people. In addition, the changing nature of threats requires the ability to progressively develop policy-sensitive scenarios for policymaking. As part of the project behind this Report, the United Nations Development Programme is working with the Climate Impact Lab to produce a pilot platform that will provide scenarios of the effects of climate change on people everywhere for the next eight decades.

Moreover, the benchmark for measuring development should evolve to reflect the embeddedness of people as part of nature. The 2020 Human Development Report introduced the Planetary Pressures-adjusted Human Development Index to shift the coordinates for public policies. This new index is a contribution to help reimagine the human development journey as one that expands human freedoms while easing planetary pressures.<sup>169</sup>

“A strong common narrative of universal reach based on solidarity and enhanced agency at the local level can be a powerful device to successfully address human security

Achieving global goals depends on local action. Some of the challenges examined in this chapter are monumental, to such an extent that not even the most powerful nation-states or private corporations can tackle them alone. Coordination and cooperation to tackle many of them have proven difficult. If not even the most powerful entities can address the threats to human security in the Anthropocene context, what is left for those with little power to do so? It is unsurprising to see, therefore, manifestations of disbelief and alienation. There is, however, a different perspective: by linking global challenges with local action, it is possible to articulate a new perspective on human security.<sup>170</sup> Like taxpayers' demands for accountability in the use of their contributions, people working actively for human security in their community not only contribute to local change but also can hold more prominent players accountable. This is how community resilience can be built up in the face of challenges.<sup>171</sup>

The Covid-19 pandemic provides examples of this in action everywhere. As people did their part

(following quarantines, waiting in line for vaccines), they put pressure on those who used their privileges to depart from social norms. A strong common narrative of universal reach based on solidarity and enhanced agency at the local level can be a powerful device to successfully address human security. And there is space for action based on shared aspirations: solidarity underpins the recognition of the equal worth of all human beings across generations, geographies and cultures, but in the Anthropocene context it is also crucial to recognize the intrinsic value of nature to mobilize action and send strong signals to decisionmakers.<sup>172</sup>

This means that people can play more active roles as agents of change, as discussed in the 2020 Human Development Report. Relying only on market or government mechanisms misses the power of decentralized action. Cultural change can happen—and fast—when there is a clear sense of purpose and an alignment of beliefs.<sup>173</sup> Again, the Covid-19 pandemic showed that people can change their behaviour in dramatic ways.<sup>174</sup> The new generation of human security depends on unleashing the transformational power of local agents in the pursuit of solidarity, along with protection and empowerment, recognizing the centrality of human agency.



PART

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# Tackling a new generation of threats to human security



CHAPTER

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3

# Digital technology's threats to human security

## Digital technology's threats to human security

Digital technologies are increasingly central in people's lives as consumers, citizens, workers and entrepreneurs and even in their personal relationships.<sup>1</sup> Digital technologies can do much to expand capabilities and promote human security.<sup>2</sup> They can expand human freedoms, boost productivity and facilitate humanity's response to current challenges—such as tackling Anthropocene risks and tracking pandemics. Digital technologies can also be enablers. Take mobile phones, which can enhance freedom and expand people's capabilities to communicate and acquire information—leading to, for instance, access to better health care services.<sup>3</sup> Digital technologies co-evolve with values and social practices and thus have an indirect bearing on people's agency.<sup>4</sup> Digital technologies can also affect agency directly—for example, increasing opportunities for community participation and mobilization.<sup>5</sup>

As digital technologies become more widely used in commerce, governance and social life, they pose new challenges for human security. Indeed, respondents to a World Economic Forum survey cited technological risks—such as digital inequality, cyberattacks, data fraud and theft, and concentrated digital power—among the most imminent threats.<sup>6</sup> The security implications of digital technologies are often assessed through a national security lens.<sup>7</sup> Applying a human security approach recentres the focus on implications for people. For instance, cyberattacks on communication networks affect not only national security but also people's access to information and freedom of association. Digital technologies can facilitate harm to people, such as bullying, harassment, fraud and misinformation. Other technology-related threats to human security can be associated with responses to the uncertainty generated by technology diffusion. For instance, concentrations of control by technology providers or governments can disempower or abuse users. In considering how new technologies may serve as digital public goods, policymakers must go beyond technical solutions alone and also consider questions of values and ethics—for instance, over advancing equality and minimizing harm.<sup>8</sup>

This chapter discusses some of the threats to human security posed by digital technologies. First, it explores how common cybersecurity attacks and new technological tools can undermine human security. It then discusses the potential for human rights to be

compromised in response to cyberharm and how the increasing reliance on artificial intelligence (AI) algorithms can erode human security. Finally, it discusses how uneven access to technology impacts human security, as seen clearly in the uneven access to Covid-19 vaccines.

## Cyberinsecurity and unintended consequences of technology

Given global interconnectivity and the large numbers of technology users, systems and network components involved, cyberattacks can generate harm through many pathways.<sup>9</sup> With people relying on digital technologies more than ever during the Covid-19 pandemic, digital threats have intensified. Cyberharm is the direct or indirect result of cyberthreats on individuals, organizations, communities or states by numerous bad actors, among them nation-states, terrorist groups, corporate spies, organized crime syndicates, hackers and hacktivists, as well as accidental actions of authorized users.<sup>10</sup> Cyberthreats have varying reach and motivations that require multiple risk mitigation and control techniques.<sup>11</sup>

“With increasing digitalization and many more stakeholders potentially affected, assessing the impact of cyberevents—criminal, political or developmental—is complex.

Cybercrime's damage in 2021 is estimated at about \$6 trillion, up 600 percent since the beginning of the Covid-19 pandemic in 2020.<sup>12</sup> More than half of breaches involve identity theft (65 percent), followed by account access (17 percent) and financial access (13 percent).<sup>13</sup> With increasing digitalization and many more stakeholders potentially affected, assessing the impact of cyberevents—criminal, political or developmental—is complex.<sup>14</sup> For instance, attackers use malware programs to compromise the networks of large corporations and public institutions in supply chain attacks. An abundance of marketable material can be accessed as a by-product of the primary attack, which supports a growing market in stolen personal information.<sup>15</sup>

Cyberharm can be especially damaging for developing countries and regions. Most digital products, services and technologies are produced or designed outside developing countries, limiting those

countries' inputs into security standards.<sup>16</sup> And capacity to detect cyberattacks varies widely across regions. In 2020 the global median time taken to detect attacks was 24 days.<sup>17</sup> In the Americas it was 17 days, compared with 66 days in Europe, the Middle East and Africa and 76 days in the Asia-Pacific region. Users in many African countries are disproportionately affected by most forms of malicious activity, including malware, cyberattacks and social media scams.<sup>18</sup> Of the 50 countries with the fewest secure servers per million people in 2020, 36 were in Sub-Saharan Africa, where values ranged from 0.8 in Eritrea to 264 in Botswana. Sub-Saharan Africa's average of 799 secure servers per million people is well below the global average of 11,516.<sup>19</sup> In 2017 an estimated 95 percent of African companies were unable to protect themselves from losses.<sup>20</sup> Cyberattacks can generate substantial human and economic losses, especially in countries with high cyberinsecurity.<sup>21</sup> The International Telecommunication Union's Global Cybersecurity Index shows that many countries, particularly Least Developed Countries, are likely to face resource challenges in bridging their cybercapacity gaps.<sup>22</sup>

Digital technologies are altering the dynamics of conflict. Cyberwarfare ranges from propaganda to espionage, from defacing websites to disrupting electricity grids and water systems.<sup>23</sup> Hacking and related activity have become comparable to espionage.<sup>24</sup> The widespread destructive abilities of these tactics are evident in recent high-profile ransomware attacks on key infrastructure, such as the Colonial Pipeline in the United States.<sup>25</sup> Particularly threatening are AI-powered autonomous lethal weapons. Their use is generating new ethical concerns, particularly over replacing human ethical judgements during conflicts.<sup>26</sup> Despite campaigns such as Stop Killer Robots and the call by UN Secretary-General António Guterres to ban them, such weapons mushroom.<sup>27</sup>

Some digital technologies can have unintended negative consequences. Many of the social consequences of new technologies appear only as those technologies mature. For instance, quantum computers have considerable computing power and can revolutionize whole fields that require such power. But they could also be used to crack encryption algorithms of internet sites<sup>28</sup> or to attack financial systems and institutions (for instance, compromising

the security of mobile banking and e-commerce).<sup>29</sup> Cryptocurrencies such as Bitcoin were designed to facilitate financial transactions by cutting out intermediaries and instead using a decentralized network of users to validate transactions. But validating cryptocurrency transactions requires vast computing power and uses a lot of electricity as a result. It also generates considerable e-waste—by some estimates more than that of many midsize countries in 2021.<sup>30</sup> Other negative social consequences have emerged—thefts from exchanges, illegal drug trade and ransomware, as well as bubbles and Ponzi schemes that profit from price volatility. Country responses have been mixed. El Salvador was the first nation to officially adopt Bitcoin as legal tender in September 2021.<sup>31</sup> Some countries have explicitly banned trading or using cryptocurrencies; others have imposed an implicit ban.<sup>32</sup>

“From a human security perspective, it is important to support people's freedom to use and participate in social media, while protecting them from harm

## **Upholding human rights in addressing harms on social media**

Social media offers countless opportunities for political engagement, participation and agency (see box 3.1 for examples from Estonia). Social media platforms can lift the voices of groups that are otherwise marginalized in public debate. They are virtual civic public spaces where participants can exercise their right to freedom of expression through online discussions, petitions and hashtag campaigns.<sup>33</sup> Online civic space with tools for anonymous online gathering and communications can provide a refuge for marginalized, opposition or minority groups, particularly where such voices are suppressed. They can contribute to human security and development broadly by fulfilling the need for connectivity, information and business opportunities—promoting services, connecting to customers and expanding markets for small producers. At the same time, social media can amplify threats to human security for individuals or groups. For instance, social media platforms can facilitate online child sexual exploitation, cyber-dependent crime and online radicalization.<sup>34</sup> In different parts of the

### Box 3.1 Estonia's e-governance: Technology follows values

Estonia became the first nation to hold legally binding general elections over the internet in 2005.<sup>1</sup> In 2014 it became the first country to offer e-residency—a government-issued digital identity and status that provides access to Estonia's business environment, allowing people to start and manage business from anywhere, entirely online.<sup>2</sup> This is a culmination of a process that started in the early 1990s with a bet on digital technologies as a driver of development.<sup>3</sup>

Laying the foundations for e-government began in the late 1980s, even before Estonia regained its independence. A working group under the auspices of the Estonian Institute of Cybernetics determined three essential pillars for a durable e-society:<sup>4</sup>

- A unique mechanism for identifying all citizens based on an identity code, in conjunction with the Estonian population registry, which then serves as a single authoritative information source for all government systems.
- Means through which citizens can relate themselves with repositories and services (an Estonian national identification card). It serves several purposes: preserving the confidentiality needed to communicate with government systems and ensuring a strong tie between the contents of data and the individual to whom the data verifiably belong. By design, it assures that no intermediary could surreptitiously change any data. In this way the owners of digital signatures are always able to control the content under their signature.
- A system that permits the wise and meaningful utility of data. The system, called X-Road, was designed to support all data uses. It minimizes the amount of data that needs to be stored and avoids data block duplication. The system's design, development and deployment eliminated

the need for massive data stores for repetitive or duplicative data entries and reconciliation workloads and for duplicate data protection demands. That minimized the need for storage or transmission of data, reducing the prospect for certain types of data breaches.

These principles have been implemented through legal instruments and institutional structures.<sup>5</sup> Estonia's 1992 constitution established the right to view one's personal data stored by the government.<sup>6</sup> The Personal Data Protection Act entered into force in 1996. The Database Act, adopted in 1997, regulates the creation and maintenance of digital databases and introduced a state register of databases.<sup>7</sup> It stipulates that data can be requested from a citizen only once, regulates access to data and requires logs that record all data manipulations. In 1998 Estonia adopted its first information society strategy, the Principles of the Estonian Information Policy. In February 2000 parliament enacted a new Telecommunications Act,<sup>8</sup> adding internet access to its universal service list.

Estonia shows that an open and transparent attitude provides a good foundation for trust. It gives more control to the real owner of data—the citizen. It also makes the system more resilient. Cyberattacks in 2007 did not compromise Estonian citizens' personal data or privacy.<sup>9</sup> Data exploitations and abuses by users of X-Road were quickly investigated and addressed thanks to data access logs.<sup>10</sup>

#### Notes

1. Valimised 2021. 2. Government of Estonia 2021. 3. Davies 2019. 4. Priisalu and Ottis 2017. 5. IDABC 2007; Kitsing 2011. 6. Government of Estonia 1992, Article 44. 7. The Database Act was last amended in 2007 and incorporated into the Public Information Act (Riigikogu 2000). 8. Currently incorporated into the Electronic Communications Act (Riigikogu 2004). 9. Priisalu and Ottis 2017. 10. Davies 2019.

world, social media has been used as a tool for terrorist propaganda, coordination and recruitment.<sup>35</sup>

From a human security perspective, it is important to support people's freedom to use and participate in social media, while protecting them from harm. However, countering cyberharm—be it due copyright violations, the spread of terrorist propaganda, the dissemination of nonconsensual intimate images or hate speech—while protecting rights and freedoms is challenging. There are multiple actors involved, private and public, with priorities that are not necessarily consistent with advancing human

**“An open and transparent attitude provides a good foundation for trust. It gives more control to the real owner of data—the citizen. It also makes the system more resilient**

rights. Governments around the world have responded through a mix of online content regulation and expanded surveillance capabilities. These responses can be a serious threat to civil liberties.<sup>36</sup> Technology companies have responded by hiring content moderators and developing new tools for detecting illegal content. But in doing so, they are effectively drawing

the line between legitimate and illegal content, which may raise concerns regarding users' digital rights of free speech, access to information and nondiscrimination.<sup>37</sup> Political parties often engage in disinformation through social media channels but are also able to shape policymaking and regulation related to disinformation.

Measures intended to limit harm should not stretch to diminish human security, including the violation of human rights. Since government responses may limit citizens' access to information, legislation to address disinformation needs to carefully consider several challenges, including how to define what "false" and "fake" news are and what standards of proof are required when there are concerns about the intention to spread incorrect information or to deliberately mislead.<sup>38</sup> Steps that technology companies can take include integrating human rights impact assessments when they evaluate content policies and undertaking meaningful public and civil society consultation on product and policy development.<sup>39</sup>

Several existing regulatory frameworks might serve as a base for the checks and balances: the European Social Charter, the Oviedo Convention and Convention 108+ protect personal data and privacy. A dedicated legal instrument with a global reach could set benchmarks for privacy, liability, confidentiality, data safety and informed consent.<sup>40</sup>

## Artificial intelligence–based decisionmaking can undermine human security

If deployed correctly and with human-centric values at the core, AI<sup>41</sup> can be a vital tool in improving well-being, narrowing inequalities and enhancing agency. For instance, AI has immense potential for improving economic productivity and addressing concrete challenges such as food security by supporting farm productivity, smart farming and climate change adaptation.<sup>42</sup> For example, US-based aWhere and Swedish Ignitia employ predictive AI and advanced analytics to provide agricultural intelligence and ultra-accurate weather forecasts to smallholder farmers in Africa and Asia.<sup>43</sup> Uruguayan agtech startup Chipsafer produces wearable technology that tracks livestock activity in near real time, detects anomalies in cattle behaviour and helps isolate disease outbreaks.<sup>44</sup> AI

is also becoming a key enabler of a new and data-related energy industry. With integrated information on energy supply, demand and renewable sources, the power grid could be controlled autonomously by smart software that optimizes decisionmaking and operations.<sup>45</sup>

“AI algorithms may be good at serving some groups in society while failing others

However, AI also brings new challenges.<sup>46</sup> AI algorithms that shape how people engage in e-commerce, access news and entertainment and engage with others in digital social networks can diminish people's wellbeing. For instance, AI algorithms that prioritize catching people's attention are used to generate economic value by exploiting human cognitive biases.<sup>47</sup> A social media post that includes indignant disagreement obtains almost twice as many likes and more than twice the number of shares.<sup>48</sup> Adding a single moral-emotional word to a tweet increases its retweet rate by 19 percent.<sup>49</sup> Algorithms that drive attention and engagement can contribute to feelings of discontent with social media, with people reporting feelings of distraction, resistance to micro-targeting and diminished emotional wellbeing.<sup>50</sup>

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### Algorithmic bias can compound discrimination

Algorithmic bias has been well documented.<sup>51</sup> For example, women have been found to be less likely than men to receive targeted ads for high-paying jobs. AI is being used increasingly in healthcare,<sup>52</sup> but AI tools can perform poorly when used to diagnose or treat people from groups that are underrepresented in the data used to train the algorithms. For instance, a team of UK scientists found that almost all eye disease datasets come from patients in China, Europe and North America, so eye disease–diagnosing algorithms are less certain to work well for racial groups in underrepresented countries.<sup>53</sup> And skin cancer–detecting algorithms tend to be less precise for Black patients because AI models are trained chiefly on images of light-skinned patients.<sup>54</sup> There are huge data gaps regarding information on women, biases even more pronounced in developing countries, compounded by a lack of qualified medical personnel.<sup>55</sup>



AI algorithms may be good at serving some groups in society while failing others. Facial recognition technology performs significantly worse for women and for non-White people. The growing use of facial recognition by law enforcement has resulted in cases of Black people being charged wrongfully for crimes they have not committed (box 3.2). An algorithm can match a screenshot of security footage from a crime scene to a sea of faces from a database but is more likely to make an incorrect match if the footage includes a Black person. Jobs, promotions and credit and bail applications are increasingly processed by AI algorithms that base decisions on people's digital profiles, which can lead to unjust outcomes.<sup>56</sup>

AI algorithms can also influence decisions on who is approved for a loan, shortlisted for a job or offered a promotion. Take the online tech hiring platform Gild, which evaluates job applicants by going beyond their curriculum vitae and application materials to look at their “social capital” in the programming community.<sup>57</sup> Applicants who frequent a particular Japanese

manga site receive high scores, a solid predictor of strong coding skills.<sup>58</sup> Most women are left out, as these manga sites tend to be frequented mostly by men, could have a sexist tone and are usually avoided by women.<sup>59</sup>

Employers have also been bringing in AI to make hiring decisions. The objectives are often to expand the pool of candidates, go beyond the usual network and channels for hiring and reduce reliance on the subjectivity of human recruiters. But the algorithms have not had the expected impact. For example, Amazon had to scrap an AI recruiting tool that was discriminating against women.<sup>60</sup>

Algorithmic bias has a more pronounced effect when AI applications are introduced in developing country settings.<sup>61</sup> Many AI applications are developed outside developing countries, and most datasets available include people from developed countries. This might affect the sensitivity of AI systems, which could embed algorithms that contain the creators' beliefs and biases. This could in turn

### Box 3.2 Facial recognition technology: dangerous and largely unregulated

Facial recognition, combined with other artificial intelligence technologies, has the potential to improve lives through expanded access to routine medical care, identification of missing persons<sup>1</sup> and even cross-border digital identification documents for displaced persons.<sup>2</sup> But rights groups, activists and some international organizations have expressed concern that this technology is neither accurate nor well-regulated. Facial recognition software is created by humans and tends to replicate human biases. Software developed by US companies has been shown to misidentify women and people of colour at much higher rates than White men, and East Asian software is similarly more accurate for male East Asian faces.<sup>3</sup> Employing facial recognition technology in law enforcement can lead to unwarranted arrests and imprisonments of people of colour.<sup>4</sup>

More broadly, facial recognition technology raises privacy questions. It can allow governments to crack down on protesters and political opponents or target ethnic minorities.<sup>5</sup> That facial recognition is so widely used<sup>6</sup> indicates that threats of potential rights violations are far-reaching. Facial recognition may be used for lawful purposes, such as policing,

border control and antiterrorism. But beyond concerns about misidentification, communities may consider the surrender of their privacy unacceptable. And special makeup and other measures could radically reduce the quality of facial recognition, helping those who would like to avoid it.<sup>7</sup>

Despite the uncertainties associated with facial recognition technology, only three countries have banned its use.<sup>8</sup> Regulation short of a full ban is more common but still sparse and ad hoc. Some US cities and states have bans, but others continue to employ it for law enforcement purposes.<sup>9</sup> Likewise, the European Commission has issued guidelines for facial recognition, but there is considerable variation in regulation within the bloc.<sup>10</sup> For surveillance, facial recognition is often used in a clandestine manner, making it difficult to ascertain how and where it is used. At least 64 governments worldwide use the technology, generating concerns about how to avoid infringing on human rights.<sup>11</sup>

#### Notes

1. Girasa 2020. 2. Juskalian 2018. 3. Madianou 2019; Radu 2019. 4. Hill 2020. 5. Ghosh 2020. 6. Amnesty International 2021a; Feldstein 2019. 7. Guetta and others 2021. 8. Girasa 2020. 9. Amnesty International 2021b; Turley 2020. 10. Girasa 2020. 11. Feldstein 2019.

lead to discriminatory outcomes if applied to people in low-resource settings without their developmental input and data.<sup>62</sup> For instance, the Mana Data Foundation and UN Women found systematic prejudices against women in many programmes in China.<sup>63</sup>

Digital technologies could require safeguards, such as humans in the loop (ensuring adequate human oversight and control in AI applications), and proactively embed privacy by design (to anticipate and prevent privacy breaches rather than adopt a reactive approach).<sup>64</sup> And regulatory frameworks could provide for both technology's benefits and for user's privacy rather than forcing a choice between them.

Making the datasets' underlying AI-powered tools more diverse could help mitigate algorithmic bias that emerges from unrepresentative data. However, collecting data from underrepresented groups poses several additional challenges, including ethical concerns over exploitation of people in low-income countries and weak privacy protections.<sup>65</sup>

instance, in outsourcing clerical work) and location-based platforms (which allocate work within a specific geographic area, such as food delivery or ride-hailing services).<sup>66</sup>

“Digital technologies could require safeguards, such as humans in the loop (ensuring adequate human oversight and control in AI applications), and proactively embed privacy by design (to anticipate and prevent privacy breaches rather than adopt a reactive approach)

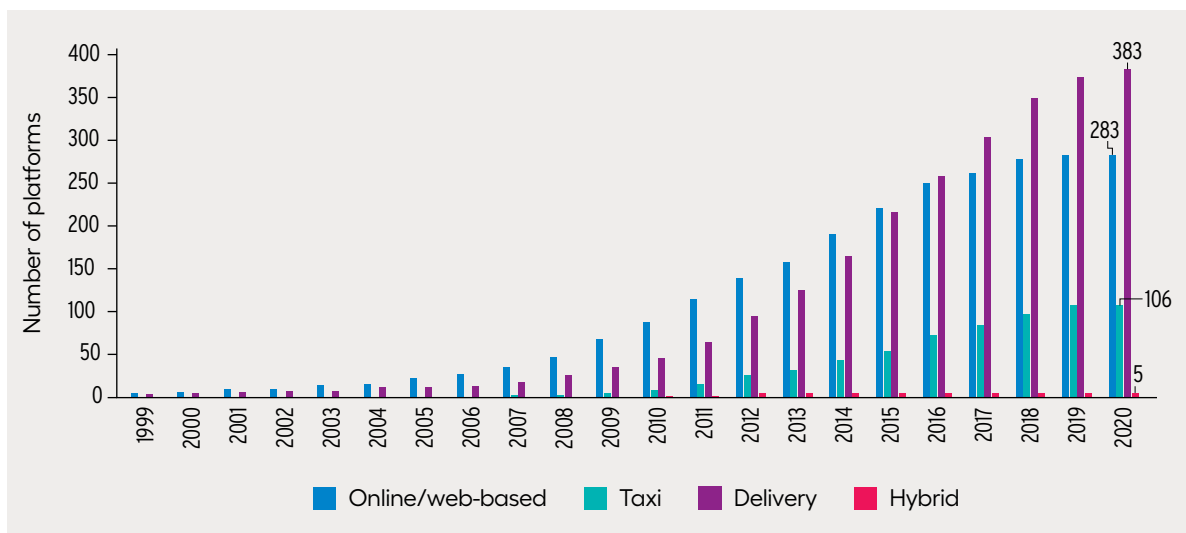
Digital labour platforms have given rise to an informal labour force, in developed and developing countries, creating new forms of insecurity in the world of work.<sup>67</sup> Workers on online web-based platforms work 27 hours on average in a typical week, with about one-third of that time (8 hours) spent on unpaid work (search). About half of these workers have other paid jobs, where they spend 28 hours on average per week. Most workers in the taxi and delivery sectors work at high intensity and for long hours—on average 65 hours per week in the taxi sector and 59 hours per week in the delivery sector. Unpredictable work schedules and hours are a reality for some workers on web-based platforms.<sup>68</sup>

Working conditions for people employed through such platforms are shaped substantially by AI-based algorithms, which influence working hours, task

### Digital labour management practices can diminish human security

Digital labour management is transforming the world of work (figure 3.1). Digital labour management platforms include both web-based platforms (which tap into a geographically dispersed pool of workers—for

**Figure 3.1 Digital labour platforms are growing**



**Note:** Includes only platforms that are currently active.

**Source:** ILO 2021c, figure 1.3.

allocation, performance evaluation and pay. Workers surveyed in the app-based taxi and delivery sectors indicated that they were unable to refuse or cancel work on account of the negative impact that doing so would have on their ratings, which could lead to reduced access to work, lost bonuses, financial penalties and even account deactivation.<sup>69</sup> Many platform workers encounter unfair treatment, based on evaluation by AI decisionmaking—for instance, people find their work rejected based on faulty algorithmic evaluations, subsequently affecting their pay and their ability to secure more work.<sup>70</sup> Workers employed through these platforms often fall outside the scope of social protection and labour law. Because they are often classified as self-employed, many platform workers are unable to engage in collective bargaining. Their geographical dispersion also poses challenges for collective organizing.

**“Digital labour platforms have given rise to an informal labour force, in developed and developing countries, creating new forms of insecurity in the world of work**

Many AI startups rely heavily on digital labour platforms and the intelligence of platform workers. In fact, digital labour platforms, such as microtask platforms, emerged due to the failure of AI to classify images, sounds and texts, which human intelligence was required to process.<sup>71</sup> This outsourcing has allowed firms to benefit from the double advantage of reducing costs and building data archives for machine learning and training algorithms for future automation.<sup>72</sup>

Typically viewed as the hallmark of platform work and the gig economy, AI management practices are increasingly employed in more traditional sectors such as retail commerce. There are growing concerns about these practices, including the effects on workers’ mental and physical health and the violation of privacy. AI applications in the workplace include the use of algorithms to promote efficiency. For instance, AI-based systems can track minute details of a worker’s day, including time spent on breaks and the speed of completing tasks.<sup>73</sup> The constant monitoring and pressure to meet productivity goals can increase stress and lower job satisfaction. This decline in work quality and the infringement on privacy undermine

workers’ dignity and ability to take pride in their work.<sup>74</sup> Evidence suggests that these algorithms drive workers to pack and sort items at a punishing pace under the constant fear of termination. According to the US Occupational Safety and Health Administration, Amazon warehouse workers have suffered a disproportionate number of workplace injuries in recent years, a trend attributed to the pressures that algorithms impose.<sup>75</sup>

Being trusted to act with integrity is a key source of dignity,<sup>76</sup> and micromanagement by algorithm denies employees this benefit. Some companies use AI algorithms to shape decisions over worker dismissals.<sup>77</sup> In a survey of Union of Shop, Distributive and Allied Workers members, only 8 percent of respondents were either “moderately confident” or “extremely confident” that they understood how performance-related data were used by their employer, while 67 percent were “not at all confident.”<sup>78</sup>

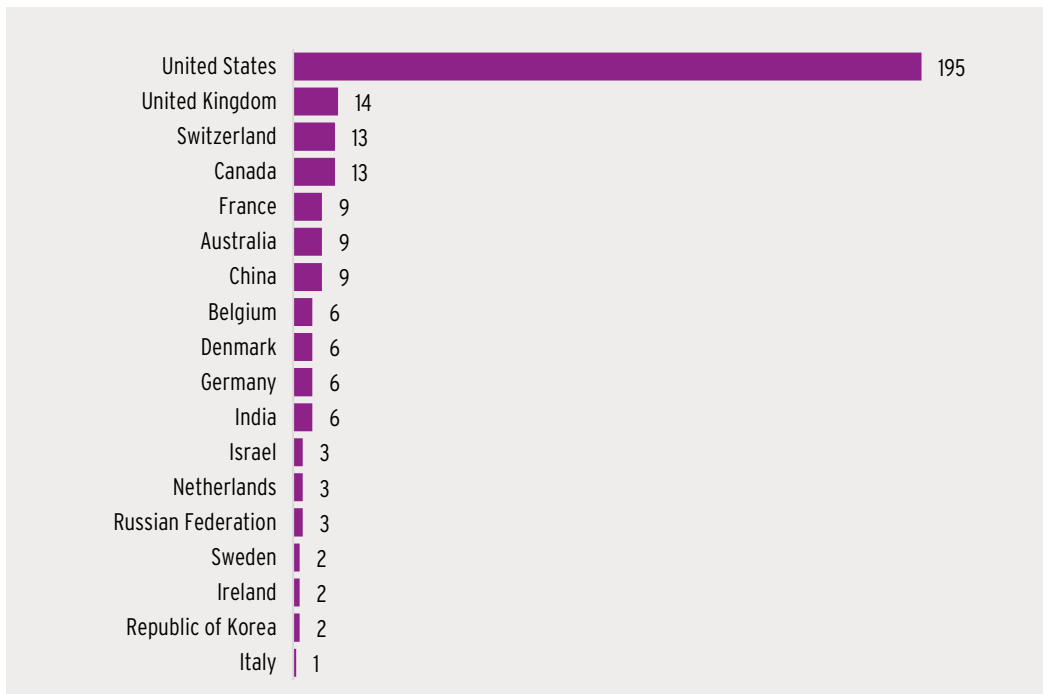
Enhanced transparency about how algorithms make decisions can prevent arbitrary discipline and dismissal. Transparency may also begin to repair damaged trust between workers and their supervisors. Regulating the type and quantity of data employers can gather, as well as the purposes for using such data, can help protect worker privacy and dignity.<sup>79</sup>

## **Uneven access to technological innovation**

The lack of access to the latest technology, tools and products can amplify inequalities, particularly in being able to seize on new economic opportunities and in benefitting from the improved wellbeing afforded to those able to use new technological innovations.<sup>80</sup> The human security implications arising from lack of access to technological advancements have been clearly demonstrated during the Covid-19 pandemic. Even though several factors hamper vaccine access, it is striking that Covid-19 vaccine patents are concentrated in just a few countries (figure 3.2). While vaccines were developed at record speed in an impressive feat of modern science, many developing countries have not been able to access them to widely inoculate their populations (see chapter 6).<sup>81</sup>

Vaccine availability is no longer constrained primarily by production bottlenecks.<sup>82</sup> In fact, there is

**Figure 3.2 Covid-19 vaccine-related patents are concentrated in just a few countries**



**Source:** Human Development Report Office calculations based on WIPO (2021).

global capacity to produce enough vaccines, but production is hamstrung in part by the intellectual property rights of a few pharmaceutical giants. A global move to suspend intellectual property rights has been called for, not just for vaccines but for a range of treatments, tests and products related to Covid-19.<sup>83</sup>

“It is striking that Covid-19 vaccine patents are concentrated in just a few countries

At the World Trade Organization (WTO) attempts by India, South Africa and other developing countries to suspend patents for Covid-19 vaccines and related treatments have been repeatedly blocked.<sup>84</sup> The United States has put its support behind patent waivers,<sup>85</sup> but there is opposition from some pharmaceutical companies.<sup>86</sup> Compulsory licensing is specifically allowed by the WTO agreement on Trade-Related Intellectual Property Rights (TRIPS). And public health emergencies are explicitly mentioned in the Doha Declaration on TRIPS and Public Health as adequate cause to issue compulsory licenses that would allow other countries to produce essential drugs.<sup>87</sup> The European Union has made a proposal that builds on using existing WTO provisions.<sup>88</sup>

Vaccine equity will not be achieved without increasing the supply and distribution of safe and effective Covid-19 vaccines, especially in low- and middle-income countries. No single vaccine manufacturer can produce enough vaccines to cover the globe, and demand has far outstripped supply, with high-income countries taking the lion's share of doses. Sharing the know-how behind the vaccines is key to not only scaling up production but also bringing forward the second generation of vaccines to address emerging variants.<sup>89</sup>

WHO has urged member states and current manufacturers to actively collaborate to share know-how, data and technologies through the Covid-19 Technology Access Pool and mRNA technology transfer hubs. The pool was launched by WHO with the support of Costa Rica and 40 cosponsors. It aims to enable the voluntary licensing of technologies in a transparent and nonexclusive way by providing a platform for developers to share intellectual property and data, including trade secrets and know-how. The technology transfer hubs, the first of which is in South Africa, were recently announced by WHO, the Coalition for Epidemic Preparedness Innovations and the Covid-19 Vaccines Global Access initiative. But these measures have so far been inadequate.<sup>90</sup>

“Ideally, patent systems would be part of a broader set of institutionalized arrangements that encourage innovation without relying exclusively on monopoly power

Recognizing the limitations of existing patent systems, some alternative forms of compensation have been suggested for policymakers to consider. Not all patentholders have the resources or inclination to capitalize commercially on their inventions, so a more centralized system for people to sell patent rights could be considered. This would allow them to profit from their intellectual property and make it easier for firms and other inventors to access new ideas and technologies, which could foster future innovation.<sup>91</sup>

Governments could also consider direct financing for future research or tax credits as compensation for innovation.<sup>92</sup> Knowledge commons would provide less tangible benefits that may nonetheless motivate people to innovate and share their work, such as increased opportunity for collaborating and demonstrating skill sets that may be useful for obtaining employment.<sup>93</sup> Ideally, patent systems would be part of a broader set of institutionalized arrangements that encourage innovation without relying exclusively on monopoly power over innovations.<sup>94</sup>

Examples of these institutional arrangements are open-source platforms for software applications (such as Apache Hadoop, Nginx and Github), accessible by digital and nondigital firms at zero cost. Many firms and developers use Github, an open-source repository of tools, software and application programs. The platform allows them to access, share and customize programs and tools, including through team collaboration, without substantial investment of time

and money,<sup>95</sup> thus accelerating innovation.<sup>96</sup> Many leading information technology companies collaborate with open-source platforms. This allows them to improve their public relations, gain legitimacy and learn and align with the latest innovations in their field.<sup>97</sup> Microsoft collaborates with the Apache Software Foundation and makes products and innovations available through this volunteer community of developers. Google has opened its Android patents,<sup>98</sup> Tesla has opened its patents to external developers<sup>99</sup> and the US National Aeronautics and Space Administration recently made hundreds of patents available,<sup>100</sup> continuing a long tradition.<sup>101</sup>

\* \* \*

In many respects digital technologies promise to expand capabilities and promote human security. However, technological advancements also pose new challenges. As digital technologies become more widely adopted, a human security approach calls attention to how technology can undermine people's wellbeing, rights and capabilities. People are affected by cyberattacks targeting their information and the systems they come into contact with in everyday life. Measures to address cyberharms that infringe on human rights and freedom diminish human security. The increasing use of algorithms in decisionmaking can compound discrimination and foster precarious, insecure working conditions. Uneven access to vital technologies, such as Covid-19 vaccines, can have far-reaching consequences for human security, of both individuals and society more broadly. If the human security implications remain unaddressed, new technologies could fall short in their promise to expand human capabilities.



CHAPTER

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4

# Unearthing the human dimension of violent conflict

## **Unearthing the human dimension of violent conflict**



Reducing violence everywhere and in all its forms is a prerequisite for human security and a core target of the 2030 Agenda for Sustainable Development.<sup>1</sup> Violent conflicts and interpersonal violence are direct threats to people's physical integrity. Before the Covid-19 pandemic 100 civilians a day were killed in armed conflict, and more than 12 times as many—1,205 people a day—were victims of homicide.<sup>2</sup> And the ongoing pandemic seems to have sparked increased intrahousehold violence<sup>3</sup> and political violence.<sup>4</sup> But the pathways from reducing violence to freedom from fear and anxiety, freedom from war and freedom from indignity extend well beyond ensuring physical safety. Being exposed to violence, directly and indirectly, is detrimental to wellbeing and human development more broadly. Conflict and violence can drive people from their homes, potentially exposing them to further security threats in their quest for safety.<sup>5</sup> But fear of violence also restricts people's use of public spaces,<sup>6</sup> limiting their agency and full participation in society. Furthermore, feeling safe is an integral part of Sustainable Development Goal 16.<sup>7</sup>

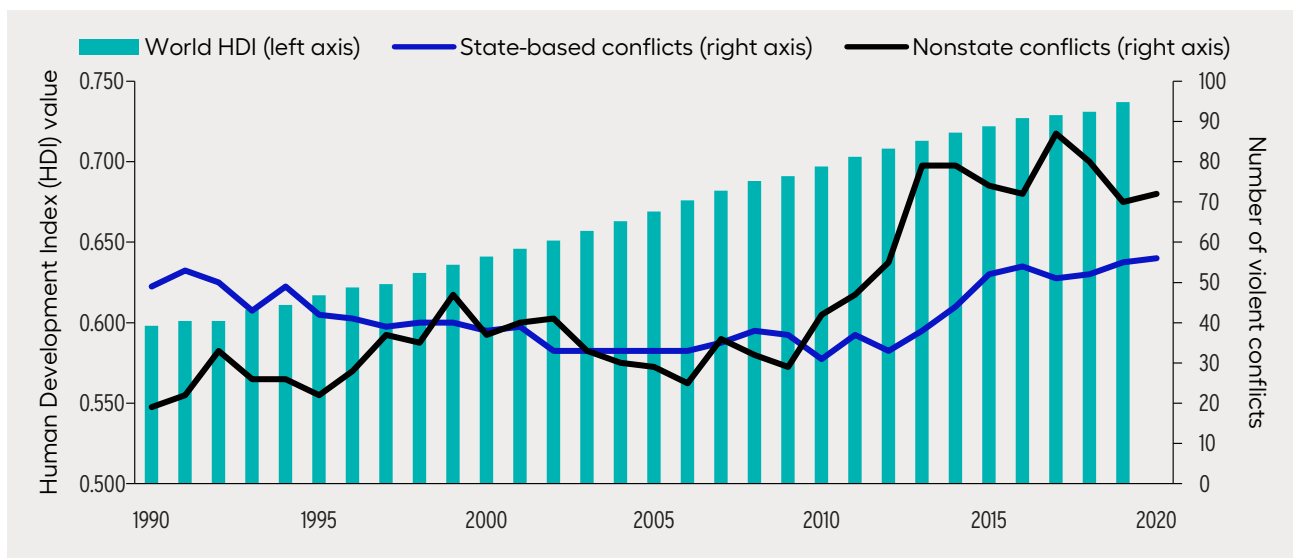
Today, conflict levels are up, and although violent conflicts are seemingly less deadly than in the past, they are spreading across countries and Human Development Index (HDI) groups. More people in more places are experiencing some kind of conflict, and, as seen in chapter 1, a majority of the global population feels insecure, often due to threats of violence. This

chapter centres conflict analysis on people, rather than on the contestations, to spotlight the human dimensions of violent conflict. Taking well-established conflict definitions as a starting point, it expands the analysis to compounding human security threats and people living in conflict-affected areas. Rather than give a full account of violent conflict, it shows how the new generation of human security—based on protection, empowerment and solidarity—can shed light on blindspots and support the building of just and peaceful societies.

### Systemic interaction of conflict with threats to human security calls for systemic responses

Wars, violent conflict between armed groups, violence, crime and unrest have often been thought of as problems of development. One implication was that economic growth would ease conflict and expand peace. But as the joint United Nations–World Bank report *Pathways for Peace* argues, recent trends have placed this hypothesis in doubt.<sup>8</sup> Emerging now is a development-with-insecurity trend, where violent conflicts increase in parallel with progress in human development (figure 4.1). Violent conflicts also seem to be spreading to higher HDI countries<sup>9</sup> and to increasingly consist of contestations between armed groups—so called nonstate conflicts.<sup>10</sup>

**Figure 4.1 Violent conflict is increasing in parallel with progress in human development**



**Source:** Human Development Report Office based on Uppsala Conflict Data Program/Peace Research Institute Oslo Armed Conflict Dataset version 21.1 and Uppsala Conflict Data Program Non-State Conflict Dataset version 21.1.

What is driving this trend? This Report argues that the Anthropocene context presents a new reality in which human security threats play out. In this setting a mechanistic security–development relationship cannot be taken for granted. Planetary disruptions interact with conflict dynamics, inequalities and technological innovation to create new arenas for conflict and violence. None of the new generation of human security threats on its own is enough to explain why violent conflict is on the rise—but in their interaction tensions multiply and build.

“Emerging now is a development-with-insecurity trend, where violent conflicts increase in parallel with progress in human development

The development–security disconnect may be a by-product of how development has been pursued, compounded by the legacy of historical injustices, including colonial rule. Development has not delivered benefits to all people—and in some cases has left groups behind.<sup>11</sup> The development approaches that have given most attention to economic growth and considerably less to equitable human development have led to stark and growing inequalities, as well as mounting pressures on the planet.<sup>12</sup> As seen below, in the Anthropocene context risks may heighten conflict tensions, and conflicts are closely linked to horizontal inequalities, the concentration of political and economic power among a few and the exclusion of many.

Human security in this context requires considering how overlapping threats interact and calls for systemic responses that adapt to changing circumstances.<sup>13</sup> Insights from complexity theory can help formulate systemic and adaptive approaches to sustaining peace (box 4.1).

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### **Violent conflict hinders solidarity and trust**

Chapter 1 argues for introducing solidarity into the human security frame and shows how in today’s world higher impersonal trust may help foster solidarity. This is particularly pertinent because many of the new human security threats span borders and their drivers lie beyond the control of a single actor. With fighting spilling across borders, wars driving forced displacement and organized crime spreading

through transnational illicit networks,<sup>14</sup> no country is immune to conflict and its devastation. When conflict triggers and human security threats are potentially global, peace also becomes an international and interlinked aspiration. Confronting the interconnected challenges that build conflict tensions and sustain peace in an era of compounding threats thus requires a sense of solidarity, as defined in chapter 1.

Festering fears and anxieties strain social contracts, in part by fuelling polarization and deepening societal divides.<sup>15</sup> Leaders interested in mobilizing groups into violence can politicize societal divides<sup>16</sup> or advance agendas that harm democratic institutions and norms.<sup>17</sup> Recent years have witnessed violations of international norms and human rights and oppression of civil liberties, even outside fragile and conflict settings.<sup>18</sup> Human rights defenders and environmental activists have become increasingly under attack, a potential strategy to silence protest and political opponents.<sup>19</sup> Indeed, the targeted killings of a few can incite fears among many, curtailing agency and collective action.

The targeted killings of environmental activists may be one of the most abysmal symptoms of the interactions among risks, inequalities and violence. The very people that are pushing for easing planetary pressures are often persecuted, furthering dangerous planetary changes that correspond to existential threats comparable to the nuclear threat.<sup>20</sup> In the Anthropocene context people’s choices result in pressures on the planet that are destroying the biosphere foundations on which societies depend. In the case of nuclear weapons, and other weapons of mass destruction, the threat of extinction is evident. Today’s nuclear risks are at their highest in the past four decades.<sup>21</sup> Risks related to technical malfunction, illicit trade, human error, volatile geopolitics and arms races can trigger negative human insecurity spirals.

When countries see the need to divert ever more resources towards protection and security, investments in human development that enhance agency and empowerment or ease planetary pressures may be postponed or never materialize. The world’s military spending reached its highest level since the end of the Cold War—almost \$2 trillion in 2020.<sup>22</sup> As the public health crisis caused by the Covid-19 pandemic turned into a socioeconomic crisis threatening human development progress everywhere, official

#### **Box 4.1 Adaptive peacebuilding: Insights from complexity theory for strengthening the resilience and sustainability of social-ecological systems**

Complexity theory offers new ways of understanding how social-ecological systems function under pressure—for example, how climate change–related stressors may exacerbate competition over scarce resources—and provides a theoretical framework for understanding how the resilience and adaptive capacity of social systems can be influenced to help them prevent, contain and recover from violent conflict.

As experiences in Afghanistan and elsewhere have demonstrated, it is not possible to undertake a project—for example, a community violence reduction initiative in Iraq or security sector reform in Somalia—and predict the outcome with any certainty. Nor can a model that has performed relatively well—such as the Truth and Reconciliation Commission in South Africa—be used elsewhere and be expected to produce the same result. This uncertainty and irreproducibility are characteristics of complex systems, not the result of insufficient knowledge or inadequate planning or implementation. Adaptive peacebuilding is specifically designed to cope with the uncertainty, unpredictability and irreproducibility inherent in complex social change processes. It is an approach where peacebuilders, together with the people affected by conflict, actively engage in an iterative process of inductive learning and adaptation.

Insights derived from how self-organization maintains and transforms complex systems suggest that for peace to become self-sustainable, resilient social institutions that promote and preserve peace need to emerge from within the culture, history and social-ecological context of the relevant society. A society is peaceful when its institutions can ensure that political and economic competition is managed without people resorting to violence to pursue their interests. For peace to be self-sustainable, a society thus needs sufficiently robust social institutions to identify, channel and manage disputes peacefully.

Peacebuilders can assist in this process, but if they interfere too much, they could cause harm by

disrupting the feedback critical for self-organization to emerge and be sustained. Every time an external intervention solves a problem, it interrupts the internal feedback process. The result may be a missed opportunity to stimulate the development of self-organization and resilience. For example, the more effective an international operation is in stabilizing a situation, the less incentive there is for political elites to invest in the political settlements needed to bring about self-sustainable peace. Understanding this tension—and the constraints it poses on international agency—helps explain why some policy initiatives may have interfered so much that they ended up undermining the ability of societies to self-organize. The weight typically assigned to international expertise versus local and indigenous knowledge needs to shift. The key to successful peacebuilding lies in finding the appropriate balance between external facilitation and local self-organization, which will differ by context.

An adaptive peacebuilding approach does not imply that expert or scientific knowledge is not important but that understanding how to implement evidence-based advice in a specific social context matters too. For example, the science may determine that avoiding close contact between people prevents the spread of Covid-19, but in a densely populated slum community that can be achieved only through adaptive practice and learning in partnership and collaboration with that community. The empowered agency of the people involved is critical for the effectiveness and sustainability of any peacebuilding initiative.

Adaptive peacebuilding is thus a normative and functional approach to conflict prevention and resolution that aims to navigate the complexity inherent in nudging social-ecological change processes towards sustaining peace, without causing harm.

**Source:** Cedric de Coning based on de Coning (2018).

development assistance also rose to a record in 2020—but still amounted to less than 10 percent of military spending.<sup>23</sup> Furthermore, a substantial portion of official development assistance is needed to alleviate immediate humanitarian crises, as seen during the ongoing pandemic, leaving less room for conflict

resolution or transformation of underlying conflict drivers. Today, military spending is 2.4 percent of global GDP,<sup>24</sup> whereas protection against a deteriorating environment—which in the Anthropocene context may become one of the greatest human security threats—is much lower. For example, EU countries

spent an average 0.8 percent of GDP on environmental protection in 2019.<sup>25</sup>

As military spending has increased, so has the proliferation of arms. The global stock of firearms has been growing over the past decade, to more than 1 billion today.<sup>26</sup> Military holdings account for 13 percent of all firearm holdings, and the vast majority of guns are in civilian hands.<sup>27</sup> However, private security solutions, such as acquiring a gun for protection, can increase human insecurity. For example, the proliferation of small arms in four communities in South Asia has increased fear, anxiety, suspicion and insecurity.<sup>28</sup> The UN Secretary-General outlined a new agenda for disarmament in 2018. With increasingly complex and protracted conflicts, rapid technological development and persistent nuclear threats, the agenda calls for governments to accelerate disarmament at both the community and national levels.

Yet several major official development assistance donors are also among the world's top arms exporters, and progress on internationally agreed disarmament commitments has been slow,<sup>29</sup> indicating the prevalence of protectionist concerns over global solidarity and low trust at the global level. There is an urgent need to address the trust deficit to reconcile communities affected by violence as well as to reduce polarization and ease conflict tensions outside direct conflict and postconflict zones.

In postconflict settings truth and reconciliation programmes may support reconstruction, while increasing intergroup contacts outside political settings show promise in generating trust and tolerance.<sup>30</sup> Still, the unintended effects of such actions require careful attention, as they have been linked to post-traumatic stress and other adverse results.<sup>31</sup> Without a broader process of accountability, safeguarding of human rights and ending of impunity for human rights violations, conflict-related violence can take new forms,<sup>32</sup> and resentment and distrust may linger in social and political institutions, creating latent conflict tensions.

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### **Accountability and a global commitment to peace are key**

Accountability and honouring commitments to peace have emerged as key components for

fostering trust and solidarity. But because longstanding violent conflicts between nonstate actors and perpetual violence from organized crime make up an increasing share of the violent conflict landscape today,<sup>33</sup> questions about leadership and ensuring accountability arise. Scholars are increasingly pointing to how criminal governance regimes become embedded in state power, often as a result of coercion.<sup>34</sup> For example, research has shown that cartels in Mexico attack elected officials and political candidates to establish control over local territories.<sup>35</sup> When organized crime, local gangs or armed groups assume state-like functions of governing, ensuring protection and enforcing rules over the local community, the state monopoly of violence is threatened, and justice systems fail to protect citizens.<sup>36</sup> During the Covid-19 pandemic criminal organizations have used the public health crisis to expand their influence—by, for example, enforcing social distancing or distributing goods to local populations.<sup>37</sup> Similar questions of human rights and accountability are raised in relation to the growing number of people forcibly displaced by conflicts and the use of autonomous systems and artificial intelligence in warfare.

**“Questions of human rights and accountability are raised in relation to the growing number of people forcibly displaced by conflicts and the use of autonomous systems and artificial intelligence in warfare**

The current multilateral system, built in part to save future generations from the scourge of war, sees its institutions evolving to face new conflict threats.<sup>38</sup> The triple-nexus humanitarian-development-peace approach indicates not only the importance of physical safety but also a minimum threshold of economic, social, political and cultural freedoms in promoting a peaceful and just future for all. Institutional innovations in the climate-security space<sup>39</sup> and in expanding the set of voices at the peacebuilding table—including the Youth Peace and Security Agenda,<sup>40</sup> the landmark UN Security Council Resolution 1325 on gender-responsive peacebuilding<sup>41</sup> and recent UN Security Council discussions on new and emerging technologies—show how the concept of security is broadening in the multilateral space.

Multilateral peacebuilding balances humanitarianism with long-term development efforts. Its effectiveness can be enhanced by international commitments to advance human security and human rights—to protecting civilians in conflict, empowering historically marginalized groups and communities or easing planetary pressures. Calls for networked multilateralism stress the responsibility of all social actors to uphold human rights.<sup>42</sup> Commitments to internationally agreed conventions on human rights and to peace also advance the integrated and indivisible 2030 Agenda for Sustainable Development. In fact, committing to peace is not only a moral obligation—it also makes economic sense. Investing \$1 in conflict prevention today can save up to \$16 in the future.<sup>43</sup> Conversely, the economic cost of conflict and violence was estimated to be 10.5 percent of global GDP in 2019.<sup>44</sup> Worryingly, global trends seem to point towards slow progress on disarmament and multilateralism.<sup>45</sup>

## **Agency connects empowerment and protection for peaceful lives**

The emphasis on empowerment in the context of human security also implies empowering people to act for peace. Empowering people to act for peace is key in the current setting, with a conflict landscape that increasingly comprises protracted conflicts with a wide array of actors and in which consequences spill across national boundaries.<sup>46</sup> The last section of the chapter argues that centring conflict analysis and peacebuilding on people unearths commonly overlooked dimensions of conflict and peace and may provide a way of empowering people to become change-agents for peace.

Identifying, supporting and amplifying the efforts of the principal agents of change at the local, national, regional and global levels are critical, as is finding platforms for constructive dialogue. Doing so also requires changing pervasive social norms and power hierarchies that limit the agency and voice of historically marginalized groups. For example, including women in peace processes can improve the likelihood of sustainable peace agreements.<sup>47</sup> UN Security Council Resolution 1325 on women, peace and security calls on all actors to incorporate gender perspectives and enhance women's role in peacebuilding.<sup>48</sup>

Empowerment-focused efforts to address conflict risks need to protect those at risk of victimization while holding to account those perpetuating violence and violating human rights. So, systemic approaches are important not only to reduce conflict tensions and risks at a macro scale but also to prevent violent behaviours at the individual level.<sup>49</sup> Being exposed to violence at a young age can desensitize children and increase their likelihood of accepting and perpetuating violent behaviour.<sup>50</sup> Lack of economic opportunities can reduce the opportunity costs of engaging in violence,<sup>51</sup> whereas inequalities and exclusion can create grievances that can be instrumentalized by political actors to foster conflict.<sup>52</sup>

## **The dynamics of violent conflict are evolving under the new generation of human security threats**

Human security strategies based on the pursuit of protection, empowerment and solidarity can complement current approaches of addressing violent conflict. This is particularly pertinent in the current context—whether for the turmoil in Afghanistan, the future of reconciliation with indigenous peoples and First Nations in Canada or the transition measures for supporting people and places in managing large-scale transformations to ease planetary pressures.

**“Conventional security policies would be enhanced by systematically considering how overlapping human security threats create tensions and compound conflict risks**

Conflict is becoming more complex, internationalized, multidimensional and fragmented, involving more types of actors and persisting longer. A development-with-insecurity trend is emerging (see figure 4.1). Conventional security policies would be enhanced by systematically considering how overlapping human security threats create tensions and compound conflict risks. Similarly, development approaches that fail to account for planetary pressures and inequalities risk further aggravating human security threats. The following discussion illustrates how the new generation of human security threats interact with evolving conflict dynamics. By no means exhaustive, this overview shows how the intersections



warrant careful attention, as they may open new arenas for addressing conflict risks.

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**Conflict risks are exacerbated in the Anthropocene context; climate change is a threat multiplier**

As chapter 2 shows, a changing climate is one feature of the Anthropocene context. Land and ocean ecosystems, as well as the services they provide to humans, are changing because of human-induced climate change, and biodiversity loss is rampant, further eroding ecosystem resilience<sup>53</sup> and harming human health, livelihoods and wellbeing.<sup>54</sup> While there is still an ongoing discussion on the direct climate–conflict link, a large body of research identifies several pathways between the two,<sup>55</sup> highlighting how the Anthropocene context interplays with conflict dynamics. This calls for a broader conceptualization of human-ecological (in)security that captures the systemic and volatile nature of the Anthropocene.<sup>56</sup> Conflict can also exacerbate environmental degradation, leading researchers to point to possible “vicious vulnerability and climate traps.”<sup>57</sup> Conflicts are ultimately related to social imbalances: horizontal inequality, power hierarchies and political interests that seem to contribute more to environmental conflicts than the direct effects of deteriorations in the environment or access to natural resources do.<sup>58</sup>

Climate change disproportionately affects countries already experiencing armed conflict. At the end of 2020, 10 of 21 ongoing UN peace operations were in countries most exposed to climate change.<sup>59</sup> While this is due to geographic location, armed conflict increases the difficulties in managing and adapting to climate change and may even exacerbate environmental degradation. Conflict weakens government institutions and diverts attention from sustainable development to military concerns. Global military spending is increasing,<sup>60</sup> alongside the military carbon footprint.<sup>61</sup> Conflict operations may also directly hurt the natural environment. For example, attacks on physical infrastructure can lead to oil spills, fires and higher carbon dioxide emissions.<sup>62</sup> Indeed, by one estimate, the Gulf War contributed to more than 2 percent of global fossil fuel emissions in 1991.<sup>63</sup> And more recent research shows how agricultural lands were captured and destroyed by all sides in the Syrian

war.<sup>64</sup> Conflict is also a predictor of declines in wildlife populations, which hurts biodiversity.<sup>65</sup>

**“Climate change disproportionately affects countries already experiencing armed conflict**

A transition to a low-carbon economy is critical to curbing climate change, yet conflict may result in barriers to much needed energy transitions and lock in outdated polluting technologies.<sup>66</sup> The phasing out of outdated technologies and shifting from fossil fuel to renewable technologies also comes with transition risks, which, if not carefully managed, can slow the shift and even increase conflict.<sup>67</sup> Some regions and groups are better equipped to benefit from new opportunities in low-carbon economies, while others stand to lose out if no measures are taken when fossil fuel-intensive production and related employment opportunities are phased out.<sup>68</sup> If the distributional effects of the transition are perceived as unfair and regions and groups are left without the support needed to adapt to a new economic reality, social unrest may follow.<sup>69</sup> In fragile settings the side effects of renewable energy projects and local climate adaptation projects may heighten conflict risks.<sup>70</sup> At the global level the transition may reshape geopolitics, changing the relative positions of states and regions and leaving political and economic uncertainty.<sup>71</sup> In addition, the growing demand for minerals in the wake of a low-carbon transition may exacerbate or spur new conflicts.<sup>72</sup>

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**Digital technologies define new arenas for conflict**

Chapter 3 highlights the threats to human security from digital technological innovation, which may also create new arenas where conflicts play out. The same technologies can provide new opportunities to ensure accountability and foster peace—through, for example, better forecasting of conflict risks<sup>73</sup>—but military use of emerging technologies may also pose serious human security risks. For example, autonomous weapons systems and artificial intelligence may reduce human involvement in warfare,<sup>74</sup> raising questions about responsibility and accountability for the use of force. Existing regulatory and governance frameworks are ill-equipped to address the human rights risks linked to such emerging technologies.<sup>75</sup>

Some digital technologies can facilitate illicit economic transactions and tax evasion, as they allow for anonymity and untraceable transactions.<sup>76</sup> Online sharing and storing of personal data expose individuals to risks ranging from identity fraud and theft to hate crimes, attacks and cyberbullying. Half of all internet users may be victims of a cybercrime.<sup>77</sup> Online hate speech disproportionately targets women and minority groups,<sup>78</sup> and online harassment can silence social activists and undermine public deliberation.<sup>79</sup> Although major social media platforms have policies for banning hateful conduct, regulatory frameworks are still lacking for the most part, implying much discretion by firms that already concentrate substantial economic power in arbitrating what is acceptable behaviour online and possibly making the internet yet another unsafe space for many people.

The algorithms that social media platforms use to promote content may create content clusters and spread misinformation that can drive polarization.<sup>80</sup> While some research points towards the potential of these arenas to spur radicalization and recruitment to extremist groups,<sup>81</sup> the link between online hate and real-world violence and crime is yet to be fully established.<sup>82</sup> For the victims of cyberviolence, however, sharply distinguishing between online and offline violence may not be useful, as online attacks incite fear and restrict people's freedoms, adversely impacting human security.

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### **Large and growing inequalities mount tensions; conflict arenas differ across groups**

Horizontal inequality has long been thought of as a key driver of conflict,<sup>83</sup> but the conflict-inequality link seems to be multidirectional, with horizontal inequality both shaping and being shaped by violence and conflict.<sup>84</sup> These interlinkages are important when group-level inequalities are tied to the systematic political, social and economic exclusion or discrimination of particular groups. Fault lines across groups can be mobilized by political actors or other interests for conflict and violence.<sup>85</sup> This should not be seen as an argument to curb civil liberties, given that the large majority of groups and social movements protesting discrimination, exclusion and inequalities use peaceful methods to make their voices

heard (box 4.2). Horizontal inequalities alone do not automatically trigger violent conflict; other channels are needed to translate horizontal inequality into violent action.

People's perception of inequality and injustice seems to be crucial in furthering conflict risks.<sup>86</sup> Groups perceiving inequalities as unfair are more likely to be mobilized to act and more prone to be sensitive to political leadership and narratives that stir up animosity aimed at triggering violence.<sup>87</sup> Horizontal inequality-driven conflict tensions compound the interaction with the potential harms of digital technology. As seen above, online content clusters and widespread misinformation can further exacerbate feelings of animosity and alienation.

Conflict affects groups and places differently and interplays with existing social and gender norms, attitudes and values. Men are more likely to be victims of violent crime and homicides and to be killed in battle. Yet men also make up 90 percent of homicide perpetrators worldwide and commit violent and sexual offences at much higher rates than women.<sup>88</sup> In warfare systematic sexual violence towards women remains an abhorrent human rights violation.<sup>89</sup> However, one of the most egregious yet widely tolerated violations of human security is violence against women and children within their households and in the community. About one in three women worldwide has been subject to physical and/or sexual violence, most often by an intimate partner.<sup>90</sup> Thus, the most dangerous place for many women across the globe may be their own home.

