



Ensuring Human Security by Creating Abundance through Mindshift, Conscious Capital, and Technology

Mariana Bozesan

Fellow, World Academy of Art & Science; Member, Club of Rome;
Founder, AQAL Capital & AQAL Foundation, Germany

Abstract

The demand for human security is growing proportionally with the exponentially growing complexity of the existential threats born in the Anthropocene. After discussing the Meta Crisis as a steppingstone for problem solving, the paper aims to give hope by arguing that human security is tightly related to the implementation of the UN SDGs within Planetary Boundaries and shows several ways out. Furthermore, it demonstrates how the capital resulting from the Law of Accelerated Returns could be used to address the failures associated with the Law of Diminishing Returns that is currently underlying the weakening global economies. The paper concludes by demonstrating how to ensure human security by intentionally developing key sectors of the new sustainability economies, from energy to food, healthcare, transportation, new materials, and information technology to name a few.

“Successfully achieving the Human Security Development goals depends in large part upon the unseen, but highly influential emotional, spiritual, psycho-social, and cultural factors, the Mindset, the perception of people.”

1. The Meta Crisis, Paleolithic Emotions, Medieval Institutions and Godlike Technology

In their 1994 report entitled *New Dimensions of Human Security*, the United Nations Development Programme (UNDP) had identified several types of human security pertaining to Human Development,^{*} namely to increase investments in the development of the economy, food, health, the environment, personal, community, and democracy. In their 2022 Special Report entitled *New Threats to Human Security in the Anthropocene: Demanding greater solidarity*,[†] UNDP updated their findings by adding other important threats such as rising inequality, violent conflicts, the downsides of digital technologies, lack of healthcare, and decreasing interpersonal trust independently of financial situation. The interesting part is

^{*} <https://tinyurl.com/y6a2fv3r>

[†] <https://hs.hdr.undp.org/intro.html>

the authors' main intention, which was to assess the sources of the astonishing discrepancy between obvious improvements in human security with respect to the overall abundance and wellbeing and peoples' growing *perception* that human security is decreasing worldwide.

Since perception is often more important than reality, moving forward, the goal should be manifold. On the one hand, we must acknowledge that we are in the middle of a Meta Crisis; the fact that human security is threatened not by one existential threat, such as the climate or biodiversity crisis born in the Anthropocene and associated with the planetary boundaries,¹ but many other apparently intractable, interdependent, and interrelated crises including those arising from unethical application of Artificial Intelligence (AI) in software and hardware development and application, but also in nuclear weapons, biotechnology, and nanotechnology.² Thus, the continuation of *Human Security Development* that addresses the existential threats of the Anthropocene by understanding and addressing the Meta Crisis is one important key.

On the other hand, successfully achieving the *Human Security Development* goals depends in large part upon the *unseen*, but highly influential emotional, spiritual, psycho-social, and cultural factors, the *Mindset*, the *perception* of people. In the words of sociobiologist Edward O. Wilson, the real problems of humanity are several factors associated with our "*Paleolithic emotions, medieval institutions and godlike technology.*"³ As a result, exterior crises are exacerbated by a collapse in public sensemaking and meaning-making. These distortions arise from the impact, the flow of information and disinformation through traditional media and internet-based social media (the fourth estate), have on humanity worldwide. These factors must not be underestimated. Internet-based social media has become the new media infrastructure, but it is more intimately entrenched with our minds and nervous systems than any previous infrastructure be it printed books, electricity, cars, planes, trains, radio, or television.

The AI-driven digital infrastructure penetrates and assaults the very foundations of our human nature, because it is not values neutral but manipulative and addiction-generating for the single purpose of profit generation.* Through our smartphones, which have a market penetration of more than 80 percent of the world's population, the *AI algorithms embedded in our apps function like a brain implant*. They act in our heads and minds without our explicit approval or volition. Moreover, governments have failed to understand the long-term implications of such AI algorithms and did not regulate them, leading to unforeseen and potentially destructive results for human security and on the society at large.