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### **Conflicts are a growing public health concern**

Armed conflict and violence not only pose direct threats to health but also interact with other human security threats to harm physical and mental well-being. Conflict may have long-term negative effects on important health determinants, such as household livelihoods and education. People living in conflict areas face compounding health risks. They are disproportionately affected by trauma and injuries as well as mental health problems, which may lead to long-term disabilities and chronic illness when ongoing violence reduces access to quality healthcare services.<sup>91</sup> Conflict destroys healthcare infrastructure

#### Box 4.2 Social protests have intensified over the past three years

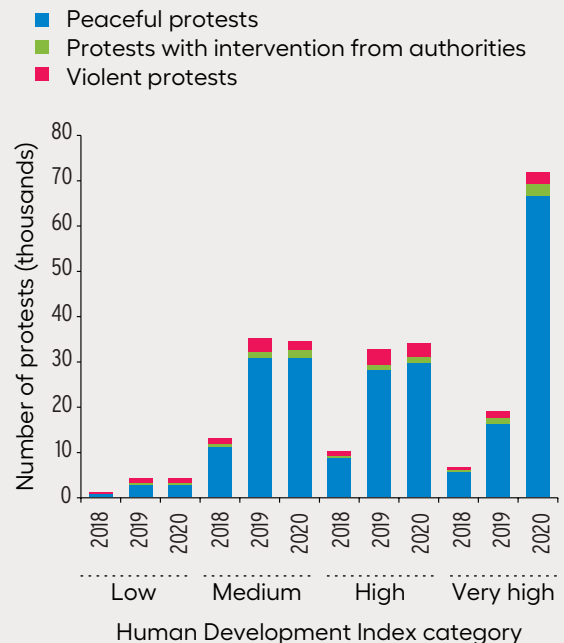
Over the past 10 years protests have been multiplying across the world, escalating in size and frequency. Largely peaceful, the growing scale and scope of protests are symptoms of human insecurity, revealing deep cleavages in societies and the failure of authorities to address citizen concerns.

Between 2009 and 2019 antigovernment protests increased by 11.5 percent a year on average, peaking in 2017 and 2019. In 2019 almost a quarter of the residents of both Hong Kong, China (SAR) and Santiago, Chile—2 million and 1.2 million people, respectively—took to the streets, and the social movement Fridays for Future registered more than 4 million environmental protests. These protests parallel declining trust in governments and democracy.<sup>1</sup> Protest is a form of political expression,<sup>2</sup> many times a final resort to seek social and political change when traditional mechanisms have not been responsive. While a protest may be triggered by a single event or policy change—such as the killing of George Floyd in the United States, the increases in metro fares in Chile or a proposed carbon tax in France—they often reflect mounting grievances, exclusion and discrimination.

The number of protest events has increased in all Human Development Index (HDI) categories over the past three years, with the largest increase in the very high HDI category (see figure). Rather than cooling tensions, the Covid-19 pandemic has spurred more protests across the world as people have taken to the streets to voice concerns about governments responses, or lack thereof, to the public health crisis.<sup>3</sup> The vast majority of protests are peaceful, and only a small fraction turn violent or are met with intervention from authorities. How authorities meet demonstrations can affect whether they turn violent, and repression of nonviolent protests has been found to trigger further violence.<sup>4</sup> When protests are

met with violence from authorities, human security is threatened, and human rights are violated.<sup>5</sup>

#### The number of protest events has increased in all Human Development Index categories over the past three years



**Source:** Human Development Report Office, based on Armed Conflict Location & Event Data Project.

**Source:** Bell and Murdie 2018; Brannen, Haig and Schmidt 2020; EIU 2021; Ferreira and Schoch 2020; Fridays for Future 2021; Kishi 2021; Lipsky 1968; Pinckney 2016.

#### Notes

1. EIU 2021. 2. Lipsky 1968. 3. Kishi 2021. 4. Pinckney 2016. 5. In 2020 the United Nations Human Rights Committee adopted General Comment nr. 37 on the right to peaceful assembly (United Nations Human Rights Committee 2020).

and services, exacerbating people's vulnerability to trauma and diseases not directly related to fighting. Noncommunicable diseases may remain untreated, and conflict can increase stress and other risk factors.<sup>92</sup>

These adverse health outcomes disproportionality affect already at-risk populations. For example, conflict is associated with increased gender-based and sexual violence directed towards women, higher rates of sexually transmitted diseases and worsening

maternal health outcomes.<sup>93</sup> Food insecurity is higher in conflict-affected areas, which may cause malnutrition and adverse health outcomes, especially among children.<sup>94</sup> Conflict and violence trigger displacement, further exposing people to health threats, which can be exacerbated when people live in close proximity, leading to contexts that are prone to outbreaks of life-threatening diseases such as cholera and malaria and that could become transmission belts for Covid-19.



“While a protest may be triggered by a single event or policy change—such as the killing of George Floyd in the United States, the increases in metro fares in Chile or a proposed carbon tax in France—they often reflect mounting grievances, exclusion and discrimination

Public health crises such as the ongoing Covid-19 pandemic may call for extraordinary policy measures and restrictions to protect people’s health.<sup>95</sup> If the measures are perceived as ineffective or unfair or fail to recognize adverse distributional effects, social and political tensions may increase. And while the pandemic dampened conflict events, in 2020 political violence rose in more countries than it fell.<sup>96</sup> Afghanistan, Mexico, Syrian Arab Republic, Ukraine and Yemen experienced the most political violence that year, whereas Cameroon, the Democratic Republic of the Congo, Iraq, Mali and Nigeria saw conflict events increase by more than 50 percent.<sup>97</sup>

## Putting people at the heart of conflict analysis, conflict prevention and sustaining peace shows the power of the human security approach

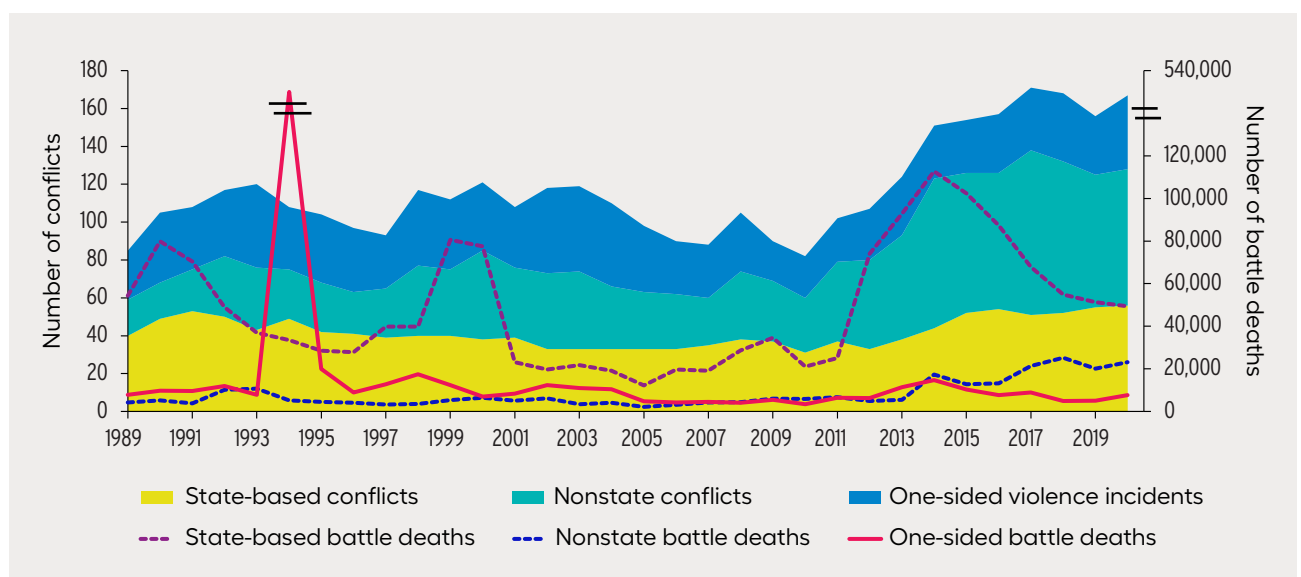
After decades of gradual de-escalation, conflict is again on the rise (figure 4.2). In 2020 there were 56

active state-based conflicts in 37 countries, the most involving the government of a state since the end of World War II.<sup>98</sup> Much of this increase may be ascribed to the Islamic State engaging in direct conflicts with governments in numerous countries. However, state-based wars are giving way to conflict between nonstate actors. In 2020, 72 active nonstate conflicts claimed the lives of 23,000 people. Together, both figures point towards violent conflicts that are less state-centric and increasingly protracted.<sup>99</sup>

The conflicts of today tend to be less deadly than the wars prior to 1990. Now, most battle-related deaths are concentrated in a few countries. Furthermore, crime is now a greater source of violent deaths than armed conflicts, and most occur outside traditional conflict zones.<sup>100</sup> The Americas account for 40 percent of homicides, and homicide rates have remained high and stable in the region while declining in the rest of the world.<sup>101</sup> Beyond homicides, people in Latin America are disproportionately exposed to other violent crimes.<sup>102</sup>

Still, measuring and monitoring conflict are laden with political and technical challenges. Traditional conflict metrics, such as number of ongoing conflicts or battle-related deaths, do not fully capture the reach of armed conflicts today, nor do they give a complete picture of the scale of the human security implications of violent conflicts. With protracted conflicts

**Figure 4.2 The number of violent conflicts is rising again**



Source: Aas Rustad 2021a.

and organized crime simultaneously concentrating in subnational hotspots and spreading across borders, data and measurement innovations are needed to improve understanding of who is affected by conflict. Although there are fewer battle-related deaths than in the past, violent conflicts are now more protracted, lingering on for years. Violent conflict creates immense hardship and suffering, including physical injuries, mental health problems and trauma, sexual violence, and exploitation, as well as generalized fear and a breakdown of trust.

This Report introduces one innovation in measuring the number of people affected by conflict that reveals stark trends (box 4.3).<sup>103</sup> The number of people

living in proximity to conflict events has more than doubled since 1990, and the share of conflict-affected people has been growing rapidly as well. Today about 1.2 billion people live in conflict-affected areas, 560 million of them in countries not classified as fragile contexts.<sup>104</sup> In 2020 people in at least 25 countries not facing fragile contexts were living in proximity to conflict events. Between 2014 and 2020 the number of people living in conflict areas increased by 378 million, and 40 percent of them were outside fragile contexts. Since conventional conflict analysis and peacebuilding tend to focus on fragility, conflict-affected people outside of traditional conflict zones may be overlooked.

### Box 4.3 Measuring conflict-affected populations

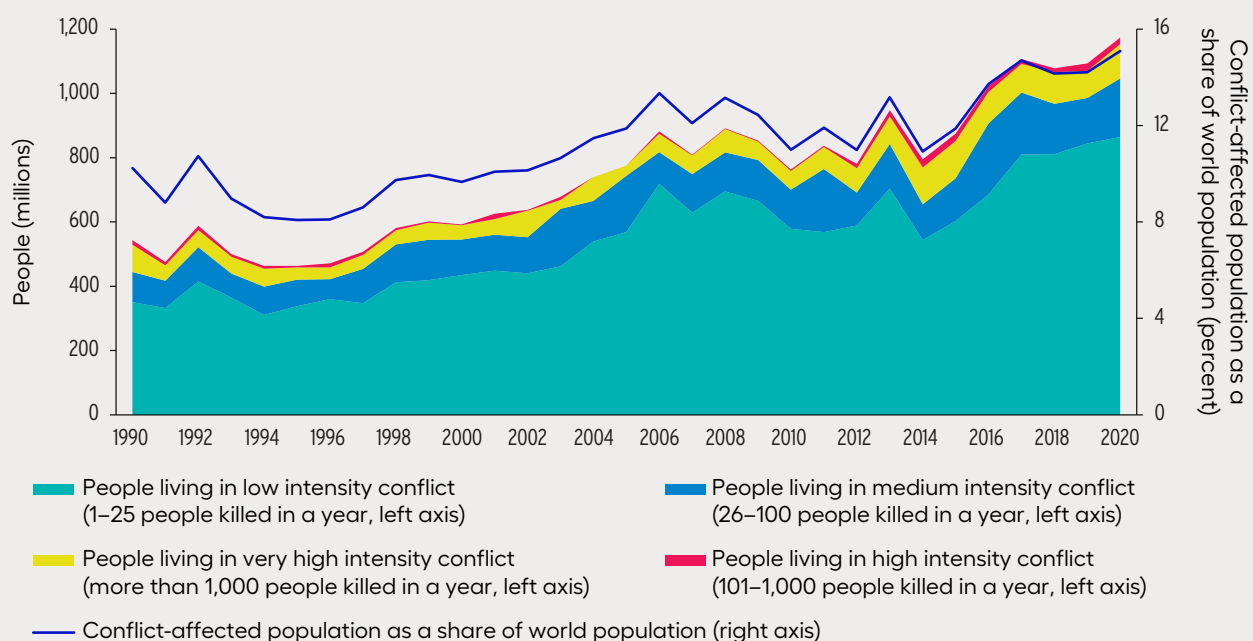
To scale the dimension of people exposed to conflict, Østby, Aas Rustad and Arasmith (2021) developed a methodology for calculating the number of people living in proximity to conflict. In 2020, 4.5 billion people lived in countries that saw some kind of conflict. Yet not all of those people were equally affected, as conflict events tend to concentrate in hotspots (box figure 1).

About 555 million people lived within 50 kilometres of a conflict event in 1990, compared with almost 1.2 billion—15

percent of the world's population—in 2020.<sup>1</sup> The trend is even more dramatic for children because conflicts are more common in countries with younger populations. Some 200 million children lived in conflict areas in 1990, compared with 452 million—19 percent of all children—in 2020. About 73 percent (864 million) of conflict-affected people live in areas with low levels of conflict (1–25 people killed a year). But even living in low intensity conflict areas can have a big impact on people's lives.

(continued)

**Box figure 1 Number of people within 50 kilometres of fighting**



**Note:** The number of people living in conflict affected areas, where fighting takes place within a 50 kilometre radius.

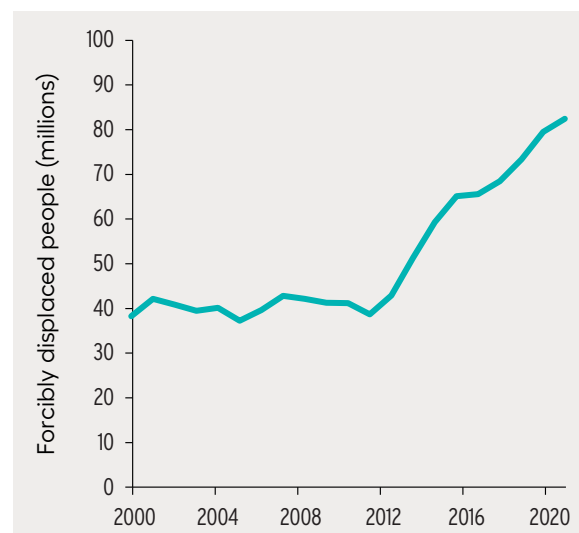
**Source:** Uppsala Conflict Data Program Georeferenced Event Dataset v.20.1; UN World Population Estimates; Østby, Aas Rustad and Tollefsen 2020.

Living in a conflict-affected area and being exposed to violence, directly or indirectly, have negative effects on important human development outcomes.<sup>105</sup> A reduced sense of safety and adverse mental health are common in communities with recurring violent events.<sup>106</sup> For example, a surge in local homicides in Bogotá, Colombia, increased mental health disorders and posttraumatic stress disorder among adolescents, including those without direct exposure to violence.<sup>107</sup>

“Today about 1.2 billion people live in conflict-affected areas, 560 million of them in countries not classified as fragile contexts

Violence and fear of violence push people to leave their homes and seek refuge elsewhere. The number of forcibly displaced people has been growing—peaking at 82.4 million in 2020 (figure 4.3).<sup>108</sup> Chapter 5 illustrates the multiple human security threats that forcibly displaced people face. While the conflicts in Afghanistan, Somalia and Syrian Arab Republic are thought to be responsible for more than half the world’s refugee population, overlapping human security threats, conflict and violence drive displacement outside war zones. Unprecedented violence,

**Figure 4.3 The number of forcibly displaced people is at a record high**



**Note:** The global number of forcibly displaced people is recorded by the United Nations High Commissioner for Refugees in its Refugee Data Finder. It includes data from the United Nations Relief and Works Agency for Palestine Refugees in the Near East on Palestine refugees under its mandate and data on internally displaced people from the Internal Displacement Monitoring Centre. See UNHCR (2021d).

**Source:** Human Development Report Office based on UNHCR (2020).

widespread criminality and impunity threaten citizen security in Central America and drive people from their homes in the Northern Triangle countries.<sup>109</sup>

#### Box 4.3 Measuring conflict-affected populations (continued)

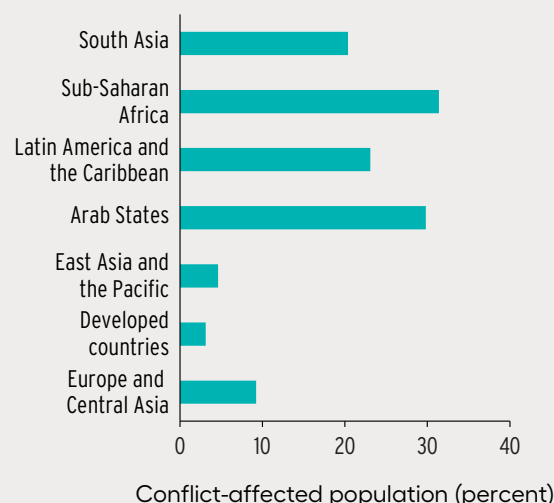
South Asia has the highest number of people affected by conflict; however, in Sub-Saharan Africa and the Middle East around 30 percent of the total population live in conflict (box figure 2). In the mid-2000s the conflict-affected population in Sub-Saharan Africa rose sharply as a result of large increases in nonstate conflicts. The Arab countries show an increase after 2011, coinciding with the post-Arab Spring period, particularly in Iraq, Syrian Arab Republic and Yemen. Around 2016 there was an increase in Latin America, due mainly to violence related to nonstate conflict between drug cartels in Brazil and Mexico.

**Source:** Østby, Aas Rustad and Arasmith 2021; Østby, Aas Rustad and Tollefsen 2020; Uppsala Conflict Data Program Georeferenced Event Dataset v.20.1; UN World Population Estimates.

##### Note

1. A conflict event is defined as “An incident where armed force was used by an organised actor against another organized actor, or against civilians, resulting in at least one direct death at a specific location and a specific date” (Aas Rustad 2021a).

**Box figure 2 Africa and in the Middle East have the largest share of people living in conflict**



**Source:** Uppsala Conflict Data Program Georeferenced Event Dataset v.20.1; UN World Population Estimates; Østby, Aas Rustad and Tollefsen 2020.

#### Box 4.4 Everyday Peace Indicators

Research by the Everyday Peace Indicators (EPI) project shows how villages and neighbourhoods around the world perceive peace and peace-related concepts, such as coexistence, security and justice. The findings: everyday people raise concerns vastly different from top-down measures of conflict and peace, hinting at the blindspots of conventional security policies that make sustaining peace in the long term so difficult.

Traditional indicators such as conflict deaths and other conflict events are important to understand macro-level trends, but they may not adequately represent the priorities of those living in, or affected by, conflicts. For example, based on data from 1,500 people in 18 rural villages in eastern Afghanistan, EPI researchers found that roadblocks (commonly raised by insurgent groups

to extort travellers) were indicators of insecurity and conflict.<sup>1</sup> But the ability to access public services or the visibility of women and girls in public spaces, such as the market, indicated reduced conflict. In Colombia the re-emergence of the local market and trade in San Jose de Uruma in northeastern Antioquia, previously hit hard by internal armed conflict, marked a transition towards peace, whereas the EPI researchers argue that piling up of trash on the streets may indicate a deteriorating situation.<sup>2</sup>

**Source:** Firchow 2018; Firchow and Urwin 2020; Vera-Adrianzén and others 2020.

**Note**

**1.** Firchow and Urwing 2020. **2.** Vera-Adrianzen and others 2020.

Internal displacement is also a growing concern, especially in relation to climate change and environmental degradation.<sup>110</sup>

“Fear of violence may reduce people’s mobility, dictate how they move in public space and reduce their participation in community activities

Yet, fear of violence may also reduce people’s mobility, dictate how they move in public space and reduce their participation in community activities.<sup>111</sup> This seems to hold true even in areas where measured conflict, violence and crime are low,<sup>112</sup> showing how insecurity, both measured and perceived, can shape behaviour, hamper wellbeing and curtail agency. As chapter 1 mentions, human insecurity is present across all HDI categories. Furthermore, the feeling of insecurity has been growing over time, with the largest increases in very high HDI countries. Crime, violence and terrorism is the second most cited risk to personal safety in the latest World Risk Poll,<sup>113</sup> and more than 60 percent of people

worldwide are worried about sustaining serious harm from violent crime.<sup>114</sup>

Going beyond the traditional conflict metrics to centre the analysis on people, rather than on the contestations, illustrates the power of using a human security approach. It shows how violent conflict increasingly affects people outside traditional conflict zones, who may be overlooked when the focus is where fighting takes place. It also identifies how conflict is not only a threat to physical safety but may also raise barriers to trust, solidarity, agency and empowerment—key principles needed to face the new generation of human security threats. People-centred conflict analysis puts people at the heart of conflict prevention and shifts attention towards empowering people to become change-agents for peace. Systematic work to source locally defined indicators of conflict and peace may amplify the voices of those living in conflict (box 4.4). Other approaches include measuring the effectiveness of peace operations on the lives of people, as well as on institutions.<sup>115</sup> Ultimately, conflict, violence and peace are felt, experienced and constructed by people.

CHAPTER

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5

# Inequalities and the assault on human dignity

## Inequalities and the assault on human dignity

Inequalities have a direct bearing on dignity—and thereby on human security. This chapter is concerned with horizontal inequalities—those experienced between groups of people based on some shared characteristic, including aspects of how they choose to self-identify. The chapter considers inequalities in terms of gender, race, ethnicity, sexual orientation and age, among others. It describes how discrimination, violence and violations of human rights parallel horizontal inequalities. It points to the importance of understanding intersectionality: because each person's identity is plural, some face discrimination on multiple fronts. For instance, Black women face different forms of sexism from White women and different forms of racism from Black men. Horizontal inequalities often persist despite measures to outlaw or regulate their underlying drivers (through antidiscrimination laws, for example). Even when groups are formally protected against discrimination, social, political and cultural practices of exclusion can still erode people's dignity. Many groups have little to no formal protection at all, as is the case for large numbers of people who identify as lesbian, gay, bisexual, transgender, intersex or another sexual minority (LGBTI+ people) around the world.

Securing lives of dignity for people who suffer horizontal inequalities demands systemic action. This chapter argues that this action must bring the centrality of agency to the fore. An approach based on agency affirms that people from excluded groups are not passive victims (of forces beyond their control) or beneficiaries of support from others—important as assistance may be in many circumstances; rather, that they are active movers and participants in social change. The focus on agency makes plain that addressing horizontal inequalities is more than improving the wellbeing of groups excluded and discriminated against, important though that is. And a focus on agency shows how eliminating horizontal inequalities not only is a matter of justice for those discriminated against or excluded but also enriches communities and society more broadly, because agency is central for broader processes of social change.<sup>1</sup> An agency-focused approach also recognizes that people hold multiple identities at once.<sup>2</sup> That people are simultaneously members of different collectives provides for solidarity to be built across groups over shared values and goals. A foundation

of agency enhances space for solidarity as people are better able to reason about, strategize and participate in actions that transform society.

## Horizontal inequalities undermine human dignity

What does dignity mean? As discussed in chapter 1, dignity lies at the heart of human rights. A commitment to human rights is based in part on the recognition that everyone has inherent worth, solely by virtue of being human and irrespective of their gender, race or other identity. To quote again from article 1 of the Universal Declaration of Human Rights: “All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.”<sup>3</sup> The inherent dignity of all people is also the basis for the universality of human rights. There are complementary perspectives on dignity. For instance, according to Martha Nussbaum, dignity is related to respect, agency and equality. So, dignity consists of being treated with respect. It also implies having control over what people are able to do. And it implies respecting the principle that all human beings are all equal.<sup>4</sup>

“Injustice, oppression and discrimination are based on hierarchies of human value, which directly affect dignity

Human rights set necessary conditions for what we owe to each other—treating each other with respect, tolerance and understanding. Realizing these conditions places broad demands on society that can be fulfilled not only by legislating and enforcing the protection of particular rights but also by examining the multiple ways that preclude advancing those rights.<sup>5</sup> It is in the context of such examination that horizontal inequalities can become relevant, harming the pursuit of human rights and, in part as a result, hurting dignity. Injustice, oppression and discrimination are based on hierarchies of human value, which directly affect dignity. Justice and nondiscrimination—as well as the principle of equality for everyone—are the core values of the Universal Declaration of Human Rights<sup>6</sup> and the global commitment to recognize inherent human dignity.

In addition to legal protection of human rights, expanding people's capabilities also supports dignity. However, dignity can be diminished when some groups progress and others fall behind in what counts, or is perceived to count, for social worth.<sup>7</sup> When new generations are more educated but lack access to high quality jobs or the ability to afford the living standards of past generations, people's dignity can be affected by a sense of unfairness or a sense of failure.<sup>8</sup>

**“It is important when considering human security to account for all voices and enable their agency both in the description of issues and in policy responses**

The frame of human security has not always fully accounted for the different concerns of varied social groups. For instance, feminist critiques have pointed out that policies that claim to serve all people often render the specific concerns of women invisible.<sup>9</sup> Security discourses can also fall into gendered, racialized and colonialist patterns by associating certain groups of people with victimhood and weakness<sup>10</sup> and by adopting protection strategies that may ultimately disempower those being protected. Many institutions connected with enhancing security can be underpinned by patriarchal, colonial and traditional social norms. When that happens, they endow some groups with greater power while others are placed in a subordinate and submissive position. For instance, in patriarchal societies men typically are granted the role of protectors of their families and, by extension, of leaders protecting a population.<sup>11</sup>

It is therefore important when considering human security to account for all voices and enable their agency both in the description of issues and in policy responses. The fundamental needs of individuals for human security differ based on each person's plural identities (sex, gender, race, sexual orientation, age, ethnicity, ability and residence).<sup>12</sup> People's plural identities are a source of strength and enrich personal and social life but can also expose some people to overlapping forms of discrimination and violations of human rights.<sup>13</sup> In analysing experiences of human insecurity and designing policies to tackle them, recognizing intersectionality helps overcome the dangers of masking overlapping identities<sup>14</sup> by acknowledging that ultimately we are all human.<sup>15</sup>

This chapter describes some forms of discrimination and rights violations that are manifested in, and often foster, horizontal inequalities. These inequalities bear on the human security threats discussed throughout this Report (figure 5.1). At a time of increasing severity and frequency of hazards linked to the Anthropocene context that threaten human security, the gaps in capabilities more relevant to responding to them are widening.<sup>16</sup> Some groups that are falling through the floors of basic capabilities are also experiencing greater challenges to dignity. The chapter highlights inequalities in control over resources<sup>17</sup> (land, food and water<sup>18</sup>) that affect health, time allocation and possibilities for education and work—widening gaps in capabilities.<sup>19</sup> It identifies the impacts of economic insecurity and greater risk to crises and shocks across different groups. Finally, it brings into view the ways the different experiences of insecurity and overlapping hierarchies of power can undermine human dignity.

## **Threats to human security along the lifecycle**

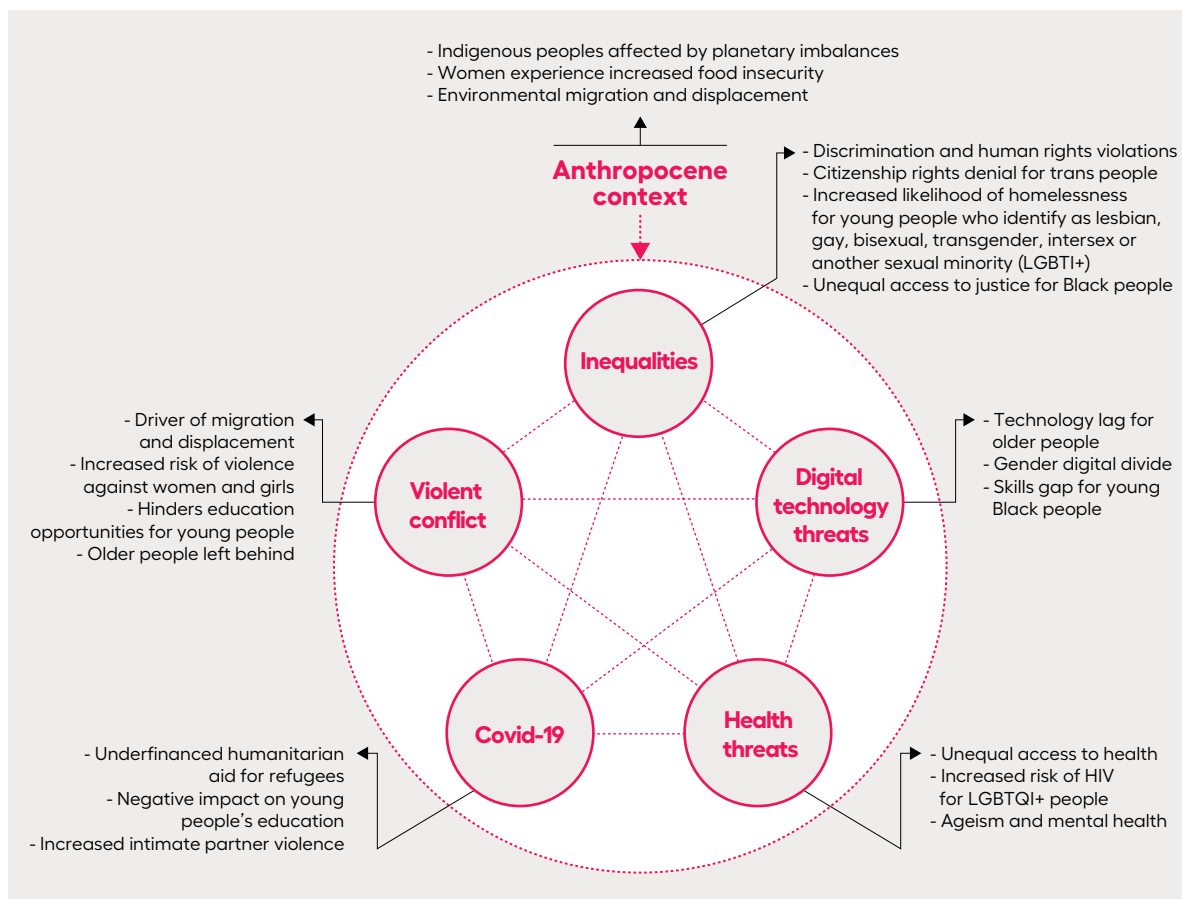
The functional capacity of people (echoing the notion of capability, the ability to be and do what people value and have reason to value<sup>20</sup>) evolves from childhood through adult life to older age. But there can be wide disparities in people's functioning due to disadvantages and risk factors throughout lifecycle (figure 5.2). This section discusses some of the challenges faced by groups at higher risk of suffering from inequalities in functional capacity: children, young people and older people.

Human security and wellbeing achievements at earlier stages of a person's life affect outcomes at later stages. For example, poverty, violence and mental health disorders earlier in life reduce healthy life expectancy, resulting in poorer health capabilities later in life.<sup>21</sup> For children trauma, stress and adverse childhood experiences impair both physical and mental development, with long-lasting impacts.<sup>22</sup> Household and family violence, conflict and community violence, insecurity, discrimination, income insecurity, child marriage and gender-based violence are just some of the human security threats affecting children's health and development.

Conflict threatens every aspect of children's lives and security. In 2019, 69 percent of the world's



**Figure 5.1** Different groups of people experience new threats to human security differently



**Source:** Human Development Report Office.

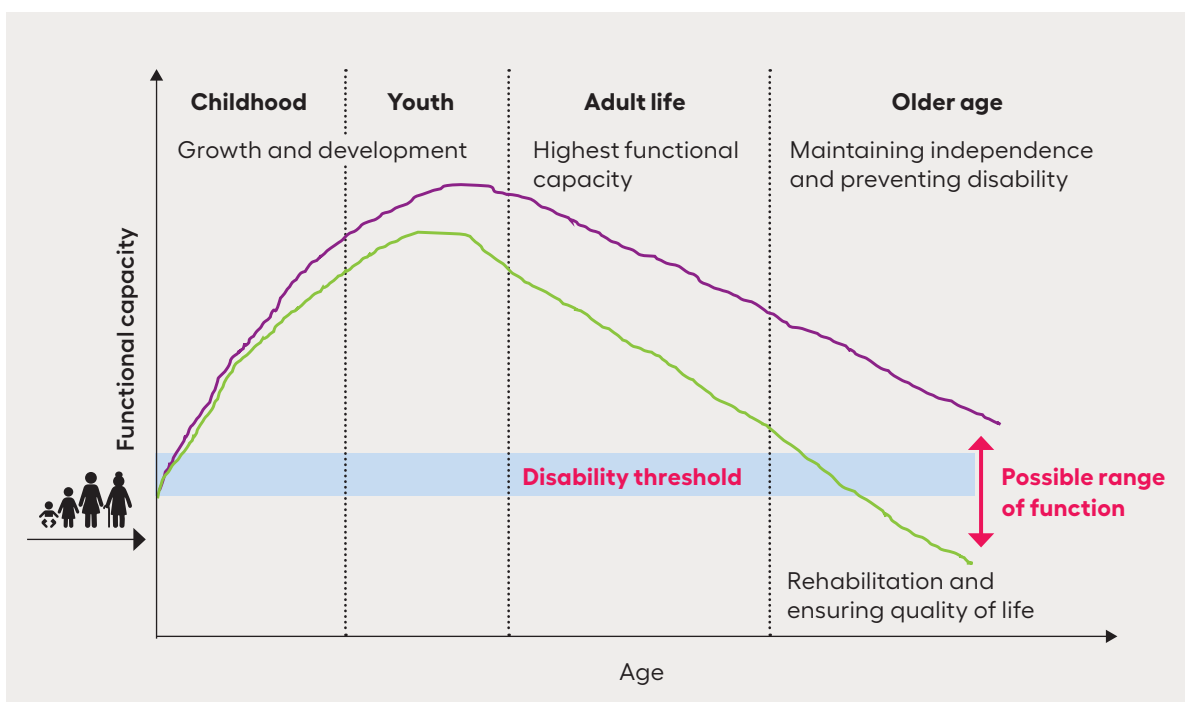
children were living in conflict-affected countries, and more than 18 percent were living in conflict zones.<sup>23</sup> Between 2005 and 2020 there were more than 266,000 verified grave violations against children in conflict,<sup>24</sup> with the real number likely much higher.<sup>25</sup> Children engaged in armed conflicts face various and compounding threats, including death, injury and disability, as well as deprivations in nutrition, poor living conditions, gender-based violence, obligations to take part in torture and killings, and dangerous labour.<sup>26</sup> Conflict also deprives children of education.<sup>27</sup>

Digital technologies are revolutionizing both the potential benefits and potential threats of technology for children, but the effects are unequal. Digital technologies create opportunities for access to education, breaking cycles of poverty and social needs for children and young people. But digital divides exist between low- and high-income countries, reaching 81 percentage points for children and young people (figure 5.3).

Inequalities in access to digital technologies have widened inequalities in education during the Covid-19 pandemic, as the reliance on digital technologies for education has grown.<sup>28</sup> This corresponds with trends showing that differences in school attendance between the pre-pandemic period (with in-person instruction) and the pandemic period (with online teacher-assisted lessons) were more pronounced in countries with higher multidimensional poverty.<sup>29</sup> The pandemic further exposed the gender digital divide, showing that women and girls are at a disadvantage in digital skills, with bigger gaps in more advanced skills, hindering their ability to take advantage of technology.<sup>30</sup>

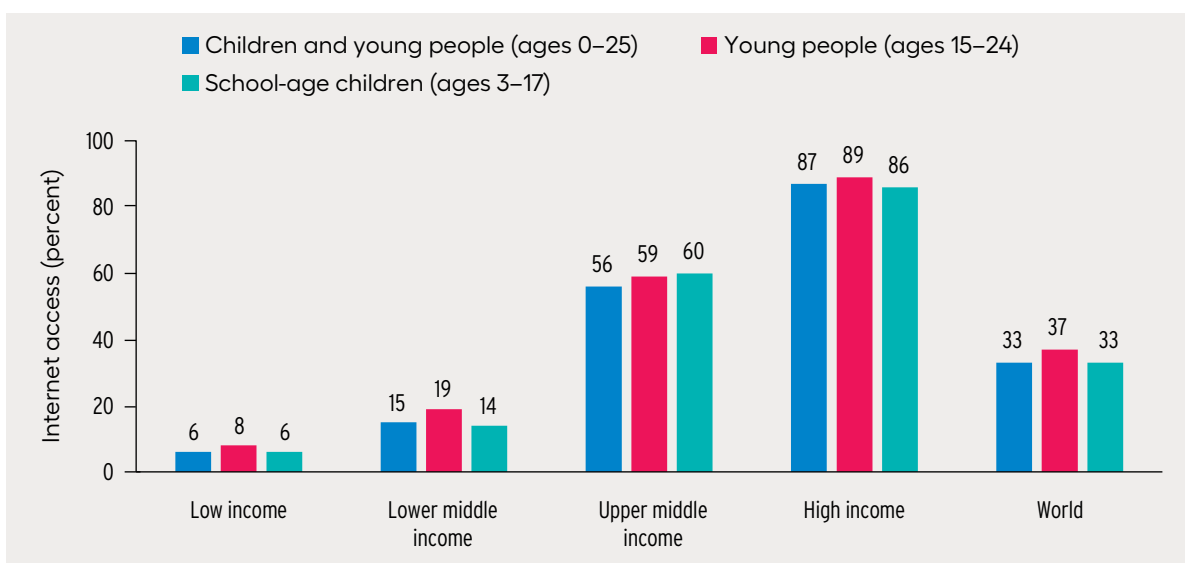
Protection and empowerment strategies will differ for every age group. Children, especially those in early childhood, depend on external inputs for survival and development of basic capabilities. This need demands action on the part of caregivers and institutions to allow children to develop free from

**Figure 5.2** The change in functional capacity over the lifecycle has different implications for human security challenges and thus requires different policies



Source: Human Development Report Office, adapted from Kalache and Kickbusch (1997) and WHO (2002).

**Figure 5.3** There is great inequality between high-income and low-income countries in young people's internet access at home



Source: UNICEF and ITU 2020.

human insecurity. This does not mean that children are not agents in their own lives and societies. Children and adolescents are active participants in society through cultural, social and political engagement,

and in many cases they are also participants in economic activity and care work.<sup>31</sup> Recognizing their agency in these areas is key to protection and empowerment strategies for children.

“Children and adolescents are active participants in society; recognizing their agency in these areas is key to protection and empowerment strategies for young people

Youth marks the shift to adult life, with a higher functional capacity in the transition from school settings to workplaces. Having less experience and fewer skills than older adults, young people can encounter entry barriers to the labour market and may have high unemployment rates, pushed even higher by the Covid-19 pandemic, which harmed groups that tend to suffer from the impacts of horizontal inequalities. For instance, in the United States in May 2020, although the unemployment rate declined among White young people, the rate among non-White young people rose.<sup>32</sup> Sectors where young people tend to be overrepresented (retail and hospitality) have been the hardest hit, with most jobs done by young people in these sectors unable to be performed from home.<sup>33</sup>

Young people are particularly affected by violent conflicts and organized crime. They also have gendered vulnerabilities to violence against women and girls, sexual assault, human trafficking and forced labour. Crime, violence and drug use have increased with Covid-19 pandemic lockdowns, directly linked to limited access to employment and the loss of social and community networks.<sup>34</sup> These factors can force young people to pull out of civic spaces, reducing their visibility.<sup>35</sup> Young people are often excluded or given only a token role in civic spaces,<sup>36</sup> where their voices are not heard to shape their own future.<sup>37</sup> In decisionmaking linked to the Covid-19 pandemic,

younger generations have not systematically gained a seat at the table with policymakers and leaders.<sup>38</sup> Despite these challenges, young people have demonstrated that they are critical agents of social change, as they seek creative ways to prevent violence and consolidate peace around the globe.<sup>39</sup>

With longer life expectancies and lower fertility rates, the global population is ageing. By 2050 an estimated 1 in 6 people will be older than 65<sup>40</sup>—80 per cent of them in developing countries (table 5.1).<sup>41</sup> Ageing gradually reduces mental and physical capacities and increases disease risks. While ageing is inevitable, the process can be widely different in speed, nature and characteristics. Genetics play a part in this variation, but much comes from a person’s physical and social environment and their sex, ethnicity and socioeconomic status.<sup>42</sup> At the same time, inequalities within population groups carry over into older age,<sup>43</sup> producing wide ranges in functional capacities.<sup>44</sup> Having higher dependency ratios is usually associated with greater economic pressure on the active population and demands for higher fiscal spending to support the older population.<sup>45</sup>

Health outcomes for older people appear to be strongly linked to disadvantages at earlier stages of life that could have a cumulative effect.<sup>46</sup> Unhealthy habits and behaviours that lead to poor health outcomes in later life, such as smoking, high alcohol consumption, low physical activity and diets low in fruits and vegetables, have been linked to socioeconomic status.<sup>47</sup> In some countries where data are available, evidence shows that lower socioeconomic status is generally associated with increased smoking

**Table 5.1 Number of people age 65 or older, by geographic region, 2019 and 2050**

Region	Number of people age 65 or older (millions)		Percent change, 2019–2050
	2019	2050	
World	702.9	1,548.9	120
Northern Africa and Western Asia	29.4	95.8	226
Sub-Saharan Africa	31.9	101.4	218
Oceania, excluding Australia and New Zealand	0.5	1.5	190
Central and Southern Asia	119.0	328.1	176
Latin America and the Caribbean	56.4	144.6	156
Eastern and South-Eastern Asia	260.6	572.5	120
Australia and New Zealand	4.8	8.8	84
Europe and Northern American	200.4	296.2	48

Source: UNDESA 2019.

prevalence by age, race, ethnicity and region, regardless of sex.<sup>48</sup> Differences in food expenditure also show the prevalence of less healthful foods in lower socioeconomic groups.<sup>49</sup> Communities with lower socioeconomic status face limited access to affordable exercise facilities,<sup>50</sup> possibly contributing to higher prevalence of obesity and diabetes in lower income populations. These risks have greater chances of becoming vulnerabilities as age advances, likely leading to health deprivations for older poor people.

**“Young people have demonstrated that they are critical agents of social change, as they seek creative ways to prevent violence and consolidate peace around the globe**

People facing higher deprivations live shorter lives and spend a bigger proportion of their life in poor health.<sup>51</sup> Healthy life expectancy is associated with better mental health. In Denmark men with mental disorders lost 10.2 more healthy life-years than men without mental disorders, and women with mental disorders lost 7.34 more life-years than women without mental disorders.<sup>52</sup>

People older than 65 need support because of natural declines in some functional capacities and higher risks for some diseases. In Organisation for Economic Co-operation and Development countries their incomes are on average lower than those of the total population,<sup>53</sup> and their risk of falling into poverty or remaining in poverty is significant.<sup>54</sup> Older women are at a higher risk than men for poverty due to gender inequalities that persist from earlier in their lives. Their pensions tend to be lower because of lower wages, gaps in employment due to childbearing and childrearing labour, and longer life expectancies—and their already lower savings are stretched out over longer periods of time.<sup>55</sup>

As the socioeconomic analysis intersects with other capabilities such as health, physical and psychosocial dependency and support networks, an increasingly complex picture forms around the experience of ageing on wellbeing and agency. A study on multidimensional poverty and quality of ageing in Peru showed that being male, being younger, being more educated, being employed, not smoking, lacking physical disabilities, having proper nutrition, showing higher empowerment and self-esteem and being free of

mental disabilities were all positively related to successful ageing for people older than 65 living in multidimensional poverty.<sup>56</sup>

The internalization of age stereotypes begins early in life and is present at all life stages. Stereotypes represent subconscious ideas about older people that are then embodied through attitudes towards ageing and, as discussed in chapter 1, represent a direct threat to human security. Experiences of ageism have negative effects on frailty outcomes for older people through negative age stereotypes. More positive attitudes towards and self-perception of ageing have been linked to better physical outcomes and less frailty in old age.<sup>57</sup> Knowledge of the ageing process reduces both anxiety about ageing and ageist attitudes themselves.<sup>58</sup> This points to an important first step in addressing ageism: information and education on the ageing process.

A recent example of this has been seen during the Covid-19 pandemic. Guidelines for rationing looked to maximize the lives and life-years saved, which often resulted in making older age and comorbidities the main determinants hindering access to limited care services.<sup>59</sup> There are also relevant inequality components to rationing, which is more likely, more severe and more often required in low-income settings, with systems that are less equipped and have fewer resources.<sup>60</sup>

## **Violence and economic discriminations harm the human security of women and girls**

Gender inequality is one of the most widespread horizontal inequalities. Women's livelihoods are severely impaired by poverty, with around 435 million women and girls living on less than \$1.90 a day in 2021—including 47 million pushed into poverty during the Covid-19 pandemic.<sup>61</sup> In low-income countries 92.1 percent of employed women are in informal employment compared with 87.5 percent of men. In lower middle-income countries 84.5 percent of women are in informal employment compared with 83.4 percent of men.<sup>62</sup> Women have lower earnings, lower savings, worse working conditions and less access to financial accounts, reducing their capacity to absorb economic shocks.<sup>63</sup> Unequal conditions leave women with less protection and resilience against unemployment, health emergencies, paid sick leave

and other basic rights. Women in many countries have low access to bank accounts, with barriers such as lack of knowledge of financial services, cultural or religious factors and lack of provisions or aversion to credit.<sup>64</sup> In societies where traditional patriarchal social norms are pervasive, women are more economically dependent on men and are constrained from making decisions for themselves and their families, hurting both their wellbeing and agency.

But gender inequality not only is a glaring injustice against women; it also harms society. For instance, women's food insecurity cascades into the poorer nutrition and health outcomes of entire families and communities,<sup>65</sup> and their economic insecurity can heavily restrict their agency. The sex gap in access to food increased from 2018 to 2019, with women living in rural settings the most affected—paradoxical since women and girls represent most food producers and food providers.<sup>66</sup> Still, in more than 90 countries female farmers lack equal rights to own land and to access other productive resources such as livestock,<sup>67</sup> impacting nutrition and health outcomes of entire families and communities.<sup>68</sup> Globally, the prevalence of food insecurity is higher for women than for men, with the largest gaps in Africa and Latin America and the Caribbean.<sup>69</sup>

Natural hazards kill more women than men on average and leave women at higher risk for displacement because of their dependence on forests, land, rivers and rainfall.<sup>70</sup> The Covid-19 pandemic has had a disproportionate toll on women in critical areas of human development. Women have had higher risk exposure to the virus by being overrepresented in the frontlines of the response. They are overrepresented in the hardest hit sectors—women account for 39 percent of global employment but 54 percent of total job losses during the pandemic.<sup>71</sup> Teenage pregnancies and violence against women and girls increased substantially during the pandemic.<sup>72</sup> Women's sense of not being in control and living in fear are due to traditional social norms and patriarchal structures<sup>73</sup> that result in the existing sex inequalities that harm their wellbeing and agency.<sup>74</sup>

Violence against women and girls, one of the most brutal forms of harming women's wellbeing and agency,<sup>75</sup> encompasses any action or behaviour that results in, or is likely to result in, physical, sexual or mental harm or suffering for women and girls.<sup>76</sup>

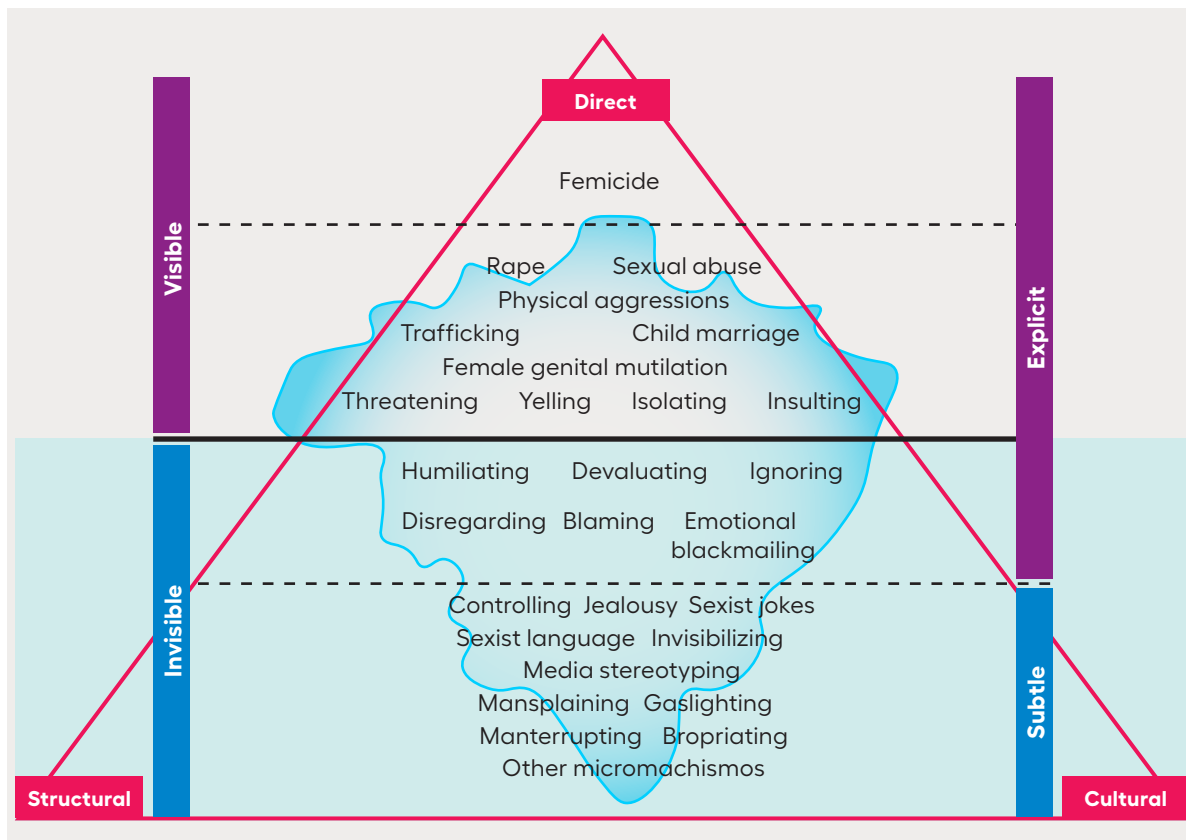
Violence against women and girls is the most obvious manifestation of deep power imbalances.<sup>77</sup> Fear of violence is a common experience for women everywhere. In the triangle of violence, direct violence refers to violence that is visible and explicit, including manifestations of physical, sexual and psychological violence (figure 5.4).<sup>78</sup> Indirect violence, or structural and cultural violence, is subtle and can be invisible. Structural violence is built into social systems and power relations; manifests in inequalities in opportunities, access to services and representation in decisionmaking; and is perpetuated through economic violence or child marriage, both of which limit women's opportunities. Cultural violence is a result of traditional social norms about gender and femininity, manifest in different forms of psychological and emotional violence such as stereotyping, prejudices, sexist language and micromachismos.<sup>79</sup> All forms of violence are interconnected.<sup>80</sup> Cultural violence legitimizes both direct and structural violence.<sup>81</sup> Subtle forms of violence, called microaggressions, build up to severe forms of violence, such as rape and femicide (box 5.1).<sup>82</sup>

“As the socioeconomic analysis intersects with other capabilities such as health, physical and psychosocial dependency and support networks, an increasingly complex picture forms around the experience of ageing on wellbeing and agency

Economic violence, pervasive around the world, involves making or attempting to make a person financially dependent by maintaining total control over financial resources, preventing the person from having a financial account, withholding access to money or forbidding attendance at school or work.<sup>83</sup> It can deepen poverty and hinder educational attainment or work opportunities.<sup>84</sup> Psychological violence involves causing fear by intimidation, whereas emotional violence refers to undermining a person's sense of self-worth. Psychological and emotional violence can start with microaggressions. Targets of violence have named psychological abuse and living under fear as more harmful than direct physical violence.<sup>85</sup>

Intimate partner violence is widespread around the world, with 27 percent of ever-married/partnered women ages 15–49 years having experienced it. The highest prevalence is in Southern Asia (35 percent)

**Figure 5.4** Different forms of violence against women and girls: Linking the iceberg model to the violence triangle



**Source:** Human Development Report Office based on Amnesty International and Galtung (1990).

and Sub-Saharan Africa (33 percent).<sup>86</sup> In some settings social and cultural norms treat violence as a justifiable response to women's perceived misbehaviour; these beliefs contribute to intimate partner violence being treated as a private matter rather than as a serious threat to women's rights and security.<sup>87</sup> At least 200 million girls and women alive today in 30 countries have undergone female genital mutilation.<sup>88</sup>

**“Violence against women and girls is the most obvious manifestation of deep power imbalances**

Violence is typically underreported because of three factors:<sup>89</sup>

- **Stigma:** Women who have experienced violence can be perceived as dependent, unassertive, helpless, depressed and defenceless by themselves, their families, authorities and society in general.<sup>90</sup>
- **Denial:** In different environments women and girls might not be aware that routine situations

are abusive, so they consider it normal and do not name it as violence.

- **Mistrust:** The failure of authorities to recognize and address violent actions is one of the main risks women consider before reporting.

### **Inequalities in power across race and ethnicity hurt everyone's human security**

Race is typically associated with physical characteristics that become socially significant (such as skin colour), while ethnicity is associated with cultural expression and identification (through language, shared traditions or beliefs). Both have been interpreted differently over time and are still viewed differently in different contexts, but this chapter emphasizes people's lived experience and how they self-identify, recognizing that this process is often extremely constrained where social categories of race and ethnicity



### Box 5.1 Femicide: The killing of women and girls because of their gender

Perpetrators of violence use different forms of abuse to exercise and maintain control and domination. The killing of women is the extreme manifestation of this pattern.

The UN Vienna Declaration<sup>1</sup> recognizes femicide as the killing of women and girls because of their gender, which can take different forms: the murder of women because of intimate partner violence; the torture and misogynist slaying of women; killing of women and girls in the name of “honour;” targeted killing of women and girls in the context of armed conflict; dowry-related killing of women; killing women and girls because of their sexual orientation and gender identity; killing of aboriginal and indigenous women and girls because of their gender; female infanticide and gender-based sex selection foeticide; genital mutilation-related deaths; accusations of witchcraft; and other femicides connected with gangs, organized crime, drug dealers, human trafficking and the proliferation of small arms.

Femicide differs from male homicide in specific ways. For example, most cases of femicide are committed by partners or ex-partners and involve ongoing abuse, threats or intimidation, sexual violence or situations where women have less power or fewer resources than their partner. In 2020, 47,000 women and girls were intentionally killed by an intimate partner or family member, and on average a woman or girl is killed every 11 minutes by an intimate partner or a family member.<sup>2</sup>

Some actions by countries to address femicide are legal changes, early interventions, multiagency efforts, and special units and training in the criminal justice system. Latin American countries specifically criminalize femicide. Yet there are no signs of a decline in gender-related killing of women and girls.<sup>3</sup>

#### Notes

1. ECOSOC 2013. 2. UNODC 2021. 3. UNODC 2018.

are associated with specific physical or cultural features.<sup>91</sup> Analysing race and ethnicity dynamics offers an opportunity to use a different lens to understand what security means, uncovering assumptions, colonial legacies where relevant and, more broadly, power relations.<sup>92</sup> Horizontal inequalities between racial and ethnic groups often persist over time, with effects across many dimensions: political, economic, cultural and social.<sup>93</sup> When racial and ethnic identities become connected to political power and mobilization, more powerful groups can thwart the advancement, dignity and rights of others. In this vein the distribution of power in many contexts, upheld through colonialism and other historical processes of subjugation, has favoured the wellbeing of White people at the expense of Black and indigenous peoples.<sup>94</sup> When political power is distributed along ethnic lines, ethnic differences can be manipulated or leveraged by political and other leaders as points of contestation between groups, generating social tensions, mistrust and violations of rights and dignity.<sup>95</sup> In the most extreme cases invoking these inequalities between ethnic groups can foster violent conflict.<sup>96</sup>

Formal standings and official positions against racism can hide the way racial inequality has been

shaped and reproduced through development.<sup>97</sup> It is important to recognize how longstanding conceptions of development and security have themselves upheld racial inequalities.<sup>98</sup> Racial identities are generated in part through a process of “othering,” whereby groups define and internalize their own identities through their social relations to others. Othering is closely intertwined with existing power relations. An example is the construction of “the west” as a social category associated with progress and security, defined in relation to “other” regions that are associated with lack of progress and, concomitantly, as places of human insecurity.<sup>99</sup>

“Analysing race and ethnicity dynamics offers an opportunity to use a different lens to understand what security means, uncovering assumptions, colonial legacies where relevant and, more broadly, power relations

This section considers racial inequalities as experienced by Black people and indigenous peoples. Both groups are excluded from opportunities and face insecurity shaped by racist and colonial legacies, lacking rights, recognition and representation.<sup>100</sup> More

than 370 million indigenous peoples rely on communal land and resources,<sup>101</sup> but much of this land is held only through customary tenure, leaving communities vulnerable to land grabs and expropriation. About 48 percent of the Quilombolas in Brazil live in severely food-insecure households, with the North and Northeast regions of the country facing the most critical situation.<sup>102</sup> About 25 percent of Māori children in New Zealand live in poverty, and 29 percent live in food-insecure households.<sup>103</sup> Indigenous peoples have based their survival on traditional occupations, such as farming, hunting or fishing. This, combined with discrimination, has tended to limit them to wage work in the informal economy (domestic work, street vending, agriculture and construction), traditionally in low productivity industries where they do not earn enough to lift themselves out of poverty and food insecurity.<sup>104</sup> Informal work increases their vulnerability to exploitation and abuse, with lack of respect for their work rights and lack of social protection.

Indigenous peoples also face discrimination through the repression of cultural identities. When dominant or colonial languages were made official, indigenous languages were discouraged or made illegal,<sup>105</sup> and traditional religions and cultural practices were often outlawed.<sup>106</sup> Across America children were forcibly taken and sent to special schools to assimilate the new language and traditions, facing sexual and physical abuse or corporal punishment for using their native tongue.<sup>107</sup> For indigenous peoples in Canada to have full citizenship, they had to assimilate to euro-Canadian gender, sexual and familial norms.<sup>108</sup>

With lower representation and opportunities to participate in their communities, indigenous peoples are less likely to advocate for themselves, heightening horizontal inequalities. Indigenous peoples around the world are aware of the discrimination and lack of representation; they know their rights, and they are very active in advocating for them. But they face violence from business interests and can be dismissed by governments because of lack of representation. The number of killings of environmental activists has more than tripled since the early 2000s. In 2019 a record 212 people were killed defending their land and environment; 40 percent of them belonged to indigenous communities, and more than a third of fatal attacks between 2015 and 2019 targeted indigenous peoples.<sup>109</sup>

**“Racial discrimination through inequitable systems that can take the form of structural racism affects education, healthcare, employment, income, benefits, social protection and criminal justice**

Racial discrimination through inequitable systems that can take the form of structural racism affects education, healthcare, employment, income, benefits, social protection and criminal justice. Expressions of racism that shape Black people’s experiences of insecurity include the prejudices (negative attitudes), stereotypes (categorical beliefs) and unequal treatment associated with their race. Structural racism has direct consequences for human security. For example, Black people receive lower quality health care and live in racially segregated areas or in geographic proximity to low-quality hospitals.<sup>110</sup> Black people face exclusion and discrimination in education and employment. For instance, they are stereotyped as less warm and less capable than their peers.<sup>111</sup> There is evidence that Black populations have borne a disproportionate toll during the Covid-19 pandemic.<sup>112</sup> In many cases Black people are more likely to be arrested and incarcerated and face more punitive sanctions in the criminal justice system.<sup>113</sup>

### **People on the move can be forced to follow paths of human insecurity**

Journeys of human mobility can take many forms and be connected to different and intersecting human security threats along the way. When migrating through irregular channels, people’s dignity and therefore human security are especially vulnerable to threats ranging from trafficking, abuse, violence and death in transit to lack of access to basic services and formal employment, exploitation, discrimination and restrictions of basic rights at destination points (figure 5.5). Although most people migrate voluntarily through labour or family migration,<sup>114</sup> many others are displaced or forced to move<sup>115</sup> due in part to the impacts of the Anthropocene context (see chapter 2), sociopolitical and economic instability or conflict and violence.

As dangerous planetary change continues, communities around the world—but especially in developing countries—are increasingly affected by intensifying extreme weather events and other climate



**Figure 5.5 Migration and displacement on a path of insecurity**



**Figure 5.5 Migration and displacement on a path of insecurity** (continued)



**Source:** Center for American Progress 2020; Community Psychology n.d.; Eurostat 2021b; Freedom for Immigrants 2021; García Bochenek 2019; Global Initiative Against Transnational Organized Crime 2018; Human Rights Watch 2018, 2019, 2020a, 2020b, 2021; IADB 2018; IDMC 2020, 2021; International Crisis Group 2016; IOM 2016, 2019b, 2020a, 2020b, 2021; IPUMS USA 2021; Laczo, Singleton and Black 2017; Long and Bell 2021; Migration Data Portal 2021a, 2021b; Repeckaite 2020; UNHCR 2018, 2021a, 2021b, 2021c; UNHCR and UNICEF 2019; UNODC 2020; US Customs and Border Patrol 2021; US Department of Homeland Security 2019.

phenomena that threaten their lives, livelihoods and human security. For example, severe droughts and floods endanger water access and food security and force seasonal or permanent migration. It is predicted that by 2050 around half of the world population, and as much agricultural production, will be at risk due to increased drought and flood variability,<sup>116</sup> a potential

push-factor for migration.<sup>117</sup> Rising sea levels are also expected to influence the migration of millions, particularly affecting Small Island Developing States and countries with large coastal settlements.<sup>118</sup> Individuals, families and communities may thus choose migration as a way to mitigate their environmental risk and protect their human security.

The number of people forcibly displaced due to conflict or disaster has trended up over the past decade, reaching more than 80 million worldwide (see chapter 4). More than 86 percent of refugees are hosted in developing countries, and 27 percent of all refugees are hosted in the Least Developed Countries.<sup>119</sup> Managing incoming people presents a complex challenge for host countries, which struggle to safeguard the dignity and human security of those on the move and to protect and empower refugees and migrants. And the Covid-19 pandemic has brought added operational and financial challenges to the disaster displacement response, further exacerbating the impacts of displacement on human security and the wellbeing of those affected.<sup>120</sup>

In general, international migration is intimately connected with several dimensions of human security. Nearly two-thirds of the close to 272 million international migrants worldwide in 2019 were labour migrants.<sup>121</sup> While seeking better opportunities, labour migrants face insecurities ranging from discrimination to barriers in access to basic services such as health, education and housing, even though they can fill skill and labour gaps and contribute to host societies and economies.

Discrimination impairs the mental and physical health of migrants.<sup>122</sup> Migrants are also discriminated against and subjected to violence because of misinformation and discriminatory beliefs that they hurt the economic prospects of host-country citizens by stealing jobs or draining social services.<sup>123</sup>

## **Ending discrimination against different expressions, behaviours or bodies enhances human security for all**

LGBTI+<sup>124</sup> people face specific human security challenges, stemming from repressive (and often violent) responses to their having identities, expressions, behaviours or bodies that are perceived to transgress traditional dominant gender norms and roles.<sup>125</sup>

The human security discourse has not acknowledged the different gender identities and sexual orientations or incorporated LGBTI+ experiences of human insecurity.<sup>126</sup> In terms of freedom of want, LGBTI+ people face discrimination in home ownership, credit and financial resources, education and employment. They also face impediments in

exercising the right to full citizenship and in access to basic services—as well as increased health risks and a greater likelihood of being homeless. They face particular risk of harm in societies that do not tolerate diversity.<sup>127</sup>

**“The human security discourse has not acknowledged the different gender identities and sexual orientations or incorporated LGBTI+ experiences of human insecurity**

To be recognized as a person before the law is a human right and key to accessing education, work, housing and health services, to political participation and to protection from violence, torture and discrimination.<sup>128</sup> LGBTI+ people do not have the right of recognition of their identity and full citizenship in 87 percent of the world’s 193 countries.<sup>129</sup> In many countries trans women reported experiencing violence when they attempted to get their government-issued identity cards, passports or electoral cards.<sup>130</sup>

LGBTI+ people, especially young LGBTI+ people, have a greater likelihood of being homeless due to familial rejection; economic and legal issues; discrimination in home ownership, credit and financial resources; mental illness; addiction; or eviction.<sup>131</sup> Some 15–30 percent of young people experiencing homelessness may identify as LGBTI+.<sup>132</sup> In many countries LGBTI+ people have low visibility, with fewer than 15 percent disclosing their sexual orientation, gender identity or gender expression to their families in 2016 and around 5 percent in schools, workplaces or communities.<sup>133</sup> When employers discriminate or refuse to hire transgender people for not having certain documents, this pushes LGBTI+ people to less productive positions than they are qualified for—such as jobs in the informal sector.<sup>134</sup>

Gay cisgender men have higher risk of contracting HIV. In South Africa HIV prevalence among LGBTI+ people ranges from 10 percent in Cape Town to 50 percent in Johannesburg.<sup>135</sup> Lesbian and bisexual women have the lowest STD prevention rates in Thailand, where 84 percent of bisexual women and 90 percent of lesbians have never been tested for HIV.<sup>136</sup> The stress and trauma LGBTI+ people experience can result in poor mental and physical health outcomes. A study by the US Centers for Disease Control and Prevention reports that LGBTI+ young

people are four times as likely as cisgender students to seriously consider suicide.<sup>137</sup>

Due to stigma LGBTI+ people may be denied access to health, education or technology services. Health care providers often do not understand their unique needs.<sup>138</sup> Bullying and exclusion at schools can reduce their ability to study or lead them to skip school.<sup>139</sup> In Thailand 41 percent of LGBTI+ people and 61 percent of transgender women reported discrimination as students in 2018.<sup>140</sup> Technology-wise they are overlooked by automated gender recognition of artificial intelligence, and the digital divide is higher for older LGBTI+ people.<sup>141</sup> LGBTI+ people are also more prone to online violence and discrimination, with 64 percent of LGBTI+ social media users experiencing harassment and hate speech.<sup>142</sup>

Regarding freedom from fear, anxiety and indignity, LGBTI+ people endure torture, inhumane and degrading treatment, criminalization, targeted physical and sexual attacks, forced medical interventions, conversion therapies and killings. In many countries men perceived to be gay have been targets of arbitrary detentions, including other forms of violence such as electric shocks, beatings, insults and humiliations.<sup>143</sup> Violence can start early in life in different spaces (home, school, work, public spaces, online),

and the threat of violence and abuse lasts throughout their lives, with greater risk for sexual violence.<sup>144</sup> LGBTI+ people are stigmatized and pathologized through their lives, being perceived as ill, disordered, malformed or abnormal.<sup>145</sup> The vast majority of LGBTI+ people in several countries have been subject to violence, with higher incidence for gay men, and many have experienced sexual violence.<sup>146</sup> Throughout LGBTI+ people's lives discrimination reduces their access to education, employment and social protection and can lead to death (box 5.2).

**“Agency is key for the simultaneous achievement of empowerment and protection, placing the person at the heart of the security actions**

One of the main challenges in assessing the coverage of human rights, discrimination and violence is the lack of global and national statistics and data on gender identity. And sexual orientation puts policymakers in uncharted territory as they craft programmes and policies that affect LGBTI+ people and their families. The lack of disaggregated data also risks grouping the different identities under the LGBTI+ umbrella, despite different needs and experiences of insecurity.

### Box 5.2 Understanding transfemicide

Trans and gender-diverse people face discrimination and marginalization every day that can lead to violence and death. The murder of transgender people is sometimes reported but often in a transphobic way. In most countries there is no formal data collection to describe the nature, frequency or extent of transgender homicides. Since 1980 activists around the globe have shed light on transphobic violence. The Brazilian lesbian, gay, bisexual and transgender organization Grupo Gay da Bahia and the US Transgender Day of Remembrance website were pioneers.

In 2009 the Trans Murder Monitoring Observatory started to systematically monitor, collect and analyse reports of the killing of trans and gender-diverse people worldwide.<sup>1</sup> Its latest data show an alarming increase from 149 in 2008 to 375 in 2021—or 151 percent. About 70 percent of the recorded murders happened in Central and South America. About 96 percent of the recorded murders were trans women or transfeminine people, for whom the risk for sexual violence increased because 58 percent of murdered trans women and transfeminine people were sex workers.<sup>2</sup> Other identities intersect as well: in the United States 89 percent of the trans people murdered were Black, and in Europe 43 percent of the trans people murdered were migrants.<sup>3</sup>

#### Notes

**1.** Balzer, LaGata and Berredo 2016; Trans Murder Monitoring Observatory 2020. **2.** Trans Murder Monitoring Observatory 2021. **3.** These figures are incomplete because data are not systematically collected in most countries and because families, authorities and media often misgender trans people. It is not possible to estimate the number of unreported cases. Additionally, the Covid-19 pandemic has disproportionately impacted marginalized trans people (those who are Black, sex workers, migrants, young and poor), deepening inequalities. It has complicated sex work, on top of the stigma and criminalization that leaves trans sex workers exposed to violence. And it has revealed the lack of legislation and protection of trans and gender-diverse people (Trans Murder Monitoring Observatory 2020, 2021).

## Eliminating horizontal inequalities to advance human security: The salience of agency and the imperative of solidarity

The previous sections describe how some groups of people experience violations of their human rights through exclusion, discrimination and violence. Protection and empowerment strategies are directly relevant to enhancing the human security of these groups. Agency is key for the simultaneous achievement of empowerment and protection, placing the person at the heart of the security actions (as discussed in chapter 1).

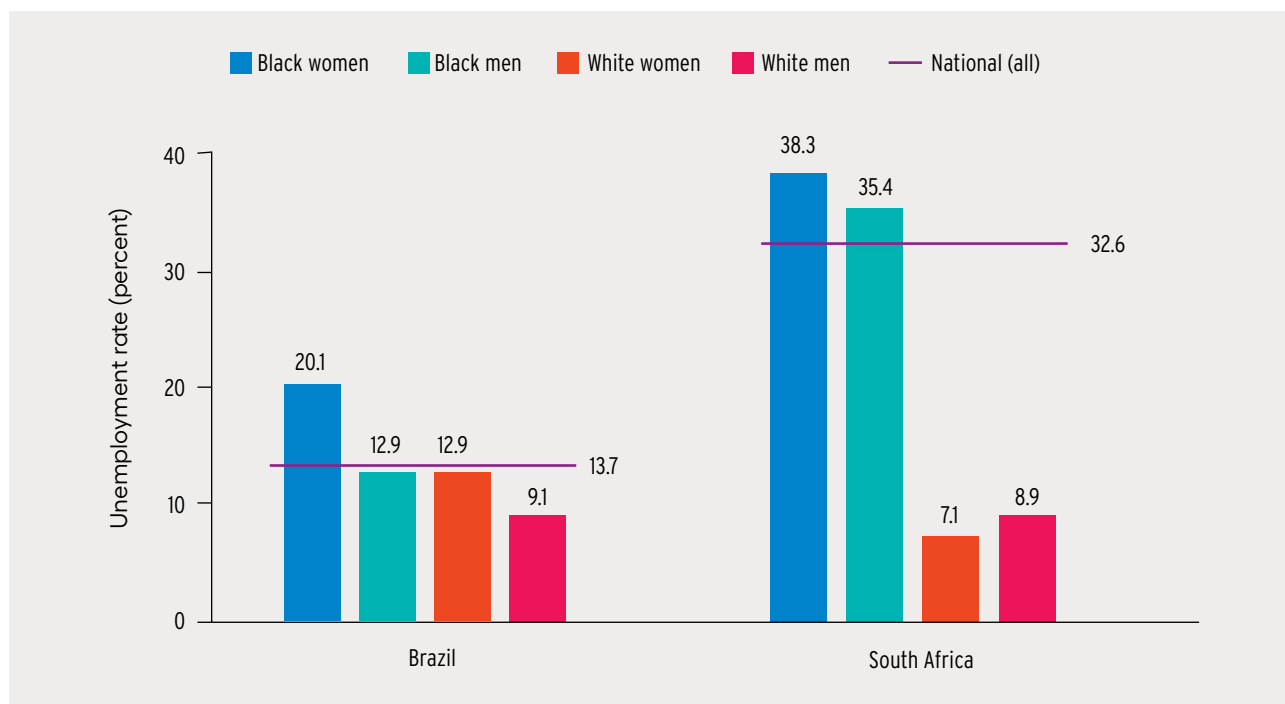
When discriminated groups are able to shape decisionmaking, potential tensions between protection and empowerment strategies diminish. Putting agency at the centre of human security actions affirms that people are not just victims lacking power over their circumstances.<sup>147</sup> Nor are they exclusively passive recipients of protection. Instead, they can be active participants in efforts to improve their own wellbeing and agency. Reaffirming people's status as agents rather than as victims is particularly important to eliminate horizontal inequalities, given that human

security actions may otherwise unfold in disempowering, paternalistic or even hegemonic approaches.<sup>148</sup>

Moreover, the significance of agency is broader than enabling discriminated groups to enhance their own human security. Agency empowers people to drive social transformations that improve lives and the wellbeing of others. When embedded in protection and empowerment strategies, agency enhances people's ability to deliberate and act on broader social imperatives. Enhancing agency thus not only reduces horizontal inequalities between groups but also improves human security for everyone.

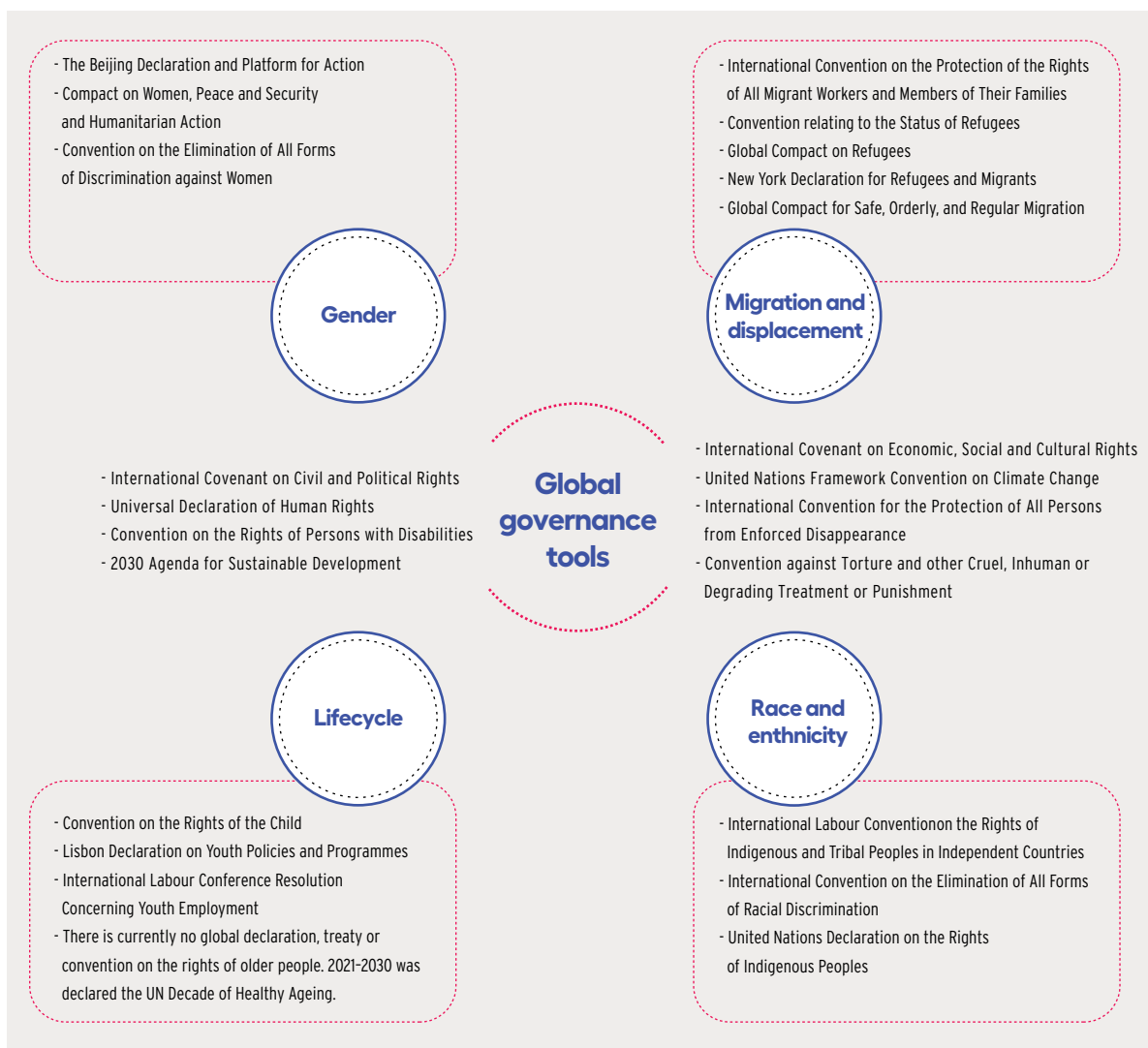
Agency can be the basis for solidarity. When agency is emphasized, there is also more space for actions that integrate diverse experiences according to plural, and sometimes overlapping, identities.<sup>149</sup> A focus on agency helps incorporate intersectionality in human security. It recognizes the different identities, their intersections and their practical and strategic needs<sup>150</sup> and allows policymakers to tackle integration, respect and meaningful inclusion. Take Brazil and South Africa, two countries where Black women have higher unemployment rates than White men and the national average (figure 5.6). Analysing and measuring human security with an intersectional

**Figure 5.6 Black women have higher unemployment rates in Brazil and South Africa, first quarter of 2021**



Source: Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics) and Republic of South Africa Department of Statistics.

**Figure 5.7 Building blocks to advance human security by reducing horizontal inequalities**



**Source:** Human Development Report Office based on UN Treaty Bodies and leading documents.

perspective can open new possibilities for solidarity across groups.

Addressing inequalities under a human security lens requires systemic action, not isolated policies, embodying a commitment to the broad realization of human rights. In the context of longstanding horizontal inequalities, this entails going beyond legislating against discrimination. Antidiscrimination measures are undoubtedly important because they mitigate unjustified differences in how certain groups are treated. However, people can continue to face exclusion and indignity even when they are formally protected from discrimination. Societal prejudices, economic insecurity and impediments to political participation, education and health can all work to perpetuate

inequalities. In this context achieving broad realization of human rights demands action going well beyond legal protection.

**“Analysing and measuring human security with an intersectional perspective can open new possibilities for solidarity across groups**

Advancing human security depends on eliminating horizontal inequalities; as they are reduced, human security is enhanced. For this cycle to unfold, it is crucial to emphasize the salience of agency and solidarity. Solidarity strategies have an instrumental role in the form of common security: the security of one group contributes to the security of other groups,



as the violation of some groups' rights today leaves the space for the violation of other groups' rights tomorrow.<sup>151</sup>

The Universal Declaration of Human Rights remains one of the most important commitments to protecting the dignity of all people. Numerous documents addressing specific issues or groups have since been introduced, seeking to establish shared principles and, at times, coordinated policy directions in light of global challenges affecting people's lives and dignity. They represent key resources to advance human security (figure 5.7). They can serve as building blocks, as well as guides and sources for complementary action, which must also evolve to respond to the evolving human security threats of our times.

“No person is defined solely by being part of any social group, and each person has plural identities. But there are systematic differences across groups of people that harm human security—not only of those discriminated against but of everyone

Possible evolution would include, for instance, reforming justice systems and strengthening the health care response on violence against women and girls. This would provide formal protection mechanisms for women and girls. However, protection policies are not enough for long-term human security, since they can ignore underlying causes, such as a culture that normalizes violence against women and stigmatizes women who have experienced violence. They also may limit the recognition of agency. Therefore, protection should be complemented by effective instruments to raise awareness and support for laws against violence against women and girls, to promote women's rights and to educate society at large for an end to the discrimination and revictimization of women.

For LGBTI+ people there has been a progressive reduction of criminalization of different forms of gender identity and expression and of consensual same-sex sexual conduct around the world. For example, the number of countries criminalizing consensual same-sex sexual conduct dropped from 85 to 67 between 2007 and 2020.<sup>152</sup> These measures are a step towards human security. But they do not address threats to dignity if LGBTI+ people continue to face discrimination in social life. Thus, these measures should be complemented by nondiscrimination frameworks—based on legal and social norms—so that LGBTI+ people have the agency not only to lead the life they value but also to drive broader social change that eliminates the horizontal inequalities that are a permanent threat to human security.

\* \* \*

This chapter highlights only some of the many horizontal inequalities that characterize our world today. No person is defined solely by being part of any social group, and each person has plural identities. But there are systematic differences across groups of people that, as the chapter illustrates for a few cases, harm human security—not only of those discriminated against but of everyone. It is right to emphasize the importance of addressing this discrimination by enhancing the wellbeing of those who suffer the consequences of persisting horizontal inequalities—it is a matter of justice. But it is equally crucial to recognize that people have agency, and in enhancing agency not only would there be more of a chance for the wellbeing of those excluded or discriminated against to be enhanced, but everyone's human security would advance. Eliminating horizontal inequalities thus acquires even greater relevance and reaffirms the importance of adding solidarity to protection and empowerment strategies.

## A feminist perspective on the concept of human security

The concept of human security, as introduced in the 1994 Human Development Report,<sup>1</sup> was conceptualized as universal and centred on people. Universalism is a concern for people everywhere, as it encompasses the common threats experienced by human beings (unemployment, crime, pollution) while recognizing the different threats facing women in the personal security area related to violence against women. Centred on people—a concern for how people live and exercise, their choices and how they access most markets and opportunities. In this sense it recognizes the important differences in access to markets and opportunities—in relation to economic insecurity—for women and girls throughout their lifecycle.

Before the concept of human security was coined, feminist scholars had challenged the state-centric definitions of security.<sup>2</sup> Theories of feminist security questioned the foundations of the concept that reveals an inherent gender bias and androcentric framework,<sup>3</sup> defying the traditionally gendered hierarchies embedded in the concept of security that devalue women's lives and their economic and social contributions to society.<sup>4</sup>

The gender perspective in human security has been debated by different generations of international relations feminists,<sup>5</sup> often centring on two aspects that have been omitted: gender inequalities and the ways different women experience insecurity.

International relations feminists<sup>6</sup> started questioning the gender biases in the core concepts of state, power and security, built in masculine terms. They believed that security could be achieved by eliminating gender inequality and distinguishing between men as the powerful and women as the weak.<sup>7</sup> Research started with the analysis of masculine discourse around national security in the military. Cynthia Enloe analysed the construction of masculinity in national armies, the treatment of women soldiers and the presence of women prostitutes around military bases.<sup>8</sup> By identifying the strong connections between the exercise of power over women and their bodies and the understanding of security, she

concluded that women were strongly marginalized in the name of practicing security.

The concept of security placed the state as a primary actor, built on the privilege of masculine traits, with women absent from the public sphere. Catharine McKinnon called attention to the lack of gender considerations and determinants of the state, acknowledging that the concept of state was male, as “the law sees and treats women the way men see and treat women.”<sup>9</sup> The state and justice system exercised male power over women by institutionalizing the male point of view in law. So, security from feminist standpoints highlights the multiple and overlapping hierarchical relationships of power that undermine women's dignity and capabilities.<sup>10</sup>

Feminist scholars proposed a more comprehensive definition of security “not just as the absence of threats or violence, but as the enjoyment of economic and social justice,”<sup>11</sup> recognizing that security depends on the different economic, political, social and personal circumstances.<sup>12</sup>

Researchers also explored the relationship between security and gendered bodies,<sup>13</sup> which contributed to a better understanding of how the concept was excluding and ignoring women's experiences with insecurity, arguing that the body could explain several aspects of historical oppression on women, where sexuality is the effect of historical power relations.<sup>14</sup> And beyond gender, other inherent characteristics such as race or ethnicity should be considered and accounted for when conceptualizing human security—as humans with different overlapping characteristics will experience insecurity in different ways.<sup>15</sup>

Later, the field of international relations opened space for gender as an analytical category to make women's experiences with insecurity visible.<sup>16</sup> The way to rectify the exclusion of women was by analysing their everyday lives. Adding women was not their main request, as this would just reinforce the male experience and viewpoint as the main category. Gender should be considered a systematically analytical category about constructions of masculinity that



privilege men and devalue femininity.<sup>17</sup> Gender hierarchies shaping behaviour and practices in society should be visible, so that different solutions and alternatives can be developed to overcome insecurities.<sup>18</sup>

Feminist theorists had also highlighted that the lack of reflection around women's subordination in different spaces (state, family, workplace) is seen as an accidental failure of democracy instead of acknowledging gender as an element of how patriarchal institutions were built. For human security this means reflecting on whose security is being emphasized and how. Boys' and men's security is prioritized over girls' and women's because of sexism. All forms of insecurity are gendered. And their manifestations, patterns and degree of intensity might differ for each gender but also depend on the context.<sup>19</sup>

According to Beth Woroniuk, the key gendered dimensions missing in human security discussions since the concept emerged were violence against women, gender inequality in control over resources, gender inequality in power and decisionmaking, women's human rights and women as actors not victims.<sup>20</sup> Also at the beginning of the millennium, the Women's International Network for Gender and Security started to redefine security, prioritizing the consistency of human security with the principles of nonviolence, universal human dignity and sustainable living. The network defined four critical feminist dimensions for human security: a healthy planet and sustainable living environment, meeting basic human needs for wellbeing, respecting and fulfilling human rights and eliminating violence and armed conflict in preference for nonviolent change and conflict resolution. Other researchers have asked for human security to focus on women issues of physical, structural and ecological violence rather than military security.<sup>21</sup> To include gendered dimensions in human security means letting go of androcentric biases, bringing to the fore the experiences of women and girls shaped by unequal power relationships.

Another aspect, in line with the second-wave feminism claiming that "the personal is political,"<sup>22</sup> is to start with the individual or community rather than the state or the international system. Feminist scholars drew on local experiences of women to interpret and explain their insecurities and disadvantaged positions.

Feminist scholars<sup>23</sup> have also argued that women cannot simply be added as a category to study international relations and human security, because both are set on masculine constructions of world politics, resting on a patriarchal system. The main task of the most recent generation of international relations feminists has been to deconstruct the traditional understanding of human security by introducing new ways to interpret gender. Continuing the work by previous generations, third-generation feminists view human security through the lens of human relationships and human needs as opposed to a masculine view centred on institutions.<sup>24</sup>

Black feminism<sup>25</sup>—led by Kimberlé Crenshaw,<sup>26</sup> who developed the theory of intersectionality, and Patricia Hill Collins,<sup>27</sup> who developed the matrix of domination—proposed a critical approach to human security. The insecurities experienced by women are shaped not just by their gender but also by other identities, such as race, ethnicity, age, sexuality, disability, physical appearance and religion. These categories are used as frameworks of domination and power that exclude and marginalize those who are different.<sup>28</sup> For Hill Collins gender has the same importance as race and class in paying attention to the power relations that are root causes of sexism, racism and classism to understand how insecurity is experienced in people's daily lives.<sup>29</sup>

Several scholars have identified violence against women as one of the most pervasive threats to women's and girls' security. Worldwide, women live in constant risk of experiencing violence at the personal, community, economic and political levels, a violence rooted in the foundations of a system that facilitates patriarchal structural violence.<sup>30</sup> This risk limits women's and girls' mobility and agency over their own lives.

In the same line of structural violence, gender justice is one of the key aspects of improving human security, as women and girls are typically invisible and marginalized within judicial processes. Gender justice refers to "legal processes that are equitable, not privileged by and for men, and which distinguish gender-specific injustices that women experience."<sup>31</sup> When a group of people with a common identity face discrimination coming from institutions or traditions, it is embedded in the social structure. This structural violence can lead to suffering and death just as often

as direct violence, and though the damage is slower and more subtle, it is more difficult to repair.<sup>32</sup>

Feminist studies of human security have put on the table relevant themes for women such as the impacts of armed conflict on women, gender relations and gender roles; ways international humanitarian actions and peacekeeping operations widen or diminish unequal gender relations; and women's absence from decisionmaking positions that are central to peacebuilding.<sup>33</sup> Women experience gendered effects in the context of conflicts and are also neglected in disarmament, demobilization and reintegration because they are not recognized as combatants or are viewed simplistically as camp followers or wives of

commanders because of stigma and prejudices about their gender.<sup>34</sup>

The frame of human security stresses the importance of people being able to take care of themselves: all people should have the opportunity to meet their most essential needs and to earn their own living. Empowerment and independence will not be achieved by framing women and girls as vulnerable victims of the different threats they face but by asking women and girls how they are secured or unsecured. Hearing women's voices will tell a different story of security, where they enforce the respect of their economic, political and human rights and are empowered to achieve their own development.

## NOTES

1. UNDP 1994.
2. Donoso 2016; Gentry, Shepherd and Sjoberg 2018.
3. Blanchard 2003.
4. Tickner 1999b. See also Ling (2000).
5. The generations of international relations feminists do not match the waves of feminism (Tickner 1992).
6. Enloe 1989, 1993; Grant 1991; Peterson 1992; Runyan and Peterson 1991; Steans 1998; Sylvester 1994; Tickner 1992, 1995.
7. Tickner 1995.
8. Enloe 1989, 1993.
9. MacKinnon 1989, p. 162.
10. Gentry, Shepherd and Sjoberg 2018; Harding 2016; Tickner 2015.
11. Steans 1998, p. 67.
12. Nuruzzaman 2006.
13. Steans 1998; Sylvester 1994; Tickner 1992.
14. Based on the work of Michel Foucault (1980), several feminist thinkers used his theory of power in relation to the body (Steans 1998).
15. Gentry, Shepherd and Sjoberg 2018.
16. Chin 1998; Hooper 2001; Peterson 2003; Prügl 1999; Tickner 2005.
17. Peterson 2004.
18. Wisotzki 2003.
19. McKay 2004.
20. Woroniuk 1999.
21. McKay 2004; Tickner 1999a.
22. Hanisch 1969.
23. Baines 2005; Peterson 2004; Reardon 2001, 2015; Shepherd 2008, 2010; Tickner 2005, 2015.
24. Reardon 2015.
25. Anzaldúa 1987; Lorde 1980.
26. Crenshaw 1989, 1991, 2017.
27. Collins 1990.
28. Donoso 2016; Gentry, Shepherd and Sjoberg 2018.
29. Collins 2002.
30. Bunch 2003; Bunch and Carrillo 1998.
31. McKay 2004, p. 157. See also McKay (2000).
32. Winter and Leighton 2001.
33. Baines 2005; McKay 2004.
34. Gentry, Shepherd and Sjoberg 2018; McKay and Mazurana 2004.

## Children and human security

### United Nations Children's Fund

The new generation of human security threats in the Anthropocene context, including the compounding effects of inequalities, digital technology threats, health threats and violent conflict have a unique and far-reaching bearing on children and their futures. The realization of human security inevitably depends on addressing those widespread and cross-cutting challenges to their survival, livelihood and dignity, with profound effects on future generations.

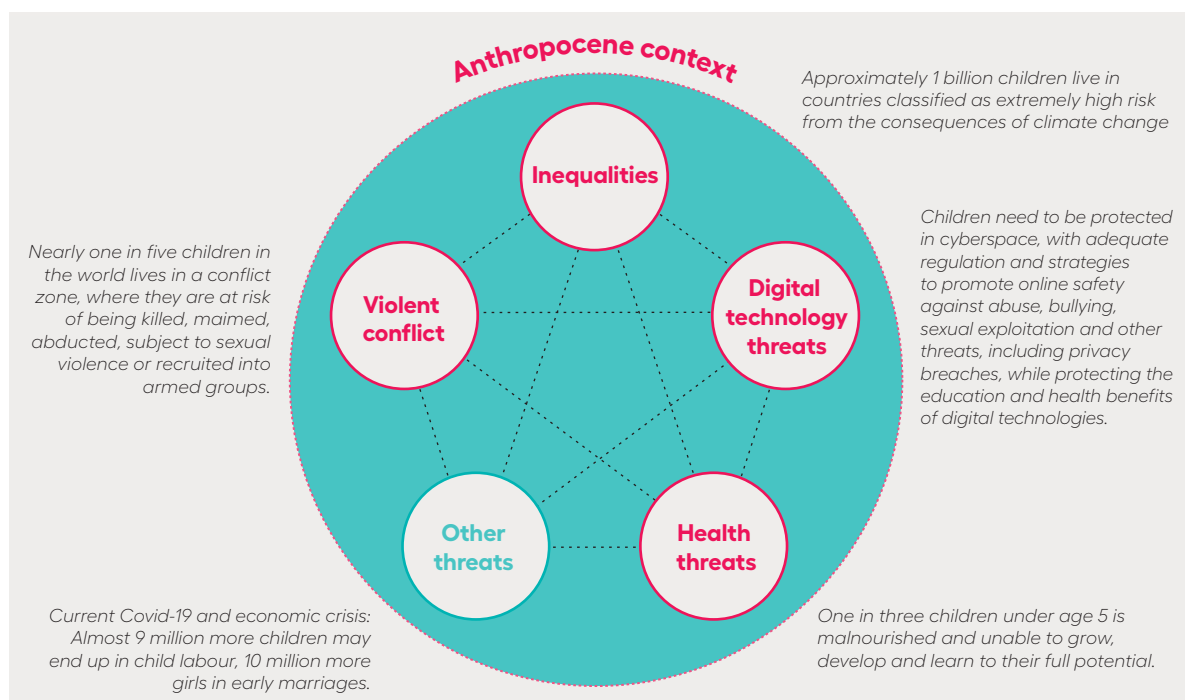
This is exemplified by the Covid-19 pandemic, whose lingering impact has resulted in increasing poverty and inequality, which threaten to undermine the rights of children. An estimated 100 million more children are projected to be living in multidimensional poverty today, representing an increase of 10 per cent since 2019.<sup>1</sup> Along with growing poverty, more children are out of school, hungry, abused, made to

work and forced into early marriage. The global crisis has taken a harsh toll on children and adolescents, fuelled by deprivation and loss and heightened by racism, discrimination and gender inequality.

### Anthropocene risks

The Children's Climate Risk Index<sup>2</sup> revealed that virtually every child on the planet is exposed to at least one environmental threat, be it heatwaves, cyclones, flooding, drought, air pollution or lead poisoning, and approximately 1 billion children live in countries classified as extremely high risk from the consequences of climate change. Children can be particularly vulnerable to climate and environmental shocks if there are inadequate essential services, such as water, sanitation, healthcare and education. As it stands, environmental degradation has contributed to one in three children having elevated levels of lead in their

**Figure S5.2.1 A new generation of human security threats for children**



**Source:** Human Development Report Office based on UN Treaty Bodies and leading documents.

blood. About half a billion children are threatened by flooding, and by 2040 one in four children will live amid extreme water stress.

In order to reduce these Anthropocene risks, efforts are needed to improve the resilience of the essential services that children depend on to survive and thrive. This includes improving access to water, sanitation and hygiene services, as well as introducing climate-smart health services. Children will also benefit from schools and education systems that can respond flexibly and adeptly to disasters and from social safety nets that are climate-responsive. In all these efforts children and young people must be engaged as agents of change in environmental and climate action, as it is their futures that hang in the balance.

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## Inequalities

Evidence from previous crises (including economic shocks and especially the current Covid-19 pandemic) shows that the wide-ranging social and economic impact is likely to be disproportionately higher on children, with groups most likely to be left behind suffering the severest consequences in terms of poverty and hunger linked to reduced family incomes, job losses and rising inequality.<sup>3</sup> The global reach of the pandemic means that children in both developed and developing countries are affected. Poorer and marginalized children globally are also more vulnerable to loss of education and less able to participate in distance learning and access health-care services. This is particularly true for the 1 in 10 children with disabilities worldwide, who may experience deprivation and be less likely to be counted, consulted and considered in decisionmaking that affects them.<sup>4</sup>

The cost of inaction is high. Children stand to lose the equivalent of \$17 trillion, or roughly 14 percent of global gross domestic product (GDP), from their future earnings due to loss of schooling and learning.<sup>5</sup> Almost 9 million more children may end up in child labour, 10 million more girls in early marriages, and many more children will experience violence and suffer negative impacts on their mental health. This is not only a loss to children but also to communities, countries and the world, with productivity and growth prospects likely to be reduced for decades.<sup>6</sup>

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## Digital technology risks

Digital innovation and technology development are accelerating, particularly as the Covid-19 pandemic has caused a shift to distance and remote delivery systems. Digital innovations and solutions have become fundamental to improving children's lives across the spectrum, from health to nutrition, education, protection, access to water, sanitation and hygiene, and inclusion. Children themselves can use technologies, including the internet, for communication, play, schoolwork, accessing information, training, skilling and preparation for the world of work as well as personal expression.

Widespread school closures during the Covid-19 pandemic have spurred a reimagining in education, including through new digital delivery platforms designed to provide children with the education and skills they need for the 21st century. The persistence of the digital divide, however, means that low- and no-tech solutions that are better suited to reaching students without internet access must remain viable alternatives. Finally, with opportunities come risks and threats. Children need to be protected in cyberspace, with adequate regulation and strategies to promote online safety against abuse, bullying, sexual exploitation and other threats, including privacy breaches, while protecting the education and health benefits of digital technologies.

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## Health and nutrition challenges

While tremendous progress has been achieved in maternal and child health and nutrition over the past two decades, inequalities in access to health care mean that many groups of children are left behind. Young children, and newborns in particular, continue to die from preventable causes stemming from inadequate maternal and newborn health care and nutrition or from treatable infectious diseases. Moreover, failing to invest adequately in early childhood development serves to deny young children the stimulation their developing brains need to thrive. Progress in immunization for preventable diseases has also stagnated, and there is great inequality in the availability and distribution of Covid-19 vaccines.

Due to inadequate diets, only half of children ages 6–23 months receive the recommended number of meals per day that they need to thrive and grow well. This contributes to there being one in three children under age 5 who are malnourished and unable to grow well, develop and learn to their full potential.<sup>7</sup> To survive and thrive, every child, including adolescents, should have access to nutritious diets to avoid the double burden of obesity and undernutrition, as well as quality primary healthcare to promote both their physical and mental health. Yet globally, more than one in seven adolescents ages 10–19 is estimated to live with a diagnosed mental disorder.<sup>8</sup> Urgent investment in mental health services is needed, as is an end to the stigma associated with mental illness, to promote greater understanding and support of mental health.

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**Violent conflict**

Nearly one in five children in the world lives in a conflict zone, where they are at risk of being killed, maimed, abducted, subject to sexual violence or recruited into armed groups.<sup>9</sup> Armed actors conduct deliberate campaigns of violence against children, including putting their schools, hospitals, water facilities and other essential services under attack. In 2020 alone the United Nations verified nearly 24,000 grave violations against children in conflict—or about 72 violations per day.<sup>10</sup> Women and girls face increased risk of gender-based violence during humanitarian crises. Added to this are an estimated

33 million children who were forcefully displaced in 2020, accounting for 1 in 70 children globally.<sup>11</sup> To help children process and heal from conflict they have experienced, mental and psychosocial support for children and adolescents must be integral to any humanitarian response.

Children deserve to grow up in an environment that is conducive to peace and security. To promote sustainable peace within societies, factors driving conflict and grievances must be addressed through the equitable and inclusive delivery and management of essential services, including education, health, nutrition, water and sanitation, social protection and child protection. Institutions must also be responsive and accountable to communities and allow for inclusive participation in decisionmaking at all levels, including hearing the voices of children and young people.

None of these threats can be successfully addressed without the active involvement of children. Guided by the Convention on the Rights of the Child, as well as other UN human rights instruments, all children deserve to be included, without discrimination, in matters that affect their human security and to have opportunities and agency in accordance with their rights. For this to be a reality, children and young people must be heard on decisions that affect their lives and, within an environment of trust, support and capacity development, be engaged as allies and problem-solvers on the issues that concern them the most. This will be the most effective way to prepare children for being active citizens and veritable agents of change and human development.

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**NOTES**

1. UNICEF 2021e.  
2. <https://www.unicef.org/reports/climate-crisis-child-rights-crisis>, accessed 20 December 2021.  
3. Furceri, Ostry and Loungani 2020.  
4. UNICEF 2021g.  
5. World Bank, UNESCO and UNICEF 2021.

6. World Bank 2020a.  
7. UNICEF 2019.  
8. UNICEF 2021f.  
9. UNICEF 2021h.  
10. UNICEF 2021i.  
11. UNICEF 2021d.



CHAPTER

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6

# Healthcare systems outmatched by new human security challenges

## **Healthcare systems outmatched by new human security challenges**



Health is fundamental to human security, which is concerned with protecting the “vital core of all human lives in ways that enhance human freedoms and human fulfilment,”<sup>1</sup> and people’s ability to exercise their freedoms depends on their health. In other words health directly constitutes people’s wellbeing and enables people to exercise agency (that is, the ability to pursue what they value in life).<sup>2</sup> In contrast, ill health not only diminishes wellbeing; it also limits people’s agency. Threats to health present some of the most critical challenges to human security.

The past few decades have seen major improvements in global health. Child mortality was more than halved between 1990 and 2019,<sup>3</sup> and life expectancy has greatly improved. Maternal mortality rates have declined significantly, though they remain unacceptably high in some parts of the world.<sup>4</sup> There have been large reductions in mortality from HIV/AIDS,<sup>5</sup> malaria<sup>6</sup> and diarrhoeal diseases.<sup>7</sup> Disparities between developing and developed countries in basic health outcomes have greatly narrowed over time. But a new generation of health challenges has come into play in the form of more frequent new and re-emerging zoonotic diseases (linked to the Anthropocene context) and the predominance of noncommunicable diseases, resulting in a mismatch between new health challenges and the healthcare systems that have propelled achievements in basic health outcomes.

The Covid-19 pandemic has been one of the most acute threats to people’s health in recent decades, but this type of pandemic is expected to increase in frequency in the near future.<sup>8</sup> Covid-19 started as a health shock and has gone hand in hand with an enormous setback for human development. In 2021 Covid-19 adjusted Human Development Index (HDI) values remain far below their precrisis levels (see box 1.1 in chapter 1), resulting in a clear setback to human security.<sup>9</sup> The pandemic has shown that without considering threats to human security, gains in human development remain vulnerable to reversal.

Health threats are unevenly experienced and their impacts unequally distributed, mediated by people’s exposure and their ability to cope with and recover from them once they occur. The ability to weather poor health and to live a healthy life is connected closely to the conditions for people to grow up, learn, work and age—that is, to social determinants of health.<sup>10</sup> In countries at all incomes, poor socioeconomic

outcomes are associated with poor health outcomes.<sup>11</sup> A substantial and growing body of evidence shows that the impacts of Covid-19 on people have been driven by inequalities in the social determinants of health.<sup>12</sup>

Because health outcomes are shaped strongly by decisions outside the health sector, efforts to protect against threats to health cannot be limited to healthcare systems alone but must also be connected to systemic measures.<sup>13</sup>

“The gap between health threats and the ability of healthcare systems to address them poses a critical challenge for human security. At the same time, healthcare systems are among the most promising spaces for advancing the new generation of human security strategies, combining protection, empowerment and solidarity

For instance, the global burden of disease has been shifting, with noncommunicable diseases accounting for an increasing share of the causes of ill health and mortality. Health systems that delivered impressive gains in meeting the challenges of communicable diseases, maternal health and child health are evolving to address the new challenges of chronic illnesses and noncommunicable diseases. Still, while the need for affordable and comprehensive healthcare is intensifying, healthcare remains inaccessible to many people around the world. Nearly half the world’s people lack complete coverage of essential health services.<sup>14</sup> Progress towards the World Health Organization’s (WHO) goal of 1 billion more people benefitting from universal health coverage by 2023 was slowing even before the Covid-19 pandemic.<sup>15</sup> Out-of-pocket health spending is catastrophic for poor people and is an increasingly substantial burden for middle-class households as well.

The gap between health threats and the ability of healthcare systems to address them poses a critical challenge for human security. At the same time, healthcare systems are among the most promising spaces for advancing the new generation of human security strategies, combining protection, empowerment and solidarity. The aspiration is for healthcare systems that directly protect people against a wide range of threats to human security (including disasters, chronic illnesses and infectious diseases), empower people by supporting the broad expansion of human capabilities and support solidarity by

providing a space to share risks and resources. Instead of having individuals bear the risks of illness, impoverishment or diminished capabilities, collective resources can insure against risks that individuals would otherwise be unable to weather on their own. The current context presents a unique opportunity to re-evaluate and reform healthcare systems under the human security lens. Reaffirming the human security lens is especially important in the Anthropocene context because the nature of health shocks will continue to evolve, likely not only in the form of future pandemics but also as people confront the hazards associated with climate change and other processes of dangerous planetary change.

In this vein there has been a resurgence of global interest in the universalization of healthcare and other social policies. Countries as diverse as Brazil, the Republic of Korea, Spain and Togo have implemented generous cash transfer programmes.<sup>16</sup> Moreover, a new ethics appears to be gaining ground. A recent study in the United Kingdom and the United States found substantially higher support for such universal policies than in the past, due in part to respondent's experience during the Covid-19 pandemic.<sup>17</sup>

This is also a fresh opportunity to discuss new efforts to institute an international legal instrument for pandemic preparedness and response. The Covid-19 pandemic has vividly demonstrated the urgent need to strengthen multilateral action to address shared threats to health. Proactive efforts towards stronger, shared measures to tackle human insecurity can now make an enormous difference in our ability to withstand future challenges.

### **As economies bounce back from the Covid-19 pandemic, people's health remains under threat**

Reported deaths due to the Covid-19 pandemic surpassed 5 million at the end of 2021.<sup>18</sup> Excess mortality is estimated to be at least double that number globally.<sup>19</sup> Interruptions in health and nutrition services and declines in household income due to the pandemic are set to have devastating consequences on child nutrition and, in turn, possibly on child mortality and long-term health.<sup>20</sup> The pandemic has gone from a health crisis to a full-fledged human development crisis. In 2020 the world Covid-19 adjusted HDI value

declined, reflecting impacts from large disruptions in education systems to labour market dislocations.<sup>21</sup>

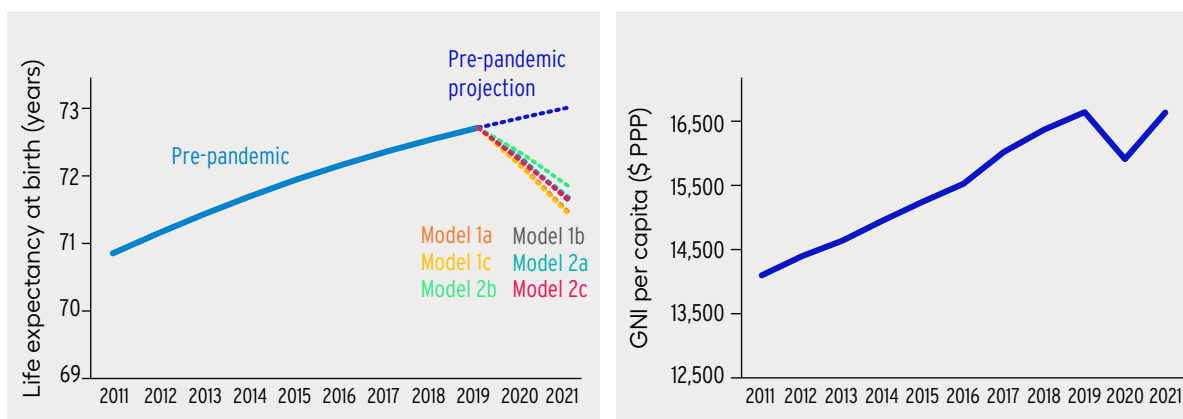
The year 2021 was expected to be a year of recovery, as more information about the characteristics of the virus that causes Covid-19 was uncovered and multiple vaccines became available (even if used unequally across and within countries). In practice, we are living through another manifestation of economic development with human insecurity. While most economies bounced back and global income per capita reached a historical peak, health outcomes reached a new low: global life expectancy declined for the second year in a row. Based on data on excess mortality in 2021, the gap in global life expectancy at birth with respect to the non-Covid-19 scenario is an estimated 1.5 years, or a 7 year reversal for the world as a whole (figure 6.1).

**“While most economies bounced back and global income per capita reached a historical peak, health outcomes reached a new low: global life expectancy declined for the second year in a row**

The economic recovery, while substantial, has been uneven. Developing economies have had more limited emergency fiscal responses than developed countries. By mid-2021 countries had spent \$16.9 trillion globally on Covid-19 pandemic-related fiscal measures.<sup>22</sup> The heterogeneity across countries in responses to the economic effects of the pandemic is substantial—in their speed of response, reach and, above all, size. Overall, in 2020 advanced economies spent 23.1 percent of GDP on discretionary fiscal measures, compared with emerging economies' 9.9 percent of a smaller GDP.<sup>23</sup> Low-income countries spent 4.1 percent of 2020 GDP. Monetary policy in advanced economies has also relied on unprecedented and exceptional measures to support the fiscal efforts.

Most of the direct fiscal support measures have targeted households (by expanding or creating new cash and noncash transfers), businesses (by providing access to financial resources and the ability to meet payments during the Covid-19 pandemic) and health systems (by spending more in the health sector).<sup>24</sup> As the pandemic worsened and the economic consequences of several lockdowns started to hit, countries designed and implemented alternative lifelines to protect households, support businesses and bolster the health sector.<sup>25</sup>

**Figure 6.1** The global economy is recovering, but people's health is not



**Note:** Estimates and projections of life expectancy at birth are based on excess mortality data linked to the Covid-19 pandemic. For the projections different models represent scenarios of death distribution for younger populations. Model 1 provides the baseline for ages 15–64, and Model 2 uses conservative assumptions for the distribution of deaths in that age group. Model a is the baseline for ages 0–14, Model b uses pessimistic assumptions about the effect of Covid-19 on that age group and Model c uses optimistic assumptions about the effect of Covid-19 on that age group. See Hsu and Tapia (2022).

**Source:** Human Development Report Office based on data from the Institute for Health Metrics and Evaluation, the International Monetary Fund, the United Nations Department of Economic and Social Affairs and the Human Mortality Database.

As a result of asymmetries in the fiscal and monetary measures put in place during the Covid-19 pandemic, high-income economies have experienced smaller economic contractions than low- and middle-income countries.<sup>26</sup> Low- and middle-income countries have also experienced greater disruptions in essential health services during the Covid-19 pandemic than high-income countries and greater challenges accessing life-saving medicines and other essential supplies, such as medical oxygen.<sup>27</sup> Emergency support measures are also winding down earlier in emerging economies than in high-income ones. A large part of fiscal support is expiring in Brazil and China, and only in high-income economies (France, Japan, Spain, the United States) is it being replaced by additional measures or a substantial extension of existing programmes.<sup>28</sup> For the remaining emerging economies the extension of fiscal measures has been extremely limited.<sup>29</sup>

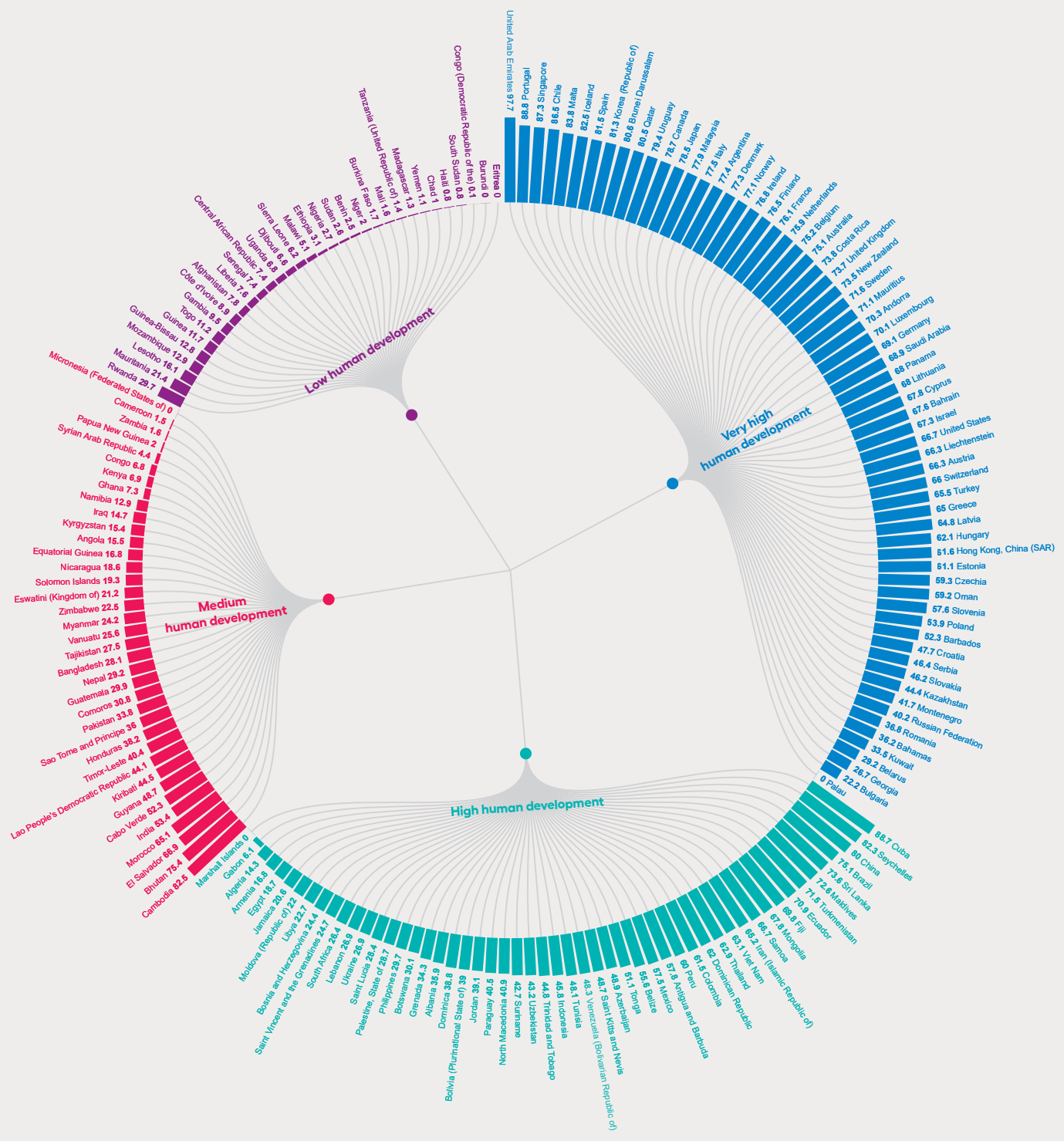
Deploying vaccines has been central in making economic recovery possible. Therefore, disparities in vaccine access and use are not only a morally repugnant situation but also a key driver of divergence between countries' economic recoveries.<sup>30</sup> Even though there are some remarkable cases of developing countries expanding vaccination programmes at levels comparable to those of wealthier countries, the disparities across country groups are stark (figure 6.2). By November 2021 around 67 percent of

the population in very high HDI countries was fully vaccinated, compared with 46 percent in high HDI countries, 30 percent in medium HDI countries and only 7 percent in low HDI countries.<sup>31</sup> The averages also hide large disparities within countries, including low vaccine adoption by segments of the population, even in very high HDI countries.

“Deploying vaccines has been central in making economic recovery possible. Therefore, disparities in vaccine access and use are not only a morally repugnant situation but also a key driver of divergence between countries' economic recoveries

Even though at least 10 manufacturers set production targets of a billion doses each by 2021,<sup>32</sup> access to Covid-19 vaccines has posed a considerable challenge for several developing countries. Many developing countries are still far from the way out of the crisis but have not been able to access enough licenced vaccines to cover their entire population. The constraints they have faced include limited vaccine supply and insufficient cooperation and investment in global solutions to combat Covid-19. In this sense, greater international cooperation is required to distribute vaccines at affordable prices.<sup>33</sup> The main cooperative mechanism to combat inequality in access to vaccines is the global COVAX initiative, which aims to reach the most vulnerable 20 percent of every nation around the world.

Figure 6.2 The disparities in Covid-19 vaccination across countries and territories are stark



Source: Human Development Report Office based on data from Our World in Data (accessed 10 November 2021).

But it has faced insufficient funding to purchase vaccines and competing national vaccine procurement strategies.<sup>34</sup> During the Group of 7 Summit in June 2021, high-income countries announced the donation of 1 billion vaccines,<sup>35</sup> to be delivered mainly to developing countries through the COVAX initiative.

Market mechanisms could also help countries expand vaccine production. Temporary exemptions on the protection of intellectual property for Covid-19 vaccines from vaccine-producing countries and manufacturers could help expand vaccine production (see chapter 3), as could raw material exports, technology transfers and expanded manufacturing capacity in low- and middle-income countries.

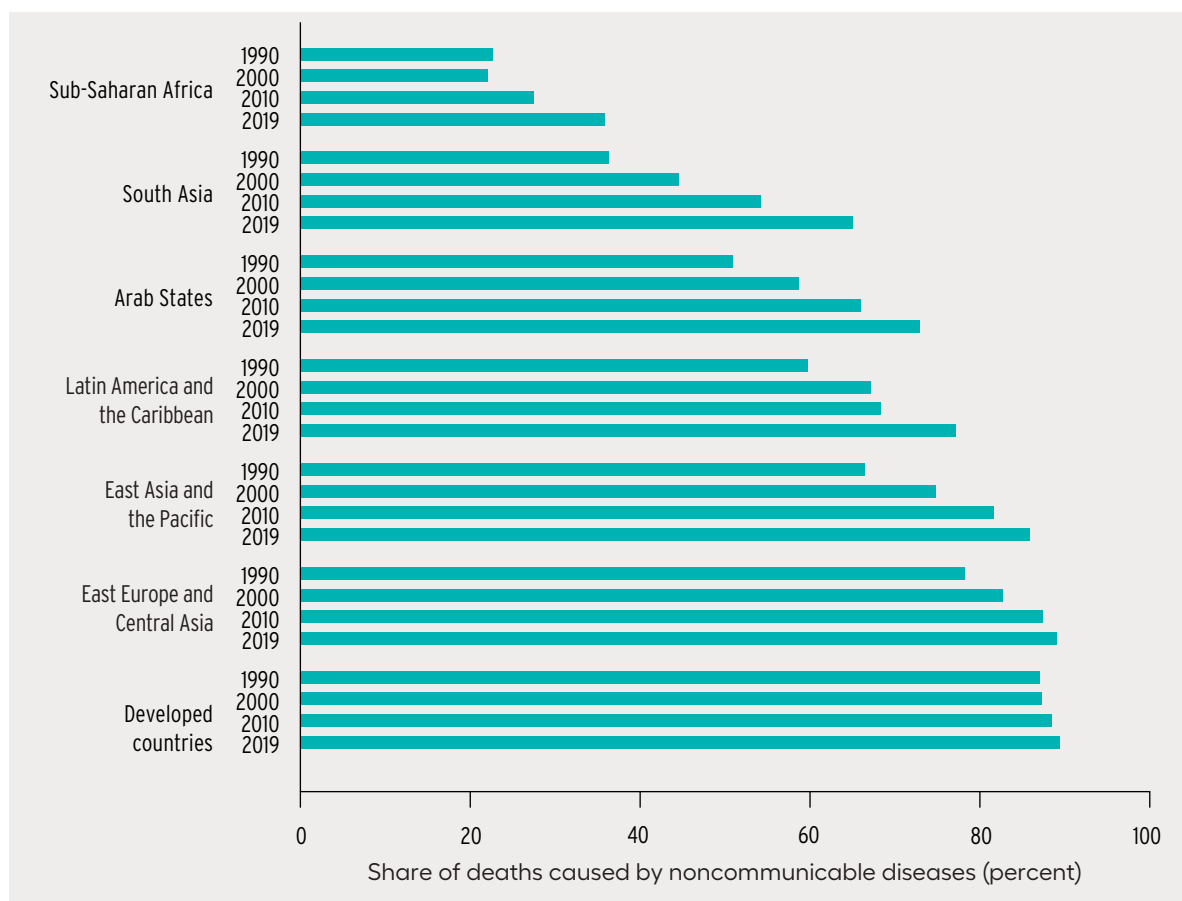
## An evolving disease burden is driving adjustments to healthcare systems

The Covid-19 pandemic brought to the fore the centrality of communicable diseases in human security,

“As countries have become better at protecting basic health, the biggest health threats have shifted to noncommunicable diseases—primarily cancer, diabetes, cardiovascular disease and chronic lung disease

just when healthcare systems were facing increasing pressures from noncommunicable diseases. As countries have become better at protecting basic health, the biggest health threats have shifted to noncommunicable diseases—primarily cancer, diabetes, cardiovascular disease and chronic lung disease. These diseases, on the rise worldwide over the past decades, are rapidly becoming a central public health challenge. Globally, the cause and distribution of the disease burden are shifting, from communicable diseases to noncommunicable diseases, and an increasing share of this new burden of diseases is affecting developing countries (figure 6.3).

**Figure 6.3 More people are dying from noncommunicable diseases today than in the past**



Source: Human Development Report Office based IHME (2020).



Noncommunicable diseases together accounted for 74 percent of deaths in 2019,<sup>36</sup> most of them in developing countries (see figure 6.3).<sup>37</sup> The pressure of these diseases will likely intensify globally because the number of people over age 65 is expected to more than double by 2050 (see table 5.1 in chapter 5).<sup>38</sup> Social determinants of health shape the prevalence and distribution of noncommunicable diseases as well as the mortality associated with them.<sup>39</sup> For instance, the main behavioural risk factors (unhealthy diets, tobacco smoking, low physical activity and excess alcohol consumption) and physical risk factors (obesity, high blood pressure and diabetes) for noncommunicable diseases are socially patterned, as is exposure to pollutants that cause specific noncommunicable diseases.<sup>40</sup> Mental health has become a

“The growing burden of noncommunicable diseases places new demands on healthcare systems, particularly for preventive or chronic care

human security emergency (box 6.1). Having low socioeconomic status or living in a low- or middle-income country increases the risk of developing type 2 diabetes, chronic pulmonary disease, cardiovascular disease and lung cancer.<sup>41</sup> Many noncommunicable diseases are preventable with policy measures that address their main risk factors and underlying social determinants. Effective action goes beyond healthcare systems to include justice, education, social welfare, urban planning and environment protection.<sup>42</sup>

Although people in some developing countries (in particular those in Sub-Saharan Africa) were still

#### Box 6.1 The mental health crisis is a human security emergency

Addressing mental health is directly relevant to advancing human security. Mental disorders place a massive burden on every aspect of human lives (including relationships, school, work and community participation).<sup>1</sup> Roughly 10 percent of the global population suffers from mental disorders.<sup>2</sup> When children face hardships or environmental stressors, long-term physical health problems as well as damage to the developing brain can result.<sup>3</sup> Globally, about 20 percent of children and adolescents<sup>4</sup> and about 15 percent of people ages 60 and older have mental disorders.<sup>5</sup> These numbers are most likely underestimated.<sup>6</sup> Social stigma works against reporting and diagnosing mental disorders. In many countries access to mental health services is so limited that people do not have the possibility of seeking treatment or being diagnosed.