The above discussed discrepancy between obvious improvements in human security and peoples' growing *perception* to the contrary could very well be also related to the result of AI-based manipulations. Moving forward, the importance of the *Mindshift* toward later stages of human consciousness could become instrumental in increasing *Human Security* especially through the application of technology for good.⁴

* <https://www.humanetech.com/>

2. Planetary Boundaries, Leadership, Capital and Regulation

Ensuring human security has long been associated with the implementation of the Millennium Development Goals, later called Agenda 2030, or the UN Sustainable Development Goals (SDG).^{*} As we rethink human security, we must invariably consider humanity's predicament. We must remind ourselves that we live on a unique, life-giving planet that has been spinning at lightning speed for 4.5 billion years in a 13.8-billion-year-old universe. Thus, ensuring human security is impossible without ensuring the security of living systems and non-living systems as integral sources of human life; life in general. Making sure that we continue to live safely on a life-giving planet is the first step. The scientific community is united in their warnings⁵ regarding the state of human-caused climate emergency and their calls to action to fix it. Many of them insist that human activity has few decades left to address current emergencies.[†]

2.1. Transformation is Feasible

The 17 SDGs are ambitious goals to create a prosperous humanity on a life-giving planet. However, there are grave opposing issues within these goals, which increase the risk of one goal being chased at the cost of others. For example, implementing goal #8, *Good jobs and economic growth*, by burning fossil fuels, will make achieving goal #14, *Life below water*, or #13 *Climate Action* impossible due to destructive CO₂ emissions into the atmosphere, fueling the current vicious cycle. These contradictions may be the reason for the humble progress since the adoption of the SDGs in 2015. However, according to the *Transformation is Feasible*⁶ report to the Club of Rome, if we act now, we can remain within Planetary Boundaries,⁷ and continued human security is within reach. Here is what would have to happen.

Based on data collected over the past decades and a complex System Dynamics Model,⁸ scientists simulated 4 future scenarios up to 2050 that are shown in Figure 1. The 9 Planetary Boundaries (PB) are represented on the vertical axis. They regulate the stability of the planetary system, which includes ocean acidification, biosphere integrity, freshwater use, ozone depletion, and climate change. The higher the value on the vertical axis, the higher the harmony level between the PBs and the lower the PB-value, the less probable human existence would be possible. The horizontal axis represents the number of SDGs that would be implemented collectively at any one point in time, with the intention being to realize as many of the 17 as possible, moving consistently toward the higher value, to the right. In order to successfully implement *all* the SDGs within the Planetary Boundaries, humanity must operate within the safe areas on both axes; the higher the values, the better. The four scenarios are the following:

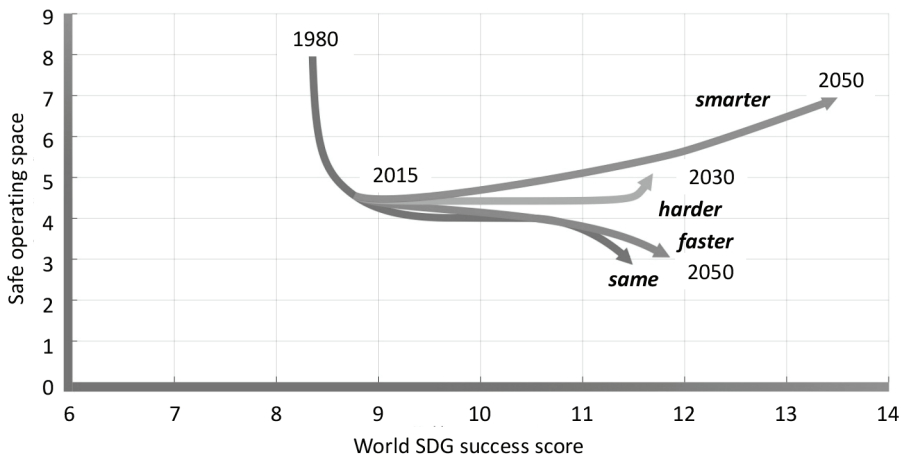
1. *Same*: represents how far business as usual would take the world to 2050 while creating severe global warming, costly weather events, social instability with increased political and human insecurity, rising nationalism, and rising inequality as well as social conflict.