Common mental health conditions include depression, dementia, bipolar disorder and schizophrenia.<sup>7</sup> These disorders tend to be associated with poor education outcomes,<sup>8</sup> low productivity at work,<sup>9</sup> poverty,<sup>10</sup> premature and excess mortality<sup>11</sup> and poor overall health.<sup>12</sup> Mental health issues are also estimated to generate substantial losses in economic output.<sup>13</sup>

Some of the leading causes of mental health conditions are adverse life experiences (such as abuse, trauma, violence and conflict), ongoing medical conditions (such as cancer and diabetes), substance abuse (such as alcohol and recreational

drugs), biological factors (such as genes and brain chemical imbalances) and isolation and loneliness.<sup>14</sup> Some groups are especially vulnerable. Women, because they are more exposed to sexual violence and other potential triggers of mental disorders than men, tend to be more affected by mental health conditions (particularly anxiety, depression, post-traumatic stress and eating disorders).<sup>15</sup>

Major threats to human security, such as conflict, can foster large-scale, long-lasting mental health crises. For instance, negative life experiences such as the Covid-19 pandemic have been linked to anxiety, depression, stress and disturbed sleep,<sup>16</sup> while disrupting mental health services worldwide,<sup>17</sup> particularly in low-income countries.<sup>18</sup>

Often overlooked as a human security issue, mental health is essential for people to enjoy secure lives. So, failing to address mental health amounts to neglecting a major ongoing threat to human security and can leave health systems unprepared for future mental health crises.

#### Notes

1. WHO 2021e. 2. Mnoookin 2016. 3. Center on the Developing Child at Harvard University 2013; National Scientific Council on the Developing Child 2020. 4. WHO 2021e. 5. WHO 2017. 6. Ritchie 2018. 7. WHO 2019. 8. Brännlund, Strandh and Nilsson 2017. 9. Bubonya, Cobb-Clark and Wooden 2017. 10. Callander and Schofield 2018. 11. Saxena 2018. 12. World Bank 2018. 13. Estimates of economic loss due to mental health issues vary depending on the method of estimation used. See Bloom and others (2011). 14. CDC 2018. 15. Mental Health Foundation 2021. 16. Rajkumar 2020. 17. WHO 2020a. 18. Kola 2020.

more likely to die from a communicable disease (such as malaria, HIV/AIDS or tuberculosis), deaths from communicable diseases have been declining. Meanwhile, deaths from noncommunicable diseases are on the rise across all regions (see figure 6.3).<sup>43</sup> Some countries that are undergoing this transition are facing a triple burden, with increases in noncommunicable diseases and injuries alongside a substantial existing burden from communicable diseases.<sup>44</sup> The growing burden of noncommunicable diseases places new demands on healthcare systems, particularly for preventive or chronic care. Many national healthcare systems that have historically catered to communicable diseases and maternal and child health are ill-prepared for these new demands.<sup>45</sup> Even in some developed countries the growth of multiple noncommunicable diseases—such as cancer—is creating new gaps in healthcare outcomes.<sup>46</sup>

Meanwhile, climate change, biodiversity loss and food insecurity are expected to intensify in the Anthropocene context (see chapter 2), with unequal impacts across and within countries. Air pollution and warmer temperatures resulting from climate change are causing people's health to deteriorate through both direct and indirect channels.<sup>47</sup> By one estimate, anthropogenic climate change contributed to 37 percent of warm-season heat-related deaths between 1991 and 2018.<sup>48</sup> The biggest increase in heat vulnerability during the past 30 years has been in low and medium HDI countries.<sup>49</sup> Air pollution is a key factor behind excess mortality and low life expectancy, in part by exacerbating cardiovascular disease.<sup>50</sup> Climate change is contributing to the decline in yield potential for major crops in many parts of the world and in turn undermining efforts to curb malnutrition.<sup>51</sup> As chapter 2 discusses, climate change is expected to become a leading global risk factor by the end of this century (though with great inequalities in impact across regions).<sup>52</sup>

Planetary disruptions, health and equity are closely linked. Climate change threatens to undo years of progress in public health and sustainable development outcomes, and adaptation responses are far from adequate.<sup>53</sup> These new risks pose serious challenges to health systems, in addition to disrupting the social, economic and political conditions for the operation of healthcare systems. Some communities and countries are better positioned to cope than others. First, climate change can drive social and

economic dislocation—say, by reducing food security or access to water. Second, the health impacts of climate change are not equally borne across people or communities. They fall disproportionately on those left behind socially, poor people and individuals with underlying health conditions.<sup>54</sup> Health shocks can cause families to become and remain poor and in turn be more vulnerable to the hazards associated with the Anthropocene context.<sup>55</sup> The Covid-19 pandemic presents a glimpse of how this new reality can exacerbate human insecurity.

## **Reinforcing human security through enhanced healthcare systems**

Affordable, comprehensive and equitable healthcare is vital for human security, both to protect against illness and to promote health more generally. The performance of healthcare systems is itself an important social determinant of health. Well-performing healthcare systems are essential for realizing the human right to health: the right to the enjoyment of the highest attainable standard of physical and mental health.<sup>56</sup> The right to health demands that healthcare services, goods and facilities be available, accessible, acceptable and of decent quality—and be provided to all without discrimination.<sup>57</sup> The right to health also calls attention to the need for going beyond healthcare systems. As Amartya Sen notes, “The policy question points to the fact that good health depends on healthcare, and health care is something that we can be legislate about. But good health does not depend only on health care. It also depends on nutrition, lifestyle, education, women's empowerment, and the extent of inequality in a society.”<sup>58</sup> So the right to health “has [...] broad demands that go well beyond legislating good health care (important as that is). There are political, social, economic, scientific, and cultural actions that we can take for advancing the cause of good health for all.”<sup>59</sup>

**“Well-performing healthcare systems are essential for realizing the human right to health: the right to the enjoyment of the highest attainable standard of physical and mental health**

Still, strengthening healthcare systems is one of the central actions needed to fulfil the human right

to health. Limitations in the performance or equity of healthcare systems pose a pervasive challenge for enhancing human security and addressing major health challenges, including noncommunicable diseases, pandemics and unmet mental health needs. People in countries at all incomes experience the implications of limitations in healthcare systems.<sup>60</sup> Contributing factors include fragmented healthcare delivery, shortfalls in the healthcare workforce, ineffective health information systems and weak governance structures.<sup>61</sup> Healthcare systems are often difficult to navigate, so much so that they can deter people from seeking care altogether.<sup>62</sup>

**“Healthcare remains prohibitively expensive for many people around the world. When people lack financial coverage for healthcare, falling ill can have catastrophic financial consequences, which in turn compromise human security**

People in lower income countries suffer the most from inadequacies in healthcare.<sup>63</sup> In low- and middle-income countries an estimated 8 million people die each year from conditions that should be treatable by healthcare systems, and 60 percent of deaths are due to poor quality care.<sup>64</sup> About a third of patients in these countries encounter disrespectful care, short consultations, poor communication or long wait times in healthcare systems.<sup>65</sup> One patient in ten hospitalized in developing countries can expect to acquire a healthcare-associated infection, compared with 7 in 100 in high-income countries.<sup>66</sup> In low- and middle-income countries 5.7–8.4 million deaths a year occur due to poor quality care for a selected set of health conditions (including some communicable, noncommunicable, and maternal and child health conditions).<sup>67</sup>

Healthcare remains prohibitively expensive for many people around the world. When people lack financial coverage for healthcare, falling ill can have catastrophic financial consequences, which in turn compromise human security. Unaffordable healthcare directly impedes people’s wellbeing and restricts their ability to work, pursue education, participate in social and political life and live otherwise fulfilling lives. As stated in Anirudh Krishna’s seminal work: “People continue to live only one illness away from poverty.”<sup>68</sup> In low-income countries 44 percent of

health spending is met by out-of-pocket payments.<sup>69</sup> If health insurance or other financing is unavailable, poor people cannot obtain the care they need. Where out-of-pocket spending is the primary source of financing for healthcare, social inequities arise because the costs of healthcare weigh more heavily on those with low incomes. In Sub-Saharan Africa problems with affordability were the most frequent barrier for people unable to access medical care during the pandemic, followed by fear of catching Covid-19.<sup>70</sup>

The unequitable burden of out-of-pocket spending is especially disadvantageous in settings where the burden of noncommunicable diseases is growing. The costs of treating these diseases can heavily strain household incomes, contributing to impoverishment.<sup>71</sup> The link between noncommunicable diseases and poverty can be a vicious cycle: poverty is associated with risk factors for noncommunicable diseases, and the costs of care for these diseases in turn generate impoverishment.<sup>72</sup> High out-of-pocket spending is often related to the cost of medicines, especially burdensome for people with chronic conditions.<sup>73</sup> The unaffordability of medicines is a major obstacle for treating many noncommunicable diseases.<sup>74</sup> High prices and limited availability make insulin, crucial for treating diabetes, inaccessible for many people.<sup>75</sup>

Across countries at all incomes, coping with ill health can be a major burden. In Organisation for Economic Co-operation and Development (OECD) countries 20 percent of health spending is paid directly by households, on average—ranging from less than 10 percent in France to more than 30 percent in Chile, Greece, the Republic of Korea and Mexico.<sup>76</sup> Evidence from OECD countries shows that private health spending, such as private health insurance and out-of-pocket spending on health products and services, accounts for a growing share of middle-class budgets.<sup>77</sup> Among OECD countries, middle-income households’ health-related spending rose between 2005 and 2015.<sup>78</sup> The increase was largest in Chile, Germany, Latvia, the Slovak Republic, Spain and the United States.<sup>79</sup>

Middle-class households are spending more on private health insurance than a decade ago. In the United States the highest expenses have been associated with health insurance premiums and out-of-pocket expenses when facing illness, and a strong association has been documented between economic



insecurity and households facing health challenges. Between 2000 and 2010 the average spending of middle-income households on healthcare increased by 51 percent, whereas household incomes grew by 30 percent.<sup>80</sup> By one measure the mean family health insurance premium in 2016 equalled 30.7 percent of median household income.<sup>81</sup> The increasing costs of long-term services and support for the older people and their families present a major risk to the economic security of middle-class families. Family caregivers who provide unpaid assistance to family members in need of long-term services and support do so at the expense of their own economic security.<sup>82</sup> And caregivers are usually women.<sup>83</sup>

Unaffordable and low-quality healthcare diminishes human security. From the standpoint of enhancing human security, and in line with strategies that are based on solidarity, a key contribution would be to move towards universalism in healthcare. Universal policies are “those that reach the entire population with similarly generous benefits independent of the instruments used.”<sup>84</sup> Universalism is a multidimensional concept, incorporating elements of coverage, generosity and equity.<sup>85</sup> A variety of policy instruments and strategies can achieve universalism. The appropriate reforms to this end are necessarily context-specific, depending on social structures, economic conditions, state capacities and initial institutional arrangements.<sup>86</sup>

Because high out-of-pocket health spending drives impoverishment and poor health outcomes, there has been a global push towards universal health coverage, which is relevant for advancing human security.<sup>87</sup> By WHO’s definition, universal health coverage is achieved when all people receive the health services they need, including health promotion and prevention, treatment, rehabilitation and palliative care across the life course without suffering financial hardship.<sup>88</sup> Universal health coverage is one target in the 2030 Agenda for Sustainable Development. Coverage of essential services—one of two indicators for monitoring universal health coverage in the Sustainable Development Goal framework—has improved globally since 2000.<sup>89</sup> Most OECD countries have near-universal coverage of costs for some healthcare services, including consultations with doctors, tests and examinations, and surgical and therapeutic procedures.<sup>90</sup> In September 2019 UN member states

issued the Political Declaration on Universal Health Coverage, reaffirming a commitment to ensure that by 2030 people would receive the health services they need without suffering financial hardship.<sup>91</sup>

While universal health coverage seeks to address financial protection, the quality of healthcare also matters greatly for health outcomes. There is growing recognition that expanding coverage alone does not translate to better health outcomes, unless healthcare is also high quality.<sup>92</sup> Fulfilling the human right to the highest attainable standard of health also demands investments in the quality of care. Improving the quality of healthcare is important on equity grounds: high quality healthcare should be accessible to all people regardless of their status and identities, and efforts to enhance quality should prioritize people who are receiving the worst quality care. Enhancing human security thus requires moving beyond coverage and towards enhancing quality and equity in healthcare.

“Improving the quality of healthcare is important on equity grounds: high quality healthcare should be accessible to all people regardless of their status and identities, and efforts to enhance quality should prioritize people who are receiving the worst quality care

An important issue in advancing healthcare universalism relates to public or private provision. Public provision has long been central in improving population health outcomes,<sup>93</sup> with implications for expanding human development.<sup>94</sup> Private actors have also played an important role in health systems, through provision of care as well as through insurance coverage, pharmaceutical innovation and service delivery, among others. There is evidence that private provision can support some dimensions of universalism—namely coverage, generosity and equity.<sup>95</sup> It can compensate for shortfalls in public provision of healthcare services. Private actors often enjoy greater capacity to spur innovation, experimentation and technological advances in health. Indeed, the private sector could play an important role in addressing the burden of noncommunicable diseases through innovation in diagnostics, treatment and care.<sup>96</sup>

In some settings, however, private responses can undermine equity, as those able to pay enjoy higher quality care than those who must rely on

public provision alone. Where private provision has long dominated healthcare systems, private actors can form coalitions opposing progress towards universalism, thus maintaining a status quo of insufficient public provision and high inequality.<sup>97</sup> In health financing systems funded primarily by public funds, expanding voluntary private insurance can contribute to higher costs and inequity.<sup>98</sup>

### **Strategies to enhance human security based on solidarity: Towards the new generation of universalism in healthcare systems**

The Covid-19 pandemic has exposed many long-standing weaknesses of healthcare systems around the world. It has highlighted that nearly anyone could face a sudden health threat and that even the most well-resourced health systems could be overwhelmed by a crisis on such a large scale. In the Anthropocene context these types of threats are expected to increase in frequency and intensity, a lack of preparedness and vast disparities in people's abilities to weather a health crisis exposed by Covid-19 should serve as a wakeup call. Meanwhile the evolving burden of disease and growing inequalities between and within countries in addressing disease pose additional risks to human security. Beyond Covid-19 there is abundant empirical evidence that long-term adversities—such as poverty, racism, violence against women and girls or unsafe neighbourhoods—can increase the possibility of a wide range of health conditions. These include obesity, diabetes, cardiovascular disease, cancer, substance abuse, autoimmune diseases, enhanced inflammation, impaired cognition, interpersonal and self-directed violence, and chronic mental illnesses.<sup>99</sup> In this context the close relationships among meeting basic needs, promoting freedoms and protecting against shocks become all the more important. Strategies for the new generation of human security must reflect the systemic nature of these threats and move beyond partial solutions that leave the underlying drivers of insecurity unaddressed.

In this vein the new generation of human security needs to systematically foster not only protection and empowerment (dealing with urgent needs while reinforcing agency) but also solidarity. Moving towards

universalism in healthcare would be a concrete way to advance human security in the enlarged perspective advocated for in chapter 1.

Actions to meet a shared health threat can come from a wide range of actors using a variety of instruments, going well beyond healthcare systems alone. Efforts to stem the spread and impact of Covid-19 have come from governments, civil society, the scientific community, industry and individuals acting on their own with a common purpose. The success of measures such as movement restrictions, social distancing and masking relied strongly on public legitimacy, empowerment and accountability. Special efforts have been needed to reach those furthest behind, such as people otherwise excluded from social protection systems. And the uneven deployment of several effective vaccines against Covid-19 around the world has highlighted shared (in)security—that the security of one group is not guaranteed unless that of all others is addressed too.

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#### **Linking universalism in healthcare with human security**

Moving towards universalism in healthcare would directly enhance human security. A genuinely universal healthcare system would provide protection that is not conditional, enhancing capabilities through both prevention and adequate treatment when needed. It would also be empowering because it is based on expanding agency.

“Universal healthcare is framed as a strategy that advances human security through protection, empowerment and solidarity and links to a broader international consensus expressed in the 2030 Agenda for Sustainable Development aspiration to leave no one behind

In exposing structural inequalities and the interconnectedness of human security risks, the Covid-19 pandemic has further highlighted the need for universal and systemic responses to health threats that do not exclude groups and individuals from access to healthcare—not only would that be a direct threat to those excluded, but it would also put whole populations at continued risk.<sup>100</sup> As the inequitable provision and use

of Covid-19 vaccines show, excluding someone from access can pose continued severe threats to the health of many. Experiences during the Covid-19 pandemic therefore emphasize the vital importance of effective universal access to adequate healthcare, in a context of mutual interdependence across countries and people when it comes to the conditions that can advance the pursuit of health as a human right. And it is in this context that solidarity, along with protection and empowerment, acquires heightened relevance.

Universal healthcare is therefore framed as a strategy that advances human security through protection, empowerment and solidarity and links to a broader international consensus expressed in the 2030 Agenda for Sustainable Development aspiration to leave no one behind. It is also expressed in Sustainable Development Goal target 3.8,<sup>101</sup> in the World Health Organization's UHC service coverage index, in the International Labour Organization's Social Security for All and in the Global Partnership for Universal Social Protection launched by the World Bank and the International Labour Organization.<sup>102</sup>

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### Measuring universalism: Introducing the Healthcare Universalism Index

To measure the extent to which healthcare systems can be characterized as universal in the sense elaborated above, this Report introduces the Healthcare Universalism Index (HUI). The HUI, which is based on a comprehensive concept of universalism, incorporates not only effective coverage but also generosity and equity (see annex 6.1).

The HUI shows a large gap across countries at different HDI values. Norway, Japan and Sweden top the index, with values above 0.9, while Afghanistan, Bangladesh, Equatorial Guinea and Nigeria have values below 0.1. Some developing countries have high values, with Costa Rica (0.720), Uruguay (0.703), Kuwait (0.691) and Maldives (0.671) enjoying universalism comparable to that in more industrialized countries such as the United States (0.727). Cuba, another outlier, ranks seventh, higher than historical leaders on universal provision of services such as Germany and the United Kingdom.

Among the HUI components, generosity appears to be the main barrier for healthcare universalism. This

emphasizes the key argument that coverage alone is not sufficient: it needs to be accompanied by sufficient investment in quality and accessibility. Low scores among developed countries are typically due to imbalances in achievements across the three dimensions of universalism. For example, while Uruguay scores almost equally well across coverage (0.69), generosity (0.72) and equity (0.70), the United States is characterized by vast differences in dimension scores—especially between coverage (0.86) and equity (0.46).<sup>103</sup>

Among developing regions, Latin America and the Caribbean stands out with high HUI values, despite persistent weaknesses in healthcare systems.<sup>104</sup> The region is followed by the Arab States, Eastern Europe and Central Asia, and East Asia and the Pacific. Countries in South Asia and Sub-Saharan Africa are lagging behind.

HUI values have improved over time: between 1995 and 2017 the world HUI value increased from 0.395 to 0.472. But there are some points of concern:

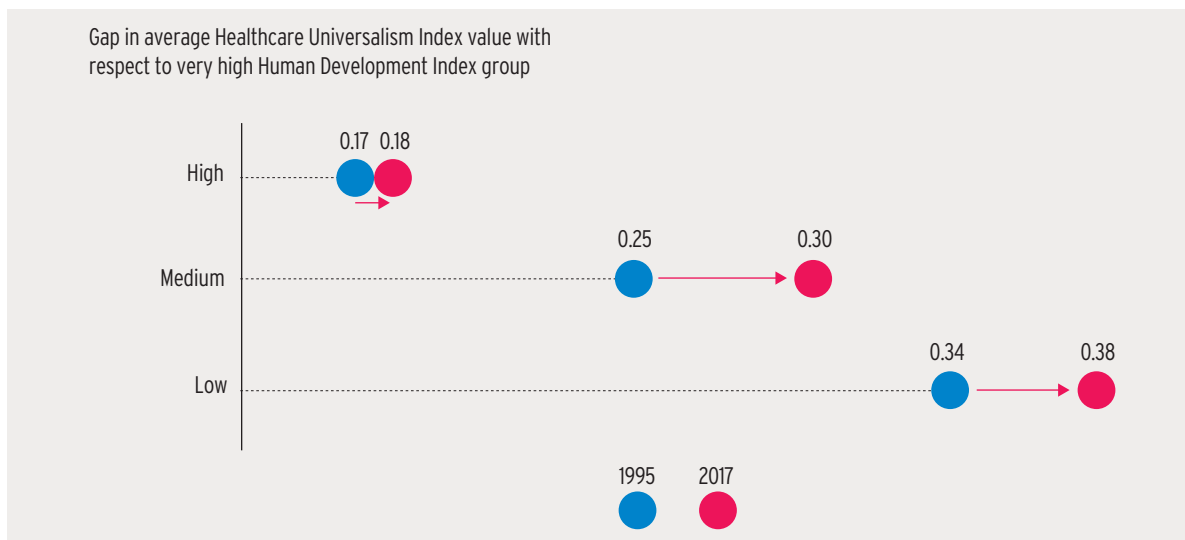
- *Gaps in universalism between developed and developing countries are widening on average.* In general, progress in universalism across developing countries has been too slow to catch up with high HDI countries (figure 6.4).
- *Progress is heterogeneous.* On the positive side, 80 countries substantially improved on the HUI, with an increase of more than 0.1. Examples include populous countries such as China and Indonesia as well as many African countries, such as the Democratic Republic of the Congo, Côte d'Ivoire, Liberia and Togo. On the other hand, 37 countries experienced a deterioration on the HUI, which mostly reflects less generous, more unequal and overall more segmented healthcare systems. This trend is most prevalent among countries with medium universalism in 1995 and especially strong in Eastern Europe and Central Asia. Countries such as the Central African Republic, Iraq, Sudan, Venezuela and Yemen also saw deteriorations.

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### Making healthcare systems more universal to address new challenges to human security

To what extent can current healthcare systems respond to the new generation of human security challenges discussed in this chapter?

**Figure 6.4 Progress with inequality: Widening gaps in healthcare over time**



**Note:** Balanced panel of 185 countries. Aggregates are based on simple averages.  
**Source:** Based on Schillings and Sanchez-Ancochea (2021).

Recall that healthcare universalism is weaker and improving less rapidly in developing countries. In addition, healthcare systems in developing countries seem to be less effective or not fit-for-purpose to deal with the challenges arising from the burden of non-communicable diseases and pandemics.

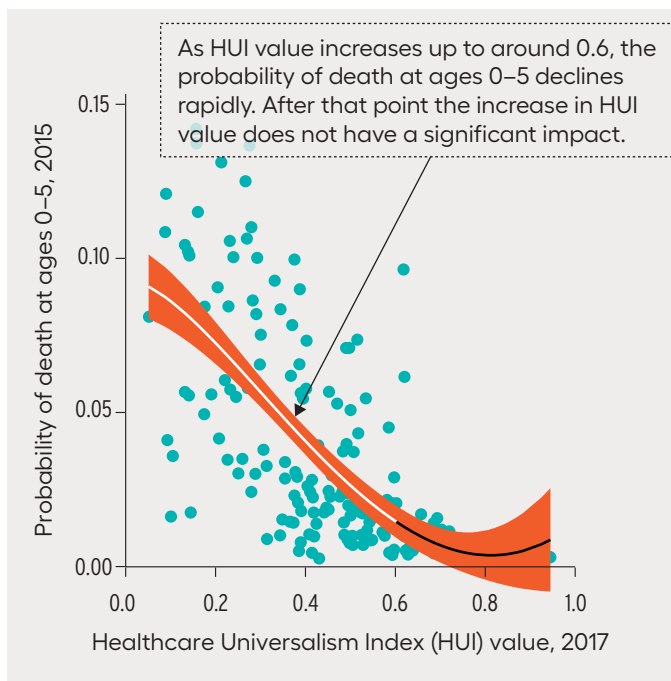
The current generation of healthcare systems is associated with remarkable achievements in human security, including the reduction in mortality rates at all ages—but the progress is heterogeneous. The 2019 Human Development Report documents two global trends. First, inequalities in basic capabilities (proxied by surviving the first years of life, the focus of the Millennium Development Goals) are declining: countries with high initial infant mortality rates are experiencing faster reductions and are therefore catching up. Second, inequalities in enhanced capabilities (improving health at old ages, in line with the Sustainable Development Goals) are growing: countries that already had relatively low mortality rates at older ages have been recording more progress over the last decade than countries with higher mortality rates at older ages.<sup>105</sup>

These patterns may be associated with the universalism of healthcare systems. There is a strong negative association between HUI value and child (ages 0–5) mortality rate, a proxy of basic capabilities, up to an HUI value of around 0.6—from there on,

improvement on the HUI does not change the child mortality rate (figure 6.5).

In contrast, improvement on the HUI changes the mortality rate at ages 50–80, a proxy for enhanced

**Figure 6.5 There is a strong negative association between Healthcare Universalism Index value and child probability of death up to an index value of around 0.6**



**Source:** Human Development Report Office calculations based on Schillings and Sanchez-Ancochea (2021) and the United Nations Population Division.

capabilities, very little up, to an HUI value of about 0.4, but from there on mortality rate drops quickly as HUI value increases (figure 6.6). This is an indication of the limited universalism (and thus effectiveness) of developing country healthcare systems in responding to emerging health threats to human security that are associated with enhanced capabilities.

“Healthcare universalism is weaker and improving less rapidly in developing countries. In addition, healthcare systems in developing countries seem to be less effective or not fit-for-purpose to deal with the challenges arising from the burden of noncommunicable diseases and pandemics

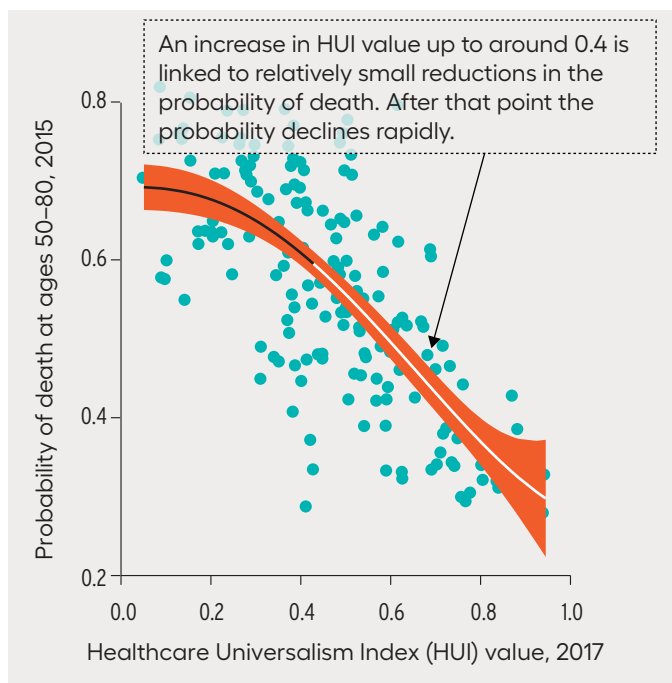
The impact of limited universalism on the effectiveness of healthcare systems to address the new health threats to human security can be further examined by considering the burden of noncommunicable diseases and preparedness for pandemics. Improvements on the HUI up to about 0.5 reduce the age-normalized death rate associated with noncommunicable diseases by very little (figure 6.7),

but as HUI value increases from that level, there is a strong relationship between it and noncommunicable disease-related deaths.

A similar pattern is observed between the Global Health Security Index (a metric of preparedness for pandemic response) and the HUI (figure 6.8).<sup>106</sup> Up to an HUI value of about 0.4, HUI value is not associated with Global Health Security Index value, but above that level, the relationship is strongly positive and significant. For lower HUI values there is no statistically significant association.<sup>107</sup>

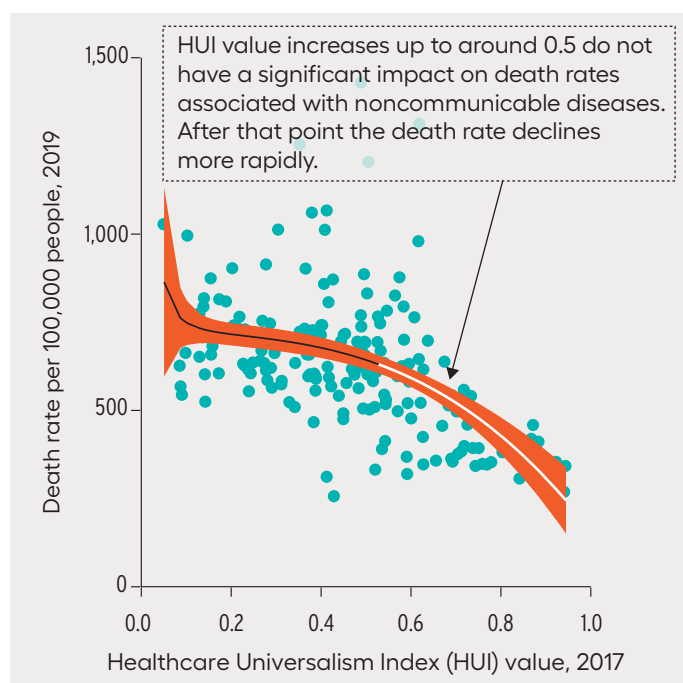
The limitations of healthcare systems already evident in this analysis will determine not only the wellbeing and agency of people living in developing countries but also how the world will be able to respond to the compounded threats to human security going forward in the Anthropocene context. The greatest threats to human security are likely to be where HUI values are lower (figure 6.9). Hazards and challenges likely to be exacerbated in the Anthropocene context will hit harder in countries with an HUI value of 0.25 or lower and progressively less as HUI value increases.

**Figure 6.6** At a Healthcare Universalism Index value of about 0.4 and higher, the probability of death at ages 50–80 drops quickly as index value increases



**Source:** Human Development Report Office calculations based on Schillings and Sanchez-Ancochea (2021) and the United Nations Population Division.

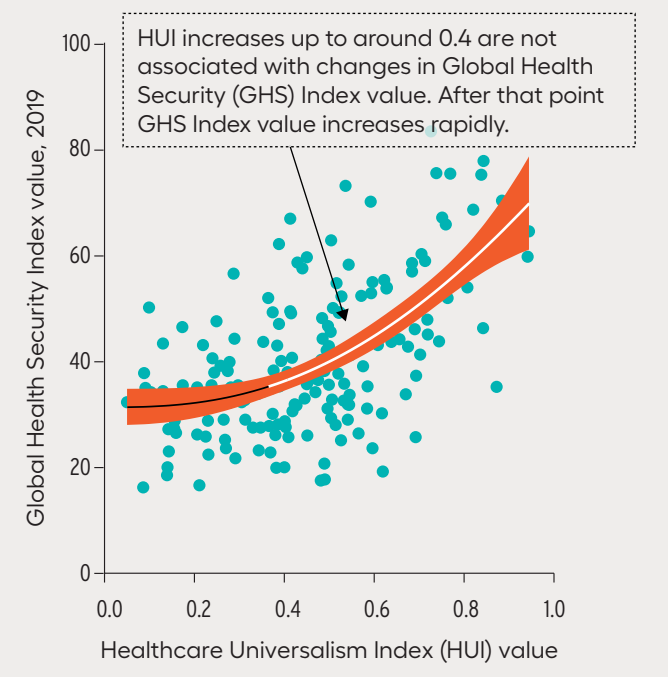
**Figure 6.7** As Healthcare Universalism Index value increases from 0.5, there is a strong relationship between it and noncommunicable disease-related deaths



**Source:** Human Development Report Office calculations based on Schillings and Sanchez-Ancochea (2021) and IHME (2020).



**Figure 6.8** Up to a value of about 0.4, Healthcare Universalism Index value is not associated with Global Health Security Index value, but above that level, the relationship is strongly positive and significant

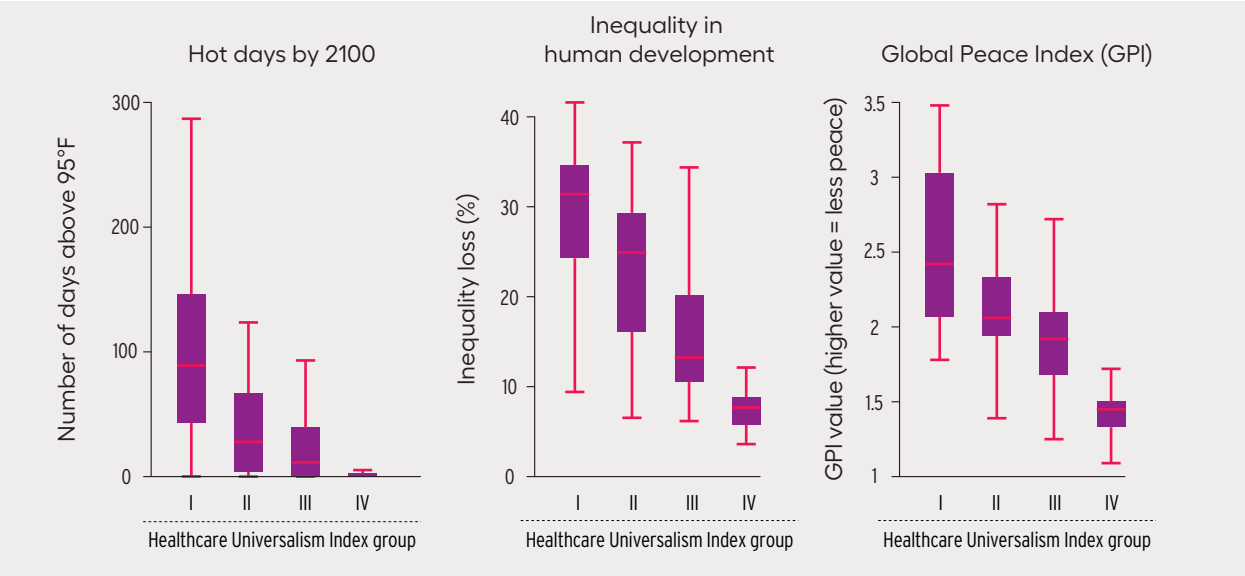


Source: Human Development Report Office calculations based on Schillings and Sanchez-Ancochea (2021) and NTI and JHU (2019).

But healthcare universalism faces limitations beyond developing countries. The pattern of divergence in life expectancy at older age (with groups with higher socioeconomic status expanding their advantage over the rest) is taking place in other developed countries, including Canada,<sup>108</sup> Denmark,<sup>109</sup> Finland,<sup>110</sup> England (United Kingdom),<sup>111</sup> the United States<sup>112</sup> and some other European countries.<sup>113</sup> Even in Sweden, which has a robust universal healthcare system, health outcomes appear to be improving faster among people at the top of the distribution than among poorer members of the population.<sup>114</sup>

The impact of the Covid-19 pandemic in societies has also depended heavily on socioeconomic status, even in countries with relatively universal health-care systems. There is evidence that some groups in Sweden have faced higher morbidity and mortality from Covid-19: migrants had higher mortality from Covid-19 than people born in Sweden, and this has been explained in part by their poorer socioeconomic conditions.<sup>115</sup> In the United Kingdom Black, Asian and ethnic groups—who are more likely to have to low incomes and nonsalaried jobs—are at higher risk of death from Covid-19 than White Britons.<sup>116</sup>

**Figure 6.9** The greatest threats to human security in the Anthropocene context are likely to be experienced where Healthcare Universalism Index values are lower



Note: Each box plots the middle 50 percent of the distribution; the central line is the median. Outside the box the extreme lines are the approximate minimum and maximum of the distribution. All graphs exclude outliers. Healthcare Universalism Index groups for 2017 are defined as follows: group I, 0–0.24; group II, 0.25–0.49; group III, 0.50–0.74; group IV, 0.75–1.0. Hot days refer to the number of days with a maximum temperature above 95°F degrees by 2100 under the Representative Concentration Pathway 4.5 scenario. Inequality loss is based on Inequality-adjusted HDI values.

Source: Human Development Report Office calculations based on Schillings and Sanchez-Ancochea (2021), Carleton and others (2020) and IEP (2020b).

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## Affirming solidarity at the core of human security strategies to address new health threats

The Covid-19 pandemic has shown that human insecurity can indeed be contagious: the uncontrolled spread of the virus in some countries is a threat to the rest of the world. This is a moment of shared vulnerability, as nearly every human on the planet has been affected by a sense of insecurity or its repercussions. It is also a moment of shift in the policy mindset. People turned to their governments and scientists for guidance and protection. In many countries the Covid-19 moment brought a new set of social behaviour norms that would have been unthinkable prior to the pandemic—also underpinned by a shared sense of solidarity.<sup>117</sup>

At the same time, the Covid-19 pandemic exposed the structural limitations of existing multilateral mechanisms in the face of an acute global threat to human security. By many accounts the pandemic was met with a failure of preparedness, cooperation and cross-country solidarity, with dire consequences for the most vulnerable.<sup>118</sup> As this Report describes, the new generation of human security challenges involves complex multidimensional threats that play out on a global scale in the Anthropocene context. There is an urgent need for reimagining and reforming multilateral systems to meet these challenges. The present moment is thus a crucial opportunity to reaffirm a human security approach in strengthening multilateralism to better address health threats to human security.

### “Past major health crises have often been followed by the reform of global health systems

Determinants of health include various “transnational norms, policies, and practices that arise from global political interaction across all sectors that affect health,” ranging from trade rules to international aid flows.<sup>119</sup> Many of these determinants contribute to poor health outcomes among some groups (for instance, intellectual property rules for lifesaving drugs or fiscal austerity measures that constrain spending on health).<sup>120</sup> And many cannot be addressed within national healthcare systems alone. Interventions must sometimes be cross-sectoral, outside the health sector and cross-country.<sup>121</sup>

An example of the importance of cross-country action is the effort to tackle the Covid-19 pandemic

through widespread vaccination. The COVAX initiative offered a way of addressing inequitable access to life-saving vaccines against Covid-19. The effort has reinforced how essential collaboration and solidarity are for navigating a deadly, fast-moving threat to human security. However, the COVAX initiative has been hampered by entrenched power disparities, institutional stickiness and weak accountability mechanisms.<sup>122</sup> Power imbalances between partners in the COVAX initiative and its eventual reliance on voluntary vaccine donations (as opposed to enabling large-scale procurement, as initially envisaged) reduced COVAX’s ability to secure enough, timely vaccine doses.<sup>123</sup> The Covid-19 pandemic also exposed the limitations of the International Health Regulations in coordinating an effective response to an acute global health crisis.<sup>124</sup> These limitations were apparent in the delayed reporting of the disease outbreak to the WHO in the early days of the pandemic, the delays in declaring a public health emergency of international concern thereafter and the delays in coordinating national responses.<sup>125</sup> Taken together, this presents a failure of protection, empowerment and solidarity in the face of a very serious and universal human security threat.

Past major health crises have often been followed by the reform of global health systems.<sup>126</sup> The SARS outbreak led to major revisions of the International Health Regulations in 2005, and the 2006 H5NI avian flu outbreak was followed by the development of the Pandemic Influenza Preparedness Framework. Similarly, the global Covid-19 pandemic could spur evolution in global cooperation on health. A key effort to this end is the establishment of the Independent Panel for Pandemic Preparedness and Response, through World Health Assembly Resolution 73.1 in May 2020.<sup>127</sup> The panel’s task is to provide an evidence-based path forward to help countries and global institutions address health threats, which can greatly contribute to human security (box 6.2).

The panel’s recommendation on legal instruments has renewed efforts to establish a new pandemic agreement.<sup>128</sup> In May 2021 the World Health Assembly passed a resolution endorsed by 194 countries to host a special session devoted solely to an international pandemic agreement.<sup>129</sup> At the Special Session on 1 December 2021 the assembly established an intergovernmental negotiating body to draft and



## Box 6.2 From global institutional weakness to the last pandemic

The work of the Independent Panel for Pandemic Preparedness and Response is organized around four key themes:<sup>1</sup>

- *Build on the past.* Learn from previous pandemics and the status of the system and actors pre-Covid-19.
- *Review the present.* Analyse the chronology of events and activities in relation to the Covid-19 pandemic, the recommendations made by the World Health Organization (WHO) and the responses by national governments.
- *Understand the impacts.* Review how health systems and communities responded to the pandemic and the impacts of response measures.
- *Change for the future.* Promote analysis and a vision for a strengthened international system ideally equipped for pandemic preparedness and response.

The panel found that the outbreak and spread of Covid-19 reflected “gaps and failings at every critical juncture of preparedness.”<sup>2</sup> Containment measures were too slow, as was emergency response funding, and the global response lacked coordinated leadership.<sup>3</sup> These failures, along with gaps in social protection systems, led to widening inequalities and disproportionate socioeconomic impacts on vulnerable and marginalized people around the world.<sup>4</sup> At the same time, enormous efforts by healthcare workers around the world and the expeditious development of vaccines have been major strengths in efforts to mitigate the crisis.<sup>5</sup> The most successful national responses drew lessons from past

crisis, listened to evidence, engaged communities and communicated clearly and consistently.<sup>6</sup>

The panel called for a set of immediate measures to curb Covid-19 transmission, including (but not limited to) commitments from high-income countries to deliver more than a billion vaccine doses to the Gavi COVAX Advance Market Commitment, voluntary licensing and technology transfer for Covid-19 vaccines from vaccine-producing countries and manufacturers, and additional resources from Group of 7 and Group of 20 countries to the Access to Covid-19 Tools Accelerator.

The panel also presented recommendations for preventing future disease outbreaks from becoming pandemics:

- Enhancing political leadership for pandemic preparedness and response (including through a new high-level Global Health Threats Council and a Pandemic Framework Convention).
- Strengthening WHO’s independence, authority and financing. Investing in national preparedness, with universal periodic peer reviews through WHO and an evaluation of economic policy response plans through International Monetary Fund Article IV consultation with member countries.
- Establishing a new agile and rapid surveillance information and alert system by WHO with the authority to publish information about outbreaks with pandemic potential immediately and the power to investigate pathogens with pandemic potential.

(continued)

negotiate a convention, agreement or other international instrument to strengthen pandemic prevention, preparedness and response.<sup>130</sup>

“As discussions over the form of the new and reformed international instruments continue, it is critical to retain the focus of this effort on human security and on embedding protection, empowerment and solidarity as key pillars

As discussions over the form of the new and reformed international instruments continue, it is critical to retain the focus of this effort on human security and on embedding protection, empowerment and solidarity as key pillars. A new framework agreement for human security in the face of health threats must affirm the principle of universalism

in healthcare and tackle prevailing dysfunctions in global governance that undermine health. Of particular importance is equity—new institutional arrangements must centre the leadership and input of those most vulnerable to pressing health challenges, whose vulnerability has stemmed in part from their disempowerment in global governance structures. This entails challenging power disparities that currently shape health outcomes, including the implicit assumption underlying existing international health instruments—that pandemics are largely threats that emerge from poorer countries and threaten the well-being of the wealthy.<sup>131</sup> In the language of the 2030 Agenda for Sustainable Development, a new institutional arrangement to advance health must leave no one behind and reach the furthest behind first in a spirit of solidarity.

## Box 6.2 From global institutional weakness to the last pandemic (continued)

- Establishing a prenegotiated, end-to-end platform for tools and supplies, supported by technology transfer and commitment to voluntary licencing agreements, as well as enhanced regional capacities for manufacturing, regulating and procuring necessary tools and supplies.
- Setting up a new International Pandemic Financing Facility to support preparedness and response.
- Making national pandemic coordinators who are accountable to heads of state and government, with a

mandate to drive whole-of-government coordination for pandemic preparedness and response.

### Notes

**1.** Independent Panel for Pandemic Preparedness and Response 2021a. **2.** Independent Panel for Pandemic Preparedness and Response 2021b, p. 2. **3.** Independent Panel for Pandemic Preparedness and Response 2021b. **4.** Independent Panel for Pandemic Preparedness and Response 2021b2). **5.** Independent Panel for Pandemic Preparedness and Response 2021b. **6.** Independent Panel for Pandemic Preparedness and Response 2021a.

## Recommendations of the Independent Panel for Pandemic Preparedness and Response



**Source:** Independent Panel for Pandemic Preparedness and Response 2021a.

## Annex 6.1. The Healthcare Universalism Index: Coverage, equity and generosity

The Healthcare Universalism Index was developed by Tobias Schillings and Diego Sánchez-Ancochea in a background paper commissioned for this Report on a new generation of human security. The index builds on a background paper by Martínez Franzoni and Sánchez-Ancochea for the 2016 Human Development Report. See Martínez Franzoni and Sánchez-Ancochea (2016).

Measuring universal health coverage has been a key focus in global health literature, at least since the adoption of universal health coverage as Sustainable Development Goal target 3.8. Target 3.8 aspires to “universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.”<sup>132</sup> But a universalist approach to health emphasizes the importance of all aspects of health system performance, especially effective access throughout the lifecycle. The universalist approach thus goes further than universal health coverage to consider generosity and equity in healthcare services. The Healthcare Universalism Index (HUI) combines measures of coverage, generosity and equity in a single global index.

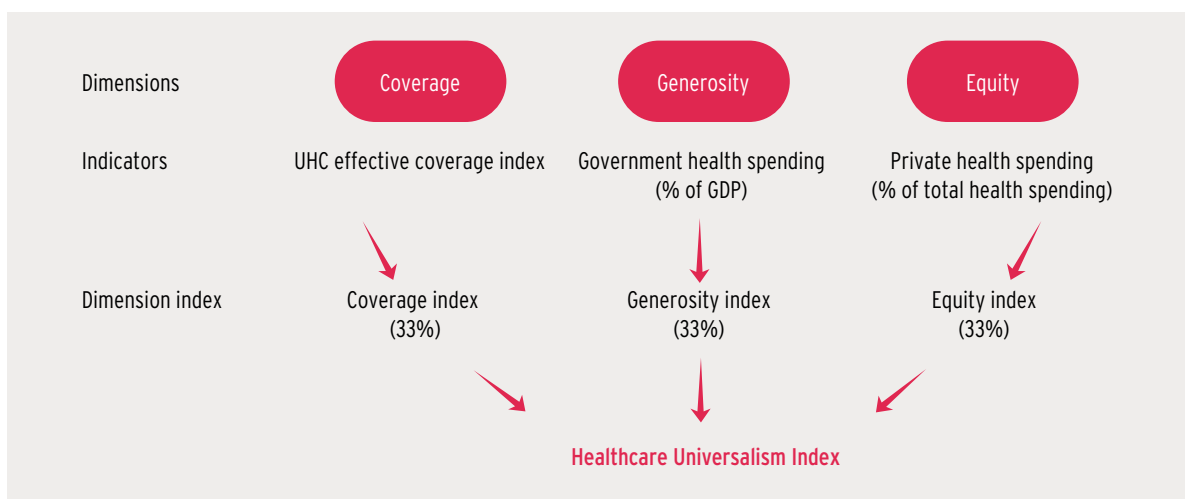
Like the Human Development Index, the HUI is constructed as the geometric mean of normalized

indices in each of the three dimensions of universalism (figure A6.1). The selected indicators for each dimension of universalism and their rationales are as follows:

- **Coverage:** UHC effective coverage index, which assesses health system performance relative to individual countries’ population health needs.<sup>133</sup>
- **Generosity:** Government health spending as a percentage of GDP, which signifies public efforts and commitment to comprehensive and accessible services for all.<sup>134</sup>
- **Equity:** Private health spending as a percentage of total health spending,<sup>135</sup> which indicates the segmentation of healthcare. A large private sector suggests high segmentation in healthcare and inequity between wealthier and poorer groups in accessing quality care.<sup>136</sup> This measure includes out-of-pocket spending, which in most countries accounts for the bulk of private health spending.

The HUI uses these indicators for three reasons. First, they provide high-level aggregate measures of healthcare systems that are likely to be central representations of universalism across many different countries. Second, the availability of good data on these indicators allows for comprehensive measurement of healthcare universalism, across both countries and time. Third, the HUI’s aggregation approach favours joint measurement along the three dimensions. Joint measurement reflects the premise that

**Figure A6.1 Dimensions and indicators used to calculate the Healthcare Universalism Index**



**Source:** Global Burden of Disease Health Financing Collaborator Network 2020.

the different dimensions depend on each other and so should not be considered in isolation—and that their combined achievement is necessary to attain truly universal outcomes.

The HUI aims to provide a globally comparable, macro-level measure of healthcare universalism. This high-level measure could be supplemented with more granular analyses that capture contextually relevant factors shaping the dimensions of universalism within countries. For instance, an important contribution to this effect would be to develop national health satellite accounts to evaluate the effects of health spending on health outcomes.

The HUI uses geometric mean instead of arithmetic mean to aggregate the dimension indices because geometric means favour equal achievement in all dimensions. Simple averages imply that reductions in one dimension can be linearly compensated for by equal increases in another, whereas geometric means reduce the substitutability between the index components and make each component's marginal contribution dependent on the level of the others. Like the Human Development Index, the HUI assigns equal weight to each dimension index, based on the theoretical assumption that all are equally important for achieving true universalism.

The HUI's generosity and equity dimension indices are calculated by normalizing the corresponding variables based on their minimum and maximum values. To avoid the impact of extreme outliers, the minimum and maximum values are defined as the 1st and 99th percentile of all country-year observations (table A6.1).

**Table A6.1 Limits of the generosity and equity indices**

Indicator	Minimum (1st percentile)	Maximum (99th percentile)
Government health spending as a percentage of GDP	0.3	9
Private health spending as a percentage of total health spending	5	85

Source: Schillings and Sánchez-Ancochea 2021.

The dimension indices are then calculated as:

$$I_{D,ij} = \frac{x_{ij} - x_{\min}}{x_{\max} - x_{\min}}$$

where  $I_{D,ij}$  is the dimension index  $D$  for country  $i$  and year  $j$ , and  $x_{ij}$  is the corresponding observation. Because the equity indicator (private health spending as a percentage of total health spending) measures the level of (negative) market segmentation, the resulting index is additionally transformed by subtracting it from 100 percent.

The geometric mean of the two resulting generosity and equity dimension indices and the UHC effective coverage index<sup>137</sup> are aggregated to create the HUI:

$$\text{HUI}_{ij} = (I_{\text{Coverage},ij} * I_{\text{Generosity},ij} * I_{\text{Equity},ij})^{1/3}.$$

The choice of normalization based on the 1st and 99th percentile results in the key limitation that zero values in one of the dimensions lead to an overall HUI value of zero and a loss of information in the other dimensions. The pragmatic solution to this issue is to add a marginal score to these zero values equal to the lowest nonzero country-year observation (usually equal to 0.1 percent).



## CONCLUSION

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**Greater solidarity:  
Towards human  
development with  
human security**

## **Greater solidarity: Towards human development with human security**



The enormous shock of the Covid-19 pandemic has unmasked the fragility of progress, touching nearly everyone on the planet. This should serve as a wake-up call in the face of compounded threats to human security that are superimposed on the unprecedented Anthropocene context. It shows that improving wellbeing achievements is not a sufficient condition for human security. The pandemic could represent a dry run of worse things to come—a series of ever-growing waves crashing into the inability of governments and the international community to empower and protect people around the world, but especially the most vulnerable.

Yet, the pandemic has also given us a glimpse of how bold action could help tackle the challenges of our time and improve lives and wellbeing. We have witnessed the astonishing production of dozens of highly effective vaccines in record time—some of them with breakthrough technologies. The vaccine rollout has been grossly unequal, but less than a year after the vaccination campaign started, half the world has received at least one dose of a Covid-19 vaccine (see chapter 6). Moreover, the pandemic has opened the doors to aggressive policy interventions, and many developing countries have implemented some sort of income support programme, which in turn has decelerated Covid-19 cases and deaths.<sup>1</sup>

The Anthropocene context, with interlinked human security threats, calls for a bold agenda to match the magnitude of the challenges, put forward with humility in the face of the unknown. The alternative is accepting fragmented security approaches, with responses likely de-equalizing, likely reactive, likely late and likely ineffective in the long term.

This Report argues for expanding the human security frame in the face of this new generation of threats: adding solidarity to the human security strategies of protection and empowerment proposed by the Ogata-Sen report (2003).<sup>2</sup>

Solidarity recognizes that human security in the Anthropocene must go beyond securing individuals and their communities to systematically consider interdependence across all people and between people and the planet. For each of us to live free from want, from fear and from indignity, all three strategies must be deployed—for it is protection, empowerment and solidarity working together that advances human security in the Anthropocene. At the core

of this framework is agency: the ability to hold values and make commitments, regardless of whether they advance one's wellbeing, and to act accordingly in making one's own choices or in participating in collective decisionmaking. Emphasizing agency is a reminder that wellbeing achievements alone are not all we should consider when evaluating policies or assessing progress. Agency will also help avoid the pitfalls of partial solutions, such as delivering protection with no attention to disempowerment or committing to solidarity while leaving some lacking protection.

The 2030 Agenda for Sustainable Development and the Sustainable Development Goals provide an ambitious set of multidimensional objectives that inform action at all levels and mobilize the international community. But efforts remain largely compartmentalized, dealing separately with climate change, biodiversity loss, conflicts, migration, refugees, pandemics and data protection. Those efforts should be strengthened, but tackling them in silos is insufficient in the Anthropocene context. It is imperative to go beyond fragmented efforts, to reaffirm the principles of the UN founding documents—the Universal Declaration of Human Rights and the UN Charter—which are also the central ideas underpinning the concept of human security. Echoing the UN Secretary-General's *Our Common Agenda*,<sup>3</sup> doing so in the Anthropocene implies a systematic, permanent and universal attention to solidarity—not as optional charity or something that subsumes the individual to the interests of a collective but as a call to pursue human security through “the eyes of humankind.”

When the 1994 Human Development Report was published, the idea of human security challenged the conception of security and moved the debate from territories to people. As we face new global, systemic and interconnected threats, recognizing our common fate as humanity implies that we have agency to shape our future. We will not be able to face the systemic, global, interconnected threats individually or by focusing only on narrow national interests. For each of us to live free from want, from fear and from indignity will require that everyone live free from want, fear and indignity. As the vaccine inequality problem shows, humanity's problem is not lack of ingenuity but an inability to see our security in the security of others.



# **Notes and references**

# Notes

## OVERVIEW

- 1 UNHCR 2021a.
- 2 Rigaud and others 2018.
- 3 Albuquerque and others 2016; Badgett, Hasenbush and Luhur 2017; Romero, Goldberg and Vasquez 2020; Suriyasarn 2016.
- 4 Only 25 countries have gender identity or gender expression legislation: Argentina, Belgium, Bolivia, Canada, Chile, Colombia, Denmark, Ecuador, France, Greece, Iceland, India, Ireland, Japan, Luxembourg, Malta, Norway, Pakistan, Portugal, Spain, Sri Lanka, Thailand, the United Kingdom, Uruguay and Viet Nam (Zhan and others 2020).
- 5 UNDP 2019a.
- 6 As second-wave feminism established, “the personal is political” (Firestone and Koedt 1970, p. 76), and feminist researchers have analysed violence in the individual and domestic realm as a form of political violence and a precondition for increased violence against women and girls in the public sphere (Firestone and Koedt 1970; Hanisch 1969).
- 7 UNODC 2021.
- 8 Ogata and Sen 2003.
- 9 See chapter 1.
- 10 This finding is based on the generalized trust question in the World Value Survey: “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?”
- 11 See chapter 1.

## PART I

### CHAPTER 1

- 1 For evidence on Covid-19 and fear, see, for example, Satici and others (2020).
- 2 Which the 2020 Human Development Report (UNDP 2020c, p. 268) defined as “asymmetries in opportunities, wealth, and power across groups of people.”
- 3 UNDP 2019a.
- 4 Berger 2020; Johnson and others 2020; Keesing and Ostfeld 2021.
- 5 Lewis 2021.
- 6 UNDP 2020c.
- 7 UN 2012.
- 8 UNDP 1994.
- 9 Human Development Report Office 2020. Gasper 2013.

- 10 Gasper and Gomez 2021.
- 11 Basu 2018, p. 40.
- 12 UN 1948.
- 13 <https://sdgs.un.org/2030agenda>.
- 14 Walker and others 2013.
- 15 As is the case in many high-income countries, see Bénabou and Tirole (2006).
- 16 As defined in Hodson (1996). This is also the approach to dignity in Lamont (2000).
- 17 As argued in Thomas and others (2020).
- 18 Elster 2015.
- 19 Lerner and others 2015, p. 807.
- 20 In particular, evidence suggests that fear induces both stronger risk aversion and less optimistic risk assessments than the behaviour that would take place by a neutral observer (Lerner and Keltner 2001).
- 21 For a review of the increased understanding and recognition of the importance of motivated belief formation and reasoning, see Bénabou and Tirole (2016). For an experiment showing how motivated cognition leads to trust, see Schilke, Reimann and Cook (2015).
- 22 To use a phrase from Lamont, Welburn and Fleming (2013), p. 145–146.
- 23 Douglas 2004, p. 90.
- 24 Over the last decades several indices have been created to capture the concept of human security based on objective and subjective data. See, for instance, Badaoui (2021), Fund for Peace (2004), Hastings (2009), Lonergan, Gustavson and Carter (2000), Piccone (2017), Randolph, Fukuda-Parr and Lawson-Remer (2010, 2020) and Takasu and JICA Ogata Sadako Research Institute for Peace and Development (2019). The Index of Perceived Human Insecurity introduced in this Report contributes to this stream of work with a global view of perceived human insecurity, based on information aggregated at the individual level and comparable over time at the country level. This effort partially responds to calls for further innovations in measurement based on perception data received from expert panelists during the virtual symposium, “A New Generation of Human Security” (8–11 June 2021). The information about perceptions of insecurity is valuable and seeks to complement the objective indicators of human insecurity and multiple threats presented throughout this Report.
- 25 Based on the I-PHI, people are classified into three groups: relatively secure, moderately insecure or very insecure. The cutoffs defining these groups are meant to provide

a general view of the distribution of human insecurity. The concept of human security is defined based on freedom from want, fear and indignity. The expression “freedom from” conveys a strict criterion for measurement. If followed literally, less than 2 percent of the world’s people face no measured insecurity (based on the indicators used in the index). Adding some flexibility, we interpret that someone feels “relatively secure” if the I-PHI is below 0.2 (less than one-fifth of the weighted insecurities), someone feels “moderately insecure” if the I-PHI is between 0.2 and 0.5 and someone feels “very insecure” if the I-PHI is 0.5 or above (experiencing more than half of the [weighted] insecurities).

- 26 Affected by most of the (weighted) insecurities.
- 27 In a similar exercise the average generalized trust of people feeling relatively secure at least doubles the level of trust of people feeling very insecure, across different levels of income and satisfaction with life. The opposite is not the case: for people feeling moderately or very insecure, trust levels remain relatively stable across different levels of income or satisfaction with their lives.
- 28 Falk and others (2018) acknowledge that trust is a belief but also characterize it as an economic preference, given the importance of trust for many economic decisions, as argued in, for instance, Arrow (1972). And Dasgupta (2000) argues that a reputation for trustworthiness is akin to a commodity, something that is valuable and sought after.
- 29 See, for example, Johnson and Mislin (2012) and Peysakhovich and Rand (2016).
- 30 Van Lange 2015.
- 31 Thöni 2017.
- 32 Elster 2015.
- 33 Gambetta 2000, p. 228.
- 34 Butler, Giuliano and Guiso 2016.
- 35 As recognized long ago in Schelling (1965, p. 378): “We often think of trust, reliable communication and enforceable contract as good things. We like people to overcome distrust, confusion, and competing interests and reach an outcome beneficial to both. [...] But when we turn to the Ku Klux Klan, corruption in the police force, extortion in junior high schools [...] our concern is to spoil communication, to create distrust and suspicion, to make agreements unenforceable, to undermine tradition, to reduce solidarity, to discredit leadership, and to sever any moral bond that holds the conspirators together.”

- 36 Henrich (2020) provides evidence of these correlations. Henrich and Muthukrishna (2021) suggest that trust is an antecedent of these outcomes based on cumulative cultural evolution (Henrich and others 2016). For a review of arguments defending, and questioning, the cultural group selection hypothesis that underpins cumulative cultural evolutions, see Richerson and others (2016).
- 37 Glaeser and others 2000.
- 38 Falk and others 2018.
- 39 Bruhin, Fehr and Schunk 2018.
- 40 For instance, there has been a decrease in trust in science in the context of Covid-19, even though trust in scientists is an important correlate of the effectiveness of the response to the pandemic (see Algan and others 2021). Declining trust is also associated with a progressive erosion of the quality of democracy—and the support for it—in the world over the last decade (Alizada and others 2021). This is consistent with the support of protectionist, antiliberal views (Alonso and Ocampo 2020).
- 41 Gambetta 2000, p. 216.
- 42 Gambetta 2000, p. 219.
- 43 Kollock 1994.
- 44 Schilke, Reimann and Cook 2021, p. 240. Technology is likely to further accelerate the importance of “distributed trust,” evident from the shift from traditional to social media and the growing interest in digital currencies (Botsman 2017, 2018).
- 45 UNDP 1994; Ogata and Sen 2003.
- 46 Gasper and Gomez 2021.
- 47 UN and World Bank 2018.
- 48 Gasper and Gomez 2021, p. 24.
- 49 UNDP 2020c.
- 50 UNDP 2020c.
- 51 UNDP 2020c.
- 52 ITU 2021a.
- 53 UNHCR 2021a.
- 54 UNHCR 2020, 2021a. See also figure 4.3.
- 55 UNDP 2020c.
- 56 Miks and McIlwaine 2020.
- 57 This does not imply that human development should not be pursued or that human development never goes along with human security. Instead, it suggests that the link between the two is not inevitable. We support that view, but those positive links cannot be taken for granted.
- 58 Dodsworth 2019, pp. 20 and 34.
- 59 Franceschet 2005.
- 60 IHME 2018.
- 61 Tadjbakhsh 2013, p. 43.
- 62 Gasper and Gomez 2021.
- 63 United Nations Trust Fund for Human Security 2016.
- 64 Ogata and Sen 2003, p. 10.
- 65 Ord 2020.
- 66 Sen 2001, p. 19.
- 67 Article 7 of ILO 1989.
- 68 Sen 2001, pp. 18–19.
- 69 Ogata and Sen 2003.
- 70 Gasper and Gomez 2021, p. 37.
- 71 Gasper 2020, p. 577.
- 72 Even in connection to eminently global issues such as sustainability, the presence of human security as a guiding concept has been scattered. See Gasper and Gomez (2021).
- 73 Martin and Owen 2013, p. 322; see also Correll (1999).
- 74 There is a vast literature on global public goods, but early contributions include Kaul and Conceição (2006), Kaul, Grunberg and Stern (1999) and Kaul and others (2003).
- 75 Slaughter 2009, 2017.
- 76 Okonjo-Iweala, Shanmugaratnam and Summers 2021.
- 77 Kaldor 2020, p. 5.
- 78 Based on Elster (2015).
- 79 Petersen 2021; Petersen and others 2021.
- 80 Guterres 2020.
- 81 UN 2021d.
- 82 Sen 2009, p. 130.
- 83 Hassoun 2021, p. 20, based on Altuire and Hassoun (2021).
- 84 The caution, highlighted earlier in the chapter, about how trust within certain groups can be not only counterproductive but even something that we may have reason to undermine also applies to solidarity within certain groups.
- 85 UN 2021d.
- 86 Gasper and Gomez 2021.
- 87 Bai, Gauri and Fiske 2021.
- 88 Hirschman 1985, p. 95.
- 89 UNDP 1994.
- 90 Ogata and Sen 2003.
- 91 UN 2013.
- 92 United Nations Trust Fund for Human Security 2016.
- 93 UNDP 1994.
- 94 UN 1948.
- 95 UNDP 1994, p. 3.
- 96 Krause (2013), as cited in Martin and Owen (2013), p. 77.
- 97 UNDP 1994, p. 10.
- 98 UNDP 1994.
- 99 Gasper and Gomez 2014.
- 100 Ogata and Sen 2003.
- 101 Ogata and Sen 2003, p. 4.
- 102 Ogata and Sen 2003, p. 4.
- 103 Ogata and Sen 2003, p. 12.
- 104 UN 2012. As part of the resolution, it is agreed that “the notion of human security is distinct from the responsibility to protect and its implementation” (p. 2).
- 105 Tadjbakhsh (2013), as cited in Martin and Owen (2013).
- 106 See United Nations Trust Fund for Human Security (2016).
- 107 Andersen-Rodgers and Crawford 2018.
- 108 Unpublished document shared by the UN Human Security Unit.
- 109 Gasper and others 2020.
- 110 Gasper 2020, p. 581.
- 111 Owen (2004) makes a similar argument.
- 112 See Christie (2013) for a detailed analysis.
- 113 Gentry, Shepherd and Sjoberg 2018; UN 2000.
- 114 Paris 2001, p. 88.
- 115 Khong 2001, p. 232.
- 116 Johns 2014, p. 3.
- 117 Based on Tadjbakhsh and Chenoy (2007).
- 118 Critical examinations such as those in Chandler and Hynek (2010) present important challenges to address when advancing and revisiting the human security approach.
- 119 Haerpfer and others 2021.

## CHAPTER 2

- 1 Comparisons are between dry biomass and Anthropogenic mass plus waste. Anthropogenic mass includes concrete, aggregates, bricks, asphalt, metals, wood used for paper and industry, glass and plastic. See Elhacham and others (2020).
- 2 IPCC 2021; UNEP 2021.
- 3 There is a debate over whether the Anthropocene constitutes a new geological epoch (see Ellis 2018). The term is used here to signify the context in which humans have become a transformative force shaping the planet. Some scholars have suggested that the Anthropocene could be characterized as an ongoing event (Bauer and others 2021).
- 4 Gomez and Gasper 2021.
- 5 As argued in the 2020 Human Development Report (UNDP 2020c), the term “balance” is used recognizing that the Earth system has displayed many different states over geological time and is a dynamic system that is constantly evolving. It is not meant to evoke an aspiration to return to a more “balanced state.” Planetary imbalances are simply a way of expressing planetary changes that are dangerous for people and other forms of life on the planet.
- 6 For instance, indigenous peoples who often have a record of effective stewards of nature, including preservation of forests that help mitigate climate change, face limited resources and agency to continue to contribute to the stewardship of nature (UNDP 2020c). Meanwhile, groups that account for larger shares of the contributions to planetary change are likely to face a lower burden of the resulting

	human insecurity. For instance, with climate change the top 10 percent of the global income distribution—with likely the ability to invest in climate adaptation—generates almost half of global greenhouse gas emissions (Chancel and others 2022).	
7	IPCC 2021.	
8	IPCC 2021.	
9	IPCC 2021.	
10	“Continued ice loss over the 21st century is virtually certain for the Greenland Ice Sheet and likely for the Antarctic Ice Sheet” (IPCC 2021, p. SPM-21).	
11	UNDP 2020c.	
12	WWF 2020.	
13	IPBES 2019.	
14	Bar-On, Phillips and Milo 2018; Ritchie 2021.	
15	WWF 2020. Using panel data for 2005–2015, Bjelle and others (2021) find that food consumption has the highest impact on biodiversity. But manufacturing and shelter have the strongest income elasticity of footprint in high-income countries.	
16	The term “land use” refers to the human use of land, as for agriculture, residential and industrial purposes. According to the Food and Agriculture Organization of the United Nations, the rate of deforestation has decreased over the past three decades and was estimated at 10 million hectares a year between 2015 and 2020. The world is not on track to meet the target of increasing forest area by 3 percent worldwide by 2030, as set in the United Nations Strategic Plan for Forests (FAO 2020).	
17	IPBES 2019, p. 28.	
18	UN-Water 2021.	
19	Betts and others 2017.	
20	Millard 2021; Soroye, Newbold and Kerr 2020. Up to \$577 billion in annual global crops are at risk from pollinator loss (IPBES 2019).	
21	UNEP 2021.	
22	Ahmed Bhuiyan and others 2018; Qiao and others 2021.	
23	Elhacham and others 2020.	
24	UNEP 2021.	
25	The 2019 Human Development Report (UNDP 2019a) discusses this improvement as a case of convergence in basic capabilities.	
26	FAO 2021b.	
27	Coronese and others 2019; UNDP 2020c.	
28	<a href="https://www.internal-displacement.org/database/displacement-data">https://www.internal-displacement.org/database/displacement-data</a> , Accessed 10 November 2021.	
29	An estimated 1.2 billion people are at risk of displacement by 2050 (IEP 2020a).	
30	Contiguous areas along the coast that are less than 10 metres above sea level. See Kulp and Strauss (2019).	
31	Kulp and Strauss 2019.	
32	Carabine and Dupar 2014; IPCC 2014a.	
33	Martyr-Koller and others 2021; Nurse and others 2014; Thomas and others 2020.	
34	See chapters 2 and 3 in UNDP (2020c).	
35	See chapters 2 and 3 in UNDP (2020c).	
36	See chapter 2 in UNDP (2020c).	
37	See the overview of UNDP (2020c).	
38	UNDP 2019a.	
39	See FAQ in chapter 1 of IPCC (2018). See also figure 1.6.	
40	This study works with the population-weighted country-level per capita GDP distribution (Dif-ferbaugh and Burke 2019).	
41	Leach and others 2018; UNDP 2020c. Recognition equity refers to recognition of interest holders and respect for their identity, values and associated rights. Distributional equity refers to the distribution of resources, costs and benefits among people and groups. Procedural equity relates to how decisions are being made in reference to institutions, governance and participation.	
42	Galaz, Collste and Moore 2020; Keys and others 2019.	
43	FAO and others 2021.	
44	In 2019. <a href="http://ghdx.healthdata.org/gbd-results-tool">http://ghdx.healthdata.org/gbd-results-tool</a> , accessed 10 November 2021; IHME 2019.	
45	This is summarized in the account by FAO and others (2021, p. 51): “In the last ten years, the frequency and intensity of conflict, climate variability and extremes, and economic slowdowns and downturns have increased significantly. The increased occurrence of these major drivers, now exacerbated by the COVID-19 pandemic, has led to a rise in hunger and has undermined progress in reducing all forms of malnutrition, particularly in low- and middle-income countries.”	
46	IFAD 2021.	
47	Gheuens, Nagabhatla and Perera 2019.	
48	Ray and others 2019.	
49	Impacts are mostly negative in Australia, Europe and Southern Africa, generally positive in Latin America and mixed in Asia and Northern and Central America (Ray and others 2019).	
50	Wossen and others 2018.	
51	Gupta, Somanathan and Dey 2017; Sarker, Alam and Gow 2012.	
52	Niles and Brown 2017.	
53	In Africa the frequency and intensity of heat-waves are projected to continue to increase through the 21st century (Masson-Delmotte and others 2019).	
54	Tutwiler and others 2017.	
55	Castañeda-Álvarez and others 2016; Sharp 2011.	
56	This paragraph is based on UNDP (2020c).	
57	Ding and others 2017.	
58	Different effects interact, as changing environmental conditions can initiate a vicious circle: infectious disease causes or compounds hunger, which makes affected populations more susceptible to infectious disease, which in turn	can lower the capacity to use food effectively. For instance, extreme heat is more likely to have adverse effects on food-insecure people (Watts and others 2018).
59	Keesing and others 2010.	
60	Rulli and others (2017) show that the Ebola outbreak in West and Central Africa was due mostly to human encroachment and deforestation.	
61	McKee and others 2021.	
62	MacDonald and Mordecai 2019.	
63	Manisalidis and others 2020.	
64	WHO 2021k.	
65	Lelieveld and others 2020.	
66	International trade affects the global distribution of air pollution. See some evidence for China in Wang and others (2017).	
67	UNEP 2019.	
68	Kawser Ahmed and others 2016.	
69	Effah and others 2021.	
70	Nizzetto, Futter and Langaas 2016; Scheurer and Bigalke 2018.	
71	Sharma and Chatterjee 2017.	
72	Waring, Harris and Mitchell 2018.	
73	In line with the Sixth Assessment of the Intergovernmental Panel on Climate Change, we use the Representative Concentration Pathway (RCP) 8.5 scenario to illustrate the case of very high GHG emissions or scenario without climate change mitigation. About recent challenges to the assumptions of the RCP8.5 scenario, the report states (IPCC 2021, p. TS-22): “In the scenario literature, the plausibility of some scenarios with high CO <sub>2</sub> emissions, such as RCP8.5 or SSP5-8.5, has been debated in light of recent developments in the energy sector. However, climate projections from these scenarios can still be valuable because the concentration levels reached in RCP8.5 or SSP5-8.5 and corresponding simulated climate futures cannot be ruled out. That is because of uncertainty in carbon-cycle feedbacks which in nominally lower emissions trajectories can result in projected concentrations that are higher than the central concentration-levels typically used to drive model projections.”	
74	Carleton and others 2020.	
75	Carleton and others 2020.	
76	Human Development Report Office calculations using RCP4.5 and RCP8.5 scenarios. Based on data from Carleton and others (2020).	
77	One indicator of the unequal effect of climate change is the percentage of people living in areas with an expected increase in death rates, which is 97 percent in the Arab States, 95 percent in South Asia, 82 percent in East Asia, 77 percent in both Sub-Saharan Africa and Latin America and the Caribbean and 56 percent in Eastern Europe and Central Asia. (Human Development Report Office calculations with data from Carleton and others 2020).	
78	Carleton and others 2020.	



79	See the comprehensive review of this topic in Lövbrand and Mobjörk (2021).	112	Dasgupta 2021.	143	For a discussion on factors affecting resilience of indigenous groups, see Ford and others (2020).
80	See, for example, Blattman and Miguel (2010) and Hsiang (2015).	113	Of 140 countries studied (UNEP 2018).	144	Global Witness 2019.
81	See, for example, Lövbrand and Mobjörk (2021) and Mobjörk, Krampe and Tarif (2021) for recent discussions of the links between the Anthropocene and violent conflict.	114	Chiabai and others 2011.	145	For instance, in the Yellowstone model of national park management, which has been used around the world (Sobrevila 2008).
82	Burke, Hsiang and Miguel 2015; Harp and Kar-nauskas 2018; Koubi 2019.	115	IPBES 2018.	146	Nakashima and others 2012.
83	Koubi 2019.	116	World Bank 2017.	147	Schlosberg and Carruthers 2010.
84	ICRC 2019.	117	Hamilton and Casey 2016; Menéndez and others 2020.	148	Holland 2017.
85	Ide, Kristensen and Bartusevičius 2021.	118	Menéndez and others 2020.	149	Mfitumukiza and others 2020.
86	Ide and others 2020.	119	Menéndez and others 2020.	150	Mfitumukiza and others 2020.
87	Harari and Ferrara 2018.	120	IPCC 2020.	151	Díaz and others 2018; Ellis, Pascual and Mertz 2019.
88	Vesco and others 2021.	121	Burrell, Evans and Kauwe 2020.	152	Ellis and others 2021.
89	Linke and Ruether 2021.	122	About 76 percent in 2018 ( <a href="https://www.climatewatchdata.org/ghg-emissions?end_year=2018&amp;start_year=1990">https://www.climatewatchdata.org/ghg-emissions?end_year=2018&amp;start_year=1990</a> , accessed 10 November 2021). Levesque and others (2018) estimate that without policy changes, the global electricity demand from buildings is expected to increase from 116 EJ a year in 2010 to 120–378 EJ a year in 2100.	153	Ellis and others 2021.
90	Raleigh, Choi and Kniveton 2015.	123	See discussion of the literature in Rode and others (2021b).	154	Díaz and others 2018.
91	Adger and others 2021; UNHCR 2019, 2021a, 2021c; UNHCR and UNICEF 2019.	124	For instance, Khan and others (2021) show that mean temperature changes drive increases in annual electricity demands by 0.5–8 percent across the United States in 2100, in a scenario with very high emissions.	155	Aram and others 2019; Doick, Peace and Hutchings 2014; Szkordilis 2014.
92	UN 2021a.	125	Wenz, Levermann and Auffhammer (2017) estimate a significant increase in energy consumption in southern and western Europe and significant decrease in northern Europe.	156	Lin 2011.
93	Clement and others 2021; Rigaud and others 2018.	126	Peters and others 2020.	157	Sluijs and Vaage 2016.
94	Mares and Moffett 2016.	127	Rode and others 2021b.	158	Ghestem and others 2014.
95	Dalby 2013; Kalantzakos 2021; Lazard and Youngs 2021.	128	See chapter 3 in UNDP (2020c).	159	Chausson and others 2020; IUCN 2016.
96	Zivin, Hsiang and Neidell 2018.	129	See chapter 3 in UNDP (2020c).	160	Oral and others 2020.
97	Park and others 2020.	130	See, for instance, Yigitcanlar and Cugurullo (2020).	161	Maiga, Sperling and Mihelcic 2017.
98	Fishman, Carrillo and Russ 2019.	131	See, for instance, Parmentola and others (2021).	162	Vörösmarty and others 2021.
99	Bharadwaj and others 2017; Zaveri and others 2019.; Zivin and Neidell 2013.	132	See, for instance, Mi and Coffman (2019).	163	Dibala, Jose and Udawatta 2021; Elevitch, Mazaroli and Ragone 2018; Keesstra and others 2018.
100	Baez, Fuente and Santo 2010; McDermott 2012.	133	As Partha Dasgupta (2021, p. 3, as cited in Morrissey 2021) recently noted, the disciplinary dominance of Economics and its “exclusion of nature” from macroeconomic models of growth and development have brought us to a key juncture where we need to rethink economic production with a new sensibility of the interconnected human and nonhuman worlds in which we live: to “break the cycle and revise the conception we hold of humanity’s place in the biosphere.”	164	Anderson and others 2019.
101	Baez, Fuente and Santo 2010.	134	Godber and Wall 2014.	165	Griscom and others 2017.
102	Paudel and Ryu 2018.	135	Morrissey 2021; Wallace 2016.	166	Brancalion and others 2019; Houghton, Byers and Nassikas 2015.
103	Paudel and Ryu 2018.	136	Gomez and others 2020.	167	Seddon and others 2020.
104	Physical discomfort caused by heat exposure can be caused by several factors such as air temperature, humidity, wind speed, clothing, exposure to direct sunlight and the intensity of work. For some occupations factors such as clothes and exposure to the sun can be reduced by public and private policies, while other factors such as temperature and humidity depend largely on climate change.	137	UNDP 2020c.	168	UNDP 2019a.
105	Zander and others 2015.	138	UNDP 2020c.	169	Morrissey 2021; UNDP 2020c.
106	Ma and others 2019.	139	Rundle 2019.	170	See chapters 5 and 6 in UNDP (2020c).
107	Rode and others 2021a. See also similar estimates in Orlov and others (2020).	140	For vertebrate species, see Schuster and others (2019).	171	On the importance of social capital for resilience, see Aldrich and Meyer (2014) and Butzer (2012).
108	Kuhla and others 2021. Huang and others (2020) estimate that an increase in temperature will reduce an average rural resident’s time from farm work and increase the time allocated to off-farm work, which can result in the outflow of workers from agriculture to nonfarm occupations.	141	Walker and others 2020.	172	UNDP 2020c.
109	Colmer 2021.	142	Renick 2020.	173	See Basu (2018).
110	Jessee, Manning and Taylor 2018.			174	See chapter 4 in UNDP (2020c).
111	Costanza and others 2017.				

## PART II

### CHAPTER 3

- Digital technology is a vast field. This chapter considers digital security, artificial intelligence algorithms and digital labour platforms, based on the relevance of these aspects for many aspects of life in today’s world (see Hilbert 2020). The chapter also covers inequalities in the ability to access technologies and capacities for driving technological change, particularly in the context of Covid-19.



2	Haenssger and Ariana 2018.	cybersecurity resilience. See Deodoro and others (2021b).	63	Zhang 2021.	
3	Oosterlaken 2009; Oosterlaken and van den Hoven 2012; UNDP 2020g.	29	Deodoro and others 2021b.	64	See Stankovich (2021).
4	Coeckelbergh 2011.	30	Huang, O'Neill and Tabuchi 2021.	65	Nordling 2019.
5	UNDP 2016a, 2016b.	31	Lopez and Livni 2021.	66	ILO 2021c.
6	McLennan 2021.	32	Fletcher, Larkin and Corbet 2021.	67	Compensation on web-based platforms is often below minimum wage. See Berg and others (2018).
7	For discussions on applying a human-centric approach to cybersecurity, see Deibert (2018) and Liaropoulos (2015).	33	Kode 2018; Roberts 2021.	68	The findings are from International Labour Organization surveys conducted among some 12,000 platform economy workers in 100 countries and interviews with 70 businesses, 16 platform companies and 14 platform worker associations. See ILO (2021c).
8	Aneja 2021.	34	Cox and others 2018; EUROPOL 2021.	69	ILO 2021c.
9	Shami 2021.	35	Alfifi and others 2019; Awan 2017; Cox and others 2018; Khawaja and Khan 2016.	70	ILO 2021c.
10	Tunggal 2021.	36	Cox and others 2018; Parker 2019. See also Ganor (2021) on the challenges of using AI to prevent terrorism and Graeber (2015) on moving from poetic technologies to bureaucratic technologies.	71	Irani 2015.
11	Under cyberthreats, ENISA (2018) includes malware, web-based attacks, web application attacks, phishing, denial of service, spam, botnets, data breaches, insider threat, physical manipulation/damage/theft/loss, information leakage, identity theft, crypto-jacking, ransomware and cyberespionage. In 2021 ENISA identified supply chain threats as a separate, ninth category and analysed it in detail in a dedicated report (ENISA 2021).	37	See Dias Oliva (2020) and Newton (2019).	72	Rani and Singh 2019.
12	Purplesec 2021.	38	Fuller 2020.	73	Bloom 2021; De Stefano 2020.
13	Purplesec 2021.	39	Dias Oliva 2020.	74	Moore, Akhtar and Upchurch 2018.
14	Calandro 2021.	40	Böke 2021.	75	Greene and Alcantara 2021.
15	Europol 2021.	41	AI is a broad area of study that deals with problem solving by machines through processing information and perceiving its environment. AI algorithms differ from simple algorithms by involving learning, mimicking cognitive functions of humans and actively perceiving environment. AI applications include advanced web search engines (such as Google), recommendation systems (used by Amazon, Facebook, Netflix and YouTube), understanding human speech (such as Alexa and Siri) and text (such as Google Translate), self-driving cars (such as Tesla), image recognition (Facebook and medical applications), automated decisionmaking and competing at the highest level in strategic game systems (such as chess and Go).	76	IFOW 2021.
16	In recent years Chinese tech firms—such as CloudWalk, Hikvision, Huawei and Yitu—have expanded their presence across Africa to become the telecom partners of choice for most African governments (Bagwandeen 2021; van der Made 2021). According to Wilson (2019), Huawei and fellow Chinese telecom group ZTE are said to have built more than 50 3G networks in more than 36 African countries.	42	Kakani and others 2020.	77	De Stefano 2020; Moore, Akhtar and Upchurch 2018.
17	FireEye 2021. “Dwell time” in cybersecurity is the time between an attacker’s initial penetration of an organization’s environment and the point at which the organization finds out the attacker is there.	43	See <a href="https://www.businesscalltoaction.org">https://www.businesscalltoaction.org</a> .	78	IFOW 2021.
18	Calandro 2021.	44	Hulko 2018.	79	Wachter, Mittelstadt and Floridi 2017.
19	Calandro 2021; <a href="https://data.worldbank.org/indicator/IT.NET.SECR.P6">https://data.worldbank.org/indicator/IT.NET.SECR.P6</a> . Three Sub-Saharan Africa countries with an exceptionally high number of security servers per million people are Mauritius (915), South Africa (14,422) and Seychelles (61,109). The values for Mauritius and Seychelles are artificially high, caused by very small population in the denominator.	45	Ahmad and others 2021.	80	For a discussion on how technological advances can cause divergence, see UNDP (2019a).
20	Kshetri 2019; Serianu 2017.	46	See Hilbert (2021).	81	Gabredikan and Apuzzo 2021; UN 2021e.
21	Clemente 2013.	47	See Hilbert (2021).	82	Spence, Stiglitz and Ghosh 2021.
22	ITU 2021b.	48	Pew Research Center 2017.	83	Krishtel and Malpani 2021; WEF 2021.
23	Tunggal 2021.	49	Brady and others 2017.	84	Prabhala, Jayadev and Baker 2020.
24	Fisher 2021.	50	See Hilbert (2021).	85	Kaplan, Stolberg and Robbins 2021.
25	Nakashima 2021.	51	UNDP 2019a.	86	See, for instance, IFPMA (2020), Pfizer (2021) and PhRMA (2021).
26	ICRC 2021; Kallenborn 2020; Tegmark 2021.	52	Stankovich 2021.	87	INET 2021.
27	Guterres 2018.	53	Knight 2020.	88	Blenkinshop 2021.
28	Deodoro and others 2021a. The International Monetary Fund argues that financial institutions should take steps now to prepare for the cryptographic transition to improve overall	54	Lashbrook 2018.	89	See Basu, Gostin and Hassoun (2021).
		55	Data2X and Grantham 2020; Niethammer 2020.	90	Robbins 2021.
		56	Eubanks 2018.	91	Hagiu and Yoffie 2013; UNDP 2001.
		57	O’Neil 2016.	92	Baker, Jayadev and Stiglitz 2017; Cheng and Parra 2018.
		58	Madrigal 2013.	93	Baker, Jayadev and Stiglitz 2017; Benkler 2010.
		59	Perez 2019.	94	Cheng and Parra 2018.
		60	Dastin 2018.	95	ILO 2021c.
		61	Stankovich 2021.	96	Gawer 2014.
		62	Mahomed 2018.	97	Lerner and Tirole 2005.
				98	Lunden 2015.
				99	Hard 2014.
				100	NASA 2015.
				101	Mazzucato 2021; NASA 2014.

## CHAPTER 4

1 This chapter is concerned with violent conflict in the broad sense of the phrase. Measuring

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conflict is afflicted with technical and political challenges, and definitions vary. Much of the analysis is based on the definitions of the Uppsala Conflict Data Program, considered the gold standard in peace and conflict studies. However, the chapter also expands the analysis to show the need for innovation in data and metrics to obtain a more comprehensive understanding of both peace and conflict. The following definitions underpin the analysis:

*State-based conflict:* A contested incompatibility over government or territory where at least one party is a state, and the use of armed force results in at least 25 battle-related deaths in a calendar year.

*Nonstate conflict:* The use of armed force between organized groups, none of which is the government of a state, resulting in at least 25 battle-related deaths in a calendar year.

*One-sided violence:* The use of armed force by the government of a state or by a formally organized group against civilians that results in at least 25 deaths (excluding extrajudicial killings in custody).

*Battle deaths:* Fatalities caused by warring parties that can be directly attributed to combat, including civilian losses.

*Conflict event:* An incident in which armed force is used by an organized actor against another organized actor or against civilians, resulting in at least 1 direct death at a specific location and a specific date.

*Conflict-affected population:* Number of people living within 50 kilometres of a conflict event.

- 2 UNDESA 2020b; UNODC 2019.
- 3 UN Women 2020b.
- 4 Kishi 2021.
- 5 Loescher 2021.
- 6 Yuan and McNeeley 2016.
- 7 Sustainable Development Goal indicator 16.1.4 refers to the proportion of the adult population who feel safe walking alone in their neighbourhood (United Nations Statistics Division 2021).
- 8 UN and World Bank 2018.
- 9 UN and World Bank 2018; Vera-Adrianzén and others 2020.
- 10 Pettersson and others 2021.
- 11 UNDP 2019a.
- 12 UNDP 2019a, 2020c.
- 13 de Coning 2016, 2020.
- 14 World Bank 2020b.
- 15 Carothers and O'Donohue 2019.
- 16 Balcells and Justino 2014; Cederman, Weidmann and Gleditsch 2011; Demmers 2017. See also Stewart, Holdstock and Jarquin (2002) on horizontal inequalities and violent conflict.
- 17 Alizada and others 2021.
- 18 Alizada and others 2021.
- 19 As shown in the 2020 Human Development Report (UNDP 2020c), the number of environmental activists killed has more than tripled over the past 20 years, and approximately 40 percent of murdered environmental defenders belong to indigenous communities.

- 20 van Munster and Sylvest 2021.
- 21 UN 2021c.
- 22 Lopes da Silva, Tian and Marksteiner 2021.
- 23 Official development assistance from members of the Organisation for Economic Co-operation and Development's Development Assistance Committee rose to an all-time high of \$161.2 billion in 2020 (OECD 2021a).
- 24 Lopes da Silva, Tian and Marksteiner 2021.
- 25 Eurostat 2021a.
- 26 Documenting the exact number of firearms is challenging due to lack of data transparency, concealed ownership and illicit trade. However, the Small Arms Survey uses a wide range of sources to monitor the proliferation of firearms (Small Arms Survey 2018).
- 27 Karp 2018; Small Arms Survey 2018. Civilian gun ownership increased by 32 percent between the 2006 and the 2016 survey. There are large civilian firearm holdings in high and very high HDI countries that are not officially in armed conflict, and for the very high HDI group the United States drives the results, accounting for 4 percent of global population but 40 percent of global civilian firearm holdings.
- 28 Banerjee and Muggah 2002; Buttrick 2020; Dahlberg, Ikeda and Kresnow 2004.
- 29 UNODA 2018.
- 30 J-PAL and IPA 2021; Mousa 2019.
- 31 J-PAL and IPA (Innovations for Poverty Action) 2021.
- 32 For example, Human Rights Watch (2020d) notes continuous abuses and violence against civilians, human rights defenders and other community leaders in Colombia, despite the peace accord and reconciliation efforts.
- 33 Pettersson and others 2021.
- 34 Arias 2017; Auyero 2007; Feldmann and Luna 2022.
- 35 Trejo and Ley 2020.
- 36 The literature on state capture also notes how vested interests and corruption erode institutional quality and threaten accountability (Hellman, Jones and Kaufmann 2000).
- 37 Muggah and Dudley 2021; Vera-Adrianzén and others 2020.
- 38 UN 2020c.
- 39 Such as the joint United Nations Department for Political and Peacebuilding Affairs, United Nations Development Programme and United Nations Environment Programme Climate Security Mechanism.
- 40 Resolution 2250 was adopted by the UN Security Council in 2015 and recognized the essential role of young people in preventing and resolving conflicts and in sustaining peace. It was then reaffirmed in 2018 in Security Council Resolution 2419.
- 41 The women, peace and security agenda—based on UN Security Council Resolution 1325, adopted in 2000—highlights not only the disproportionate impacts of war on women but also the pivotal role women play in conflict

prevention, conflict management and sustainable peace efforts.

- 42 UN 2020a.
- 43 UN and World Bank 2018.
- 44 IEP 2021a.
- 45 UNODA 2018.
- 46 Autesserre 2007, 2017. For example, research by Autesserre shows how local conflicts in the Democratic Republic of Congo became self-sustaining and continued to kill more than 1,000 civilians a day even after peace settlements had been reached, continuing to violate human security.
- 47 UN Women 2015.
- 48 UN 2000.
- 49 For example, disarmament, demobilization and reintegration programmes can protect civilians while helping ex-combatants find alternative livelihoods (J-PAL and IPA 2021). And in violent contexts cognitive behavioural therapy has been found to change self-images and reduce risks of engaging in criminal and violent behaviour among young men (J-PAL 2018).
- 50 Tarabah and others 2016.
- 51 Collier and Hoeffler 2000.
- 52 Stewart, Holdstock and Jarquin 2002.
- 53 IPCC 2018.
- 54 IPCC 2018.
- 55 Ide and others 2020; Mobjörk, Krampe and Tarif 2021; von Uexkull and Buhaug 2021.
- 56 Lövbrand and Mobjörk (2021) provide a broader discussion on the topic.
- 57 Buhaug and von Uexkull 2021, p. 546.
- 58 Smith 2021.
- 59 Krampe 2021.
- 60 Lopes da Silva, Tian and Marksteiner 2021.
- 61 Cottrell and Darbyshire 2021. In 2017 the US military had a larger carbon footprint than that of many nations, including Finland, Morocco and Peru. The reported military emissions stemming from energy and fuel consumption account for only a small share of the military carbon footprint, as indirect emissions from arms production and military supply chains more than double the European Union's and the United Kingdom's military carbon footprint (Cottrell and Darbyshire 2021).
- 62 ICRC 2020.
- 63 Hobbs and Radke 1992.
- 64 Linke and Ruether 2021.
- 65 ICRC 2020.
- 66 For example, flaring, the two-century-old industry practice of burning excess gas in oil production, increased during conflicts in Libya, Syrian Arab Republic and Yemen, even when overall oil production stalled (Darbyshire and Weir 2021).
- 67 Collins, Florin and Sachs 2021.
- 68 Sasse and Trutnevte 2020.
- 69 Collins, Florin and Sachs 2021.

70	Aas Rustad 2021b; Krampe, Smith and Hamidi 2021.	105	Examples include reduced likelihood of giving birth at a health facility (Østby and others 2018), higher risk of maternal death (Kotsadam and Østby 2019), lower likelihood of secondary education (Gates and others 2012) and greater food insecurity (Martin-Shields and Støjetz 2019)		decisionmaking; women's human rights; and women (and men) as actors, not victims.
71	Global Commission on the Geopolitics of Energy Transformation 2019.	106	DeCou and Lynch 2017; Garbarino and others 1992; Guterman and Cameron 1997.	18	UNDP 2020c.
72	Aas Rustad 2021b.	107	Cuartas and Roy 2019.	19	UNDP 2020c.
73	Hegre and others 2017.	108	UNHCR 2021a.	20	WHO 2020d.
74	Kosal 2020.	109	MSF 2017. The Office of the United Nations High Commissioner for Refugees has also called for granting refugee status to "a significant percentage" of people fleeing the zone (UNHCR 2015).	21	Avidor, Palgi and Solomon 2017; Canudas-Romo 2018; WHO 2015a.
75	Boulanin and Verbruggen 2017; Boulanin, Brockmann and Bauer 2019.	110	Clement and others 2021; Rigaud and others 2018.	22	Adverse childhood experiences are defined by the World Health Organization (WHO) as "(...) multiple types of abuse; neglect; violence between parents or caregivers; other kinds of serious household dysfunction such as alcohol and substance abuse; and peer, community and collective violence." WHO includes events that also "occur outside the boundaries of home and family. These experiences can include violence in the surrounding community, the experience of living in unsafe neighborhoods, homelessness, bullying, discrimination based on race or ethnicity, and income insecurity" (UNICEF 2021c, pp. 60–61).
76	Keane 2020.	111	Sharkey 2018; Yuan and McNeeley 2016.	23	Østby, Aas Rustad and Forø Tollefsen 2020.
77	Johnson 2021.	112	Valera and Guàrdia 2014; Yates and Ceccato 2020.	24	The UN Security Council has identified and condemned six grave violations against children in times of war: killing and maiming of children, recruitment or use of children in armed forces and armed groups, attacks on schools or hospitals, rape or other grave sexual violence, abduction of children and denial of humanitarian access for children (UNICEF 2021b).
78	OHCHR 2021.	113	IEP 2021b.	25	UNICEF 2021a.
79	For example, Urbaniak and others (2022) employ Big Data techniques to analyse the effects of online personal attacks among 150,000 Reddit users and show how unmoderated cyberviolence significantly reduced victims' online activity. Furthermore, hateful online content can spread fast and reach far, as shown in a study by Mathew and others (2019). They analysed more than 21 million posts generated by 341,000 users on the online platform Gab and found that hateful content diffused much faster and wider than nonhateful posts.	114	IEP 2021b.	26	UNICEF 2020a.
80	UNDP 2020c.	115	de Coning and Gelot 2020.	27	Bertoni and others 2019; Dabalen and Paul 2014; Diwakar 2015.
81	Allan and others 2015.	<b>CHAPTER 5</b>		28	Gao and Hayes 2021.
82	Ray and George 2021.	1	See Sen (2005b) for a discussion of how enhancing the agency of women improves lives more broadly.	29	OPHI and UNDP 2021.
83	Stewart, Holdstock and Jarquin 2002.	2	Sen 2005a.	30	Nayyar and Rivera Vazquez 2021.
84	Hillesund and others 2018.	3	UN 1948.	31	Rodgers 2020.
85	Stewart, Holdstock and Jarquin 2002.	4	Nussbaum 2011, pp. 30–31.	32	Inanc 2020. Compilation based on the US Bureau of Labor Statistics' monthly labour force statistics from the Current Population Survey. Moreover, Black people are 24 percent less likely to receive unemployment benefits, further exacerbating the impacts of unemployment (Kuka and Stuart 2021).
86	UN and World Bank 2018.	5	Sen 2008.	33	Inanc 2020.
87	Demmers 2017; UN and World Bank 2018.	6	UN 1948.	34	Jones, Mitra and Bhuiyan 2021; UN Women 2017.
88	UNODC 2019.	7	UNDP 2019a.	35	Office of the Secretary-General's Envoy on Youth 2021.
89	UN 2021b.	8	For instance, when people's social status is linked to their personal responsibility through the narrative of meritocracy (Sandel 2020). The "American Dream" and similar narratives (with a focus on material success and self-reliance) can create pressure for the upper middle class and stigmatization across low-income populations. See Lamont (2019).	36	Nkrumah 2021.
90	WHO 2021l.	9	Chenoy 2009.	37	Office of the Secretary-General's Envoy on Youth 2021.
91	Garry and Checchi 2019.	10	Bialasiewicz and others 2007; Gentry, Shepherd and Sjöberg 2018.	38	Cuevas-Parra 2021; UN 2021f.
92	Aebischer Perone and others 2017; Garry and Checchi 2019.	11	Young 2003.	39	Office of the Secretary-General's Envoy on Youth 2021; UN and Folke Bernadotte Academy 2021.
93	Garry and Checchi 2019.	12	Nussbaum 2001, 2006.	40	UNDESA 2019.
94	FSIN 2021.	13	Some of these are analysed in the next section, in terms of age, sexual orientation and gender identity, race and ethnicity, and migration status.	41	WHO 2021j.
95	Simon 2020.	14	Crenshaw 2017.	42	WHO 2021j.
96	Kishi 2021.	15	Ogata and Sen 2003.		
97	Kishi 2021.	16	UNDP 2019a.		
98	Pettersson and others 2021.	17	IACWGE 1999. The UN Inter-Agency Committee on Women and Gender Equality notes five aspects: violence against women and girls; gender inequalities in control over resources; gender inequalities in power and		
99	Aas Rustad 2021a.				
100	UNODC 2019.				
101	UNODC 2019.				
102	Bergman 2018; Muggah and Aguirre Tobón 2018; Yashar 2018.				
103	Corral and others (2020) undertook a similar effort, but the definitions differ and do not include lower intensity conflicts.				
104	See OECD (2020) for the Organisation for Economic Co-operation and Development framework for identifying fragile contexts.				

43	UNDESA 2016a.	78	Galtung 1969, 1990; Galtung and Fischer 2013.	106	Nesterak 2019.
44	WHO 2015b.	79	A series of strategies, gestures, comments and actions of daily life that are subtle, almost imperceptible, but perpetuate and transmit violence against women and girls from one generation to another (Gómez 2015).	107	Lajimodiere 2012.
45	Dependency ratios are the relationship of those not typically active in the workforce (children under 15 and people over age 65) to the active population (ages 15–64). It is used to understand the pressures on the active population and the level of financial stress that will be faced by the need for support from dependent populations. The old-age dependency ratio refers specifically to the amount of people over age 65 per 100 working-age people.	80	UN Women 2021a. Forms of violence against women and girls include physical and sexual violence, human trafficking, female genital mutilation, child marriage, psychological and emotional violence and economic violence. See also spotlight 4.1 in UNDP (2019a).	108	Gentry, Shepherd and Sjoberg 2018; Leigh and Weber 2018.
46	Ferraro, Kemp and Williams 2017.	81	Confortini 2006; Galtung 1990.	109	UNDP 2020c.
47	MacGuire 2020.	82	As the second-wave feminism established “the personal is political” (Firestone and Koedt 1970, p. 76), and feminist researchers have analysed violence in the individual and domestic realm as a form of political violence and a precondition for increased violence against women and girls in the public sphere (Firestone and Koedt 1970; Hanisch 1969).	110	According to Dimick and others (2013, p. 1046), “Black patients actually tended to live closer to higher-quality hospitals than white patients did but were 25–58 percent more likely than whites to receive surgery at low-quality hospitals.”
48	Garrett and others 2019.	83	Alkan, Özar and Ünver 2021; Muluneh and others 2020.	111	He and others 2019. Warmth refers to being perceived as tolerant, warm, good-natured and sincere, reflecting how “likable” a target is; competence refers to being perceived as competent, confident, independent, competitive and intelligent and generally reflects how “respected” a target is.
49	Pechey and Monsivais 2016.	84	Fawole 2008.	112	Dabone and others 2021; Odoms-Young 2018.
50	Volaco, Cavalcanti and Précoma 2018.	85	Gentry, Shepherd and Sjoberg 2018.	113	Ghandnoosh 2014; Waldron 2020.
51	Wood and others 2006.	86	WHO 2021m.	114	UNDESA 2020a.
52	Erlangen and others 2017.	87	Douki and others 2003.	115	This section, due to its limited extension, cannot assume to faithfully represent the human security challenges for all human mobility categories. It uses terms and definitions as put forth by the International Organization for Migration’s (IOM) Glossary on Migration (IOM 2019a). It uses the term “migrant” as an umbrella term (as per IOM’s definition: “An umbrella term, not defined under international law, reflecting the common lay understanding of a person who moves away from his or her place of usual residence, whether within a country or across an international border, temporarily or permanently, and for a variety of reasons. The term includes a number of well-defined legal categories of people, such as migrant workers; persons whose particular types of movements are legally defined, such as smuggled migrants; as well as those whose status or means of movement are not specifically defined under international law, such as international students.”). It defines “displaced persons” as “Persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, either across an international border or within a State, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters.”; It uses the United Nations High Commissioner for Refugees’ definition of refugee (UNHCR 1951): “A person who, owing to a well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it.”). And it limits its scope to people who move across borders.
53	OECD 2019c.	88	UNICEF 2020b.		
54	UNDESA 2016b.	89	Garcia-Moreno and others 2006; Kishor and Johnson 2004, 2005; WHO 2021m.		
55	UNDESA 2016b.	90	Harrison and Esqueda 1999.		
56	Olivera and Tournier 2016.	91	Although racial categories are socially constructed and many people fail to fit into one or more of the categories that are recognized in different contexts, they have impacts on people’s lives via structural patterns of discrimination. It is important to acknowledge that social constructs around race and ethnicity have tangible impacts on people’s dignity and need to be prioritized for as long as inequalities and discrimination based on those constructs exist.		
57	Ye and others 2020.	92	Gentry, Shepherd and Sjoberg 2018; Khalid 2019.		
58	Donizzetti 2019.	93	Stewart 2016.		
59	Moosa and Luyckx 2021.	94	OHCHR 2005.		
60	Moosa and Luyckx 2021.	95	See Alesina, Michalopoulos and Papaioannou (2016) and Stewart (2005).		
61	UNDP 2020a; UN Women 2020a.	96	Cederman, Weidmann and Gleditsch 2011; Denny and Walter 2014.		
62	Bonnet, Vanek and Chen 2019.	97	Ahuja 2016.		
63	ILO 2020; UNDP 2020b; UN Women 2020a.	98	Gentry, Shepherd and Sjoberg 2018.		
64	Benyacoub 2021.	99	Gentry, Shepherd and Sjoberg 2018.		
65	Maitra 2018; Smith and others 2003.	100	OHCHR 2005; UNDESA 2016c, 2018.		
66	FAO and others 2020; UNDP 2020c; UN Women 2020a.	101	UNDESA 2018.		
67	UNDP 2020c.	102	Gubert and others 2017.		
68	Maitra 2018; Smith and others 2003.	103	Bloomfield 2019.		
69	FAO and others 2020; UNDP 2020c; UN Women 2020a.	104	United Nations Inter-Agency Support Group on Indigenous Issues 2014.		
70	UNDP 2020c.	105	Kamwenda 1997; Maseko and Ndlovu 2013.		
71	Madgavkar and others 2020.				
72	UNDP 2020b, 2020e; UN Women 2020b.				
73	UNDP 2019a, 2020d.				
74	UNDP 2020c.				
75	UNDP 2019a.				
76	UN Women 2021a. Gender-based violence could include violence against men, provided the violence stems from a man’s gender identity or presentation. Violence against women and girls is more specific, as it refers only to women, who experience most of the gender-based violence, so to that extent, gender-based violence and violence against women overlap (Dominguez Gonzalez and others 2019).				
77	UNFPA, UN Women and UNDP 2017.				



119 UNHCR 2021a.

120 IDMC 2021.

121 ILO 2021b.

122 Szaflarski and Bauldry 2019.

123 UN 2016.

124 This Report uses the terms lesbian, gay, bisexual, transgender, queer, and intersex (LGBTQI+), but many of the challenges to human security and discriminatory practices highlighted herein are also relevant to addressing violence and discrimination on the basis of sexual orientation, gender identity and sex characteristics against people who identify with or use other terms.

125 Even though the distinction between sex and gender has been clear since the 1950s, still not everyone is aware of the differences and their implications for policymaking around the world. Often, even in research, the terms sex and gender are used as if they were interchangeable, but they are not. “Sex” refers to each person’s biological characteristics. In this classification individuals can identify as female, male or intersex. Intersex people are born with physical sex characteristics different from male or female bodies. For some intersex people these are apparent at birth, while for others they emerge later in life, often at puberty. Intersex people may have any sexual orientation and gender identity. “Gender” is a social construct. Gender identity refers to the experienced sense of one’s own gender, whereas gender expression refers to actions and appearance that reflect the way in which a person expresses gender. When gender and sex are aligned at birth, the term “cisgender” can be used. But one’s gender identity or expression may or may not be aligned with the sex assigned to them at birth or sexual orientation. “Nonbinary” and “queer” are terms that refer to gender identities that are neither male nor female and that are outside the gender binary. “Trans” and “transgender” are both terms used to describe people with a wide range of gender expressions and identities—including transsexual people, people who cross-dress, people who identify as third gender, people who identify outside of the male/female binary and others whose appearance and characteristics are perceived as gender atypical and whose sense of their own gender is different from the sex that they were assigned at birth. Some transgender people seek surgery or take hormones to bring their body into alignment with their gender identity; others do not. Trans people may have any sexual orientation and sex characteristics. Finally, “sexual orientation” refers to a person’s physical, romantic and/or emotional attraction towards other people. Most people have a sexual orientation, which is part of their identity. Gay men and lesbian women are attracted to individuals of the same sex as themselves. Heterosexual people are attracted to individuals of a different sex from themselves. Bisexual people may be attracted to individuals of the same or different sex. Lesbian, gay and bisexual people may have any gender identity or sex characteristics. Sexual orientation, gender identity and sex characteristics are not the same. They are each distinct but intersecting

aspects of a person’s identity; hence it is important to respect people’s choice of terms, names, and pronouns to refer to themselves. (Adapted from OHCHR 2019 and information from United Nations Free & Equal campaign website and factsheets.)

The situation of LGBTI+ people varies considerably across the world. Important progress has been achieved on several fronts, and public opinion has, overall, seen rising acceptance in some countries and regions. For example, rising acceptance of homosexuality has been recorded in several countries in the past two decades (Pew Research Center 2020), and evidence from the United States also shows a shift in views on same-sex marriage over the past decades (Gallup 2021). As of December 2021, same-sex marriage is legal in 30 countries (Council on Foreign Relations 2021).

126 Hagen 2016.

127 Albuquerque and others 2016; Badgett, Hasenbush and Luhur 2017; Romero, Goldberg and Vasquez 2020; Suriyasarn 2016.

128 Yogyakarta Principles 2007.

129 Only 25 countries have gender identity or gender expression legislation: Argentina, Belgium, Bolivia, Canada, Chile, Colombia, Denmark, Ecuador, France, Greece, Iceland, India, Ireland, Japan, Luxembourg, Malta, Norway, Pakistan, Portugal, Spain, Sri Lanka, Thailand, Uruguay, Viet Nam and the United Kingdom (Zhan and others 2020).

130 Lanham and others 2019. Their experiences were characterized by verbal abuse, being forced to alter their gender expression to get the document or being totally refused the identification. These experiences of discrimination made the participants feel humiliated, affecting their dignity and mental health.

131 Ecker 2016; Ecker, Aubry and Sylvestre 2019.

132 Ecker, Aubry and Sylvestre 2019.

133 UNDP 2016c.

134 Badgett, Waaldijk and van der Meulen Rodgers 2019.

135 Evans and others 2016. This study included only lesbian, gay, bisexual and trans populations.

136 UNDP 2019b.

137 Johns and others 2019; Johns and others 2020.

138 UNDP 2019b.

139 Human Rights Watch 2020c.

140 UNDP 2019b. This study included only lesbian, gay, bisexual and trans populations.

141 Berthélemy 2019; Leufer 2021.

142 GLAAD 2021. Facebook (75 percent), Twitter (24 percent), YouTube (21 percent), Instagram (24 percent) and TikTok (9 percent).

143 OHCHR 2015, 2019.

144 Stotzer 2009.

145 OHCHR 2016, 2019.

146 UNDP 2021.

147 Allende 2020.

148 Balaji 2011; Henricks 2016; Nazroo, Bhui and Rhodes 2020.

149 Dunn, Clare and Holland 2008.

150 Extending the use of concepts described by Molyneux (1986) and Moser (1989).

151 A key principle outlined by Gasper and Gomez (2021).

152 ILGA 2020.

## CHAPTER 6

1 Ogata and Sen 2003.

2 Anand 2012.

3 Ritchie 2019.

4 Roser and Ritchie 2013.

5 UNAIDS 2021. AIDS-related deaths have declined by 47 percent since 2010 and by 64 percent from the peak in 2004.

6 Roser and Ritchie 2019.

7 Dadonaite, Ritchie and Roser 2019.

8 Gavi, The Vaccine Alliance 2020; Global Preparedness Monitoring Board 2019; Marani and others 2021.

9 UNDP 2020f.

10 UN Platform on Social Determinants of Health 2016; WHO n.d.

11 WHO 2020c.

12 WHO 2021a.

13 Ruger 2004.

14 WHO 2021i, p. 45.

15 WHO 2021i. WHO notes that the pace of improvements in service coverage has slowed since 2010 and that at the current rate of progress, there will be a shortfall of 710 million against the target of 1 billion more people benefiting from universal health coverage—without accounting for Covid-19-related economic contraction and disruptions to health services.

16 *The Economist* 2021; Johnson and Roberto 2020.

17 Nettle and others 2021.

18 IHME 2021.

19 IHME 2021.

20 Fore and others 2020; Headey and others 2020; UN 2020b.

21 See UNDP (2020c, 2020f). For instance, in South Asian countries around 391 million children were kept out of schools at the primary and secondary levels, and up to 5.5 million may drop out of school altogether (Shiva Kumar, 2021).

22 IMF 2021b.

23 The data referenced here are from IMF (2021a). This discussion also uses the International Monetary Fund’s classification of countries.

24 IMF 2021c.

25 IMF 2021c.

26 IMF 2021c.

27	WHO 2021b.	the existence of a “double burden” of communicable and noncommunicable diseases.	77	OECD 2019b.	
28	IMF 2021c.		78	OECD 2019b.	
29	Likewise, many economies implemented multiyear fiscal actions, but a large part of fiscal support is expiring, and Covid-19 emergency fiscal support measures are winding down in emerging economies (IMF 2021b.). Growth in emerging and developing economies, which have been constrained by uneven access to vaccines and waning emergency fiscal support, is expected to slow considerably by 2022, and income per capita gains in fragile and conflict-affected low-income countries have been set back by at least a decade (World Bank 2021b). Thus, not only will the recovery depend on the extent of the response measures, the effects of recently expired or limited extensions of fiscal support measures remain uncertain, and the inequalities in recovery paths, potentially exacerbating pre-existing gaps. Concerns include what will happen to employment protection programmes and whether there will be mass layoffs once the emergency fiscal support is suspended (IMF 2021e). The insecurity faced by people due to shocks can last even after recovery in macroeconomic output—for instance, people experiencing unemployment may be unable to bear out-of-pocket healthcare costs for some time and thus delay getting the care they need.	45	Bollyky and others 2017; Kruk, Nigenda and Knaul 2015; Kruk and others 2018.	79	OECD 2019b.
		46	For instance, cancer is a key factor behind the mortality gap across different socioeconomic groups in New Zealand. See Teng and others (2017).	80	Komisar 2013.
		47	Ebi and Hess 2020; Patz, Grabow and Limaye 2014.	81	Emanuel, Glickman and Johnson 2017.
		48	Vicedo-Cabrera, Scovronick and Gasparrini 2021.	82	Komisar 2013.
		49	The Lancet Countdown 2021.	83	Komisar 2013.
		50	Lelieveld and others 2020.	84	Schillings and Sánchez-Ancochea 2021.
		51	Atwoli and others 2021.	85	See annex 6.1 and Martínez Franzoni and Sánchez-Ancochea (2016).
		52	See also results in Carleton and others (2020).	86	Martínez Franzoni and Sánchez-Ancochea 2016.
		53	The Lancet Countdown 2021.	87	Anand 2012.
		54	IPCC 2018.	88	WHO 2021g.
		55	Hallegatte and others 2014.	89	WHO and World Bank 2017.
		56	The right to health goes even further than access to healthcare to also consider the underlying determinants of health, such as adequate nutrition and housing, and health-related education, which help people lead healthy lives. See OHCHR and WHO (2008).	90	OECD 2014.
		57	OHCHR and WHO 2008.	91	High-level Meeting on Universal Health Coverage 2019.
		58	Sen 2008.	92	Kruk and others 2018; WHO, OECD and World Bank 2018.
		59	Sen 2008.	93	See Martínez Franzoni and Sánchez-Ancochea 2016; Sen 2015.
		60	National Academies of Sciences, Engineering, and Medicine 2018; WHO, OECD and World Bank 2018.	94	Anand and Ravallion 1993.
30	IMF 2021d. According to the Global Dashboard for Vaccine Equity, by December 2021 approximately 65 percent of people in high-income countries had at least one dose of a Covid-19 vaccine, compared with approximately 8 percent of people in low-income countries. See UNDP, WHO and University of Oxford (2021).	61	For a discussion of these factors, see National Academies of Sciences, Engineering, and Medicine (2018).	95	Martínez Franzoni and Sánchez-Ancochea 2016.
31	Human Development Report Office calculations based on data from <a href="https://ourworldindata.org/">https://ourworldindata.org/</a> (accessed 9 November 2021). Simple averages. See also IMF (2021d).	62	National Academies of Sciences, Engineering, and Medicine 2018.	96	Laryea and Cueni 2019; Smith, Corrigan and Exeter 2012.
32	Wouters and others 2021.	63	Kruk and others 2018; WHO 2018.	97	Martínez Franzoni and Sánchez-Ancochea 2016.
33	World Bank 2021a.	64	Kruk and others 2018.	98	The Lancet Commission on Global Health 2035 2013.
34	Wouters and others 2021.	65	Kruk and others 2018.	99	Dallman 2010; Danese and others 2014; Danese and Lewis 2017; Evans and Wachs 2010; Hackett and Steptoe 2017; Hughes and others 2017; Morris and others 2019.
35	BBC 2021.	66	WHO, OECD and World Bank 2018.	100	Hussain and Arif 2021.
36	WHO 2020b.	67	National Academies of Sciences, Engineering, and Medicine 2018, p. 2.	101	UN 2015b. See also Leisering 2020.
37	WHO 2021f.	68	Krishna 2010, p. 17.	102	ILO 2011, 2016; WHO 2010b.
38	For instance, ageing is expected to be the main driver of noncommunicable diseases in Europe. See Devaux and others (2020).	69	WHO 2021c.	103	Due to the structure of the HUI as a geometric mean, these imbalances in achievement are amplified in the overall score, highlighting the importance of all dimensions for achieving true universalism.
39	Marmot and Bell 2019.	70	Swindle and Newhouse 2021. In countries where the urban population accounts for a larger share of the total proportion, such as Ethiopia, Ghana, Malawi and Senegal, “fear of contracting Covid-19” was also more frequently answered. “Hospital had insufficient supplies” was the third most reported barrier.	104	See Filgueira (2007); Martínez Franzoni and Sánchez-Ancochea (2018); Pribble (2013).
40	Marmot and Bell 2019.	71	WHO 2010a.	105	UNDP 2019a.
41	Sommer and others 2015.	72	WHO 2010a.	106	The Global Health Security Index is a joint project of the Johns Hopkins Center for Health Security, the Nuclear Threat Initiative and The Economist Intelligence Unit. The Index measures countries’ capabilities for preventing and mitigating epidemics and pandemics using 140 questions in six categories (prevention, detection and reporting, rapid response, health systems, compliance with international norms and risk environment). The index is scored based on desk research for a sample of 195 countries. Some results might appear ambiguous in light of the Covid-19 pandemic.
42	WHO 2013. Additional key principles and approaches enshrined in WHO’s Global Action Plan include promoting human rights, equity and empowerment, using a life-course approach and universal health coverage. See also Marmot and Bell (2019) and WHO (2014).	73	Beran, Pedersen and Robertson 2019; Saksena, Xu and Durairaj 2010.		
43	WHO 2020b.	74	Beran, Pedersen and Robertson 2019.		
44	Karn and Sharma 2021; UN Platform on Social Determinants of Health 2016. Others (for instance, Abera and others 2017) have noted	75	WHO 2021d.		
		76	OECD 2019a.		

- In fact, some of the highest scoring countries are among the most affected by Covid-19, such as the United States (1st), the United Kingdom (2nd), the Netherlands (3rd), Sweden (7th) and Slovenia (12th). Therefore, some of the results should be interpreted with caution and take into account underreporting in less developed countries. See <https://www.ghsindex.org/about/>. See also Schillings and Sanchez-Ancochea (2021).
- 107 Some measuring factors can influence these results in the case of the Global Health Security Index. It is possible that the index methodology suffers from potential biases or measurement errors when scoring the preparedness of less developed health systems because there appears to be a large clustering of scores around the average index value of 35. Also, universalism is only relevant for some aspects of the index and overall health disaster preparedness: mainly for treatment and, in part, for rapid response. Other factors, such as prevention, detection, global cooperation and risk environment, also play an important role that might outweigh the impact of universalism. See Schillings and Sanchez-Ancochea (2021).
  - 108 Baker, Currie and Schwandt 2017.
  - 109 Brønnum-Hansen 2017.
  - 110 van Raalte, Sasson and Martikainen 2018.
  - 111 Nazroo 2017.
  - 112 Currie and Schwandt 2016.
  - 113 Majer and others 2011.
  - 114 Chen, Persson and Polyakova 2020; Katikireddi and others 2020.
  - 115 Rostila and others 2021.
  - 116 Aldridge and others 2020.
  - 117 UNDP 2020c.
  - 118 EIU 2020; UN 2020d.
  - 119 The Lancet–University of Oslo Commission on Global Governance for Health 2014, p. 633.
  - 120 The Lancet–University of Oslo Commission on Global Governance for Health 2014.
  - 121 The Lancet–University of Oslo Commission on Global Governance for Health 2014.
  - 122 The Lancet–University of Oslo Commission on Global Governance for Health 2014.
  - 123 Storeng, Puyvallée and Stein 2021.
  - 124 Gostin, Habibi and Meier 2020.
  - 125 Gostin, Habibi and Meier 2020. Moreover, some government responses have not respected the International Health Regulations. See Gostin, Habibi and Meier (2020) and Habibi and others (2020).
  - 126 Nakatani, Katsuno and Urabe 2020.
  - 127 World Health Assembly 2020.
  - 128 Gostin, Halabi and Klock 2021; Nikogosian 2021a.
  - 129 World Health Assembly 2021.
  - 130 WHO 2021h. There is also increased attention on the possibilities for reforming the International Health Regulations (Ginsbach, Monahan and Gottschalk 2021; Wilson, Halabi and Gostin 2020). A pandemic treaty under Article 19 of the WHO Constitution could go hand in hand with International Health Regulations reform—a treaty would also have a more expansive scope to address political, legal, institutional and multisectoral issues, on which the scope of the regulations is limited (Nikogosian 2021b).
  - 131 Fukuda-Parr, Buss and Yamin 2021.
  - 132 UNDESA 2021.
  - 133 Lozano and others 2020.
  - 134 Global Burden of Disease Health Financing Collaborator Network 2020. A limitation of using government health spending as a percentage of GDP as an indicator is that it does not distinguish between wasteful and efficient spending. However, the use of a geometric mean to determine the HUI alleviates this limitation, as it rewards equal achievement across the dimensions. The HUI should differ between cases of inefficient versus efficient spending as the former would not translate into the second dimension, effective coverage, as much as the latter.
  - 135 Global Burden of Disease Health Financing Collaborator Network 2020.
  - 136 See Martínez Franzoni and Sánchez-Ancochea (2016). An alternative measure of equity would be the proportion of out-of-pocket spending, which reflects inequity in healthcare. While out-of-pocket spending is important in the context of risk protection (particularly in relation to catastrophic expenditure), the focus of the equity dimension of the HUI goes beyond risk protection, to consider segmentation more broadly and resulting inequalities in access to healthcare.
  - 137 As the UHC effective coverage index is already normalized, no further rescaling is necessary.

## CONCLUSION

- 1 Fajardo-Gonzalez and Sandoval 2021.
- 2 Ogata and Sen 2003.
- 3 UN 2021d.



# References

- Aas Rustad, S. 2021a.** "Conflict Trends." Background box contribution for Human Security Report 2021, United Nations Development Programme, Human Development Report Office, New York.
- Aas Rustad, S. 2021b.** "Green Curses: Renewable Energy and Conflict in Africa." Background paper for Human Development Report 2021–2022, United Nations Development Programme, Human Development Report Office, New York.
- Abera, S. F., Gebru, A. A., Biesalski, H. K., Ejeta, G., Wienke, A., Scherbaum, V., and Kantelhardt, E. J. 2017.** "Social Determinants of Adult Mortality from Non-Communicable Diseases in Northern Ethiopia, 2009–2015: Evidence from Health and Demographic Surveillance Site." *PloS One* 12(12).
- Adger, W. N., de Campos, R. S., Siddiqui, T., Gavonel, M. F., Szaboova, L., Rocky, M. H., Bhuiyan, M. R. A., and Billah, T. 2021.** "Human Security of Urban Migrant Populations Affected by Length of Residence and Environmental Hazards." *Journal of Peace Research* 58(1): 50–66.
- Aebischer Perone, S., Martinez, E., du Mortier, S., Rossi, R., Pahud, M., Urbaniak, V., Chappuis, F., and others. 2017.** "Non-Communicable Diseases in Humanitarian Settings: Ten Essential Questions." *Conflict and Health* 11(1): 17.
- Ahmad, T., Zhang, D., Huang, C., Zhang, H., Dai, N., Song, Y., and Chen, H. 2021.** "Artificial Intelligence in Sustainable Energy Industry: Status Quo, Challenges and Opportunities." *Journal of Cleaner Production* 289: 125834.
- Ahmed Bhuiyan, M., Rashid Khan, H. U., Zaman, K., and Hishan, S. S. 2018.** "Measuring the Impact of Global Tropospheric Ozone, Carbon Dioxide and Sulfur Dioxide Concentrations on Biodiversity Loss." *Environmental Research* 160: 398–411.
- Ahuja, N. 2016.** "Race, Human Security, and the Climate Refugee." *English Language Notes* 54(2): 25–32.
- Albuquerque, G. A., de Lima Garcia, C., da Silva Quirino, G., Alves, M. J. H., Belém, J. M., dos Santos Figueiredo, F. W., da Silva Paiva, L., and others. 2016.** "Access to Health Services by Lesbian, Gay, Bisexual, and Transgender Persons: Systematic Literature Review." *BMC International Health and Human Rights* 16(1): 1–10.
- Aldrich, D. P., and Meyer, M. A. 2014.** "Social Capital and Community Resilience." *American Behavioral Scientist* 59(2): 254–269.
- Aldridge, R. W., Lewer, D., Katikireddi, S. V., Mathur, R., Pathak, N., Burns, R., Fragaszy, E. B., and others. 2020.** "Black, Asian and Minority Ethnic Groups in England Are at Increased Risk of Death from Covid-19: Indirect Standardisation of NHS Mortality Data." *Wellcome Open Research* 5(88).
- Alesina, A., Michalopoulos, S., and Papaioannou, E. 2016.** "Ethnic Inequality." *Journal of Political Economy* 124(2): 428–488.
- Alfifi, M., Kaghazgaran, P., Caverlee, J., and Morstatter, F. 2019.** "A Large-Scale Study of ISIS Social Media Strategy: Community Size, Collective Influence, and Behavioral Impact." *Proceedings of the International AAAI Conference on Web and Social Media* 13(01): 58–67.
- Algan, Y., Cohen, D., Davoine, E., Foucault, M., and Stantcheva, S. 2021.** "Trust in Scientists in Times of Pandemic: Panel Evidence from 12 Countries." *Proceedings of the National Academy of Sciences* 118(40): e2108576118.
- Alizada, N., Cole, R., Gastaldi, L., Grahn, S., Hellmeier, S., Kolvani, P., Lachapelle, J., and others. 2021.** *Autocratization Turns Viral: Democracy Report 2021*. Gothenburg, Sweden: University of Gothenburg, V-Dem Institute.
- Alkan, Ö., Özar, Ş., and Ünver, Ş. 2021.** "Economic Violence against Women: A Case in Turkey." *PLoS One* 16(3): e0248630.
- Allan, H., Glazzard, A., Jespersen, S., Reddy-Tumu, S., and Winterbotham, E. 2015.** "Drivers of Violent Extremism: Hypotheses and Literature Review." Royal United Services Institute, London.
- Allende, I. 2020.** *Mujeres del Alma Mía Sobre el amor impaciente, la vida larga y las brujas buenas*. Plaza & Hanes.
- Allingham, M. G., and Sadmo, A. 1972.** "Income Tax Evasion: A Theoretical Analysis." *Journal of Public Economics* 1(3–4): 323–338.
- Alonso, J. A., and Ocampo, J. A. 2020.** *Trapped in the Middle? Developmental Challenges for Middle-Income Countries*. Oxford, UK: Oxford University Press.
- Amnesty International. 2021a.** "Ban Dangerous Facial Recognition Technology That Amplifies Racist Policing." Press Release, 26 January. <https://www.amnesty.org/en/latest/news/2021/01/ban-dangerous-facial-recognition-technology-that-amplifies-racist-policing/>. Accessed 17 November 2021.
- Amnesty International. 2021b.** "Surveillance City: NYPD Can Use More Than 15,000 Cameras to Track People Using Facial Recognition in Manhattan, Bronx and Brooklyn." <https://www.amnesty.org/en/latest/news/2021/06/scale-new-york-police-facial-recognition-revealed/>. Accessed 20 January 2022.
- Anand, S. 2012.** "Human Security and Universal Health Insurance." *The Lancet* 379(9810): 9–10.
- Anand, S., and Ravallion, M. 1993.** "Human Development in Poor Countries: On the Role of Private Incomes and Public Services." *Journal of Economic Perspectives* 7(1): 133–150.
- Andersen-Rodgers, D., and Crawford, K. F. 2018.** *Human Security: Theory and Action*. New York: Rowman & Littlefield.
- Anderson, C. M., Defries, R. S., Litterman, R., Matson, P. A., Nepstad, D. C., Pacala, S., Schlesinger, W. H., and others. 2019.** "Natural Climate Solutions Are Not Enough." *Science* 363(6430): 933–934.
- Aneja, U. 2021.** "Interrogating Digital Public Goods for More Equitable Futures." United Nations Development Programme, New York.
- Anzaldúa, G. 1987.** *Borderlands/La Frontera: The New Mestiza*. San Francisco, CA: Aunt Lute Books.
- Aram, F., García, E. H., Solgi, E., and Mansournia, S. 2019.** "Urban Green Space Cooling Effect in Cities." *Heliyon* 5(4): e01339.
- Arias, E. D. 2017.** *Criminal Enterprises and Governance in Latin America and the Caribbean*. Cambridge, UK: Cambridge University Press.
- Arrow, K. J. 1972.** "Gifts and Exchanges." *Philosophy & Public Affairs* 1(4): 343–362.
- Atuire, C., and Hassoun, N. 2021.** "Rethinking Solidarity and Global Health." Working paper. Binghamton, NY: Binghamton University.
- Atwoli, L., Baqui, A. H., Benfield, T., Bosurgi, R., Godlee, F., Hancocks, S., Horton, R., and others. 2021.** "Call for Emergency Action to Limit Global Temperature Increases, Restore Biodiversity, and Protect Health." *The Lancet* 398(10304): 939–941.
- Autesserre, S. 2007.** "DR Congo: Explaining Peace Building Failures, 2003–2006." *Review of African Political Economy* 34(113): 423–441.
- Autesserre, S. 2017.** "International Peacebuilding and Local Success: Assumptions and Effectiveness." *International Studies Review* 19(1): 114–132.
- Auyero, J. 2007.** *Routine Politics and Violence in Argentina: The Gray Zone of State Power*. Cambridge, UK: Cambridge University Press.
- Avidor, S., Palgi, Y., and Solomon, Z. 2017.** "Lower Subjective Life Expectancy in Later Life Is a Risk Factor for Posttraumatic Stress Symptoms among Trauma Survivors." *Psychological Trauma: Theory, Research, Practice, and Policy* 9(2): 198.

- Awan, I. 2017.** "Cyber-Extremism: ISIS and the Power of Social Media." *Society* 54(2): 138–149.
- Badaoui, S. 2021.** "The African Human Security Index: From 'Think' to 'Do.'" <http://dx.doi.org/10.2139/ssrn.3804730>.
- Badgett, M. L., Hasenbush, A., and Luhur, W. E. 2017.** "LGBT Exclusion in Indonesia and Its Economic Effects." University of California Los Angeles School of Law, Williams Institute.
- Badgett, M. L., Waaldijk, K., and van der Meulen Rodgers, Y. 2019.** "The Relationship between LGBT Inclusion and Economic Development: Macro-level Evidence." *World Development* 120: 1–14.
- Baez, J., Fuente, A. d. I., and Santo, I. 2010.** *Do Natural Disasters Affect Human Capital? An Assessment Based on Existing Empirical Evidence*. Bonn, Germany: IZA.
- Bagwande, M. 2021.** "Don't Blame China for the Rise of Digital Authoritarianism in Africa." London School of Economics blog, 9 September. <https://blogs.lse.ac.uk/africaatlse/2021/09/09/dont-blame-china-for-rise-of-digital-authoritarianism-africa-surveillance-capitalism/>. Accessed 17 November 2021.
- Bai, X., Gauri, V., and Fiske, S. T. 2021.** "Cosmopolitan Morality Trades Off In-Group for the World, Separating Benefits and Protection." *Proceedings of the National Academy of Sciences* 118(40): e2100991118.
- Baines, E. 2005.** "Rethinking Women, Peace and Security: A Critique of Gender in the Canadian Human Security Agenda." 1 April. University of British Columbia, Vancouver, BC.
- Baker, D., Jayadev, A., and Stiglitz, J. 2017.** *Innovation, Intellectual Property, and Development: A Better Set of Approaches for the 21st Century*. AccessIBSA.
- Baker, M., Currie, J., and Schwandt, H. 2017.** "Mortality Inequality in Canada and the US: Divergent or Convergent Trends?" Working Paper 23514, National Bureau of Economic Research, Cambridge, MA.
- Balaji, M. 2011.** "Racializing Pity: The Haiti Earthquake and the Plight of 'Others.'" *Critical Studies in Media Communication* 28(1): 50–67.
- Balcells, L., and Justino, P. 2014.** "Bridging Micro and Macro Approaches on Civil Wars and Political Violence: Issues, Challenges, and the Way Forward." *Journal of Conflict Resolution* 58(8): 1343–1359.
- Balzer, C., LaGata, C., and Berredo, L. 2016.** "TMM Annual Report 2016." TvT Publication Series 14, Transgender Europe, Berlin.
- Banerjee, D., and Muggah, R. 2002.** "Small Arms and Human Insecurity." Regional Centre for Strategic Studies, Colombo.
- Bar-On, Y. M., Phillips, R., and Milo, R. 2018.** "The Biomass Distribution on Earth." *Proceedings of the National Academy of Sciences* 115: 6506–6511.
- Basu, K. 2018.** *The Republic of Beliefs: A New Approach to Law and Economics*. Princeton, NJ: Princeton University Press.
- Basu, K., Gostin, L., and Hassoun, N. 2021.** "Pandemic Preparedness and Response: Beyond the Who's Access to Covid-19 Tools Accelerator." Brookings Global Economy and Development Working Paper, Brookings Institution, Washington, DC.
- Bauer, A. M., Edgeworth, M., Edwards, L. E., Ellis, E. C., Gibbard, P., and Merritts, D. J. 2021.** "Anthropocene: Event or Epoch?" *Nature* 597(7876): 332–332.
- BBC. 2021.** "Coronavirus G7: Could a Billion More Vaccines for Poorer Countries Make a Difference?" 14 June. <https://www.bbc.com/news/57427877>. Accessed 8 November 2021.
- Bell, S. R., and Murdie, A. 2018.** "The Apparatus for Violence: Repression, Violent Protest, and Civil War in a Cross-National Framework." *Conflict Management and Peace Science* 35(4): 336–354.
- Bénabou, R., and Tirole, J. 2006.** "Belief in a Just World and Redistributive Politics." *The Quarterly Journal of Economics* 121(2): 699–746.
- Bénabou, R., and Tirole, J. 2016.** "Mindful Economics: The Production, Consumption, and Value of Beliefs." *Journal of Economic Perspectives* 30(3): 141–164.
- Benkler, Y. 2010.** "The Idea of Access to Knowledge and the Information Commons: Long-Term Trends and Basic Elements." In Kapczynski, A., and Krikorian, G., (eds.), *Access to Knowledge in the Age of Intellectual Property*. New York: Zone Books.
- Benyacoub, B. 2021.** "Empirical Study of Barriers to Women's Financial Inclusion in Morocco." *International Journal of Accounting, Finance, Auditing, Management and Economics* 2(4): 323–336.
- Beran, D., Pedersen, H. B., and Robertson, J. 2019.** "Noncommunicable Diseases, Access to Essential Medicines and Universal Health Coverage." *Global Health Action* 12(1).
- Berg, J., Furrer, M., Harmon, E., Rani, U., and Silbermann, M. S. 2018.** "Digital Labour Platforms and the Future of Work: Towards Decent Work in the Online World." International Labour Organization, Geneva.
- Berger, K. 2020.** "The Man Who Saw the Pandemic Coming." *Nautilus*, 12 March. <https://nautilus.com/issue/83/intelligence/the-man-who-saw-the-pandemic-coming>. Accessed 10 November 2021.
- Bergman, M. 2018.** *More Money, More Crime: Prosperity and Rising Crime in Latin America*. Oxford, UK: Oxford University Press.
- Berthelemy, C. 2019.** "The Digital Rights of LGBTQ+ People: When Technology Reinforces Societal Oppressions." <https://edri.org/our-work/the-digital-rights-lgbtq-technology-reinforces-societal-oppressions/>. Accessed 15 December 2021.
- Bertoni, E., Di Maio, M., Molini, V., and Nistico, R. 2019.** "Education Is Forbidden: The Effect of the Boko Haram Conflict on Education in North-East Nigeria." *Journal of Development Economics* 141: 102249.
- Betts, M. G., Wolf, C., Ripple, W. J., Phalan, B., Millers, K. A., Duarte, A., Butchart, S. H. M., and Levi, T. 2017.** "Global Forest Loss Disproportionately Erodes Biodiversity in Intact Landscapes." *Nature* 547(7664): 441–444.
- Bharadwaj, P., Gibson, M., Zivin, J. G., and Neilson, C. 2017.** "Gray Matters: Fetal Pollution Exposure and Human Capital Formation." *Journal of the Association of Environmental and Resource Economists* 4(2).
- Bialasiewicz, L., Campbell, D., Elden, S., Graham, S., Jeffrey, A., and Williams, A. J. 2007.** "Performing Security: The Imaginative Geographies of Current US Strategy." *Political Geography* 26(4): 405–422.
- Bjelle, E. L., Kuipers, K., Verones, F., and Wood, R. 2021.** "Trends in National Biodiversity Footprints of Land Use." *Ecological Economics* 185: 107059.
- Blanchard, E. M. 2003.** "Gender, International Relations, and the Development of Feminist Security Theory." *Signs: Journal of Women in Culture and Society* 28(4): 1289–1312.
- Blattman, C., and Miguel, E. 2010.** "Civil War." *Journal of Economic Literature* 48(1): 3–57.
- Blenkinshop, P. 2021.** "Resisting Patent Waiver, EU Submits Vaccine Plan to WTO." *Reuters*, 4 June. <https://www.reuters.com/world/europe/eu-executive-submits-vaccine-access-proposal-wto-2021-06-04/>. Accessed 1 November 2021.
- Bloom, D. E., Cafiero, E. T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L. R., Fathima, S., Feigl, A. B., and others. 2011.** *The Global Economic Burden of Non-Communicable Diseases*. Geneva: World Economic Forum.
- Bloom, J. 2021.** "Computer Says Go: Taking Orders from an AI Boss." *BBC News*, 15 February. <https://www.bbc.com/news/business-56023932>. Accessed 1 November 2021.
- Bloomfield, A. 2019.** "Household Food Insecurity Among Children: New Zealand Health Survey." Wellington: New Zealand Ministry of Health.
- Böke, S. S. 2021.** "Artificial Intelligence and Health Care in Light of Covid-19: Ensuring a Human-Rights Perspective." OECD Forum Network, 11 March. [https://www.oecd-forum.org/posts/artificial-intelligence-and-health-care-in-light-of-covid-19-ensuring-a-human-rights-perspective?channel\\_id=722-digitalisation](https://www.oecd-forum.org/posts/artificial-intelligence-and-health-care-in-light-of-covid-19-ensuring-a-human-rights-perspective?channel_id=722-digitalisation). Accessed 17 November 2021.
- Bollyky, T. J., Templin, T., Cohen, M., and Dieleman, J. L. 2017.** "Lower-Income Countries That Face the Most Rapid Shift in Noncommunicable Disease Burden Are Also the Least Prepared." *Health Affairs* 36(11).
- Bonnet, F., Vanek, J., and Chen, M. 2019.** "Women and Men in the Informal Economy: A Statistical Brief." Geneva: International Labour Office.
- Botsman, R. 2017.** *Who Can You Trust? How Technology Brought Us Together and Why It Might Drive Us Apart*. New York: PublicAffairs.
- Botsman, R. 2018.** *How Trust Is Shifting*. Sydney, Australia: Association of Superannuation Funds of Australia.
- Boulanin, V., and Verbruggen, M. 2017.** "Article 36 Reviews: Dealing with the Challenges Posed by Emerging Technologies." Stockholm International Peace Research Institute, Stockholm.

- Boulanin, V., Brockmann, K., and Bauer, S. 2019.** "Bio Plus X: Arms Control and the Convergence of Biology and Emerging Technologies." Stockholm International Peace Research Institute, Solna, Sweden.
- Brady, W. J., Wills, J. A., Jost, J. T., Tucker, J. A., and Van Bavel, J. J. 2017.** "Emotion Shapes the Diffusion of Moralized Content in Social Networks." *Proceedings of the National Academy of Sciences* 114(28): 7313–7318.
- Brancalion, P. H. S., Niamir, A., Broadbent, E., Crouzelles, R., Barros, S. M., Zambrano, M. A., Baccini, A., and others. 2019.** "Global Restoration Opportunities in Tropical Rainforest Landscapes." *Science Advances* 5.
- Brannen, S., Haig, C., and Schmidt, K. 2020.** "The Age of Mass Protests: Understanding an Escalating Global Trend." CSIS Risk and Foresight Group, Center for Strategic & International Studies, Washington, DC.
- Brännlund, A., Strandh, M., and Nilsson, K. 2017.** "Mental-Health and Educational Achievement: The Link between Poor Mental-Health and Upper Secondary School Completion and Grades." *Journal of Mental Health* 26(4): 318–325.
- Brønnum-Hansen, H. 2017.** "Socially Disparate Trends in Lifespan Variation: A Trend Study on Income and Mortality Based on Nationwide Danish Register Data." *BMJ Open* 7(5): e014489.
- Bruhén, A., Fehr, E., and Schunk, D. 2018.** "The Many Faces of Human Sociality: Uncovering the Distribution and Stability of Social Preferences." *Journal of the European Economic Association* 17(4): 1025–1069.
- Bubonya, M., Cobb-Clark, D. A., and Wooden, M. 2017.** "Mental Health and Productivity at Work: Does What You Do Matter?" *Labour Economics* 46: 150–165.
- Buhaug, H., and von Uexküll, N. 2021.** "Vicious Circles: Violence, Vulnerability, and Climate Change." *Annual Review of Environment and Resources* 46.
- Bunch, C. 2003.** "Feminism, Peace, Human Rights and Human Security." *Canadian Woman Studies* 22(2).
- Bunch, C., and Carrillo, R. 1998.** "Global Violence against Women: The Challenge to Human Rights and Development." In Klare, M. T., and Chandrani, Y., (eds.), *World Security: Challenges for a New Century*. New York: St. Martin's Press.
- Burke, M., Hsiang, S. M., and Miguel, E. 2015.** "Climate and Conflict." *Annual Review of Economics* 7(1): 577–617.
- Burrell, A. L., Evans, J. P., and Kauwe, M. G. D. 2020.** "Anthropogenic Climate Change Has Driven over 5 Million km<sup>2</sup> of Drylands towards Desertification." *Nature Communications* 11.
- Butler, J. V., Giuliano, P., and Guiso, L. 2016.** "The Right Amount of Trust." *Journal of the European Economic Association* 14(5): 1155–1180.
- Buttrick, N. 2020.** "Protective Gun Ownership as a Coping Mechanism." *Perspectives on Psychological Science* 15(4): 835–855.
- Butzer, K. W. 2012.** "Collapse, Environment, and Society." *Proceedings of the National Academy of Sciences* 109(10): 3632–3639.
- Calandro, E. 2021.** "How Can Digital Transformation Undermine Development and Human Security?" HDRO Background Paper, United Nations Development Programme, Human Development Report Office, New York.
- Callander, E. J., and Schofield, D. J. 2018.** "Psychological Distress Increases the Risk of Falling into Poverty Amongst Older Australians: The Overlooked Costs-of-Illness." *BMC Psychology* 6(1): 1–9.
- Canudas-Romo, V. 2018.** "Life Expectancy and Poverty." *The Lancet Global Health* 6(8): e812–e813.
- Carabine, E., and Dupar, M. 2014.** "The IPCC's Fifth Assessment Report: What's in It for Small Island Developing States." Geneva: Intergovernmental Panel on Climate Change.
- Carleton, T. A., Jina, A., Delgado, M. T., Greenstone, M., Houser, T., Hsiang, S. M., Hultgren, A., and others. 2020.** "Valuing the Global Mortality Consequences of Climate Change Accounting for Adaptation Costs and Benefits." Working Paper 27599, National Bureau of Economic Research, Cambridge, MA.
- Carothers, T., and O'Donohue, A. 2019.** *Democracies Divided: The Global Challenge of Political Polarization*. Washington, DC: Brookings Institution Press.
- Castañeda-Álvarez, N. P., Khoury, C. K., Achicanoy, H. A., Bernau, V., Dempewolf, H., Eastwood, R. J., Guarino, L., and others. 2016.** "Global Conservation Priorities for Crop Wild Relatives." *Nature Plants* 2.
- CDC (US Centers for Disease Control and Prevention). 2018.** "Mental Health." <https://www.cdc.gov/mentalhealth/learn/index.htm>. Accessed 11 March 2021.
- Cederman, L.-E., Weidmann, N. B., and Gleditsch, K. S. 2011.** "Horizontal Inequalities and Ethnonationalist Civil War: A Global Comparison." *American Political Science Review* 105(3): 478–495.
- Center for American Progress. 2020.** "Closing Latino Labor Market Gap Requires Targeted Policies to End Discrimination." Washington, DC.
- Center on the Developing Child at Harvard University. 2013.** "InBrief: Early Childhood Mental Health." <https://developingchild.harvard.edu/resources/inbrief-early-childhood-mental-health/>. Accessed 20 December 2021.
- Chancel, L., Piketty, T., Saez, E., Zucman, G., and others. 2022.** *World Inequality Report*. Paris: World Inequality Lab.
- Chandler, D., and Hynek, N. 2010.** *Critical Perspectives on Human Security: Rethinking Emancipation and Power in International Relations*. Abingdon, UK: Routledge.
- Chausson, A., Turner, B., Seddon, D., Chabaneix, N., Girardin, C. A. J., Kapos, V., Key, I., and others. 2020.** "Mapping the Effectiveness of Nature-based Solutions for Climate Change Adaptation." *Global Change Biology* 26(1).
- Chen, Y., Persson, P., and Polyakova, M. 2020.** "The Roots of Health Inequality and the Value of Intra-Family Expertise." Working Paper 25618, National Bureau of Economic Research, Cambridge, MA.
- Cheng, H. W. J., and Parra, M. 2018.** "The Fourth Industrial Revolution, Development and Intellectual Property-the World Economic and Social Survey 2018 and Beyond." In Heath, C., Sanders, A. K., and Moerland, A. (eds.), *Intellectual Property Law and the Fourth Industrial Revolution*. Alphen aan den Rijn, Netherlands: Wolters Kluwer.
- Chenoy, A. M. 2009.** "The Gender and Human Security Debate." *IDS Bulletin* 40(2): 44–49.
- Chiabai, A., Travisi, C. M., Markandya, A., Ding, H., and Nunes, P. A. L. D. 2011.** "Economic Assessment of Forest Ecosystem Services Losses: Cost of Policy Inaction." *Environmental and Resource Economics* 50: 405–445.
- Chin, C. B. 1998.** *In Service and Servitude: Foreign Female Domestic Workers and the Malaysian 'Modernity' Project*. New York: Columbia University Press.
- Christie, R. 2013.** "The Siren Song of Human Security." In *The Routledge Handbook of Human Security*. Abingdon, UK: Routledge.
- Clement, V., Rigaud, K. K., de Sherbinin, A., Jones, B., Adamo, S., Schewe, J., Sadiq, N., and Shababat, E. 2021.** *Groundswell Part 2: Acting on Internal Climate Migration*. Washington, DC: World Bank.
- Clemente, D. 2013.** *Cyber Security and Global Interdependence: What Is Critical?* London: Chatham House.
- Coeckelbergh, M. 2011.** "Human Development or Human Enhancement? A Methodological Reflection on Capabilities and the Evaluation of Information Technologies." *Ethics and Information Technology* 13(2): 81–92.
- Collier, P., and Hoeffler, A. 2000.** "Greed and Grievance in Civil War." Policy Research Working Paper 2355, World Bank, Washington, DC.
- Collins, A., Florin, M.-V., and Sachs, R. 2021.** "Risk Governance and the Low-Carbon Transition." École polytechnique fédérale de Lausanne, International Risk Governance Center, Lausanne, Switzerland.
- Collins, P. H. 1990.** "Black Feminist Thought in the Matrix of Domination." *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment* 138(1990): 221–238.
- Collins, P. H. 2002.** *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment*. Abingdon, UK and New York: Routledge.
- Colmer, J. 2021.** "Temperature, Labor Reallocation, and Industrial Production: Evidence from India." *American Economic Journal: Economic Policy* 13(4): 101–124.
- Community Psychology. n.d.** "The Effects of Deportation on Families and Communities." <https://www.communitypsychology.com/effects-of-deportation-on-families-communities/>. Accessed 15 December 2021.



- Confortini, C. C. 2006.** "Galtung, Violence, and Gender: The Case for a Peace Studies/Feminism Alliance." *Peace & Change* 31(3): 333–367.
- Coronese, M., Lamperti, F., Keller, K., Chiaromonte, F., and Roventini, A. 2019.** "Evidence for Sharp Increase in the Economic Damages of Extreme Natural Disasters." *Proceedings of the National Academy of Sciences* 116(43): 21450–21455.
- Corral, P., Irwin, A., Krishnan, N., Gerszon Mahler, D., and Vishwanath, T. 2020.** *Fragility and Conflict: On the Front Lines of the Fight against Poverty*. Washington, DC: World Bank.
- Costanza, R., Groot, R., Braat, L., Kubiszewskia, I., Fioramonti, L., Sutton, P., Farber, S., and Grasso, M. 2017.** "Twenty Years of Ecosystem Services: How Far Have We Come and How Far Do We Still Need to Go?" *Ecosystem Services* 38: 1–16.
- Cottrell, L., and Darbyshire, E. 2021.** "The Military's Contribution to Climate Change." <https://ceobs.org/the-militarys-contribution-to-climate-change/>. Accessed 16 November 2021.
- Council on Foreign Relations. 2021.** "Marriage Equality: Global Comparisons." <https://www.cfr.org/backgrounder/marriage-equality-global-comparisons>. Accessed 10 January 2022.
- Cox, K., Marcellino, W., Bellasio, J., Ward, A., Galai, K., Meranto, S., and Paoli, G. P. 2018.** "Social Media in Africa. A Double-Edged Sword for Security and Development." United Nations Development Programme, New York.
- Crenshaw, K. 1989.** "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics." *University of Chicago Legal Forum* 1989(1): 139–167.
- Crenshaw, K. 1991.** "Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color." *Stanford Law Review* 43(6): 1241–1299.
- Crenshaw, K. 2017.** *On Intersectionality: Essential Writings*. New York: The New Press.
- Cuartas, J., and Roy, A. L. 2019.** "The Latent Threat of Community Violence: Indirect Exposure to Local Homicides and Adolescents' Mental Health in Colombia." *American Journal of Community Psychology* 64(1-2): 219–231.
- Cuevas-Parra, P. 2021.** "Thirty Years after the UN-CRC: Children and Young People's Participation Continues to Struggle in a COVID-19 World." *Journal of Social Welfare and Family Law* 43(1): 81–98.
- Currie, J., and Schwandt, H. 2016.** "Inequality in Mortality Decreased among the Young While Increasing for Older Adults, 1990–2010." *Science* 352(6286): 708–712.
- Dabalen, A. L., and Paul, S. 2014.** "Estimating the Effects of Conflict on Education in Côte d'Ivoire." *Journal of Development Studies* 50(12): 1631–1646.
- Dabone, C., Mbagwu, I., Muray, M., Ubangha, L., Kohoun, B., Etowa, E., Nare, H., Kiros, G., and Etowa, J. 2021.** "Global Food Insecurity and African, Caribbean, and Black (ACB) Populations During the COVID-19 Pandemic: A Rapid Review." *Journal of Racial and Ethnic Health Disparities*: 1–16.
- Dadonaite, B., Ritchie, H., and Roser, M. 2019.** "Diarrheal Diseases." Our World in Data. <https://ourworldindata.org/diarrheal-diseases>. Accessed 5 October 2021.
- Dahlberg, L. L., Ikeda, R. M., and Kresnow, M.-J. 2004.** "Guns in the Home and Risk of a Violent Death in the Home: Findings from a National Study." *American Journal of Epidemiology* 160(10): 929–936.
- Dalby, S. 2013.** "The Geopolitics of Climate Change." *Political Geography* 37: 38–47.
- Dallman, M. F. 2010.** "Stress-Induced Obesity and the Emotional Nervous System." *Trends in Endocrinology & Metabolism* 21(3): 159–165.
- Danese, A., and Lewis, S. J. 2017.** "Psychoneuroimmunology of Early-Life Stress: The Hidden Wounds of Childhood Trauma?" *Neuropsychopharmacology* 42(1): 99–114.
- Danese, A., Dove, R., Belsky, D., Henchy, J., Williams, B., Ambler, A., and Arseneault, L. 2014.** "Leptin Deficiency in Maltreated Children." *Translational Psychiatry* 4(9): e446–e446.
- Darbyshire, E., and Weir, D. 2021.** "How Does War Contribute to Climate Change." <https://ceobs.org/how-does-war-contribute-to-climate-change/>. Accessed 16 November 2021.
- Dasgupta, P. 2000.** "Trust as a Commodity." In Gambetta, D., (ed.), *Trust: Making and Breaking Cooperative Relations*. Oxford, UK: Oxford University Press.
- Dasgupta, P. 2021.** *The Economics of Biodiversity: The Dasgupta Review*. London: HM Treasury.
- Dastin, J. 2018.** "Amazon Scraps Secret AI Recruiting Tool that Showed Bias against Women." *Reuters*, 10 October. <https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G>. Accessed 16 June 2021.
- Data2X and Grantham, D. K. 2020.** "Mapping Gender Data Gaps: An SDG Era Update." Data2X.
- Davies, R. 2019.** *Extreme Economies: 9 Lessons from the World's Limits*. London: Bantam Press.
- de Coning, C. 2016.** "From Peacebuilding to Sustaining Peace: Implications of Complexity for Resilience and Sustainability." *Resilience* 4(3): 166–181.
- de Coning, C. 2018.** "Adaptive Peacebuilding." *International Affairs* 94(2): 301–317. <https://doi.org/10.1093/ia/iix251>.
- de Coning, C. 2020.** "The Six Principles of Adaptive Peacebuilding." *Conflict Trends* 2020(1): 3–10.
- de Coning, C., and Gelot, L. 2020.** "Placing People at the Center of UN Peace Operations." 29 May, Global Observatory (blog). International Peace Institute. <https://theglobalobservatory.org/2020/05/placing-people-center-un-peace-operations/>. Accessed 13 December 2021.
- De Stefano, V. 2020.** "Algorithmic Bosses and What to Do About Them: Automation, Artificial Intelligence and Labour Protection." In Marino, D., and Monaca, M. A., (eds.), *Economic and Policy Implications of Artificial Intelligence*. Cham, Switzerland: Springer.
- DeCou, C. R., and Lynch, S. M. 2017.** "Assessing Adult Exposure to Community Violence: A Review of Definitions and Measures." *Trauma, Violence, & Abuse* 18(1): 51–61.
- Deibert, R. J. 2018.** "Toward a Human-Centric Approach to Cybersecurity." *Ethics & International Affairs* 32(4): 411–424.
- Demmers, J. 2017.** *Theories of Violent Conflict, 2nd Edition*. New York: Routledge.
- Denny, E. K., and Walter, B. F. 2014.** "Ethnicity and Civil War." *Journal of Peace Research* 51(2): 199–212.
- Deodoro, J., Gorbanyov, M., Malaika, M., and Sedik, T. S. 2021a.** "Quantum Computing's Possibilities and Perils." International Monetary Fund, Washington, DC.
- Deodoro, J., Gorbanyov, M., Malaika, M., and Sedik, T. S. 2021b.** "Quantum Computing and the Financial System: Spooky Action at a Distance?" Working Paper 2021/071, International Monetary Fund, Washington, DC.
- Devaux, M., Lerouge, A., Giuffre, G., Giesecke, S., Baiocco, S., Ricci, A., Reyes, F., and others. 2020.** "How Will the Main Risk Factors Contribute to the Burden of Non-communicable Diseases under Different Scenarios by 2050? A Modelling Study." *PLoS One* 15(4): e0231725.
- Dias Oliva, T. 2020.** "Content Moderation Technologies: Applying Human Rights Standards to Protect Freedom of Expression." *Human Rights Law Review* 20(4): 607–640.
- Díaz, S., Pascual, U., Stenseke, M., Martín-López, B., Watson, R. T., Molnár, Z., Hill, R., and others. 2018.** "Assessing Nature's Contributions to People." *Science* 359(6373): 270–272.
- Dibala, R., Jose, S., and Udawatta, R. P. 2021.** "Silvopasture for Food Security in a Changing Climate." In Udawatta, R. P. and Jose, S., (eds.), *Agroforestry and Ecosystem Services*. New York: Springer.
- Diffenbaugh, N. S., and Burke, M. 2019.** "Global Warming Has Increased Global Economic Inequality." *Proceedings of the National Academy of Sciences* 116(20): 9808–9813.
- Dimick, J., Ruhter, J., Sarrazin, M. V., and Birkmeyer, J. D. 2013.** "Black Patients More Likely than Whites to Undergo Surgery at Low-quality Hospitals in Segregated Regions." *Health Affairs* 32(6): 1046–1053.
- Ding, Q., Chen, X., Hilborn, R., and Chen, Y. 2017.** "Vulnerability to Impacts of Climate Change on Marine Fisheries and Food Security." *Marine Policy* 83: 55–61.
- Diwakar, V. 2015.** "The Effect of Armed Conflict on Education: Evidence from Iraq." *Journal of Development Studies* 51(12): 1702–1718.
- Dodsworth, F. 2019.** *The Security Society: History, Patriarchy, Protection*. New York: Springer.
- Doick, K. J., Peace, A., and Hutchings, T. R. 2014.** "The Role of One Large Greenspace in Mitigating

London's Nocturnal Urban Heat Island." *Science of the Total Environment* 493: 662–671.

**Dominguez Gonzalez, K., Arango, D., McCleary-Sills, J., and Bianchi, B. 2019.** *Violence against Women and Girls (VAWG)*. Transport Brief, Washington, DC: World Bank.

**Donizzetti, A. R. 2019.** "Ageism in an Aging Society: The Role of Knowledge, Anxiety about Aging, and Stereotypes in Young People and Adults." *International Journal of Environmental Research and Public Health* 16(8): 1329.

**Donoso, C. 2016.** "Feminist Critical Human Security: Women's (In)security and Smuggling on Ecuador's Borders." University of British Columbia, Vancouver, BC.

**Douglas, M. 2004.** "Traditional Culture: Let's Hear No More About It." In Rao, V. W., Michael, (ed.) *Culture and Public Action*. Stanford, CA: Stanford University Press.

**Douki, S., Nacef, F., Belhadj, A., Bouasker, A., and Ghachem, R. 2003.** "Violence against Women in Arab and Islamic Countries." *Archives of Women's Mental Health* 6(3): 165–171.

**Dunn, M. C., Clare, I. C., and Holland, A. J. 2008.** "To Empower or to Protect? Constructing the 'Vulnerable Adult' in English Law and Public Policy." *Legal Studies* 28(2): 234–253.

**Dunning, D., Anderson, J. E., Schlösser, T., Ehlebracht, D., and Fetchenhauer, D. 2014.** "Trust at Zero Acquaintance: More a Matter of Respect than Expectation of Reward." *Journal of Personality and Social Psychology* 107(1): 122–41.

**Ebi, K. L., and Hess, J. J. 2020.** "Health Risks Due to Climate Change: Inequity in Causes and Consequences." *Health Affairs* 39(12).

**Ecker, J. 2016.** "Queer, Young, and Homeless: A Review of the Literature." *Child & Youth Services* 37(4): 325–361.

**Ecker, J., Aubry, T., and Sylvestre, J. 2019.** "A Review of the Literature on LGBTQ Adults Who Experience Homelessness." *Journal of Homosexuality* 66(3): 297–323.

**The Economist. 2021.** "Might the Pandemic Pave the Way for a Universal Basic Income?" 4 March. <https://www.economist.com/finance-and-economics/2021/03/02/might-the-pandemic-pave-the-way-for-a-universal-basic-income>. Accessed 1 November 2021.

**ECOSOC (United Nations Economic and Social Council). 2013.** "Vienna Declaration on Femicide." In *Commission on Crime Prevention and Criminal Justice*. New York.

**Effah, E., Aheto, D. W., Acheampong, E., Tulashie, S. K., and Adotey, J. 2021.** "Human Health Risk Assessment from Heavy Metals in Three Dominant Fish Species of the Ankobra River, Ghana." *Toxicology Reports* 8: 1081–1086.

**EIU (Economist Intelligence Unit). 2020.** "Covid-19 and Fragile Contexts: Reviving Multilateralism's Promise to 'Leave No One Behind.'" London.

**EIU (Economist Intelligence Unit). 2021.** *Democracy Index 2020: In Sickness and in Health?* London.

**Elevitch, C. R., Mazaroli, D. N., and Ragone, D. 2018.** "Agroforestry Standards for Regenerative Agriculture." *Sustainability* 10(9): 3337.

**Elhacham, E., Ben-Uri, L., Grozovski, J., Bar-On, Y. M., and Milo, R. 2020.** "Global Human-made Mass Exceeds All Living Biomass." *Nature* 588(7838): 442–444.

**Elliott, L. 2015.** "Human Security/Environmental Security." *Contemporary Politics* 21(1): 11–24.

**Ellis, E. C. 2018.** *Anthropocene: A Very Short Introduction*. Oxford, UK: Oxford University Press.

**Ellis, E. C., Gauthier, N., Goldewijk, K. K., Bird, R. B., Boivin, N., Diaz, S., Fuller, D. Q., and others. 2021.** "People Have Shaped Most of Terrestrial Nature for at Least 12,000 Years." *Proceedings of the National Academy of Sciences* 118(17): e2023483118.

**Ellis, E. C., Pascual, U., and Mertz, O. 2019.** "Ecosystem Services and Nature's Contribution to People: Negotiating Diverse Values and Trade-offs in Land Systems." *Current Opinion in Environmental Sustainability* 38: 86–94.

**Elster, J. 2015.** *Explaining Social Behavior: More Nuts and Bolts for the Social Sciences*. Cambridge, UK: Cambridge University Press.

**Emanuel, E. J., Glickman, A., and Johnson, D. 2017.** "Measuring the Burden of Health Care Costs on US Families, the Affordability Index." *Journal of the American Medical Association* 318(19): 1863–1864.

**ENISA (European Union Agency for Cybersecurity). 2018.** *ENISA Threat Landscape Report 2018*. Athens.

**ENISA (European Union Agency for Cybersecurity). 2021.** *Threat Landscape for Supply Chain Attacks*. Athens.

**Enke, B., Rodriguez-Padilla, R., and Zimmermann, F. 2021.** "Moral Universalism: Measurement and Economic Relevance." *Management Science*. <https://doi.org/10.1287/mnsc.2021.4086>.

**Enloe, C. 1989.** *Bananas, Beaches and Bases: Making Feminist Sense of International Politics*. Berkeley, CA: University of California Press.

**Enloe, C. 1993.** *The Morning after: Sexual Politics at the End of the Cold War*. Berkeley, CA: University of California Press.

**Erlangsen, A., Andersen, P. K., Toender, A., Laursen, T. M., Nordentoft, M., and Canudas-Romo, V. 2017.** "Cause-specific Life-years Lost in People with Mental Disorders: A Nationwide, Register-based Cohort Study." *The Lancet Psychiatry* 4(12): 937–945.

**Eubanks, V. 2018.** *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. New York: St. Martin's Press.

**Europol (European Union Agency for Law Enforcement Cooperation). 2021.** *Internet Organised Crime Threat Assessment (IOCTA) 2021*. Luxembourg.

**Eurostat. 2021a.** "Government Expenditure on Environmental Protection." [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Government\\_expenditure\\_on\\_environmental\\_protection#Expenditure\\_on\\_environmental\\_protection.27](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Government_expenditure_on_environmental_protection#Expenditure_on_environmental_protection.27). Accessed 16 August 2021.

**Eurostat. 2021b.** "Migrant Integration Statistics: Labour Market Indicators." Luxembourg.

**Evans, G. W., and Wachs, T. D. 2010.** "Chaos and Its Influence on Children's Development." American Psychological Association, Washington, DC.

**Evans, M. G., Cloete, A., Zungu, N., and Simbayi, L. C. 2016.** "HIV Risk among Men Who Have Sex with Men, Women Who Have Sex with Women, Lesbian, Gay, Bisexual and Transgender Populations in South Africa: A Mini-review." *The Open AIDS Journal* 10: 49.

**Fajardo-Gonzalez, J., and Sandoval, C. E. 2021.** "Income Support Programs and COVID-19 in Developing Countries." Development Futures Series Working Papers, United Nations Development Programme, New York. <https://www.undp.org/sites/g/files/zskgke326/files/2021-08/UNDP-DFS-Income-Support-Programs-and-COVID-19-in-Developing-Countries.pdf>.

**Falk, A., Becker, A., Dohmen, T., Enke, B., Huffman, D., and Sunde, U. 2018.** "Global Evidence on Economic Preferences." *The Quarterly Journal of Economics* 133(4): 1645–1692.

**FAO (Food and Agriculture Organization of the United Nations). 2019.** *The State of the World's Biodiversity for Food and Agriculture*. Rome.

**FAO (Food and Agriculture Organization of the United Nations). 2020.** *The State of the World's Forests 2020: Forests, Biodiversity and People*. Rome.

**FAO (Food and Agriculture Organization of the United Nations). 2021a.** FAOSTAT statistical database. Rome.

**FAO (Food and Agriculture Organization of the United Nations). 2021b.** *The Impact of Disasters and Crises on Agriculture and Food Security*. Rome.

**FAO (Food and Agriculture Organization of the United Nations), IFAD (International Fund for Agricultural Development), UNICEF (United Nations Children's Fund), WFP (World Food Programme) and WHO (World Health Organization). 2020.** *The State of Food Security and Nutrition in the World 2020: Transforming Food Systems for Affordable Healthy Diets*. Rome: FAO.

**FAO (Food and Agriculture Organization of the United Nations), IFAD (International Fund for Agricultural Development), UNICEF (United Nations Children's Fund), WFP (World Food Programme) and WHO (World Health Organization). 2021.** *The State of Food Security and Nutrition in the World 2021: Transforming Food Systems for Food Security, Improved Nutrition and Affordable Healthy Diets for All*. Rome: FAO.

**Fawole, O. I. 2008.** "Economic Violence to Women and Girls: Is It Receiving the Necessary Attention?" *Trauma, Violence, & Abuse* 9(3): 167–177.

**Feldmann, A., and Luna, J. P. 2022.** "Criminal Governance and the Crisis of Contemporary Latin American States." *Annual Review of Sociology* 48(1).

- Feldstein, S. 2019.** *The Global Expansion of AI Surveillance*. Washington, DC: Carnegie Endowment for International Peace.
- Ferraro, K. F., Kemp, B. R., and Williams, M. M. 2017.** "Diverse Aging and Health Inequality by Race and Ethnicity." *Innovation in Aging* 1(1): 1–11.
- Ferreira, F., and Schoch, M., 2020.** "Inequality and Social Unrest in Latin America: The Tocqueville Paradox Revisited." Let's Talk Development (blog), 24 February. <https://blogs.worldbank.org/development-talk/inequality-and-social-unrest-latin-america-tocqueville-paradox-revisited>. Accessed 10 August 2021.
- Figueira, F. 2007.** "The Latin American Social States: Critical Junctures and Critical Choices." In Bangura, Y., (ed.), *Democracy and Social Policy*. New York: Palgrave Macmillan.
- Firchow, P. 2018.** *Reclaiming Everyday Peace: Local Voices in Measurement and Evaluation after War*. Cambridge, UK: Cambridge University Press.
- Firchow, P., and Urwin, E. 2020.** "Not Just at Home or in the Grave: (Mis) Understanding Women's Rights in Afghanistan." *Journal of Intervention and Statebuilding*: 1–20. <https://doi.org/10.1080/17502977.2020.1812893>.
- FireEye. 2021.** "M-Trends 2021 Reports." FireEye, Milpitas, CA.
- Firestone, S., and Koedt, A., (eds.). 1970.** *Notes from the Second Year: Women's Liberation: Major Writings of the Radical Feminists*. New York: Radical Feminism.
- Fisher, M. 2021.** "Constant but Camouflaged, Flurry of Cyberattacks Offers Glimpse of New Era." *The New York Times*, 20 July. <https://www.nytimes.com/2021/07/20/world/global-cyberattacks.html>. Accessed 10 September 2021.
- Fishman, R., Carrillo, P., and Russ, J. 2019.** "Long-term Impacts of Exposure to High Temperatures on Human Capital and Economic Productivity." *Journal of Environmental Economics and Management* 93: 221–238.
- Fletcher, E., Larkin, C., and Corbet, S. 2021.** "Countering Money Laundering and Terrorist Financing: A Case for Bitcoin Regulation." *Research in International Business and Finance* 56: 101387.
- Ford, J. D., King, N., Galappaththi, E. K., Pearce, T., McDowell, G., and Harper, S. L. 2020.** "The Resilience of Indigenous Peoples to Environmental Change." *One Earth* 2(6): 532–543.
- Fore, H. H., Dongyu, Q., Beasley, D. M., and Ghebreyesus, T. A. 2020.** "Child Malnutrition and Covid-19: The Time to Act Is Now." *The Lancet* 396(10250): 517–518.
- Foucault, M. 1980.** *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977*. New York: Vintage.
- Franceschet, A. 2005.** "The Politics of Global Legalism and Human Security." *Policy and Society* 24(1): 1–23.
- Freedom for Immigrants. 2021.** "Detention by the Numbers." <https://www.freedomforimmigrants.org/detention-statistics>. Accessed 15 December 2021.
- Fridays for Future. 2021.** "Strike Statistics." <https://fridaysforfuture.org/what-we-do/strike-statistics/>. Accessed 15 December 2021.
- FSIN (Food Security Information Network). 2021.** *2021 Global Report on Food Crises: Joint Analysis for Better Decisions*.
- Fuentes-Nieva, R., and Lengfelder, C. 2021.** "The State of Human Security in the 21st Century." Background paper for the Special Report on Human Security, United Nations Development Programme, Human Development Report Office, New York.
- Fukuda-Parr, S., Buss, P., and Yamin, A. E. 2021.** "Pandemic Treaty Needs to Start with Rethinking the Paradigm of Global Health Security." *BMJ Global Health* 6(e006392).
- Fuller, S. 2020.** "Freedom of Expression: Wave of Social Media Regulation Threatens Access to Information." 15 September. International Bar Association. <https://www.ibanet.org/article/FCE2692F-42CD-42AF-B0B0-14052F139B6C>. Accessed 17 November 2021.
- Fund for Peace. 2004.** "Fragile States Index Methodology and Cast Framework." <https://fragilestatesindex.org/wp-content/uploads/2017/05/FSI-Methodology.pdf>. Accessed 3 January 2022.
- Furceri, D., Ostry, J. D., and Loungani, P. 2020.** "How Pandemics Leave the Poor Even Farther Behind." International Monetary Fund. <https://blogs.imf.org/2020/05/11/how-pandemics-leave-the-poor-even-farther-behind/>. Accessed 10 January 2022.
- Gabredikan, S., and Apuzzo, M. 2021.** "Rich Countries Signed Away a Chance to Vaccinate the World." *The New York Times*, 21 March. <https://www.nytimes.com/2021/03/21/world/vaccine-patents-us-eu.html>. Accessed 11 September 2021.
- Galaz, V., Collste, D., and Moore, M.-L. 2020.** *Planetary Change and Human Development*. Stockholm: Stockholm Resilience Centre, Stockholm University.
- Gallup. 2021.** "LGBT Rights." <https://news.gallup.com/poll/1651/gay-lesbian-rights.aspx>. Accessed 10 January 2022.
- Galtung, J. 1969.** "Violence, Peace, and Peace Research." *Journal of Peace Research* 6(3): 167–191.
- Galtung, J. 1990.** "Cultural Violence." *Journal of Peace Research* 27(3): 291–305.
- Galtung, J., and Fischer, D. 2013.** *Violence: Direct, Structural and Cultural*. New York: Springer.
- Gambetta, D. 2000.** "Can We Trust Trust?" In Gambetta, D., (ed.), *Trust: Making and Breaking Cooperative Relations*. Oxford, UK: University of Oxford.
- Ganor, B. 2021.** "Artificial or Human: A New Era of Counterterrorism Intelligence?" *Studies in Conflict & Terrorism* 44(7): 605–624.
- Gao, N., and Hayes, J. 2021.** "The Digital Divide in Education." Fact Sheet, Public Policy Institute of California.
- Garbarino, J., Dubrow, N., Kostelny, K., and Pardo, C. 1992.** *Children in Danger: Coping with the Consequences of Community Violence*. San Francisco, CA: Jossey-Bass/Wiley.
- García Bochenek, M. 2019.** "US: Family Separation Harming Children, Families." Human Rights Watch, 11 July. <https://www.hrw.org/news/2019/07/11/us-family-separation-harming-children-families>.
- García-Moreno, C., Jansen, H. A., Ellsberg, M., Heise, L., and Watts, C. H. 2006.** "Prevalence of Intimate Partner Violence: Findings from the WHO Multi-country Study on Women's Health and Domestic Violence." *The Lancet* 368(9543): 1260–1269.
- Garrett, B. E., Martell, B. N., Caraballo, R. S., and King, B. A. 2019.** "Socioeconomic Differences in Cigarette Smoking among Sociodemographic Groups." *Preventing Chronic Disease* 16.
- Garry, S., and Checchi, F. 2019.** "Armed Conflict and Public Health: Into the 21st Century." *Journal of Public Health* 42(3): e287–e298.
- Gasper, D. 2013.** "From Definitions to Investigating a Discourse." In Martin, M., and Owen, T., (eds.), *Routledge Handbook of Human Security*. Abingdon, UK: Routledge.
- Gasper, D. 2020.** "Human Security." In Chiappero-Martinetti, E., Osmani, S. and Qizilbash, M., (eds.), *The Cambridge Handbook of the Capability Approach*. Cambridge, UK: Cambridge University Press.
- Gasper, D., and Gomez, O. 2014.** "Evolution of Thinking and Research on Human and Personal Security, 1994–2013." Occasional Paper, United Nations Development Programme, Human Development Report Office, New York.
- Gasper, D., and Gómez, O. A. 2015.** "Human Security Thinking in Practice: 'Personal Security,' 'Citizen Security' and Comprehensive Mappings." *Contemporary Politics* 21(1): 100–116.
- Gasper, D., and Gomez, O. 2021.** "The Position of Crises in Human Development Processes and Thinking Using the Human Security Approach in an Era of Transitions." Background paper for the Special Report on Human Security, United Nations Development Programme, Human Development Report Office, New York.
- Gasper, D., Jolly, R., Koehler, G., Kool, T. A., and Si-man, M. 2020.** "Shake and Stir: Adding Human Security and Human Resilience to Help Advance the SDGs Agenda." *Journal of Human Security Studies* 9(3): 45–74.
- Gates, S., Hegre, H., Nygård, H. M., and Strand, H. 2012.** "Development Consequences of Armed Conflict." *World Development* 40(9): 1713–1722.
- Gavi, the Vaccine Alliance. 2020.** "5 Reasons Why Pandemics Like Covid-19 Are Becoming More Likely. #Vaccineswork Series." 10 June. <https://www.gavi.org/vaccineswork/5-reasons-why-pandemics-like-covid-19-are-becoming-more-likely>. Accessed 28 April 2021.
- Gawer, A. 2014.** "Bridging Differing Perspectives on Technological Platforms: Toward an Integrative Framework." *Research Policy* 43(7): 1239–1249.



- Gentry, C. E., Shepherd, L. J., and Sjoberg, L. 2018.** In *The Routledge Handbook of Gender and Security*. Abingdon, UK and New York: Routledge.
- Ghandnoosh, N. 2014.** "Race and Punishment: Racial Perceptions of Crime and Support for Punitive Policies." Washington, DC: The Sentencing Project.
- Ghestem, M., Veylon, G., Bernard, A., Vanel, Q., and Stokes, A. 2014.** "Influence of Plant Root System Morphology and Architectural Traits on Soil Shear Resistance." *Plant and Soil* 377(1–2): 43–61.
- Gheuens, J., Nagabhatla, N., and Perera, E. D. P. 2019.** "Disaster-Risk, Water Security Challenges and Strategies in Small Island Developing States (SIDS)." *Water* 11(4): 637.
- Ghosh, I. 2020.** "Mapped: The State of Facial Recognition Around the World." <https://www.visualcapitalist.com/facial-recognition-world-map/>. Accessed 17 November 2021.
- Ginsbach, K. F., Monahan, J. T., and Gottschalk, K. 2021.** "Beyond Covid-19: Reimagining the Role of International Health Regulations in the Global Health Law Landscape." *Health Affairs Blog*, 1 November. <https://www.healthaffairs.org/doi/10.1377/hblog20211027.605372/full/>. Accessed 30 November 2021.
- Girasa, R. 2020.** "Ethics and Privacy I: Facial Recognition and Robotics." *Artificial Intelligence as a Disruptive Technology*. Cham, Switzerland: Palgrave Macmillan.
- Gjoneska, B., Liuzza, M. T., Porciello, G., Caprara, G. V., and Aglioti, S. M. 2019.** "Bound to the Group and Blinded by the Leader: Ideological Leader–Follower Dynamics in a Trust Economic Game." *Royal Society Open Science* 6(9): 182023.
- GLAAD. 2021.** "Social Media Safety Index." Los Angeles, CA.
- Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., and Soutter, C. L. 2000.** "Measuring Trust." *The Quarterly Journal of Economics* 115(3): 811–846.
- Global Burden of Disease Health Financing Collaborator Network. 2020.** *Global Health Spending 1995–2017*. Seattle, WA: Institute for Health Metrics and Evaluation.
- Global Commission on the Geopolitics of Energy Transformation. 2019.** *A New World: The Geopolitics of the Energy Transformation*. Abu Dhabi: International Renewable Energy Agency.
- Global Initiative Against Transnational Organized Crime. 2018.** *Responding to the Human Trafficking–Migrant Smuggling Nexus*. Geneva.
- Global Preparedness Monitoring Board. 2019.** *A World at Risk: Annual Report on Global Preparedness for Health Emergencies*. Geneva: World Health Organization.
- Global Witness. 2019.** *Defending Tomorrow*. London: Global Witness.
- Godber, O. F., and Wall, R. 2014.** "Livestock and Food Security: Vulnerability to Population Growth and Climate Change." *Global Change Biology* 20(10): 3092–3102.
- Gómez, L. 2015.** "Micromachismos, un machismo silencioso y sutil." *Tinta Libre* 20: 28–30. <https://www.mujeresenred.net/IMG/pdf/Micromachismos.pdf>.
- Gomez, O., Atsushi, H., Ryutaro, M., Ken, K., Saeda, M., Ako, M., and Assa, J. 2020.** "Protecting Our Human World Order: A Human Security Compass for a New Sustainability Decade." Background paper for the 2020 Human Development Report, United Nations Development Programme, Human Development Report Office, New York.
- Gostin, L. O., Habibi, R., and Meier, B. M. 2020.** "Has Global Health Law Risen to Meet the Covid-19 Challenge? Revisiting the International Health Regulations to Prepare for Future Threats." *The Journal of Law, Medicine & Ethics* 48(2): 376–381.
- Gostin, L. O., Halabi, S. F., and Klock, K. A. 2021.** "An International Agreement on Pandemic Prevention and Preparedness." *JAMA* 326(13): 1257–1258.
- Government of Estonia. 1992.** The Constitution of the Republic of Estonia.
- Government of Estonia. 2021.** "Become an E-Resident." <https://e-resident.gov.ee/become-an-e-resident/>. Accessed 28 October 2021.
- Graeber, D. 2015.** *The Utopia of Rules: On Technology, Stupidity, and the Secret Joys of Bureaucracy*. London: Melville House.
- Grant, R. 1991.** "The Sources of Gender Bias in International Relations Theory." In Grant, R., and Newland, K., (eds.), *Gender and International Relations*. Bloomington, IN: Indiana University Press.
- Greene, J., and Alcantara, C. 2021.** "Amazon Warehouse Workers Suffer Serious Injuries at Higher Rates than Other Firms." *The Washington Post*, 1 June. <https://www.washingtonpost.com/technology/2021/06/01/amazon-osh-a-injury-rate/>. Accessed 17 November 2021.
- Griscom, B. W., Adams, J., Ellis, P. W., Houghton, R. A., Lomax, G., Miteva, D. A., Schlesinger, W. H., and others. 2017.** "Natural Climate Solutions." *Proceedings of the National Academy of Sciences* 114(44): 11645–11650.
- Gubert, M. B., Segall-Corrêa, A. M., Spaniol, A. M., Pedrosa, J., Coelho, S. E. d. A. C., and Pérez-Escamilla, R. 2017.** "Household Food Insecurity in Black-slaves Descendant Communities in Brazil: Has the Legacy of Slavery Truly Ended?" *Public Health Nutrition* 20(8): 1513–1522.
- Guetta, N., Shabtai, A., Singh, I., Momiyama, S., and Elovici, Y. 2021.** "Dodging Attack Using Carefully Crafted Natural Makeup." <https://arxiv.org/abs/2109.06467>. Accessed 10 October 2021.
- Gupta, R., Somanathan, E., and Dey, S. 2017.** "Global Warming and Local Air Pollution Have Reduced Wheat Yields in India." *Climatic Change* 140(3–4): 593–604.
- Guterman, N. B., and Cameron, M. 1997.** "Assessing the Impact of Community Violence on Children and Youths." *Social Work* 42(5): 495–505.
- Guterres, A. 2018.** "Remarks at Web Summit." 5 November. <https://www.un.org/sg/en/content/sg/speeches/2018-11-05/remarks-web-summit>. Accessed 11 October 2021.
- Guterres, A. 2020.** "Tackling the Inequality Pandemic: A New Social Contract for a New Era." United Nations Secretary-General's Nelson Mandela Lecture.
- Habibi, R., Burci, G. L., Campos, T. C. d., Chirwa, D., Cinà, M., Dagron, S., Eccleston-Turner, M., and others. 2020.** "Do Not Violate the International Health Regulations during the Covid-19 Outbreak." *The Lancet* 395(10225): 664–666.
- Hackett, R. A., and Steptoe, A. 2017.** "Type 2 Diabetes Mellitus and Psychological Stress—A Modifiable Risk Factor." *Nature Reviews Endocrinology* 13(9): 547.
- Haenssge, M. J., and Ariana, P. 2018.** "The Place of Technology in the Capability Approach." *Oxford Development Studies* 46(1): 98–112.
- Haerpfer, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano J., Lagos M., Norris, P., Ponarin, E., Puranen, B., and others (eds.). 2021.** *World Values Survey: Round Seven - Country-Pooled Datafile*. Madrid and Vienna: JD Systems Institute and WVSA Secretariat. <http://doi.org/10.14281/18241.13>.
- Hagen, J. J. 2016.** "Queering Women, Peace and Security." *International Affairs* 92(2): 313–332.
- Hagi, A., and Yoffie, D. B. 2013.** "The New Patent Intermediaries: Platforms, Defensive Aggregators, and Super-Aggregators." *Journal of Economic Perspectives* 27(1): 45–66.
- Hallegatte, S., Bangalore, M., Bonzanigo, L., Fay, M., Narloch, U., Rozenberg, J., and Vogt-Schilb, A. 2014.** *Climate Change and Poverty, an Analytical Framework*. Washington, DC: World Bank.
- Hamilton, S. E., and Casey, D. 2016.** "Creation of a High Spatio-temporal Resolution Global Database of Continuous Mangrove Forest Cover for the 21st Century (CGMFC-21)." *Global Ecology and Biogeography* 25(6): 729–738.
- Hanisch, C. 1969.** "The Personal Is Political." In Firestone, S., and Koedt, A., (eds.), *Notes from the Second Year: Women's Liberation*. New York: Radical Feminism.
- Harari, M., and Ferrara, E. L. 2018.** "Conflict, Climate, and Cells: A Disaggregated Analysis." *Review of Economics and Statistics* 100(4): 594–608.
- Hard, A. 2014.** "Good Guy Elon Musk Opens up Tesla's Patents, Gives away Free Access to Technology." 12 June. <https://www.digitaltrends.com/cars/good-guy-elon-musk-opens-teslas-patents-gives-free-access-technology/>. Accessed 17 November 2021.
- Harding, S. 2016.** *Whose Science? Whose Knowledge?* Ithaca, NY: Cornell University Press.
- Harp, R. D., and Karnauskas, K. B. 2018.** "The Influence of Interannual Climate Variability on Regional Violent Crime Rates in the United States." *GeoHealth* 2(11): 356–369.
- Harrison, L. A., and Esqueda, C. W. 1999.** "Myths and Stereotypes of Actors Involved in Domestic Violence: Implications for Domestic Violence Culpability Attributions." *Aggression and Violent Behavior* 4(2): 129–138.



- Hassoun, N. 2021.** "Human Development, Vulnerability, and Creative." Background paper for the 2022 Human Development Report, United Nations Development Programme, Human Development Report Office, New York.
- Hastings, D. A. 2009.** "From Human Development to Human Security: A Prototype Human Security Index." United Nations Economic and Social Commission for Asia and the Pacific, Macroeconomic Policy and Development Division, Bangkok.
- Hauer, M. E., Fussell, E., Mueller, V., Burkett, M., Call, M., Abel, K., McLeman, R., and Wrathall, D. 2020.** "Sea-level Rise and Human Migration." *Nature Reviews Earth & Environment* 1(1): 28–39.
- He, J. C., Kang, S. K., Tse, K., and Toh, S. M. 2019.** "Stereotypes at Work: Occupational Stereotypes Predict Race and Gender Segregation in the Workforce." *Journal of Vocational Behavior* 115: 103318.
- Headey, D., Heidkamp, R., Osendarp, S., Ruel, M., Scott, N., Black, R., Shekar, M., and others. 2020.** "Impacts of Covid-19 on Childhood Malnutrition and Nutrition-Related Mortality." *The Lancet* 396(10250): 519–521.
- Hegre, H., Metternich, N. W., Nygård, H. M., and Wucherpfennig, J. 2017.** "Introduction: Forecasting in Peace Research." *Journal of Peace Research* 52(2).
- Hellman, J. S., Jones, G., and Kaufmann, D. 2000.** "Seize the State, Seize the Day: State Capture, Corruption and Influence in Transition." Policy Research Working Paper 2444, World Bank, Washington, DC.
- Henrich, J. 2020.** *The Weirdest People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous*. New York: Farrar, Strauss, and Giroux.
- Henrich, J., and Muthukrishna, M. 2021.** "The Origins and Psychology of Human Cooperation." *Annual Review of Psychology* 72(1): 207–240.
- Henrich, J., Boyd, R., Derex, M., Kline, M. A., Mesoudi, A., Muthukrishna, M., Powell, A. T., Shennan, S. J., and Thomas, M. G. 2016.** "Understanding Cumulative Cultural Evolution." *Proceedings of the National Academy of Sciences* 113(44): E6724–E6725.
- Henricks, K. 2016.** "Racism, Structural and Institutional." In Stone, J., Dennis, R.M., Rizova, P.S., Smith, A.D. and Hou, X., (eds.), *The Wiley Blackwell Encyclopedia of Race, Ethnicity, and Nationalism*. Hoboken, NJ: John Wiley & Sons.
- High-level Meeting on Universal Health Coverage. 2019.** "Universal Health Coverage: Moving Together to Build a Healthier World." UN High-Level Meeting on Universal Health Coverage, 23 September, New York. <https://www.un.org/pga/73/event/universal-health-coverage/>. Accessed 1 November 2021.
- Hilbert, M. 2020.** "Digital Technology and Social Change: The Digital Transformation of Society from a Historical Perspective." *Dialogues in Clinical Neuroscience* 22(2): 189–194.
- Hilbert, M. 2021.** "The Social Dilemma." Background paper. United Nations Development Programme, Human Development Report Office, New York.
- Hill, K. 2020.** "Another Arrest, and Jail Time, Due to a Bad Facial Recognition Match." *The New York Times*, 30 December. <https://www.nytimes.com/2020/12/29/technology/facial-recognition-misidentify-jail.html>. Accessed 17 November 2021.
- Hillesund, S., Bahgat, K., Barrett, G., Dupuy, K., Gates, S., Nygård, H. M., Rustad, S. A., and others. 2018.** "Horizontal Inequality and Armed Conflict: A Comprehensive Literature Review." *Canadian Journal of Development Studies/Revue canadienne d'études du développement* 39(4): 463–480.
- Hirschman, A. O. 1985.** "Against Parsimony: Three Easy Ways of Complicating Some Categories of Economic Discourse." *Economics and Philosophy* 1(1): 7–21.
- Ho, B. 2021.** "Why Trust Matters." *Why Trust Matters: An Economist's Guide to the Ties That Bind Us*. New York: Columbia University Press.
- Hobbs, P. V., and Radke, L. F. 1992.** "Airborne Studies of the Smoke from the Kuwait Oil Fires." *Science* 256(5059): 987.
- Hodson, R. 1996.** "Dignity in the Workplace under Participative Management: Alienation and Freedom Revisited." *American Sociological Review*: 719–738.
- Holland, B. 2017.** "Procedural Justice in Local Climate Adaptation: Political Capabilities and Transformational Change." *Environmental Politics* 26: 391–412.
- Hooper, C. 2001.** *Manly States: Masculinities, International Relations, and Gender Politics*. New York: Columbia University Press.
- Hoshino, T. 2021.** "Human Security Now, a Reprise and Update." Background paper for the Special Report on Human Security, United Nations Development Programme, Human Development Report Office, New York.
- Houghton, R. A., Byers, B., and Nassikas, A. A. 2015.** "A Role for Tropical Forests in Stabilizing Atmospheric CO<sub>2</sub>." *Nature Climate Change* 5: 1022–1023.
- Hsiang, S. 2015.** "Climate Econometrics." *Annual Review of Resource Economics* 8(1).
- Hsu, Y.-C., and Tapia, H. 2022.** "The Impact of COVID-19 Excess Mortality on Life Expectancy." Background paper for the Special Report on Human Security, United Nations Development Programme, Human Development Report Office, New York.
- Huang, J., O'Neill, C., and Tabuchi, H. 2021.** "Bitcoin Uses More Electricity Than Many Countries. How Is That Possible?" *The New York Times*, 3 September. <https://www.nytimes.com/interactive/2021/09/03/climate/bitcoin-carbon-footprint-electricity.html>. Accessed 25 November 2021.
- Huang, K., Zhao, H., Huang, J., Wang, J., and Findlay, C. 2020.** "The Impact of Climate Change on the Labor Allocation: Empirical Evidence from China." *Journal of Environmental Economics and Management* 104: 102376.
- Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., and Dunne, M. P. 2017.** "The Effect of Multiple Adverse Childhood Experiences on Health: A Systematic Review and Meta-Analysis." *The Lancet Public Health* 2(8): 356–366.
- Hulko, T. 2018.** "Will AI Be a Bane or Boon for Global Development?" <https://www.undp.org/blog/will-ai-be-bane-or-boon-global-development>. Accessed 11 October 2021.
- Human Development Report Office. 2020.** "The Next Frontier: Human Development and the Anthropocene. Briefing Note for Countries on the 2020 Human Development Report: Papua New Guinea." New York: United Nations Development Programme, Human Development Report Office.
- Human Rights Watch. 2018.** "In the Freezer: Abusive Conditions for Women and Children in US Immigration Holding Cells." 28 February. <https://www.hrw.org/report/2018/02/28/freezer/abusive-conditions-women-and-children-us-immigration-holding-cells>.
- Human Rights Watch. 2019.** "Turkey: Syrians Being Deported to Danger." 24 October. <https://www.hrw.org/news/2019/10/24/turkey-syrians-being-deported-danger>.
- Human Rights Watch. 2020a.** "Deported to Danger, United States Deportation Policies Expose Salvadorans to Death and Abuse." 5 February. <https://reliefweb.int/report/united-states-america/deported-danger-united-states-deportation-policies-expose-salvadorans>.
- Human Rights Watch. 2020b.** "Greece: Violence Against Asylum Seekers at Border." 17 March. <https://www.hrw.org/news/2020/03/17/greece-violence-against-asylum-seekers-border>.
- Human Rights Watch. 2020c.** "My Teacher Said I Had a Disease' Barriers to the Right to Education for LGBT Youth in Vietnam." 12 February. <https://www.hrw.org/report/2020/02/13/my-teacher-said-i-had-disease/barriers-right-education-lgbt-youth-vietnam>.
- Human Rights Watch. 2020d.** *World Report 2020: Events of 2019*. New York.
- Human Rights Watch. 2021.** "Mexico: Abuses Against Asylum Seekers at US Border." 5 March. <https://www.hrw.org/news/2021/03/05/mexico-abuses-against-asylum-seekers-us-border>.
- Hussain, R., and Arif, S. 2021.** "Universal Health Coverage and Covid-19: Recent Developments and Implications." *Journal of Pharmaceutical Policy and Practice* 14.
- IACWGE (United Nations Administrative Committee on Coordination Inter-Agency Committee on Women and Gender Equality). 1999.** "Women's Empowerment in the Context of Human Security." Workshop Proceedings, 7–8 December, Bangkok.
- IADB (Inter-American Development Bank). 2018.** "Tras los pasos del migrante: Perspectivas y experiencias de la migración de El Salvador, Guatemala y Honduras en Estados Unidos." 17 December. <https://reliefweb.int/report/el-salvador/tras-los-pasos-del-migrante-perspectivas-y-experiencias-de-la-migracion-de-el>.
- ICRC (International Committee of the Red Cross). 2019.** "Natural Environment: Neglected Victim of Armed Conflict." <https://www.icrc.org/en/document/>

natural-environment-neglected-victim-armed-conflict. Accessed 28 December 2021.

**ICRC (International Committee of the Red Cross). 2020.** *When Rain Turns to Dust: Understanding and Responding to the Combined Impact of Armed Conflicts and the Climate and Environment Crisis on People's Lives.* Geneva.

**ICRC (International Committee of the Red Cross). 2021.** "ICRC Position on Autonomous Weapon Systems." <https://www.icrc.org/en/document/icrc-position-autonomous-weapon-systems>. Accessed 15 December 2021.

**IDABC (Interoperable Delivery of European eGovernment Services to Public Administrations, Businesses and Citizens). 2007.** "Estonia eGovernment Factsheet." Version 6.1, January 2007. eGovernment Factsheets.

**Ide, T., Brzoska, M., Donges, J. F., and Schleussner, C.-F. 2020.** "Multi-method Evidence for When and How Climate-related Disasters Contribute to Armed Conflict Risk." *Global Environmental Change* 62: 102063.

**Ide, T., Kristensen, A., and Bartusevičius, H. 2021.** "First Comes the River, then Comes the Conflict? A Qualitative Comparative Analysis of Flood-related Political Unrest." *Journal of Peace Research* 58(1): 83–97.

**IDMC (Internal Displacement Monitoring Centre). 2020.** Global Internal Displacement Database. Geneva.

**IDMC (Internal Displacement Monitoring Centre). 2021.** *Global Report on Internal Displacement.* Geneva.

**IEP (Institute for Economics & Peace). 2020a.** *Ecological Threat Register 2020: Understanding Ecological Threats, Resilience and Peace.* Sydney, Australia.

**IEP (Institute for Economics & Peace). 2020b.** *Global Peace Index 2021: Measuring Peace in a Complex World.* Sydney, Australia.

**IEP (Institute for Economics & Peace). 2021a.** *Economic Value of Peace 2021: Measuring the Global Economic Impact of Violence and Conflict.* Sydney, Australia.

**IEP (Institute for Economics & Peace). 2021b.** *Global Peace Index 2021: Measuring Peace in a Complex World.* Sydney, Australia.

**IFAD (International Fund for Agricultural Development). 2021.** *Rural Development Report 2021: Transforming Food Systems for Rural Prosperity.* Rome. <https://www.ifad.org/en/rural-development-report/>. Accessed 1 January 2022.

**IFOW (Institute for the Future of Work). 2021.** *The Amazonian Era: The Gigification of Work.* London. <https://www.ifow.org/publications/the-amazonian-era-the-gigification-of-work>. Accessed 17 November 2021.

**IFPMA (International Federation of Pharmaceutical Manufacturers & Associations). 2020.** "Pharma Delivers COVID-19 Solutions, But Calls for the Dilution Of Intellectual Property Rights Are Counterproductive." 8 December. <https://www.ifpma.org/>

resource-centre/pharma-innovation-delivers-covid-19-solutions-beyond-expectations-but-calls-for-the-dilution-of-intellectual-property-rights-are-counterproductive/. Accessed 20 January 2022.

**IHME (Institute for Health Metrics and Evaluation). 2018.** *Findings from the Global Burden of Disease Study 2017.* Seattle, WA.

**IHME (Institute for Health Metrics and Evaluation). 2019.** *Global Health Data Exchange.* Seattle, WA.

**IHME (Institute for Health Metrics and Evaluation). 2020.** Global Burden of Disease 2019. <https://www.healthdata.org/gbd/2019> and <https://www.thelancet.com/gbd>. Accessed 1 November 2021.

**IHME (Institute for Health Metrics and Evaluation). 2021.** "Covid-19 Projections: Cumulative Deaths." Seattle, WA.

**ILGA (International Lesbian, Gay, Bisexual, Trans and Intersex Association). 2020.** "State-Sponsored Homophobia: Global Legislation Overview Update." Geneva.

**ILO (International Labour Organization). 1989.** "C169: Indigenous and Tribal Peoples Convention, 1989 (No. 169)." Geneva.

**ILO (International Labour Organization). 2011.** *World Social Security Report 2010/11: Providing Coverage in Times of Crisis and Beyond.* Geneva.

**ILO (International Labour Organization). 2016.** "Global Partnership for Universal Social Protection to Achieve the Sustainable Development Goals." <https://www.social-protection.org/gimi/gess/NewYork.action?id=34>. Accessed 7 November 2021.

**ILO (International Labour Organization). 2020.** "The COVID-19 Response: Getting Gender Equality Right for a Better Future for Women at Work." Policy Brief. Geneva.

**ILO (International Labour Organization). 2021a.** *Building Forward Fairer: Women's Rights to Work and at Work at the Core of the Covid-19 Recovery.* Geneva.

**ILO (International Labour Organization). 2021b.** *ILO Global Estimates on International Migrant Workers. Results and Methodology.* Geneva.

**ILO (International Labour Organization). 2021c.** *World Economic and Social Outlook: The Role of Digital Labour Platforms in Transforming the World of Work.* Geneva.

**IMF (International Monetary Fund). 2021a.** Fiscal Monitor Database of Country Fiscal Measures in Response to the Covid-19 Pandemic. Washington, DC.

**IMF (International Monetary Fund). 2021b.** *Fiscal Monitor October 2021: Strengthening the Credibility of Public Finances.* Washington, DC.

**IMF (International Monetary Fund). 2021c.** *Fiscal Monitor: A Fair Shot.* Washington, DC.

**IMF (International Monetary Fund). 2021d.** *World Economic Outlook October 2021: Recovery During a Pandemic.* Washington, DC.

**IMF (International Monetary Fund). 2021e.** *World Economic Outlook: Managing Divergent Recoveries.* Washington, DC.

**Inanc, H. 2020.** *Breaking down the Numbers: What Does COVID-19 Mean for Youth Unemployment?* Cambridge, MA: Mathematica.

**Independent Panel for Pandemic Preparedness and Response. 2021a.** "Covid-19: Make It the Last Pandemic." [https://theindependentpanel.org/wp-content/uploads/2021/05/COVID-19-Make-it-the-Last-Pandemic\\_final.pdf](https://theindependentpanel.org/wp-content/uploads/2021/05/COVID-19-Make-it-the-Last-Pandemic_final.pdf).

**Independent Panel for Pandemic Preparedness and Response. 2021b.** "Covid-19: Make It the Last Pandemic, A Summary." [https://theindependentpanel.org/wp-content/uploads/2021/05/Summary\\_COVID-19-Make-it-the-Last-Pandemic\\_final.pdf](https://theindependentpanel.org/wp-content/uploads/2021/05/Summary_COVID-19-Make-it-the-Last-Pandemic_final.pdf).

**INET (Institute of New Economic Thinking). 2021.** *The Pandemic and the Economic Crisis: A Global Agenda for Urgent Action.* New York.

**International Crisis Group. 2016.** "Easy Prey: Criminal Violence and Central American Migration." Report 57, Washington, DC.

**IOM (International Organization for Migration). 2016.** *Hunger Without Borders, The Hidden Links between Food Insecurity, Violence and Migration in the Northern Triangle of Central America.* Geneva.

**IOM (International Organization for Migration). 2019a.** *Glossary on Migration.* Geneva.

**IOM (International Organization for Migration). 2019b.** *World Migration Report 2020.* Geneva.

**IOM (International Organization for Migration). 2020a.** "COVID-19 Analytical Snapshot #49: Impacts on Migrants in Informal Economies." Geneva.

**IOM (International Organization for Migration). 2020b.** "Protecting Migrant Workers in the Informal Economy: Inclusion of Migrant Workers in Covid-19 Responses." Geneva.

**IOM (International Organization for Migration). 2021.** "Missing Migrants: Tracking Deaths Along Migratory Routes." Geneva.

**IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services). 2018.** *The IPBES Assessment Report on Land Degradation and Restoration.* Bonn, Germany.

**IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services). 2019.** "Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services." Bonn, Germany.

**IPCC (Intergovernmental Panel on Climate Change). 2014a.** *Climate Change 2014: Impacts, Adaptation and Vulnerability.* Geneva.

**IPCC (Intergovernmental Panel on Climate Change). 2014b.** "Summary for Policymakers." *Climate Change 2014: Impacts, Adaptation and Vulnerability.* Geneva.

**IPCC (Intergovernmental Panel on Climate Change). 2018.** *Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global*

Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty. Geneva.

**IPCC (Intergovernmental Panel on Climate Change). 2020.** *IPCC Special Report on Climate Change and Land*. Geneva.

**IPCC (Intergovernmental Panel on Climate Change). 2021.** *Climate Change 2021: The Physical Science Basis*. Geneva.

**IPUMS (Integrated Public Use Microdata Series) USA. 2021.** IPUMS Online data analysis system.

**Irani, L. 2015.** "The Cultural Work of Microwork." *New Media & Society* 17(5): 720–739.

**ITU (International Telecommunication Union). 2021a.** "Individuals Using the Internet." <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>. Accessed 3 January 2022.

**ITU (International Telecommunication Union). 2021b.** *The Global Cybersecurity Index 2020*. Geneva.

**IUCN (International Union for Conservation of Nature). 2016.** *Nature-based Solutions for Sustainable Drinking Water*. Gland, Switzerland.

**Jessoe, K., Manning, D. T., and Taylor, J. E. 2018.** "Climate Change and Labour Allocation in Rural Mexico: Evidence from Annual Fluctuations in Weather." *The Economic Journal* 128(608): 230–261.

**Johns, L. 2014.** "A Critical Evaluation of the Concept of Human Security." <https://www.e-ir.info/2014/07/05/a-critical-evaluation-of-the-concept-of-human-security/>. Accessed 10 November 2021.

**Johns, M. M., Lowry, R., Andrzejewski, J., Barrios, L. C., Demissie, Z., McManus, T., Rasberry, C. N., Robin, L., and Underwood, J. M. 2019.** "Transgender Identity and Experiences of Violence Victimization, Substance Use, Suicide Risk, and Sexual Risk Behaviors among High School Students—19 States and Large Urban School Districts, 2017." *Morbidity and Mortality Weekly Report* 68(3): 67.

**Johns, M. M., Lowry, R., Haderxhanaj, L. T., Rasberry, C. N., Robin, L., Scales, L., Stone, D., and Suarez, N. A. 2020.** "Trends in Violence Victimization and Suicide Risk by Sexual Identity among High School Students: Youth Risk Behavior Survey, United States, 2015–2019." *MMWR Supplements* 69(1): 19.

**Johnson, A. F., and Roberto, K. J. 2020.** "The Covid-19 Pandemic: Time for a Universal Basic Income?" *Public Administration and Development* 40(4): 232–235.

**Johnson, C. K., Hitchens, P. L., Pandit, P. S., Rushmore, J., Evans, T. S., Young, C. C. W., and Doyle, M. M. 2020.** "Global Shifts in Mammalian Population Trends Reveal Key Predictors of Virus Spillover Risk." *Proceedings of the Royal Society B: Biological Sciences* 287(1924): 20192736.

**Johnson, J. 2021.** "Cyber Crime Encounter Rate in Selected Countries 2019." *Statista*. <https://www.statista.com/statistics/194133/cybercrime-rate-in-selected-countries/>. Accessed 13 December 2021.

**Johnson, N. D., and Mislin, A. 2012.** "How Much Should We Trust the World Values Survey Trust Question?" *Economics Letters* 116(2): 210–212.

**Jones, E. A., Mitra, A. K., and Bhuiyan, A. R. 2021.** "Impact of COVID-19 on Mental Health in Adolescents: A Systematic Review." *International Journal of Environmental Research and Public Health* 18(5): 2470.

**J-PAL (Abdul Latif Jameel Poverty Action Lab). 2018.** "Reducing Criminal Behavior through Cognitive Behavioral Therapy." J-PAL Policy Insights, Cambridge, MA.

**J-PAL (Abdul Latif Jameel Poverty Action Lab) and IPA (Innovations for Poverty Action). 2021.** *Governance, Crime and Conflict Initiative Evidence Wrap-up, Lessons from Randomized Evaluations on Managing and Preventing Crime, Violence, and Conflict*. Cambridge, MA.

**Juskalian, R. 2018.** "Inside the Jordan Refugee Camp that Runs on Blockchain." *MIT Technology Review*, 12 April.

**Kakani, V., Nguyen, V. H., Kumar, B. P., Kim, H., and Pasupuleti, V. R. 2020.** "A Critical Review on Computer Vision and Artificial Intelligence in Food Industry." *Journal of Agriculture and Food Research* 2: 100033.

**Kalache, A., and Kickbusch, I. 1997.** "A Global Strategy for Healthy Ageing." *World Health* 50(4): 4–5.

**Kalantzakos, S. 2021.** "Ecological Diplomacy and EU International Partnerships: China, Africa, and Beyond." <https://carnegieeurope.eu/2021/07/12/ecological-diplomacy-and-eu-international-partnerships-china-africa-and-beyond-pub-84878>. Carnegie Europe, Brussels. Accessed 10 November 2021.

**Kaldor, M. 2020.** "Human Security: Practical Possibilities." *LSE Public Policy Review* 1(2).

**Kallenborn, Z. 2020.** "A Partial Ban on Autonomous Weapons Would Make Everyone Safer." *Foreign Policy*, 14 October. <https://foreignpolicy.com/2020/10/14/ai-drones-swarm-killer-robots-partial-ban-on-autonomous-weapons-would-make-everyone-safer/>. Accessed 20 November 2021.

**Kamwenda, G. 1997.** "Language Rights in the Dictatorship: The Case of Malawi During Dr Banda's Rule." *Language Matters* 28(1): 36–50.

**Kaplan, T., Stolberg, S. G., and Robbins, R. 2021.** "Taking 'Extraordinary Measures,' Biden Backs Suspending Patents on Vaccines." *The New York Times*, 5 May. <https://www.nytimes.com/2021/05/05/us/politics/biden-covid-vaccine-patents.html>. Accessed 1 September 2021.

**Karn, M., and Sharma, M. 2021.** "Climate Change, Natural Calamities and the Triple Burden of Disease." *Nature Climate Change* 11: 796–797.

**Karp, A. 2018.** *Estimating Global Civilian-Held Firearms Numbers*. Geneva: Small Arms Survey.

**Katikireddi, S. V., Niedzwiedz, C. L., Dundas, R., Kondo, N., Leyland, A. H., and Rostila, M. 2020.** "Inequalities in All-Cause and Cause-Specific Mortality across the Life Course by Wealth and Income in

Sweden: A Register-Based Cohort Study." *International Journal of Epidemiology* 49(3): 917–925.

**Kaul, I., and Conceição, P. 2006.** *The New Public Finance: Responding to Global Challenges*. New York: Oxford University Press.

**Kaul, I., Conceição, P., Le Goulven, K., and Mendoza, R. U. 2003.** *Providing Global Public Goods: Managing Globalization*. New York: Oxford University Press.

**Kaul, I., Grunberg, I., and Stern, M. 1999.** *Global Public Goods: International Cooperation in the 21st Century*. Oxford, UK: Oxford University Press.

**Kawser Ahmed, M., Baki, M. A., Kundu, G. K., Saiful Islam, M., Monirul Islam, M., and Muzammel Hosain, M. 2016.** "Human Health Risks from Heavy Metals in Fish of Buriganga River, Bangladesh." *SpringerPlus* 5(1): 1697.

**Keane, K. 2020.** "Does Bitcoin Use Affect Crime Rates?" *The Corinthian* 20(1): 2.

**Keesing, F., and Ostfeld, R. S. 2021.** "Impacts of Biodiversity and Biodiversity Loss on Zoonotic Diseases." *Proceedings of the National Academy of Sciences* 118(17): e2023540118.

**Keesing, F., Belden, L. K., Daszak, P., Dobson, A., Harvell, C. D., Holt, R. D., Hudson, P., and others. 2010.** "Impacts of Biodiversity on the Emergence and Transmission of Infectious Diseases." *Nature* 468(7324): 647–652.

**Keesstra, S., Nunes, J., Novara, A., Finger, D., Avelar, D., Kalantari, Z., and Cerdà, A. 2018.** "The Superior Effect of Nature-based Solutions in Land Management for Enhancing Ecosystem Services." *Science of the Total Environment* 610: 997–1009.

**Keys, P. W., Galaz, V., Dyer, M., Matthews, N., Folke, C., Nyström, M., and Cornell, S. E. 2019.** "Anthropocene Risk." *Nature Sustainability* 2: 667–673.

**Khalid, M. 2019.** "Gender, Race, and the Insecurity of 'Security.'" In *The Routledge Handbook of Gender and Security*. Abingdon, UK and New York: Routledge.

**Khan, Z., Iyer, G., Patel, P., Kim, S., Hejazi, M., Burleyson, C., and Wise, M. 2021.** "Impacts of Long-term Temperature Change and Variability on Electricity Investments." *Nature Communications* 12(1): 1643–1643.

**Khawaja, A. S., and Khan, A. H. 2016.** "Media Strategy of ISIS: An Analysis." *Strategic Studies* 36(2): 104–121.

**Khong, Y. F. 2001.** "Human Security: A Shotgun Approach to Alleviating Human Misery." *Global Governance* 7: 231.

**Kishi, R. 2021.** *A Year of Covid-19: The Pandemic's Impact on Global Conflict and Demonstration Trends*. The Armed Conflict Location and Event Data Project.

**Kishor, S., and Johnson, K. 2004.** *Profiling Domestic Violence: A Multi-country Study*. Calverton, MD: MEASURE DHS+, ORC Macro.

**Kishor, S., and Johnson, K. 2005.** "Profiling Domestic Violence: A Multi-country Study." *Studies in Family Planning* 36(3): 259–261.



- Kitsing, M. 2011.** "Success without Strategy: E-Government Development in Estonia." *Policy & Internet* 3.
- Klein, A-M, Vaissière, B., Cane, J., Steffan-Dewenter, I., Cunningham, S., Kremen, C. and Tschamtk, T. 2007.** "Importance of Pollinators in Changing Landscapes for World Crops." *Proceedings of the Royal Society* 274: 303–313.
- Knight, W. 2020.** "AI Can Help Diagnose Some Illnesses—If Your Country Is Rich." *Wired*, 11 October. <https://www.wired.com/story/ai-diagnose-illnesses-country-rich/>. Accessed 17 November 2021.
- Kode, D. 2018.** "Civic Space Restrictions in Africa: How Does Civil Society Respond?" *Conflict Trends* 2018(1): 10–17.
- Kola, L. 2020.** "Global Mental Health and Covid-19." *The Lancet Psychiatry* 7(8): 655–657.
- Kollock, P. 1994.** "The Emergence of Exchange Structures: An Experimental Study of Uncertainty, Commitment, and Trust." *American Journal of Sociology* 100(2): 313–345.
- Komisar, H. 2013.** *The Effects of Rising Health Care Costs on Middle-Class Economic Security*. Washington, DC: AARP Public Policy Institute.
- Kosal, M. E. 2020.** *Disruptive and Game Changing Technologies in Modern Warfare*. Cham, Switzerland: Springer.
- Kotsadam, A., and Østby, G. 2019.** "Armed Conflict and Maternal Mortality: A Micro-Level Analysis of Sub-Saharan Africa, 1989–2013." *Social Science & Medicine* 239: 112526.
- Koubi, V. 2019.** "Climate Change and Conflict." *Annual Review of Political Science* 22(1): 343–360.
- Krampe, F. 2021.** "Why United Nations Peace Operations Cannot Ignore Climate Change." Topical Backgrounder, Stockholm International Peace Research Institute, 22 February. <https://www.sipri.org/commentary/topical-backgrounder/2021/why-united-nations-peace-operations-cannot-ignore-climate-change>. Accessed 26 November 2021.
- Krampe, F., Smith, E. S., and Hamidi, M. D. 2021.** "Security Implications of Climate Development in Conflict-Affected States: Implications of Local-Level Effects of Rural Hydropower Development on Farmers in Herat." *Political Geography* 90: 102454.
- Krause, K. 2013.** *Critical Perspectives on Human Security*. Abingdon, UK: Routledge.
- Krishna, A. 2010.** *One Illness Away: Why People Become Poor and How They Escape Poverty*. Oxford, UK: Oxford University Press.
- Krishtel, P., and Malpani, R. 2021.** "Suspend Intellectual Property Rights for Covid-19 Vaccines." *BMJ* 373: n1344.
- Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., Adeyi, O., and others. 2018.** "High-Quality Health Systems in the Sustainable Development Goals Era: Time for a Revolution." *The Lancet Global Health Commission* 6(11).
- Kruk, M. E., Nigenda, G., and Knaul, F. M. 2015.** "Redesigning Primary Care to Tackle the Global Epidemic of Noncommunicable Disease." *American Journal of Public Health* 105(3): 431–437.
- Kshetri, N. 2019.** "Cybercrime and Cybersecurity in Africa." *Journal of Global Information Technology Management* 22(2): 77–81.
- Kuhla, K., Willner, S. N., Otto, C., Wenz, L., and Levermann, A. 2021.** "Future Heat Stress to Reduce People's Purchasing Power." *PLoS One* 16(6): e0251210.
- Kuka, E., and Stuart, B. 2021.** "Racial Inequality in Unemployment Insurance Receipt and Take-Up." NBER Working Paper 29595, National Bureau of Economic Research, Cambridge, MA.
- Kulp, S. A., and Strauss, B. H. 2019.** "New Elevation Data Triple Estimates of Global Vulnerability to Sea-level Rise and Coastal Flooding." *Nature Communications* 10(1): 4844.
- Laczko, F., Singleton, A., and Black, J. 2017.** *Fatal Journeys Volume 3 Part 2: Improving Data on Missing Migrants*. Geneva.
- Lajmodiere, D. 2012.** "A Healing Journey." *Wičazo Ša Review* 27(2).
- Lamont, M. 2000.** *The Dignity of Working Men: Morality and the Boundaries of Race, Class, and Immigration*. Cambridge, MA: Harvard University Press.
- Lamont, M. 2019.** "From 'Having' to 'Being': Self-worth and the Current Crisis of American Society." *The British Journal of Sociology* 70(3): 660–707.
- Lamont, M., Welburn, J. S., and Fleming, C. M. 2013.** "Responses to Discrimination and Social Resilience under Neoliberalism." In Hall, P. A. and Lamont, M., (eds.), *Social Resilience in the Neoliberal Era*. New York: Cambridge University Press.
- The Lancet Commission on Global Health 2035.** 2013. "Global Health 2035: A World Converging within a Generation." *The Lancet* 382: 1898–1955.
- The Lancet Countdown. 2021.** "The 2021 Report of the Lancet Countdown on Health and Climate Change: Code Red for a Healthy Future." *The Lancet* 398(10311): 1619–1662.
- The Lancet–University of Oslo Commission on Global Governance for Health. 2014.** "The Political Origins of Health Inequity: Prospects for Change." *The Lancet* 383: 630–667.
- Lanham, M., Ridgeway, K., Dayton, R., Castillo, B. M., Brennan, C., Davis, D. A., Emmanuel, D., and others. 2019.** "We're Going to Leave You for Last, Because of How You Are: Transgender Women's Experiences of Gender-Based Violence in Healthcare, Education, and Police Encounters in Latin America and the Caribbean." *Violence and Gender* 6(1): 37–46.
- Laryea, D. O., and Cueni, T. B. 2019.** "Including the Private Sector in Partnerships to Tackle Non-Communicable Diseases." *BMJ Opinion*, 6 December 2019. <https://blogs.bmj.com/bmj/2019/12/06/including-the-private-sector-in-partnerships-to-tackle-non-communicable-diseases/>. Accessed 1 November 2021.
- Lashbrook, A. 2018.** "AI-Driven Dermatology Could Leave Dark-Skinned Patients Behind." *The Atlantic*, 16 August. <https://www.theatlantic.com/>
- [health/archive/2018/08/machine-learning-dermatology-skin-color/567619/](https://www.theatlantic.com/health/archive/2018/08/machine-learning-dermatology-skin-color/567619/). Accessed 17 November 2021.
- Lazard, O., and Youngs, R. 2021.** *The EU and Climate Security: Toward Ecological Diplomacy*. Washington, DC and Brussels: Carnegie Endowment for International Peace and Open Society European Policy Institute.
- Leach, M., Meyers, B., Bai, X., Brondizio, E. S., Cook, C., Díaz, S., Espindola, G., and others. 2018.** "Equity and Sustainability in the Anthropocene: A Social-Ecological Systems Perspective on their Intertwined Futures." *Global Sustainability* 1.
- Leigh, D., and Weber, C. 2018.** "Gendered and Sexualized Figurations of Security." In *The Routledge Handbook of Gender and Security*. Abingdon, UK and New York: Routledge.
- Leisering, L. 2020.** "The Calls for Universal Social Protection by International Organizations: Constructing a New Global Consensus." *Social Inclusion* 8(1).
- Lelieveld, J., Pozzer, A., Pöschl, U., Fnais, M., Haines, A., and Münzel, T. 2020.** "Loss of Life Expectancy from Air Pollution Compared to Other Risk Factors: A Worldwide Perspective." *Cardiovascular Research* 116(1): 1910–1917.
- Lerner, J. S., and Keltner, D. 2001.** "Fear, Anger, and Risk." *Journal of Personality and Social Psychology* 81(1): 146.
- Lerner, J. S., Li, Y., Valdesolo, P., and Kassam, K. S. 2015.** "Emotion and Decision Making." *Annual Review of Psychology* 66(1): 799–823.
- Lerner, J., and Tirole, J. 2005.** "The Economics of Technology Sharing: Open Source and Beyond." *Journal of Economic Perspectives* 19(2): 99–120.
- Leufer, D. 2021.** "Computers Are Binary, People Are Not: How AI Systems Undermine LGBTQ Identity." EDRI, 22 April. <https://www.accessnow.org/how-ai-systems-undermine-lgbtq-identity/>.
- Levesque, A., Pietzcker, R. C., Baumstark, L., De Stercke, S., Grüber, A., and Luderer, G. 2018.** "How Much Energy Will Buildings Consume in 2100? A Global Perspective within a Scenario Framework." *Energy* 148: 514–527.
- Lewis, M. 2021.** "What Will Covid Do Next? A Top Pandemic Doctor Has Some Ideas." Bloomberg, 13 December. <https://www.bloomberg.com/opinion/articles/2021-12-13/michael-lewis-q-a-with-pandemic-expert-richard-hatchett-on-covid>. Accessed 3 January 2022.
- Liaropoulos, A. 2015.** "A Human-Centric Approach to Cybersecurity." *Journal of Information Warfare* 14(4): 15–24.
- Lin, B. B. 2011.** "Resilience in Agriculture through Crop Diversification: Adaptive Management for Environmental Change." *BioScience* 61: 183–193.
- Ling, L. H. 2000.** "Hypermasculinity on the Rise, Again: A Response to Fukuyama on Women and World Politics." *International Feminist Journal of Politics* 2(2): 277–286.

- Linke, A. M., and Ruether, B. 2021. "Weather, Wheat, and War: Security Implications of Climate Variability for Conflict in Syria." *Journal of Peace Research* 58(1): 114–131.
- Lipsky, M. 1968. "Protest as a Political Resource." *American Political Science Review* 62(4): 1144–1158.
- Loescher, G. 2021. *Refugees: A Very Short Introduction*. Oxford, UK: Oxford University Press.
- Loneragan, S., Gustavson, K., and Carter, B. 2000. "The Index of Human Insecurity." *AVISO* (6): 1–7.
- Long, C., and Bell, D. 2021. "Roadmap for Urgent Change in Immigration Detention." 13 May. <https://www.hrw.org/news/2021/05/13/roadmap-urgent-change-immigration-detention>.
- Lopes da Silva, D., Tian, N., and Marksteiner, A. 2021. "Trends in World Military Expenditure, 2020." SIPRI Policy Brief, Stockholm International Peace Research Institute, Stockholm.
- Lopez, O., and Livni, E. 2021. "In Global First, El Salvador Adopts Bitcoin as Currency." *The New York Times*, 7 October. <https://www.nytimes.com/2021/09/07/world/americas/el-salvador-bitcoin.html>. Accessed 10 October 2021.
- Lorde, A. 1980. "Age, Race, Class, and Sex: Women Redefining Difference." *Women in Culture: An Intersectional Anthology for Gender and Women's Studies*: 16–22.
- Lövbrand, E., and Mobjörk, M. (eds.). 2021. *Anthropocene (in)Securities Reflections on Collective Survival 50 Years after the Stockholm Conference*. Oxford, UK: Oxford University Press.
- Lozano, R., Fullman, N., Mumford, J. E., Knight, M., Barthelemy, C. M., Abbafati, C., Abbastabar, H., and others. 2020. "Measuring Universal Health Coverage Based on an Index of Effective Coverage of Health Services in 204 Countries and Territories, 1990–2019: A Systematic Analysis for the Global Burden of Disease Study 2019." *The Lancet* 396(10258): 1250–1284.
- Lunden, I. 2015. "Google Offers to Give away Patents to Startups in Its Push against Patent Trolls." *TechCrunch*, 23 July. <https://techcrunch.com/2015/07/23/google-offers-to-sell-patents-to-startups-to-boost-its-wider-cross-licensing-initiative/>. Accessed 17 November 2021.
- Ma, R., Zhong, S., Morabito, M., Hajat, S., Xu, Z., He, Y., Bao, J., and others. 2019. "Estimation of Work-related Injury and Economic Burden Attributable to Heat Stress in Guangzhou, China." *Science of the Total Environment* 666: 147–154.
- MacDonald, A. J., and Mordecai, E. A. 2019. "Amazon Deforestation Drives Malaria Transmission, and Malaria Burden Reduces Forest Clearing." *Proceedings of the National Academy of Sciences* 116(44): 22212.
- MacGuire, F. A. 2020. "Reducing Health Inequalities in Aging Through Policy Frameworks and Interventions." *Frontiers in Public Health* 8.
- MacKinnon, C. A. 1989. *Toward a Feminist Theory of the State*. Cambridge, MA: Harvard University Press.
- Madgavkar, A., White, O., Krishnan, M., Mahajan, D., and Azcue, X. 2020. "COVID-19 and Gender Equality: Countering the Regressive effects." McKinsey Global Institute, 15 July. <https://www.mckinsey.com/featured-insights/future-of-work/covid-19-and-gender-equality-countering-the-regressive-effects>.
- Madianou, M. 2019. "The Biometric Assemblage: Surveillance, Experimentation, Profit, and the Measuring of Refugee Bodies." *Television & New Media* 20(6): 581–599.
- Madrigal, A. C. 2013. "Your Job, Their Data: The Most Important Untold Story About the Future." *The Atlantic*, 21 November. <https://www.theatlantic.com/technology/archive/2013/11/your-job-their-data-the-most-important-untold-story-about-the-future/281733/>. Accessed 10 November 2021.
- Mahomed, S. 2018. "Healthcare, Artificial Intelligence and the Fourth Industrial Revolution: Ethical, Social and Legal Considerations." *South African Journal of Bioethics and Law* 11: 93.
- Maiga, Y., Sperling, M. v., and Mihelcic, J. 2017. "Constructed Wetlands." *Global Water Pathogen Project*. East Lansing, MI: Michigan State University.
- Maitra, C. 2018. "A Review of Studies Examining the Link between Food Insecurity and Malnutrition." Technical Paper, Food and Agricultural Organization of the United Nations, Rome.
- Majer, I. M., Nusselder, W. J., Mackenbach, J. P., and Kunst, A. E. 2011. "Socioeconomic Inequalities in Life and Health Expectancies around Official Retirement Age in 10 Western-European Countries." *Journal of Epidemiology and Community Health* 65(11): 972–979.
- Manisalidis, I., Stavropoulou, E., Stavropoulos, A., and Bezirtzoglou, E. 2020. "Environmental and Health Impacts of Air Pollution: A Review." *Frontiers in Public Health* 8: 14.
- Marani, M., Katul, G. G., Pan, W. K., and Parolari, A. J. 2021. "Intensity and Frequency of Extreme Novel Epidemics." *Proceedings of the National Academy of Sciences* 118(35).
- Mares, D. M., and Moffett, K. W. 2016. "Climate Change and Interpersonal Violence: A 'Global' Estimate and Regional Inequities." *Climatic Change* 135(2): 297–310.
- Marmot, M., and Bell, R. 2019. "Social Determinants and Non-Communicable Diseases: Time for Integrated Action." *BMJ* 364(1251).
- Martin, M., and Owen, T. 2013. *Routledge Handbook of Human Security*. Abingdon, UK: Routledge.
- Martínez Franzoni, J., and Sánchez-Ancochea, D. 2016. "Achieving Universalism in Developing Countries." Background paper for the 2016 Human Development Report, United Nations Development Programme, Human Development Report Office, New York.
- Martínez Franzoni, J., and Sánchez-Ancochea, D. 2018. "Undoing Segmentation? Latin American Health Care Policy during the Economic Boom." *Social Policy & Administration* 52(6): 1181–1200.
- Martin-Shields, C. P., and Stojetz, W. 2019. "Food Security and Conflict: Empirical Challenges and Future Opportunities for Research and Policy Making on Food Security and Conflict." *World Development* 119: 150–164.
- Martyr-Koller, R., Thomas, A., Friedrich-Schleussner, C., Nauels, A., and Lissner, T. 2021. "Loss and Damage Implications of Sea-level Rise on Small Island Developing States." *Current Opinion in Environmental Sustainability* 50: 245–259.
- Maseko, B., and Ndlovu, K. 2013. "Indigenous Languages and Linguistic Rights in the Zimbabwean Media." *Online International Journal of Arts and Humanities* 2(5): 150–156.
- Masson-Delmotte, T., Zhai, P., Pörtner, H., Roberts, D., Skea, J., Shukla, P., Pirani, A., and others. 2018. "Summary for Policymakers." *Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*. Geneva: Intergovernmental Panel on Climate Change.
- Mathew, B., Dutt, R., Goyal, P., and Mukherjee, A. 2019. "Spread of Hate Speech in Online Social Media." *Proceedings of the 10th ACM Conference on Web Science*. Boston, MA: Association for Computing Machinery.
- Mazzucato, M. 2021. *Mission Economy: A Moonshot Guide to Changing Capitalis*. Harper Business.
- McDermott, T. K. J. 2012. "The Effects of Natural Disasters on Human Capital Accumulation." Institute for International Integration Studies and School of Business, Trinity College Dublin.
- McKay, S. 2000. "Gender Justice and Reconciliation." *Women's Studies International Forum* 23(5): 561–570.
- McKay, S. 2004. "Women, Human Security, and Peace-building: A Feminist Analysis." *Conflict and Human Security: A Search for New Approaches of Peace-building* 19: 152–170.
- McKay, S., and Mazurana, D. E. 2004. "Where Are the Girls? Girls in Fighting Forces in Northern Uganda, Sierra Leone and Mozambique: Their Lives during and after War." Montréal, QC: Rights & Democracy.
- McKee, C. D., Islam, A., Luby, S. P., Salje, H., Hudson, P. J., Plowright, R. K., and Gurley, E. S. 2021. "The Ecology of Nipah Virus in Bangladesh: A Nexus of Land-Use Change and Opportunistic Feeding Behavior in Bats." *Viruses* 13(2).
- McLennan, M. 2021. *The Global Risks Report 2021*. Cologny, Switzerland: World Economic Forum.
- Menéndez, P., Losada, I. J., Torres-Ortega, S., Narayan, S., and Bec, M. W. 2020. "The Global Flood Protection Benefits of Mangroves." *Scientific Reports* 10.
- Mental Health Foundation. 2021. "Women and Mental Health." London. <https://www.mentalhealth.org.uk/a-to-z/w/women-and-mental-health>. Accessed 11 March 2021.

- Mfitumukiza, D., Roy, A. S., Simane, B., Hammill, A., Rahman, M. F., and Huq, S. 2020.** "Scaling Local and Community-based Adaptation." Background Paper, Global Commission on Adaptation, Rotterdam, Netherlands and Washington, DC.
- Mi, Z., and Coffman, D. M. 2019.** "The Sharing Economy Promotes Sustainable Societies." *Nature Communications* 10(1): 1–3.
- Migration Data Portal. 2021a.** "International Migrant Stocks." <https://migrationdataportal.org/themes/international-migrant-stocks>. Accessed 17 December 2021.
- Migration Data Portal. 2021b.** "Unemployment Gap between the Foreign-born and Native Populations in OECD Countries in 2019."
- Miks, J., and McIlwaine, J. 2020.** "Keeping the World's Children Learning through Covid-19." UNICEF, 20 April. <https://www.unicef.org/coronavirus/keeping-worlds-children-learning-through-covid-19>. Accessed 3 January 2022.
- Millard, J. 2021.** "Global Effects of Land-use Intensity on Local Pollinator Biodiversity." *Nature Communications* 12(1).
- Mnookin, S. 2016.** *Out of the Shadows: Making Mental Health a Global Development Priority*. Washington, DC: World Bank. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/270131468187759113/out-of-the-shadows-making-mental-health-a-global-development-priority>. Accessed 1 November 2021.
- Mobjörk, M., Krampe, F., and Tarif, K. 2021.** "Pathways of Climate Insecurity: Guidance for Policymakers." SIPRI Policy Brief, Stockholm International Peace Research Institute, Stockholm.
- Molyneux, M. 1986.** "Mobilization without Emancipation? Women's Interests, State and Revolution." In Fagen, R. R., Deere, C. D., and Coraggio, J. L., (eds.), *Transition and Development: Problems of Third World Socialism*. New York: Monthly Review Press.
- Moore, P. V., Akhtar, P., and Upchurch, M. 2018.** "Digitalisation of Work and Resistance." In Moore, P. V., Upchurch, M. and Whittaker, X., (eds.), *Humans and Machines at Work: Monitoring, Surveillance and Automation in Contemporary Capitalism*. Cham, Switzerland: Springer International Publishing.
- Moosa, M. R., and Luyckx, V. A. 2021.** "The Realities of Rationing in Health Care." *Nature Reviews Nephrology* 17(7): 435–436.
- Morris, G., Berk, M., Maes, M., Carvalho, A. F., and Puri, B. K. 2019.** "Socioeconomic Deprivation, Adverse Childhood Experiences and Medical Disorders in Adulthood: Mechanisms and Associations." *Molecular Neurobiology* 56(8): 5866–5890.
- Morrissey, J. 2021.** "Envisioning Security for a More-than-human World." Background paper for the Special Report on Human Security, United Nations Development Programme, Human Development Report Office, New York.
- Moser, C. O. 1989.** "Gender Planning in the Third World: Meeting Practical and Strategic Gender Needs." *World Development* 17(11): 1799–1825.
- Mousa, S. 2019.** "Creating Coexistence: Intergroup Contact and Soccer in Post-ISIS Iraq." Unpublished manuscript. Stanford University.
- MSF (Médecins Sans Frontières). 2017.** "Report: Forced to Flee Central America's Northern Triangle: A Neglected Humanitarian Crisis." 11 May. <https://www.doctorswithoutborders.org/what-we-do/news-stories/research/report-forced-flee-central-america-northern-triangle>. Accessed 26 November 2021.
- Muggah, R., and Aguirre Tobón, K. 2018.** "Citizen Security in Latin America: Facts and Figures." Strategic Paper 33, Igarapé Institute, Rio de Janeiro, Brazil.
- Muggah, R., and Dudley, S. 2021.** "Covid-19 Is Reconfiguring Organized Crime in Latin America and the Caribbean." *Small Wars Journal*, 2 March. <https://smallwarsjournal.com/jrnl/art/covid-19-reconfiguring-organized-crime-latin-america-and-caribbean>. Accessed 3 December 2021.
- Muluneh, M. D., Stulz, V., Francis, L., and Agho, K. 2020.** "Gender Based Violence against Women in Sub-Saharan Africa: A Systematic Review and Meta-analysis of Cross-sectional Studies." *International Journal of Environmental Research and Public Health* 17(3): 903.
- Nagabhatla, N., Pouramin, P., Brahmabhatt, R., Fioret, C., Glickman, T., Newbold, K. B., and Smakhtin, V. 2020.** "Water and Migration: A Global Overview." UNU-INWEH Report Series (10), United Nations University Institute for Water, Environment and Health, Hamilton, ON.
- Nakashima, D., McLean, K. G., Thulstrup, H., Castillo, A. R., and Rubis, J. 2012.** *Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation*. Paris: United Nations Educational, Scientific and Cultural Organization.
- Nakashima, E. 2021.** "Pressure Grows on Biden to Curb Ransomware Attacks." *The Washington Post*, 7 July. [https://www.washingtonpost.com/national-security/ransomware-biden-russia/2021/07/06/ff52a9de-de72-11eb-b507-697762d090dd\\_story.html](https://www.washingtonpost.com/national-security/ransomware-biden-russia/2021/07/06/ff52a9de-de72-11eb-b507-697762d090dd_story.html). Accessed 10 September 2021.
- Nakatani, H., Katsuno, K., and Urabe, H. 2020.** "Global Health Landscape Challenges Triggered by Covid-19." *Inflammation and Regeneration* 40(34).
- NASA (US National Aeronautics and Space Administration). 2014.** "Project Apollo: A Retrospective Analysis." Washington, DC. <https://history.nasa.gov/Apollo/Apollo.html>. Accessed 14 December 2021.
- NASA (US National Aeronautics and Space Administration). 2015.** "NASA Offers Licenses of Patented Technologies to Start-Up Companies." Washington, DC.
- Nasi, R., Taber, A., and Van Vliet, N. 2011.** "Empty Forests, Empty Stomachs? Bushmeat and Livelihoods in the Congo and Amazon Basins." *International Forestry Review* 13: 355–368.
- National Academies of Sciences, Engineering, and Medicine. 2018.** *Crossing the Global Quality Chasm: Improving Health Care Worldwide*. Washington, DC.
- National Scientific Council on the Developing Child. 2020.** "Connecting the Brain to the Rest of the Body: Early Childhood Development and Lifelong Health Are Deeply Intertwined." Working Paper 15, Center on the Developing Child at Harvard University, Cambridge, MA.
- Nayyar, S., and Rivera Vazquez, C. 2021.** "Covid-19 Exposes the Gender Digital Divide." In United Nations Interagency Task Team on Science Technology and Innovation for the Sustainable Development Goals (ed.), *Emerging Science, Frontier Technologies, and the SDGs Perspectives from the UN System and Science and Technology Communities*. New York: United Nations.
- Nazroo, J. 2017.** "Class and Health Inequality in Later Life: Patterns, Mechanisms and Implications for Policy." *International Journal of Environmental Research and Public Health* 14(12): 1533.
- Nazroo, J. Y., Bhui, K. S., and Rhodes, J. 2020.** "Where Next for Understanding Race/Ethnic Inequalities in Severe Mental Illness? Structural, Interpersonal and Institutional Racism." *Sociology of Health & Illness* 42(2): 262–276.
- Nesterak, M. 2019.** "Uprooted: The 1950s Plan to Erase Indian Country." APM Reports Documentaries.
- Nettle, D., Johnson, E., Johnson, M., and Saxe, R. 2021.** "Why Has the Covid-19 Pandemic Increased Support for Universal Basic Income?" *Humanities and Social Sciences Communications* 8: 79.
- Newton, C. 2019.** "The Trauma Floor: The Secret Lives of Facebook Moderators in America." *The Verge*, 25 February. <https://www.theverge.com/2019/2/25/18229714/cognizant-facebook-content-moderator-interviews-trauma-working-conditions-arizona>. Accessed 10 October 2021.
- Niethammer, C. 2020.** "AI Bias Could Put Women's Lives at Risk: A Challenge for Regulators." *Forbes*, 2 March. <https://www.forbes.com/sites/carmenniethammer/2020/03/02/ai-bias-could-put-womens-lives-at-risk-a-challenge-for-regulators/?sh=5e79f6fc534f>. Accessed 10 October 2021.
- Nikogosian, H. 2021a.** "The Case for an International Pandemic Treaty." *BMJ* 372.
- Nikogosian, H. 2021b.** *A Guide to a Pandemic Treaty*. Geneva: Global Health Centre, the Graduate Institute of International and Development Studies.
- Niles, M. T., and Brown, M. E. 2017.** "A Multi-country Assessment of Factors Related to Smallholder Food Security in Varying Rainfall Conditions." *Scientific Reports* 7(1): 16277.
- Nizzetto, L., Futter, M., and Langaas, S. 2016.** "Are Agricultural Soils Dumps for Microplastics of Urban Origin?" *Environmental Science & Technology* 50(20).
- Nkrumah, B. 2021.** "Beyond Tokenism: The 'Born Frees' and Climate Change in South Africa." *International Journal of Ecology* 2021.
- Nordling, L. 2019.** "A Fairer Way Forward for AI in Health Care." *Nature* 573: S103–S105.
- NTI (Nuclear Threat Initiative) and JHU (Johns Hopkins University). 2019.** *Global Health Security Index: Building Collective Action and Accountability*. Washington, DC, and Baltimore, MD.



- Nurse, L. A., McLean, R. F., Agard, J., Briguglio, L. P., Duvat-Magnan, V., Pelesikoti, N., Tompkins, E., and Webb, A. 2014. "Small Islands." *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK and New York: Cambridge University Press.
- Nuruzzaman, M. 2006. "Paradigms in Conflict: The Contested Claims of Human Security, Critical Theory and Feminism." *Cooperation and Conflict* 41(3): 285–303.
- Nussbaum, M. 2001. *Women and Human Development: The Capabilities Approach*. Cambridge, UK: Cambridge University Press.
- Nussbaum, M. 2006. "Frontiers of Justice: Disability, Nationality, Species Membership." *Utilitas* 21(4): 526.
- Nussbaum, M. 2011. *Creating Capabilities: The Human Development Approach*. Cambridge, MA: Belknap Press.
- O'Neil, C. 2016. "How Algorithms Rule Our Working Lives." *The Guardian*, 1 September. <https://www.theguardian.com/science/2016/sep/01/how-algorithms-rule-our-working-lives>. Accessed 10 October 2021.
- Odoms-Young, A. M. 2018. "Examining the Impact of Structural Racism on Food Insecurity: Implications for Addressing Racial/Ethnic Disparities." *Family & Community Health* 41(Supplement 2): S3.
- OECD (Organisation for Economic Co-operation and Development). 2014. "Coverage for Health Care." In *Society at a Glance 2014: OECD Social Indicators*. Paris: OECD Publishing.
- OECD (Organisation for Economic Co-operation and Development). 2019a. *Out-of-Pocket Spending: Access to Care and Financial Protection*. Paris: OECD Publishing.
- OECD (Organisation for Economic Co-operation and Development). 2019b. *Under Pressure: The Squeezed Middle Class*. Paris: OECD Publishing.
- OECD (Organisation for Economic Co-operation and Development). 2019. "Pensions at a Glance 2019." Paris: OECD Publishing.
- OECD (Organisation for Economic Co-operation and Development). 2020. *States of Fragility 2020*. Paris: OECD Publishing.
- OECD (Organisation for Economic Co-operation and Development). 2021a. "Covid-19 Spending Helped to Lift Foreign Aid to an All-Time High in 2020 but More Effort Needed." Press Release, 13 April. <https://www.oecd.org/newsroom/covid-19-spending-helped-to-lift-foreign-aid-to-an-all-time-high-in-2020-but-more-effort-needed.htm>. Accessed 26 November 2021.
- OECD (Organisation for Economic Co-operation and Development). 2021b. "Official Development Assistance (ODA)." <https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/official-development-assistance.htm>. Accessed 13 December 2021.
- Office of the Secretary-General's Envoy on Youth. 2021. *If I Disappear: Global Report on Protecting Young People in Civic Space*. New York.
- OGata, S., and Sen, A. 2003. *Human Security Now: Commission on Human Security, Final Report*. New York: Commission on Human Security.
- OHCHR (Office of the High Commissioner for Human Rights). 2005. "Dimensions of Racism." Geneva.
- OHCHR (Office of the High Commissioner for Human Rights). 2015. "Report of the United Nations High Commissioner for Human Rights on Discriminatory Laws and Practices and Acts of Violence against Individuals Based on Their Sexual Orientation and Gender Identity." A/HRC/29/23. Geneva.
- OHCHR (Office of the High Commissioner for Human Rights). 2016. *Living Free and Equal: What States Are Doing to Tackle Violence and Discrimination Against Lesbian, Gay, Bisexual, Transgender and Intersex People*. Geneva.
- OHCHR (Office of the High Commissioner for Human Rights). 2019. *Born Free and Equal: Sexual Orientation and Gender Identity in International Human Rights Law*. Geneva.
- OHCHR (Office of the High Commissioner for Human Rights). 2021. "Report: Online Hate Increasing against Minorities, Says Expert." Geneva. <https://www.ohchr.org/EN/NewsEvents/Pages/sr-minorities-report.aspx>. Accessed 15 August 2021.
- OHCHR (Office of the High Commissioner for Human Rights) and WHO (World Health Organization). 2008. *The Right to Health*. Geneva.
- Okonjo-Iweala, N., Shanmugaratnam, T., and Summers, L. H. 2021. "Pandemic." *Finance & Development*.
- Olivera, J., and Tournier, I. 2016. "Successful Ageing and Multi-dimensional Poverty: The Case of Peru." *Ageing & Society* 36(8): 1690–1714.
- Oosterlaken, I. 2009. "Design for Development: A Capability Approach." *Design Issues* 25(4): 91–102.
- Oosterlaken, I., and van den Hoven, J. (eds.). 2012. *The Capability Approach, Technology and Design*. New York: Springer.
- OPHI (Oxford Poverty and Human Development Initiative) and UNDP (United Nations Development Programme). 2021. *The 2021 Global Multidimensional Poverty Index (MPI)*. Oxford, UK: OPHI.
- Oral, H. V., Carvalho, P., Gajewska, M., Ursino, N., Masi, F., Hullebusch, E. D. v., Kazak, J. K., and others. 2020. "A Review of Nature-based Solutions for Urban Water Management in European Circular Cities: A Critical Assessment Based on Case Studies and Literature." *Blue-Green Systems* 2(1): 112–136.
- Ord, T. 2020. *The Precipice: Existential Risk and the Future of Humanity*. New York: Hachette Books.
- Orlov, A., Sillmann, J., Aunan, K., Kjellstrom, T., and Aaheim, A. 2020. "Economic Costs of Heat-induced Reductions in Worker Productivity Due to Global Warming." *Global Environmental Change* 63: 102087.
- Østby, G., Aas Rustad, S., and Arasmith, A. 2021. "Children Affected by Armed Conflict 1990–2020." Peace Research Institute Oslo, Oslo.
- Østby, G., Aas Rustad, S., and Tollefsen, A. F. 2020. "Children Affected by Armed Conflict, 1990–2019." Peace Research Institute Oslo, Oslo.
- Østby, G., Urdal, H., Tollefsen, A. F., Kotsadam, A., Belbo, R., and Ormhaug, C. 2018. "Organized Violence and Institutional Child Delivery: Micro-Level Evidence from Sub-Saharan Africa, 1989–2014." *Demography* 55(4): 1295–1316.
- Owen, T. 2004. "Human Security: Conflict, Critique and Consensus: Colloquium Remarks and a Proposal for a Threshold-based Definition." *Security Dialogue* 35(3): 373–387.
- Pahl-Wostl, C. 2002. "Participative and Stakeholder-Based Policy Design, Evaluation and Modeling Processes." *Integrated Assessment* 3(1): 3–14.
- Paris, R. 2001. "Human Security: Paradigm Shift or Hot Air?" *International Security* 26(2): 87–102.
- Park, R. J., Goodman, J., Hurwitz, M., and Smith, J. 2020. "Heat and Learning." *American Economic Journal: Economic Policy* 12(2): 306–39.
- Parker, T. 2019. *Avoiding the Terrorist Trap: Why Respect for Human Rights Is the Key to Defeating Terrorism*. London: World Scientific.
- Parmentola, A., Petrillo, A., Tutore, I., and De Felice, F. 2021. "Is Blockchain Able to Enhance Environmental Sustainability? A Systematic Review and Research Agenda from the Perspective of Sustainable Development Goals (SDGs)." *Business Strategy and the Environment*.
- Patz, J. A., Grabow, M. L., and Limaye, V. S. 2014. "When It Rains, It Pours: Future Climate Extremes and Health." *Annals of Global Health* 80(4): 332–344.
- Paudel, J., and Ryu, H. 2018. "Natural Disasters and Human Capital: The Case of Nepal's Earthquake." *World Development* 111: 1–12.
- Pechey, R., and Monsivais, P. 2016. "Socioeconomic Inequalities in the Healthiness of Food Choices: Exploring the Contributions of Food Expenditures." *Preventive Medicine* 88: 203–209.
- Perez, C. C. 2019. *Invisible Women: Exposing Data Bias in a World Designed for Men*. New York: Random House.
- Peters, G. P., Andrew, R. M., Canadell, J. G., Friedlingstein, P., Jackson, R. B., Korsbakken, J. I., Le Quéré, C., and Pregon, A. 2020. "Carbon Dioxide Emissions Continue to Grow amidst Slowly Emerging Climate Policies." *Nature Climate Change* 10(1): 3–6.
- Petersen, M. B. 2021. "Covid Lesson: Trust the Public with Hard Truths." *Nature* 598(7880): 237–237.
- Petersen, M. B., Bor, A., Jørgensen, F., and Lindholt, M. F. 2021. "Transparent Communication About Negative Features of Covid-19 Vaccines Decreases Acceptance but Increases Trust." *Proceedings of the National Academy of Sciences* 118(29): e2024597118.



- Peterson, V. S. 1992.** *Gendered States: Feminist (Re)visions of International Relations Theory*. Boulder, CO: Lynne Rienner.
- Peterson, V. S. 2003.** *A Critical Rewriting of Global Political Economy: Integrating Reproductive, Productive, and Virtual Economies*. Hove, UK: Psychology Press.
- Peterson, V. S. 2004.** "Feminist Theories within, Invisible to, and beyond IR." *The Brown Journal of World Affairs* 10(2): 35–46.
- Pettersson, T., Davies, S., Deniz, A., Engström, G., Hawach, N., Höglbladh, S., Sollenberg, M., and Öberg, M. 2021.** "Organized Violence 1989–2020, with a Special Emphasis on Syria." *Journal of Peace Research* 58(4): 809–825.
- Pew Research Center. 2017.** "Critical Posts Get More Likes, Comments, and Shares Than Other Posts." 21 February. [https://www.pewresearch.org/politics/2017/02/23/partisan-conflict-and-congressional-outreach/pdl-02-23-17\\_antipathy-new-00-02/](https://www.pewresearch.org/politics/2017/02/23/partisan-conflict-and-congressional-outreach/pdl-02-23-17_antipathy-new-00-02/). Accessed 10 September 2021.
- Pew Research Center. 2020.** "Rising Acceptance of Homosexuality by People in Many Countries around the World over the Past Two Decades." Washington, DC.
- Peyakhovich, A., and Rand, D. G. 2016.** "Habits of Virtue: Creating Norms of Cooperation and Defection in the Laboratory." *Management Science* 62(3): 631–647.
- Pfizer. 2021.** "An Open Letter from Pfizer Chairman and CEO to Colleagues." 7 May. [https://www.pfizer.com/news/articles/why\\_pfizer\\_opposes\\_the\\_trips\\_intellectual\\_property\\_waiver\\_for\\_covid\\_19\\_vaccines](https://www.pfizer.com/news/articles/why_pfizer_opposes_the_trips_intellectual_property_waiver_for_covid_19_vaccines). Accessed 20 January 2022.
- PhRMA (Pharmaceutical Research and Manufacturers of America). 2021.** "Letter to President Biden from 31 PhRMA Board Members." 5 March. <https://phrma.org/access-to-medicines/letter-to-president-biden-from-31-phrma-board-members>. Accessed 20 January 2022.
- Piccone, T. 2017.** "Democracy and Human Security in Developing Countries." *Democracy and Security Dialogue Working Paper Series*, Brookings Institution, Washington, DC.
- Pinckney, J. 2016.** "Making or Breaking Nonviolent Discipline in Civil Resistance Movements." ICNC Monograph Series, International Center on Nonviolent Conflict, Washington, DC.
- Potts, S. G., Imperatriz-Fonseca, V., Ngo, H., Biesmeijer, J. C., Breeze, T., Dicks, L., Garibaldi, L., and others. 2016.** "Summary for Policymakers of the Assessment Report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) on Pollinators, Pollination and Food Production." Bonn, Germany: IPBES.
- Prabhala, A., Jayadev, A., and Baker, D. 2020.** "Want Vaccines Fast? Suspend Intellectual Property Rights." *The New York Times*, 7 December. <https://www.nytimes.com/2020/12/07/opinion/covid-vaccines-patents.html>. Accessed 1 September 2021.
- Pribble, J. 2013.** *Welfare and Party Politics in Latin America*. Cambridge, UK: Cambridge University Press.
- Priisalu, J., and Ottis, R. 2017.** "Personal Control of Privacy and Data: Estonian Experience." *Health and Technology* 7(4): 441–451.
- Prügl, E. 1999.** *The Global Construction of Gender: Home-based Work in the Political Economy of the 20th Century*. New York: Columbia University Press.
- Purplesec. 2021.** "2020 Cyber Security Statistics." <https://purplesec.us/resources/cyber-security-statistics/>. Accessed 14 December 2021.
- Qiao, X., Shu, X., Tang, Y., Duan, L., Seyler, B. C., Guo, H., Xiao, Y., Ying, Q., and Zhang, H. 2021.** "Atmospheric Deposition of Sulfur and Nitrogen in the West China Rain Zone: Fluxes, Concentrations, Ecological Risks, and Source Apportionment." *Atmospheric Research* 256.
- Radu, S. 2019.** "The Technology That's Turning Heads." *U.S. News and World Report*, 26 July. <https://www.usnews.com/news/best-countries/articles/2019-07-26/growing-number-of-countries-employing-facial-recognition-technology>. Accessed 10 September 2021.
- Rajkumar, R. P. 2020.** "Covid-19 and Mental Health: A Review of the Existing Literature." *Asian Journal of Psychiatry* 52: 102066.
- Raleigh, C., Choi, H. J., and Kniveton, D. 2015.** "The Devil Is in the Details: An Investigation of the Relationships between Conflict, Food Price and Climate across Africa." *Global Environmental Change* 32: 187–199.
- Randolph, S., Fukuda-Parr, S., and Lawson-Remer, T. 2010.** "Economic and Social Rights Fulfillment Index: Country Scores and Rankings." *Journal of Human Rights* 9(3): 230–261.
- Randolph, S., Fukuda-Parr, S., Lawson-Remer, T. 2020.** "SERF Index Methodology 2020 Update Technical Note." Economic and Social Rights Empowerment Initiative, Wellington.
- Rani, U., and Singh, P. J. 2019.** "Digital Platforms, Data, and Development: Implications for Workers in Developing Economies." *Comparative Labor Law and Policy Journal* 41: 263.
- Ray, A., and George, J. 2021.** "Online Hate and Its Routes to Aggression: A Research Agenda." *Proceedings of the 54th Hawaii International Conference on System Sciences*.
- Ray, D. K., West, P. C., Clark, M., Gerber, J. S., Prishchepov, A. V., and Chatterjee, S. 2019.** "Climate Change Has Likely Already Affected Global Food Production." *PLoS One* 14(5): e0217148.
- Reardon, B. A. 2001.** *Education for a Culture of Peace in a Gender Perspective*. Paris: United Nations Educational, Scientific and Cultural Organization.
- Reardon, B. A. 2015.** "Feminist Concepts of Peace and Security." In Betty A. Reardon: *Key Texts in Gender and Peace*. New York: Springer.
- Renick, H. 2020.** "Fire, Forests, and Our Lands: An Indigenous Ecological Perspective." <https://nonprofitquarterly.org/fire-forests-and-our-lands-an-indigenous-ecological-perspective/>. Accessed 23 December 2021.
- Repeckaite, D. 2020.** "How Deportation Became the Core of Europe's Migration Policy." *Jacobin*, 27 July. <https://www.jacobinmag.com/2020/07/deportation-migration-european-union>. Accessed 10 December 2021.
- Richerson, P., Baldini, R., Bell, A. V., Demps, K., Frost, K., Hillis, V., Mathew, S., and others. 2016.** "Cultural Group Selection Plays an Essential Role in Explaining Human Cooperation: A Sketch of the Evidence." *Behavioral and Brain Sciences* 39.
- Rigaud, K. K., De Sherbinin, A., Jones, B., Bergmann, J., Clement, V., Ober, K., Schewe, J., and others. 2018.** *Groundswell: Preparing for Internal Climate Migration*. Washington, DC: World Bank.
- Riigikogu. 2000.** "Public Information Act." Tallinn.
- Riigikogu. 2004.** "Electronic Communications Act." Tallinn.
- Ritchie, H. 2018.** "Global Mental Health: Five Key Insights Which Emerge from the Data." <https://ourworldindata.org/global-mental-health>. Accessed 20 December 2021.
- Ritchie, H. 2019.** "The Number of Children Dying Each Year Has More Than Halved since 1990." <https://ourworldindata.org/global-child-deaths-have-halved-since-1990>. Accessed 5 October 2021.
- Ritchie, H., and Roser, M. 2021.** "Biodiversity." <https://ourworldindata.org/biodiversity>. Accessed 18 October 2021.
- Robbins, B. G. 2016.** "What Is Trust? A Multidisciplinary Review, Critique, and Synthesis." *Sociology Compass* 10(10): 972–986.
- Robbins, R. 2021.** "Pfizer Will Turn to a Plant in Africa to Help Supply the Continent with Vaccines Next Year." *The New York Times*, 21 July. <https://www.nytimes.com/2021/07/21/business/pfizer-will-turn-to-a-plant-in-africa-to-help-supply-the-continent-with-vaccines-next-year.html>. Accessed 1 September 2021.
- Roberts, T. (ed.). 2021.** *Digital Rights in Closing Civic Space: Lessons from Ten African Countries*. Brighton, UK: Institute of Development Studies.
- Rode, A., Baker, R., Carleton, T., D'Agostino, A., Delgado, M., Foreman, T., Greenstone, M., and others. 2021a.** "Labour Disutility in a Warmer World: Impact of Climate Change on the Global Workforce."
- Rode, A., Carleton, T., Delgado, M., Greenstone, M., Houser, T., Hsiang, S., Hultgren, A., and others. 2021b.** "Estimating a Social Cost of Carbon for Global Energy Consumption." *Nature* 598(7880): 308–314.
- Rodgers, D. M. 2020.** *Children in Social Movements: Rethinking Agency, Mobilization and Rights*. Abingdon, UK and New York: Routledge.
- Romero, A. P., Goldberg, S. K., and Vasquez, L. A. 2020.** "LGBT People and Housing Affordability, Discrimination, and Homelessness." University of California Los Angeles, Williams Institute, Los Angeles, CA.
- Roser, M., and Ritchie, H. 2013.** "Maternal Mortality." <https://ourworldindata.org/maternal-mortality>. Accessed 5 October 2021.

- Roser, M., and Ritchie, H. 2019. "Malaria." <https://ourworldindata.org/malaria>. Accessed 5 October 2021.
- Rostila, M., Cederström, A., Wallace, M., Brandén, M., Malmberg, B., and Andersson, G. 2021. "Disparities in Coronavirus Disease 2019 Mortality by Country of Birth in Stockholm, Sweden: A Total-Population-Based Cohort Study." *American Journal of Epidemiology* 190(8): 1510–1518.
- Ruger, J. P. 2004. "Ethics of the Social Determinants of Health." *The Lancet* 364(9439): 1092–1097.
- Rulli, M. C., Santini, M., Hayman, D. T. S., and D'Odorico, P. 2017. "The Nexus between Forest Fragmentation in Africa and Ebola Virus Disease Outbreaks." *Scientific Reports* 7(1): 41613.
- Rundle, H. 2019. "Indigenous Knowledge Can Help Solve the Biodiversity Crisis." *Scientific American*, 12 October. <https://blogs.scientificamerican.com/observations/indigenous-knowledge-can-help-solve-the-biodiversity-crisis/>. Accessed 23 December 2021.
- Runyan, A. S., and Peterson, V. S. 1991. "The Radical Future of Realism: Feminist Subversions of IR Theory." *Alternatives* 16(1): 67–106.
- Saksena, P., Xu, K., and Durairaj, V. 2010. "The Drivers of Catastrophic Expenditure: Outpatient Services, Hospitalization or Medicines?" Background paper for the 2010 World Health Report, World Health Organization, Geneva.
- Sandel, M. J. 2020. *The Tyranny of Merit: What's Become of the Common Good?* London: Penguin Press.
- Sarker, M. A. R., Alam, K., and Gow, J. 2012. "Exploring the Relationship between Climate Change and Rice Yield in Bangladesh: An Analysis of Time Series Data." *Agricultural Systems* 112: 11–16.
- Sasse, J.-P., and Trutnevyte, E. 2020. "Regional Impacts of Electricity System Transition in Central Europe until 2035." *Nature Communications* 11(1): 1–14.
- Satici, B., Saricali, M., Satici, S. A., and Griffiths, M. D. 2020. "Intolerance of Uncertainty and Mental Wellbeing: Serial Mediation by Rumination and Fear of Covid-19." *International Journal of Mental Health and Addiction* 2020 (May): 1–12.
- Saxena, S. 2018. "Excess Mortality among People with Mental Disorders: A Public Health Priority." *The Lancet Public Health* 3(6): e264–e265.
- Schelling, T. C. 1965. "Strategic Analysis and Social Problems." *Social Problems* 12(4): 367–379.
- Scheurer, M., and Bigalke, M. 2018. "Microplastics in Swiss Floodplain Soils." *Environmental Science & Technology* 52(6).
- Schilke, O., Reimann, M., and Cook, K. S. 2015. "Power Decreases Trust in Social Exchange." *Proceedings of the National Academy of Sciences* 112(42): 12950–12955.
- Schilke, O., Reimann, M., and Cook, K. S. 2021. "Trust in Social Relations." *Annual Review of Sociology* 47(1): 239–259.
- Schillings, T., and Sánchez-Ancochea, D. 2021. "The Role of Health Care Universalism in Advancing Human Security." Background paper for the Special Report on Human Security, United Nations Development Programme, Human Development Report Office, New York.
- Schlosberg, D., and Carruthers, D. 2010. "Indigenous Struggles, Environmental Justice, and Community Capabilities." *Global Environmental Politics* 10(4).
- Schuster, R., Germain, R. R., Bennett, J. R., Reo, N. J., and Arcese, P. 2019. "Vertebrate Biodiversity on Indigenous-managed Lands in Australia, Brazil, and Canada Equals that in Protected Areas." *Environmental Science & Policy* 101: 1–6.
- Seddon, N., Chausson, A., Berry, P., Girardin, C. A. J., Smith, A., and Turner, B. 2020. "Understanding the Value and Limits of Nature-based Solutions to Climate Change and Other Global Challenges." *Philosophical Transactions of the Royal Society B: Biological Sciences* 375(1794).
- Sen, A. 2001. *Development as Freedom*. Oxford, UK: Oxford Paperbacks.
- Sen, A. K. 2005a. "Human Rights and Capabilities." *Journal of Human Development* 6(2): 151–166.
- Sen, A. K. 2005b. "Women and Men." In *The Argumentative Indian: Writings on Indian History, Culture and Identity*. New York: Farrar, Straus and Giroux.
- Sen, A. 2008. "Why and How Is Health a Human Right?" *The Lancet* 372(9655): 2010.
- Sen, A. 2009. *The Idea of Justice*. Cambridge, MA: Harvard University Press.
- Sen, A. 2015. "Universal Healthcare: The Affordable Dream." *The Guardian*, 6 January. <https://www.theguardian.com/society/2015/jan/06/sp-universal-healthcare-the-affordable-dream-amartya-sen>. Accessed 1 November 2021.
- Serianu. 2017. *Africa Cyber Security Reports 2017*. Nairobi.
- Shami, E. 2021. "Assessing the Risks of Civilian Harm from Military Cyber Operations during Armed Conflicts." *Humanitarian Law and Policy*, 22 June. <https://blogs.icrc.org/law-and-policy/2021/06/22/risks-civilian-harm-cyber-operations/>. Accessed 28 July 2021.
- Sharkey, P. 2018. "The Long Reach of Violence: A Broader Perspective on Data, Theory, and Evidence on the Prevalence and Consequences of Exposure to Violence." *Annual Review of Criminology* 1: 85–102.
- Sharma, S., and Chatterjee, S. 2017. "Microplastic Pollution, a Threat to Marine Ecosystem and Human Health: A Short Review." *Environmental Science and Pollution Research* 24: 21530–21547.
- Sharp, G. 2011. "Loss of Genetic Diversity in U.S. Food Crops." *Sociological Images* blog, 18 July. <https://thesocietypages.org/socimages/2011/07/19/loss-of-genetic-diversity-in-u-s-food-crops/>.
- Shepherd, L. 2008. *Gender, Violence and Security: Discourse as Practice*. London: Zed Books.
- Shepherd, L. J. 2010. "Sex or Gender? Bodies in World Politics and Why Gender Matters." In *Gender Matters in Global Politics: A Feminist Introduction to International Relations*. Abingdon, UK and New York: Routledge.
- Shiva Kumar, A. K. 2021. "Covid-19 and Human Insecurity." Policy Brief. United Nations Development Programme, Regional Bureau for Asia and the Pacific, Strategy, Policy and Partnerships Team, New York.
- Simon, S. 2020. "Subtle Connections: Pandemic and the Authoritarian Impulse." *Survival* 62(3): 103–111.
- Slaughter, A.-M. 2009. *A New World Order*. Princeton, NJ: Princeton University Press.
- Slaughter, A.-M. 2017. *The Chessboard and the Web*. New Haven, CT: Yale University Press.
- Sluijs, J. P. v. d., and Vaage, N. S. 2016. "Pollinators and Global Food Security: The Need for Holistic Global Stewardship." *Food Ethics* 1: 75–91.
- Small Arms Survey. 2018. "Global Firearms Holdings." Geneva. <https://www.smallarmssurvey.org/database/global-firearms-holdings>. Accessed 8 August 2021.
- Smith, D. 2021. "The Security Space in the Anthropocene Epoch." In Lövbrand, E., and Möbjörk, M., (eds.), *Anthropocene (in)Securities Reflections on Collective Survival 50 Years after the Stockholm Conference*. Oxford, UK: Oxford University Press.
- Smith, L. C., Ramakrishnan, U., Ndiaye, A., Haddad, L., and Martorell, R. 2003. "The Importance of Women's Status for Child Nutrition in Developing Countries: International Food Policy Research Institute (IFPRI) Research Report Abstract 131." *Food and Nutrition Bulletin* 24(3): 287–288.
- Smith, R., Corrigan, P., and Exeter, C. 2012. *Countering Non-Communicable Disease through Innovation*. Report of the Non-Communicable Disease Working Group 2012. Geneva: World Health Organization.
- Sobrevila, C. 2008. *The Role of Indigenous Peoples in Biodiversity Conservation: The Natural but Often Forgotten Partners*. Washington, DC: World Bank.
- Soroye, P., Newbold, T., and Kerr, J. 2020. "Climate Change Contributes to Widespread Declines among Bumble Bees across Continents." *Science* 367(6478): 685–688.
- Spence, M., Stiglitz, J., and Ghosh, J. 2021. "Avoiding a K-Shaped Global Recovery." *Project Syndicate*, 24 March. <https://www.project-syndicate.org/commentary/global-economy-avoiding-k-shaped-recovery-by-michael-spence-et-al-2021-03>. Accessed 10 June 2021.
- Stankovich, M. M. 2021. "Regulating AI and Big Data Deployment in Healthcare: Proposing Robust and Sustainable Solutions for Developing Countries' Governments." *AI/IS*, 30 September (updated 13 October). <https://aisis-2021.nucleares.unam.mx/keynotes/stankovich/>. Accessed 1 September 2021.
- Steans, J. 1998. *Gender and International Relations: An Introduction*. New Brunswick, NJ: Rutgers University Press.

- Stewart, F. 2005.** "Horizontal Inequalities: A Neglected Dimension of Development." In United Nations University World Institute for Development Economics Research (ed.), *Wider Perspectives on Global Development*. New York: Springer.
- Stewart, F. 2016.** "The Dynamics of Horizontal Inequalities." 2016 UNDP Human Development Report Think Piece, United Nations Development Programme, Human Development Report Office, New York.
- Stewart, F., Holdstock, D., and Jarquin, A. 2002.** "Root Causes of Violent Conflict in Developing Countries. Commentary: Conflict—from Causes to Prevention?" *BMJ* 324(7333): 342–345.
- Storeng, K. T., Puyvallée, A. d. B., and Stein, F. 2021.** "COVAX and the Rise of the 'Super Public Private Partnership' for Global Health." *Global Public Health*. <https://doi.org/10.1080/17441692.2021.1987502>.
- Stotzer, R. L. 2009.** "Violence against Transgender People: A Review of United States Data." *Aggression and Violent Behavior* 14(3): 170–179.
- Sunderland, T., Powell, B., Ickowitz, A., Foli, S., Pinedo-Vasquez, M., Nasi, R., and Padoch, C. 2013.** "Food Security and Nutrition." Center for International Forestry Research, Bogor, Indonesia.
- Suriyasarn, B. 2016.** "Discrimination and Marginalization of LGBT Workers in Thailand." In Köllen, T. (ed.), *Sexual Orientation and Transgender Issues in Organizations*. Cham, Switzerland: Springer.
- Swindle, R., and Newhouse, D. 2021.** "Barriers to Accessing Medical Care in Sub-Saharan Africa (SSA) in Early Stages of Covid-19 Pandemic." *Poverty and Equity Notes* 38, World Bank, Washington, DC.
- Sylvester, C. 1994.** *Feminist Theory and International Relations in a Postmodern Era*. Cambridge, UK: Cambridge University Press.
- Szafarski, M., and Bauldry, S. 2019.** "The Effects of Perceived Discrimination on Immigrant and Refugee Physical and Mental Health." *Advances in Medical Sociology* 19: 173–204.
- Szkordilis, F. 2014.** "Mitigation of Urban Heat Island by Green Spaces." *Pollack Periodica* 9(1): 91–100.
- Tadjbakhsh, S. 2013.** "In Defense of the Broad View of Human Security." *Routledge Handbook of Human Security*. Abingdon, UK: Routledge.
- Tadjbakhsh, S., and Chenoy, A. 2007.** *Human Security: Concepts and Implications*. Abingdon, UK: Routledge.
- Takasu, Y. and Japan International Cooperation Agency Ogata Sadako Research Institute for Peace and Development. 2019.** "SDGs and Japan Human Security Indicators for Leaving No One Behind." Tokyo.
- Tarabab, A., Badr, L. K., Usta, J., and Doyle, J. 2016.** "Exposure to Violence and Children's Desensitization Attitudes in Lebanon." *Journal of Interpersonal Violence* 31(18): 3017–3038.
- Tegmark, M., Russell, S., Aguirre, A., Javorsky, E. 2021.** "Lethal Autonomous Weapons Exist; They Must Be Banned." *IEEE Spectrum*, 16 June. <https://spectrum.ieee.org/lethal-autonomous-weapons-exist-they-must-be-banned>. Accessed 17 November 2021.
- Teng, A. M., Atkinson, J., Disney, G., Wilson, N. and Blakely, T. 2017.** "Changing Socioeconomic Inequalities in Cancer Incidence and Mortality: Cohort Study with 54 Million Person-Years Follow-up 1981–2011." *International Journal of Cancer* 140(6): 1306–1316.
- Thomas, A., Baptiste, A., Martyr-Koller, R., Pringle, P., and Rhiney, K. 2020.** "Climate Change and Small Island Developing States." *Annual Review of Environment and Resources* 45: 1–27.
- Thomas, C. C., Otis, N. G., Abraham, J. R., Markus, H. R., and Walton, G. M. 2020.** "Toward a Science of Delivering Aid with Dignity: Experimental Evidence and Local Forecasts from Kenya." *Proceedings of the National Academy of Sciences* 117(27): 15546–15553.
- Thöni, C. 2017.** "Trust and Cooperation: Survey Evidence and Behavioral Experiments." In Lange, P. V., Rockenbach, B. and Yamagishi, M., (eds.), *Trust in Social Dilemmas*. New York: Oxford University Press.
- Tickner, J. A. 1992.** *Gender in International Relations: Feminist Perspectives on Achieving Global Security*. New York: Columbia University Press.
- Tickner, J. A. 1995.** "Introducing Feminist Perspectives into Peace and World Security Courses." *Women's Studies Quarterly* 23(3/4): 48–57.
- Tickner, J. A. 1999a.** "Feminist Perspectives on Security in a Global Economy." In Thomas, C., and Wilkin, P., (eds.), *Globalization, Human Security, and the African Experience*. Boulder, CO: Lynne Rienner.
- Tickner, J. A. 1999b.** "Why Women Can't Run the World: International Politics According to Francis Fukuyama." *International Studies Review* 1(3): 3–11.
- Tickner, J. A. 2005.** "Gendering a Discipline: Some Feminist Methodological Contributions to International Relations." *Signs: Journal of Women in Culture and Society* 30(4): 2173–2188.
- Tickner, J. A. 2015.** "Revisiting IR in a Time of Crisis: Learning from Indigenous Knowledge." *International Feminist Journal of Politics* 17(4): 536–553.
- Trans Murder Monitoring Observatory. 2020.** "TMM Update Trans Day of Remembrance 2020." Press Release, 11 November. <https://transrespect.org/en/tmm-update-tdor-2020/>. Accessed 10 January 2022.
- Trans Murder Monitoring Observatory. 2021.** "TMM Update Trans Day of Remembrance 2021."
- Trejo, G., and Ley, S. 2020.** *Votes, Drugs, and Violence: The Political Logic of Criminal Wars in Mexico*. Cambridge, UK: Cambridge University Press.
- Tunggal, A. T. 2021.** "What Is a Cyber Threat?" UpGuard. <https://www.upguard.com/blog/cyber-threat>. Accessed 17 November 2021.
- Turley, J. 2020.** "Anonymity, Obscurity, and Technology: Reconsidering Privacy in the Age of Biometrics." *Boston University Law Review* 100(6): 2179–2262.
- Tutwiler, M. A., Bailey, A., Attwood, S., Remans, R., and Ramirez, M. 2017.** "Agricultural Biodiversity and Food System Sustainability." *Mainstreaming Agrobiodiversity in Sustainable Food Systems*. Rome: Biodiversity International.
- UN (United Nations). 1948.** "Universal Declaration of Human Rights." United Nations General Assembly Resolution 217 A 302(2): 14–25.
- UN (United Nations). 2000.** "Resolution 1325." New York: United Nations.
- UN (United Nations). 2012.** "Resolution Adopted by the General Assembly on 10 September 2012." A/RES/66/290. New York.
- UN (United Nations). 2013.** "Follow-up to General Assembly Resolution 66/290 on Human Security: Report of the Secretary-General." A/68/685. New York.
- UN (United Nations). 2015a.** "General Assembly Resolution A/RES/70/1, 2015, para. 4." New York: United Nations.
- UN (United Nations). 2015b.** "Transforming Our World: The 2030 Agenda for Sustainable Development." General Assembly Resolution A/Res/70/1. New York.
- UN (United Nations). 2016.** "General Assembly, Seventy-first Session. Promotion and Protection of Human Rights: Human Rights Questions, Including Alternative Approaches for Improving the Effective Enjoyment of Human Rights and Fundamental Freedoms. Human Rights of Migrants." New York.
- UN (United Nations). 2020a.** "Inclusive, Networked Multilateralism Vital for Better World Governance, Says Secretary-General, at General Assembly's Seventy-Fifth Anniversary Meeting." SG/SM/20264. New York.
- UN (United Nations). 2020b.** "The Impact of Covid-19 on Food Security and Nutrition." Policy Brief. New York.
- UN (United Nations). 2020c.** "A New Era of Conflict and Violence." <https://www.un.org/en/un75/new-era-conflict-and-violence>. Accessed 14 December 2021.
- UN (United Nations). 2020d.** "Secretary-General Highlights 'Essential' Failure of International Cooperation, in Address to Security Council Meeting on Post-Coronavirus Global Governance." <https://www.un.org/press/en/2020/sc14312.doc.htm>. Accessed 30 November 2021.
- UN (United Nations). 2021a.** "Climate Change Link to Displacement of Most Vulnerable Is Clear: UNHCR." Press Release, 22 April. <https://news.un.org/en/story/2021/04/1090432>.
- UN (United Nations). 2021b.** *Conflict-Related Sexual Violence: Report of the United Nations Secretary General*. New York.
- UN (United Nations). 2021c.** "Humanity Remains Unacceptably Close to Nuclear Annihilation, Says UN Chief on International Day." New York. <https://news.un.org/en/story/2021/09/1101242>. Accessed 14 December 2021.
- UN (United Nations). 2021d.** *Our Common Agenda: Report of the Secretary-General*. New York.
- UN (United Nations). 2021e.** "Secretary-General Calls Vaccine Equity Biggest Moral Test for Global Community, as Security Council Considers Equitable Availability of Doses." Press Release, 17 February. <https://www.un.org/press/en/2021/sc14438.doc.htm>. Accessed 11 September 2021.



**UN (United Nations). 2021f.** *The UN Security Council and Climate Change*. New York.

**UN (United Nations) and Folke Bernadotte Academy. 2021.** *Youth, Peace and Security: A Programming Handbook*. New York.

**UN (United Nations) and World Bank. 2018.** *Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict*. New York: United Nations.

**UN Platform on Social Determinants of Health. 2016.** "Health in the Post-2015 Development Agenda: Need for a Social Determinants of Health Approach." Joint Statement of the UN Platform on Social Determinants of Health. <https://www.who.int/publications/m/item/health-in-the-post-2015-development-agenda-need-for-a-social-determinants-of-health-approach>. Accessed 20 December 2021.

**UN Women (United Nations Entity for Gender Equality and the Empowerment of Women). 2015.** "Preventing Conflict, Transforming Justice, Securing the Peace: A Global Study on the Implementation of United Nations Security Council Resolution 1325." New York.

**UN Women (United Nations Entity for Gender Equality and the Empowerment of Women). 2017.** "Youth Leap into Gender Equality. UN Women's Youth and Gender Equality Strategy: Empowered Young Women and Young Men as Partners in Achieving Gender Equality." Policy strategies, New York.

**UN Women (United Nations Entity for Gender Equality and the Empowerment of Women). 2020a.** "From Insights to Action: Gender Equality in the Wake of COVID-19." New York.

**UN Women (United Nations Entity for Gender Equality and the Empowerment of Women). 2020b.** "Policy Brief: The Impact of Covid-19 on Women." New York.

**UN Women (United Nations Entity for Gender Equality and the Empowerment of Women). 2021a.** "Frequently Asked Questions: Types of Violence against Women and Girls." New York. <https://www.unwomen.org/en/what-we-do/ending-violence-against-women/faqs/types-of-violence>. Accessed 10 January 2022.

**UN Women (United Nations Entity for Gender Equality and the Empowerment of Women). 2021b.** *Measuring the Shadow Pandemic: Violence against Women During Covid-19*. New York: UN Women.

**UNAIDS (Joint United Nations Programme on HIV and AIDS). 2021.** "Global HIV & AIDS Statistics: Fact Sheet." Geneva.

**UNDESA (United Nations Department of Economic and Social Affairs). 2015.** "Millennium Development Goals Indicators website." <https://unstats.un.org/unsd/mdg/default.aspx>. Accessed 23 December 2021.

**UNDESA (United Nations Department of Economic and Social Affairs). 2016a.** "Economic Inequalities in Old Age." New York.

**UNDESA (United Nations Department of Economic and Social Affairs). 2016b.** "Income Poverty in Old Age: An Emerging Development Priority." New York.

**UNDESA (United Nations Department of Economic and Social Affairs). 2018.** *State of the World's*

*Indigenous Peoples II: Indigenous Peoples' Access to Health Services*. New York.

**UNDESA (United Nations Department of Economic and Social Affairs). 2019.** *World Population Ageing 2019*. New York.

**UNDESA (United Nations Department of Economic and Social Affairs). 2020.** "International Migration 2020 Highlights." New York.

**UNDESA (United Nations Department of Economic and Social Affairs). 2020.** *The Sustainable Development Goals Report 2020*. New York. <https://doi.org/10.18356/214e6642-en>.

**UNDESA (United Nations Department of Economic and Social Affairs). 2021.** "Goal 3. Ensure Healthy Lives and Promote Well-Being for All at All Ages." New York. <https://unstats.un.org/sdgs/metadata/?Text=&Goal=3&Target=3.8>. Accessed 7 November 2021.

**UNDP (United Nations Development Programme). 1994.** *Human Development Report 1994: New Dimensions of Human Security*. New York: Oxford University Press.

**UNDP (United Nations Development Programme). 2001.** *Human Development Report 2001: Making New Technologies Work for Human Development*. New York.

**UNDP (United Nations Development Programme). 2016a.** *Risk-Proofing the Western Balkans: Empowering People to Prevent Disasters. Regional Human Development Report 2016: Western Balkans*. New York.

**UNDP (United Nations Development Programme). 2016b.** *Serbia NHDR 2016: Social Capital, the Invisible Face of Resilience*. New York.

**UNDP (United Nations Development Programme). 2016c.** *Being LGBTI in China—A National Survey on Social Attitudes towards Sexual Orientation, Gender Identity and Gender Expression*. New York.

**UNDP (United Nations Development Programme). 2019a.** *Human Development Report 2019: Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in the 21st Century*. New York.

**UNDP (United Nations Development Programme). 2019b.** *Tolerance but Not Inclusion: A National Survey on Experiences of Discrimination and Social Attitudes towards LGBT People in Thailand*. Bangkok.

**UNDP (United Nations Development Programme). 2020a.** "COVID-19 Will Widen Poverty Gap between Women and Men, New UN Women and UNDP Data Show." New York. <https://www.undp.org/press-releases/covid-19-will-widen-poverty-gap-between-women-and-men-new-un-women-and-undp-data>. Accessed 10 January 2022.

**UNDP (United Nations Development Programme). 2020b.** "Gender Inequality and the Covid-19 Crisis: A Human Development Perspective." UNDP Human Development Working Paper. New York.

**UNDP (United Nations Development Programme). 2020c.** *Human Development Report 2020: The Next Frontier: Human Development and the Anthropocene*. New York.

**UNDP (United Nations Development Programme). 2020d.** *Tackling Social Norms, A Game Changer for Gender Inequalities*. Human Development Perspectives. New York.

**UNDP (United Nations Development Programme). 2020e.** "UNDP Brief: Gender-Based Violence and COVID-19." New York.

**UNDP (United Nations Development Programme). 2020f.** "Covid-19 and Human Development: Assessing the Crisis, Envisioning the Recovery." 2020 Human Development Perspectives. New York.

**UNDP (United Nations Development Programme). 2020g.** "UNDP Supported the Development of a Telemedicine Application." Press Release, 9 December. <https://www.kg.undp.org/content/kyrgyzstan/en/home/presscenter/pressreleases/2020/12/undp-supported-the-development-of-a-telemedicine-application.html>. Accessed 1 September 2021.

**UNDP (United Nations Development Programme). 2021.** "Informe de Resultados Encuesta Nacional LGBTI 2020." New York.

**UNDP (United Nations Development Programme), WHO (World Health Organization) and University of Oxford. 2021.** *Global Dashboard for Vaccine Equity*. New York: United Nations Development Programme.

**UNEP (United Nations Environment Programme). 2018.** *Inclusive Wealth Report 2018*. Nairobi, Kenya.

**UNEP (United Nations Environment Programme). 2019.** "Better Sewage Treatment Critical for Human Health and Ecosystems." Press Release, 5 April. <https://www.unep.org/news-and-stories/story/better-sewage-treatment-critical-human-health-and-ecosystems>. Accessed 23 December 2021.

**UNEP (United Nations Environment Programme). 2021.** *Making Peace for Nature: A Scientific Blueprint to Tackle the Biodiversity and Pollution Emergencies*. Nairobi.

**UNFPA (United Nations Population Fund), UN Women (United Nations Entity for Gender Equality and the Empowerment of Women) and UNDP (United Nations Development Programme). 2017.** "‘Freedom from Fear’: Ending Violence against Women." New York: UNFPA. <https://www.unfpa.org/press/%E2%80%98freedom-fear%E2%80%99-ending-violence-against-women>. Accessed 10 January 2022.

**UNHCR (United Nations High Commissioner for Refugees). 1951.** "Convention and Protocol Relating to the Status of Refugees." Geneva.

**UNHCR (United Nations High Commissioner for Refugees). 2015.** *Protection and Solutions Strategy for the Northern Triangle of Central America, 2016–2018*. Geneva.

**UNHCR (United Nations High Commissioner for Refugees). 2018.** *Desperate Journeys: Refugees and Migrants Arriving in Europe and at Europe's Borders*. Geneva.

**UNHCR (United Nations High Commissioner for Refugees). 2019.** *Global Trends: Forced Displacement in 2018*. Geneva.

- UNHCR (United Nations High Commissioner for Refugees). 2020.** Refugee Data Finder. Geneva. <https://www.unhcr.org/refugee-statistics/>. Accessed 10 August 2021
- UNHCR (United Nations High Commissioner for Refugees). 2021a.** *Global Trends: Forced Displacement in 2020*. Copenhagen.
- UNHCR (United Nations High Commissioner for Refugees). 2021b.** "Operational Data Portal: Refugee Situations, Mediterranean Situation." Geneva.
- UNHCR (United Nations High Commissioner for Refugees). 2021c.** "Venezuela Situation." <https://www.unhcr.org/en-us/venezuela-emergency.html>. Accessed 17 December 2021.
- UNHCR (United Nations High Commissioner for Refugees). 2021d.** "What Is the Difference between Population Statistics for Forcibly Displaced and the Population of Concern to UNHCR?" <https://www.unhcr.org/refugee-statistics/insights/explainers/forcibly-displaced-pocs.html>. Accessed 19 January 2022.
- UNHCR (United Nations High Commissioner for Refugees) and UNICEF (United Nations Children's Fund). 2019.** "Families on the Run: Why Families Flee from Northern Central America." Geneva.
- UNICEF (United Nations Children's Fund). 2019.** *The State of the World's Children 2019: Children, Food and Nutrition: Growing Well in a Changing World*. New York.
- UNICEF (United Nations Children's Fund). 2020a.** "Children Recruited by Armed Forces." Updated 27 August 2021. <https://www.unicef.org/protection/children-recruited-by-armed-forces>. Accessed 17 December 2021.
- UNICEF (United Nations Children's Fund). 2020b.** *Female Genital Mutilation: A New Generation Calls for Ending an Old Practice*. New York.
- UNICEF (United Nations Children's Fund). 2021a.** "Children Under Attack." <https://www.unicef.org/children-under-attack>. Accessed 17 December 2021.
- UNICEF (United Nations Children's Fund). 2021b.** "Six Grave Violations against Children in Times of War." <https://www.unicef.org/stories/children-under-attack-six-grave-violations-against-children-times-war>. Accessed 17 December 2021.
- UNICEF (United Nations Children's Fund). 2021c.** *The State of the World's Children 2021: On My Mind: Promoting, Protecting and Caring for Children's Mental Health*. New York.
- UNICEF (United Nations Children's Fund). 2021d.** "Child Displacement." <https://data.unicef.org/topic/child-migration-and-displacement/displacement/>. Accessed 10 January 2022.
- UNICEF (United Nations Children's Fund). 2021e.** "Covid-19 'Biggest Global Crisis for Children in Our 75-Year History.'" Press release, 9 December, New York.
- UNICEF (United Nations Children's Fund). 2021f.** "Impact of Covid-19 on Poor Mental Health in Children and Young People 'Tip of the Iceberg.'" Press release, 4 October, New York.
- UNICEF (United Nations Children's Fund). 2021g.** "Nearly 240 Million Children with Disabilities around the World, Unicef's Most Comprehensive Statistical Analysis Finds." Press release, 10 November, New York.
- UNICEF (United Nations Children's Fund). 2021h.** *Preventing a Lost Decade: Urgent Action to Reverse the Devastating Impact of Covid-19 on Children and Young People*. New York.
- UNICEF (United Nations Children's Fund). 2021i.** *Unicef Humanitarian Action for Children 2022 - Overview*. New York.
- UNICEF (United Nations Children's Fund) and Gallup. 2021.** *The Changing Childhood Project Report*. New York: UNICEF.
- UNICEF (United Nations Children's Fund) and ITU (International Telecommunication Union). 2020.** *How Many Children and Young People Have Internet Access at Home? Estimating Digital Connectivity during the Covid-19 Pandemic*. New York: UNICEF.
- UN-Water. 2021.** "Summary Progress Update 2021: SDG 6 – Water and Sanitation for All." Geneva. <https://www.unwater.org/app/uploads/2021/12/SDG-6-Summary-Progress-Update-2021-Version-July-2021a.pdf>. Accessed 10 January 2022.
- United Nations Human Rights Committee. 2020.** "General Comment No. 37 (2020) on the Right of Peaceful Assembly (Article 21)." CCPR/C/GC/37. New York.
- United Nations Inter-Agency Support Group on Indigenous Issues. 2014.** "Indigenous People's Access to Decent Work and Social Protection." Thematic paper towards the preparation of the 2014 World Conference on Indigenous Peoples. [https://www.un.org/en/ga/69/meetings/indigenous/pdf/IASG%20Thematic%20paper\\_%20Employment%20and%20Social%20Protection%20-%20rev1.pdf](https://www.un.org/en/ga/69/meetings/indigenous/pdf/IASG%20Thematic%20paper_%20Employment%20and%20Social%20Protection%20-%20rev1.pdf).
- United Nations Statistics Division. 2021.** "SDG Indicators: Metadata Repository." <https://unstats.un.org/sdgs/metadata/>. Accessed 3 December 2021.
- United Nations Trust Fund for Human Security. 2016.** *Human Security Handbook: An Integrated Approach for the Realization of the Development Sustainable Goals and the Priority Areas of the International Community and the United Nations System*. New York: United Nations.
- UNODA (United Nations Office for Disarmament Affairs). 2018.** *Securing Our Common Future: An Agenda for Disarmament*. New York.
- UNODC (United Nations Office on Drugs and Crime). 2018.** *Global Study on Homicide: Gender-related Killing of Women and Girls*. Vienna.
- UNODC (United Nations Office on Drugs and Crime). 2019.** *Global Study on Homicide*. Vienna.
- UNODC (United Nations Office on Drugs and Crime). 2020.** *Global Report on Trafficking in Persons 2020*. Vienna.
- UNODC (United Nations Office on Drugs and Crime). 2021.** "Killings of Women and Girls by Their Intimate Partner or Other Family Members: Global Estimates 2020." Vienna. [https://www.unodc.org/documents/data-and-analysis/statistics/crime/UN\\_BriefFem\\_251121.pdf](https://www.unodc.org/documents/data-and-analysis/statistics/crime/UN_BriefFem_251121.pdf).
- UNODC (United Nations Office on Drugs and Crime). n.d.** "Smuggling of Migrants: The Harsh Search for a Better Life." Vienna.
- UNPFII (United Nations Permanent Forum on Indigenous Issues). 2016.** *State of the World's Indigenous Peoples: Indigenous People's Access to Health Services*. New York.
- Urbaniak, R., Ptasiński, M., Tempska, P., Leliwa, G., Brochocki, M., and Wroczyński, M. 2022.** "Personal Attacks Decrease User Activity in Social Networking Platforms." *Computers in Human Behavior* 126: 106972.
- US Customs and Border Patrol. 2021.** "Southwest Land Border Encounters." Washington, DC.
- US Department of Homeland Security. 2019.** *Yearbook of Immigration Statistics 2019*. Washington, DC.
- Vaeza, M.-N. 2020.** "Addressing the Impact of the Covid-19 Pandemic on Violence against Women and Girls." <https://www.un.org/en/addressing-impact-covid-19-pandemic-violence-against-women-and-girls>. Accessed 2 December 2021.
- Valera, S., and Guàrdia, J. 2014.** "Perceived Insecurity and Fear of Crime in a City with Low-Crime Rates." *Journal of Environmental Psychology* 38: 195–205.
- Valimised. 2021.** "Statistics about Internet Voting in Estonia." <https://www.valimised.ee/en/archive/statistics-about-internet-voting-estonia>. Accessed 14 December 2021.
- van der Made, J. 2021.** "Chinese Tech, Ignored by the West, Is Taking over Africa's Cyberspace." *RFI*, 22 July. <https://www.rfi.fr/en/science-and-technology/20210722-chinese-tech-ignored-by-the-west-is-taking-over-africa-s-cyberspace>. Accessed 17 November 2021.
- Van Lange, P. 2015.** "Generalized Trust: Four Lessons from Genetics and Culture." *Current Directions in Psychological Science* 24(1): 71–76.
- van Munster, R., and Sylvest, C. 2021.** "Nuclear Weapons, Extinction, and the Anthropocene: Reappraising Jonathan Schell." *Review of International Studies* 47(3): 294–310.
- van Raalte, A. A., Sasson, I., and Martikainen, P. 2018.** "The Case for Monitoring Life-Span Inequality." *Science* 362(6418): 1002–1004.
- Vera-Adrianzén, F., Dixon, P., Ortega, D., Cubillos Rodríguez, E., Muñoz Ramírez, M., Arias Callejas, R., Bonilla Lozada, S., and others. 2020.** "Trash Is Piling up in Rural Colombia—That's a Bad Sign for Peace." *Political Violence at a Glance*, 2 July. <https://politicalviolenceataglance.org/2020/07/02/trash-is-piling-up-in-rural-colombia-thats-a-bad-sign-for-peace/>. Accessed 26 November 2021.
- Vesco, P., Kovacic, M., Mistry, M., and Croicu, M. 2021.** "Climate Variability, Crops and Conflict: Exploring the Impacts of Spatial Concentration in

Agricultural Production." *Journal of Peace Research* 58(1): 98–113.

**Vicedo-Cabrera, A. M., Scovronick, N., and Gasparini, A. 2021.** "The Burden of Heat-Related Mortality Attributable to Recent Human-Induced Climate Change." *Nature Climate Change* 11: 492–500.

**Volaco, A., Cavalcanti, A. M., and Précoma, D. B. 2018.** "Socioeconomic Status: The Missing Link between Obesity and Diabetes Mellitus?" *Current Diabetes Reviews* 14(4): 321–326.

**von Uexkull, N., and Buhaug, H. 2021.** "Security Implications of Climate Change: A Decade of Scientific Progress." *Journal of Peace Research* 58(1).

**Vörösmarty, C. J., Stewart-Koster, B., Green, P. A., Boone, E. L., Flörke, M., Fischer, G., Wiberg, D. A., and others. 2021.** "A Green-Gray Path to Global Water Security and Sustainable Infrastructure." *Global Environmental Change* 70: 102344.

**Wachter, S., Mittelstadt, B., and Floridi, L. 2017.** "Transparent, Explainable, and Accountable AI for Robotics." *Science Robotics* 2(6): eaan6080.

**Waldron, I. R. 2020.** "The Wounds That Do Not Heal: Black Expendability and the Traumatizing Aftereffects of Anti-Black Police Violence." *Equality, Diversity and Inclusion: An International Journal* 40(1): 29–40.

**Walker, R., Kyomuhendo, G. B., Chase, E., Choudhry, S., Gubrium, E. K., Nicola, J. Y., Lødemel, I., and others. 2013.** "Poverty in Global Perspective: Is Shame a Common Denominator?" *Journal of Social Policy* 42(2): 215–233.

**Walker, W. S., Gorelik, S. R., Baccini, A., Aragon-Osejo, J. L., Josse, C., Meyer, C., Macedo, M. N., and others. 2020.** "The Role of Forest Conversion, Degradation, and Disturbance in the Carbon Dynamics of Amazon Indigenous Territories and Protected Areas." *Proceedings of the National Academy of Sciences* 117(6): 3015–3025.

**Wallace, R. 2016.** *Big Farms Make Big Flu: Dispatches on Influenza, Agribusiness, and the Nature of Science*. New York: NYU Press.

**Wang, H., Zhang, Y., Zhao, H., Lu, X., Zhang, Y., Zhu, W., Nielsen, C. P., and others. 2017.** "Trade-driven Relocation of Air Pollution and Health Impacts in China." *Nature Communications* 8(1): 738.

**Waring, R. H., Harris, R. M., and Mitchell, S. C. 2018.** "Plastic Contamination of the Food Chain: A Threat to Human Health?" *Maturitas* 115: 64–68.

**Watts, N., Amann, M., Ayeb-Karlsson, S., Belesova, K., Bouley, T., Boykoff, M., Byass, P., and others. 2018.** "The Lancet Countdown on Health and Climate Change: From 25 Years of Inaction to a Global Transformation for Public Health." *The Lancet* 391(10120): 581–630.

**WEF (World Economic Forum). 2021.** "What Does Waiving Intellectual Property Rights for Covid-19 Vaccines Mean?" <https://www.weforum.org/agenda/2021/05/could-the-world-be-about-to-waive-covid-19-vaccines>. Accessed 1 September 2021.

**Weisse, M., and Dow Goldman, E. 2020.** "We Lost a Football Pitch of Primary Rainforest Every 6 Seconds in 2019." World Resources Institute blog, 2 June. <https://www.wri.org/blog/2020/06/global-tree-cover-loss-data-2019>. Accessed 23 December 2021.

**Wenz, L., Levermann, A., and Auffhammer, M. 2017.** "North–South Polarization of European Electricity Consumption under Future Warming." *Proceedings of the National Academy of Sciences* 114(38): E7910.

**WHO (World Health Organization). 2010a.** *Global Status Report on Noncommunicable Diseases 2010*. Geneva.

**WHO (World Health Organization). 2010b.** *World Health Report 2010: Health Systems Financing: The Path to Universal Coverage*. Geneva.

**WHO (World Health Organization). 2013.** *Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020*. Geneva.

**WHO (World Health Organization). 2014.** *Global Status Report on Noncommunicable Diseases 2014*. Geneva.

**WHO (World Health Organization). 2015a.** "Meeting Report on Excess Mortality in Persons with Severe Mental Disorders." Geneva.

**WHO (World Health Organization). 2015b.** *World Report on Ageing and Health*. Geneva.

**WHO (World Health Organization). 2017.** "Mental Health of Older Adults." <https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults>. Accessed 10 March 2021.

**WHO (World Health Organization). 2018.** "Low Quality Healthcare Is Increasing the Burden of Illness and Health Costs Globally." <https://www.who.int/news/item/05-07-2018-low-quality-healthcare-is-increasing-the-burden-of-illness-and-health-costs-globally>. Accessed 20 December 2021.

**WHO (World Health Organization). 2019.** "Mental Disorders." <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>. Accessed 10 March 2021.

**WHO (World Health Organization). 2020a.** "Covid-19 Disrupting Mental Health Services in Most Countries, WHO Survey." <https://www.who.int/news/item/05-10-2020-covid-19-disrupting-mental-health-services-in-most-countries-who-survey>. Accessed 11 March 2021.

**WHO (World Health Organization). 2020b.** "The Top 10 Causes of Death." <https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death>. Accessed 5 October 2021.

**WHO (World Health Organization). 2020c.** *World Health Statistics 2020: Monitoring Health for the SDGs, Sustainable Development Goals*. Geneva.

**WHO (World Health Organization). 2020d.** "Ageing: Healthy Ageing and Functional Ability." <https://www.who.int/news-room/questions-and-answers/item/ageing-healthy-ageing-and-functional-ability#>. Accessed 20 December 2021.

**WHO (World Health Organization). 2021a.** *Covid-19 and the Social Determinants of Health and Health Equity: Evidence Brief*. Geneva.

**WHO (World Health Organization). 2021b.** "Covid-19 Oxygen Emergency Impacting More Than Half a Million People in Low- and Middle-Income Countries Every Day, as Demand Surges." <https://www.who.int/news/item/25-02-2021-covid-19-oxygen-emergency-impacting-more-than-half-a-million-people-in-low-and-middle-income-countries-every-day-as-demand-surges>. Accessed 31 August 2021.

**WHO (World Health Organization). 2021c.** *Global Expenditure on Health: Public Spending on the Rise?* Geneva.

**WHO (World Health Organization). 2021d.** *Keeping the 100-Year-Old Promise: Making Insulin Access Universal*. Geneva.

**WHO (World Health Organization). 2021e.** "Mental Health." [https://www.who.int/health-topics/mental-health#tab=tab\\_1](https://www.who.int/health-topics/mental-health#tab=tab_1). Accessed 10 March 2021.

**WHO (World Health Organization). 2021f.** "Noncommunicable Diseases." <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>. Accessed 6 December 2021.

**WHO (World Health Organization). 2021g.** "Universal Health Coverage (UHC)." Geneva. [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc)). Accessed 1 November 2021.

**WHO (World Health Organization). 2021h.** "World Health Assembly Agrees to Launch Process to Develop Historic Global Accord on Pandemic Prevention, Preparedness and Response." Geneva. <https://www.who.int/news/item/01-12-2021-world-health-assembly-agrees-to-launch-process-to-develop-historic-global-accord-on-pandemic-prevention-preparedness-and-response>. Accessed 1 December 2021.

**WHO (World Health Organization). 2021i.** *World Health Statistics 2021: Monitoring Health for the Sustainable Development Goals*. Geneva.

**WHO (World Health Organization). 2021j.** "Ageing and Health." Geneva. <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>. Accessed 17 December 2021.

**WHO (World Health Organization). 2021k.** "Air Pollution." [https://www.who.int/health-topics/air-pollution#tab=tab\\_3](https://www.who.int/health-topics/air-pollution#tab=tab_3). Accessed 23 December 2021.

**WHO (World Health Organization). 2021l.** *Violence against Women*. Geneva.

**WHO (World Health Organization). 2021m.** "Violence Against Women Prevalence Estimates, 2018." Geneva.

**WHO (World Health Organization). n.d.** "Social Determinants of Health." [https://www.who.int/health-topics/social-determinants-of-health#tab=tab\\_1](https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1). Accessed 21 November 2021.

**WHO (World Health Organization) and World Bank. 2017.** *Tracking Universal Health Coverage: 2017 Global Monitoring Report*. Geneva.

**WHO (World Health Organization), OECD (Organisation for Economic Co-operation and Development),**



- and World Bank. 2018.** *Delivering Quality Health Services, a Global Imperative for Universal Health Coverage*. Geneva: World Health Organization.
- Wilson, K., Halabi, S., and Gostin, L. O. 2020.** "The International Health Regulations (2005), the Threat of Populism and the Covid-19 Pandemic." *Globalization and Health* 16.
- Wilson, T. 2019.** "Huawei and African Union Boost Relationship with Deal." *Financial Times*, 31 May. <https://www.ft.com/content/30ec5c54-83aa-11e9-b592-5fe435b57a3b>. Accessed 1 September 2021.
- Winter, D., and Leighton, D. C. 2001.** "Structural Violence." In *Peace, Conflict, and Violence: Peace Psychology in the 21st Century*. Hoboken, NJ: Prentice Hall.
- WIPO (World Intellectual Property Organization). 2021.** PATENTSCOPE database. <https://www.wipo.int/patentscope/en/>. Accessed 1 June 2021.
- Wisotzki, S. 2003.** "Engendering Security Discourses in IR: Theoretical Insights and Practical Implications." Working Paper 47, Austrian Institute for International Affairs, Vienna.
- Wood, R., Sutton, M., Clark, D., McKeon, A., and Bain, M. 2006.** "Measuring Inequalities in Health: The Case for Healthy Life Expectancy." *Journal of Epidemiology & Community Health* 60(12): 1089–1092.
- World Bank. 2017.** *The Sunken Billions Revisited: Progress and Challenges in Global Marine Fisheries*. Washington, DC.
- World Bank. 2018.** *Mental Health: Some Perspectives on Challenges and Options for Scaling up Response*. Washington, DC.
- World Bank. 2020a.** "Pandemic Threatens Human Capital Gains of the Past Decade, New Report Says." Press release, 16 September, Washington, DC.
- World Bank. 2020b.** *Violence without Borders: The Internationalization of Crime and Conflict*. Washington, DC.
- World Bank. 2021a.** *Global Economic Prospects, June 2021*. Washington, DC.
- World Bank. 2021b.** "The Global Economy: On Track for Strong but Uneven Growth as Covid-19 Still Weighs." 8 June. Washington, DC. <https://www.worldbank.org/en/news/feature/2021/06/08/the-global-economy-on-track-for-strong-but-uneven-growth-as-covid-19-still-weighs>. Accessed 11 November 2021.
- World Bank, UNESCO (United Nations Economic and Social Council) and UNICEF (United Nations Children's Fund). 2021.** *The State of the Global Education Crisis: A Path to Recovery*. Washington, DC, Paris, New York: The World Bank, UNESCO and UNICEF.
- World Health Assembly. 2020.** "Resolution 73.1 Covid-19 Response." Geneva.
- World Health Assembly. 2021.** "Special Session of the World Health Assembly to Consider Developing a Who Convention, Agreement or Other International Instrument on Pandemic Preparedness and Response." Geneva.
- Woroniuk, B. 1999.** "Women's Empowerment in the Context of Human Security: A Discussion Paper: Background Document for the Joint Workshop of the UN Inter-Agency Committee on Women and Gender Equality and the OECD." DAC Working Party on Gender Equality on Women's Empowerment in the Context of Human Security: 7–8.
- Wossen, T., Berger, T., Haile, M. G., and Troost, C. 2018.** "Impacts of Climate Variability and Food Price Volatility on Household Income and Food Security of Farm Households in East and West Africa." *Agricultural Systems* 163: 7–15.
- Wouters, O. J., Shadlen, K. C., Salcher-Konrad, M., Pollard, A. J., Larson, H. J., Teerawattananon, Y., and Jit, M. 2021.** "Challenges in Ensuring Global Access to Covid-19 Vaccines: Production, Affordability, Allocation, and Deployment." *The Lancet* 397(10278): 1023–1034.
- WWF (World Wildlife Fund). 2020.** *Living Planet Report 2020: Bending the Curve of Biodiversity Loss*. Gland, Switzerland.
- Yashar, D. J. 2018.** *Homicidal Ecologies: Illicit Economies and Complicit States in Latin America*. Cambridge, UK: Cambridge University Press.
- Yates, A., and Ceccato, V. 2020.** "Individual and Spatial Dimensions of Women's Fear of Crime: A Scandinavian Study Case." *International Journal of Comparative and Applied Criminal Justice* 44(4): 277–292.
- Ye, B., Gao, J., Fu, H., Chen, H., Dong, W., and Gu, M. 2020.** "How Does Ageism Influence Frailty? A Preliminary Study Using a Structural Equation Model." *BMC Geriatrics* 20(1): 1–11.
- Yigitcanlar, T., and Cugurullo, F. 2020.** "The Sustainability of Artificial Intelligence: An Urbanistic Viewpoint from the Lens of Smart and Sustainable Cities." *Sustainability* 12(20): 8548.
- Yogyakarta Principles. 2007.** "Yogyakarta Principles on the Application of International Human Rights Law in Relation to Sexual Orientation and Gender Identity." Yogyakarta, Indonesia. Accessed 17 December 2021.
- Young, I. M. 2003.** "The Logic of Masculinist Protection: Reflections on the Current Security State." *Signs: Journal of Women in Culture and Society* 29(1): 1–25.
- Yuan, Y., and McNeeley, S. 2016.** "Reactions to Crime: A Multilevel Analysis of Fear of Crime and Defensive and Participatory Behavior." *Journal of Crime and Justice* 39(4): 455–472.
- Zander, K. K., Botzen, W. J. W., Oppermann, E., Kjellstrom, T., and Garnett, S. T. 2015.** "Heat Stress Causes Substantial Labour Productivity Loss in Australia." *Nature Climate Change* 5: 647–651.
- Zaveri, E., Russ, J., Desbureaux, S., Damania, R., Rodella, A.-S., and Ribeiro, G. 2019.** *The Nitrogen Legacy*. Washington, DC: World Bank.
- Zhan, Z., Duffy, S., González Gil, M., Goodwin, L., and Patel, N. T. M. 2020.** *Trans Legal Mapping Report 2019: Recognition before the Law*. Geneva: ILGA World. [https://ilga.org/downloads/ILGA\\_World\\_Trans\\_Legal\\_Mapping\\_Report\\_2019\\_EN.pdf](https://ilga.org/downloads/ILGA_World_Trans_Legal_Mapping_Report_2019_EN.pdf).
- Zhang, P. 2021.** "The 'CEO' Is a Man: How Chinese Artificial Intelligence Perpetuates Gender Biases." *South China Morning Post*, 30 September. <https://www.scmp.com/news/people-culture/social-welfare/article/3150600/ceo-man-how-chinese-artificial-intelligence>. Accessed 17 November 2021.
- Zivin, J. G., and Neidell, M. 2013.** "Environment, Health, and Human Capital." *Journal of Economic Literature* 51: 689–730.
- Zivin, J. G., Hsiang, S. M., and Neidell, M. 2018.** "Temperature and Human Capital in the Short and Long Run." *Journal of the Association of Environmental and Resource Economists* 5(1).









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