^{*} <https://sdgs.un.org/goals>

[†] UN Paris Agreement 2015, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

2. *Faster*: shows where accelerated economic growth of 2.8% per annum in 2018 to 3.5% per annum would end up. With less than +1% GDP growth per person per annum until 2050, we would risk destabilizing the planet in a big way.
3. *Harder*: indicates what would happen if governments and industry try harder by growing our ability to deliver on our promises by 30%–50% across all global areas of society, from climate to trade treaties. But the results would not be significantly different and would not lead us to safe planetary boundaries.
4. *Smarter*: Would solve the problem by 2050.

Figure 1: Transformation is Feasible: Four scenarios for implementing the UN SDGs within Planetary Boundaries⁹



Implementing the *Smarter* scenario would require a significant *mindshift* across all players in the society along the following 5 transformations:¹⁰

1. *Energy*: Accelerated renewables growth to halve emissions every 10 years starting with 2030 and create a global energy democracy.
2. *Differentiated Growth*: Rolling out sustainable development in developing countries.
3. *Food*: Accelerated transference to sustainable food chains to decrease the food production footprint.
4. *Active inequality reduction*: Create jobs despite automation and AI, address unfairness, and redistribute wealth.
5. *Investment in girls’ and women’s education, gender equality, health, family planning* to stabilize the global population.

This strategic direction represents an important guiding post for ensuring human security worldwide. However, governmental regulation across the planet would be instrumental in making it happen.

2.2. Political Leadership, Capital, and Regulation

Goals can only be achieved by (1) setting intentions (mindshift), (2) allocating the necessary resources, such as capital, human, and materials, and (3) putting proper measurements and metrics in place to assess progress or regress.

There is hope. New policies to ensure human security through various new green deals including sustainable finance models are under way. For example, the European Commission has manifested the political will to respond through the European Green Deal* and its 10-step action plan.† Its intention is to achieve carbon neutrality by 2050 and includes three key steps of major importance:

1. *Taxonomy*, a classification system for green investments, including energy sources necessary during the transition phase (i.e. nuclear energy and gas)
2. Sustainability-related *disclosures* to ensure that distributors and manufacturers of financial products openly inform investors regarding the potential impact of sustainability on decisions and financial returns.
3. Climate *benchmarks* as well as Environmental, Social, and Governance (ESG) disclosures to facilitate the adoption of climate-correlated strategies.

Despite its appalling aggression and the resulting energy crisis in major European countries, the Russian invasion of Ukraine in February 2022 led not just democratic governments in Europe but also the USA to take drastic measures toward ensuring human security by accelerating the transition to renewable green deal activities. They issued new regulations to enable the green transformation of key sectors of the economy from renewable energy to food, but more importantly, through the availability of the necessary raw materials. The Biden administration launched the *Green New Deal*‡ and the *Inflation Reduction Act*,§ to curb inflation through the allocation of \$391 billion on clean energy and climate change, and by promoting clean energy through tax credits for solar panels, electric vehicles, heat pumps, and better infrastructure and housing isolation. In September 2022, the European Commission launched the European Critical Raw Materials Act¶ to secure energy resources while transitioning toward sustainable energy.

2.3. AI and Technology Regulation

The Future of Life Institute** is an organization founded by Max Tegmark, Jaan Tallinn, Anthony Aguire, et al., to keep AI beneficial for humanity, promote AI safety research, and

* European Green Deal, 11 December 2019, https://commission.europa.eu/publications/communication-european-green-deal_en

† EU Financing Sustainable Growth, 2019, https://commission.europa.eu/publications/communication-european-green-deal_en

‡ <https://joebiden.com/climate-plan/>

§ https://en.wikipedia.org/wiki/Inflation_Reduction_Act_of_2022

¶ https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_22_5523

** <https://futureoflife.org/>

make sure AI is regulated before it gets out of control. This eventually led to the development and adoption of 23 Asilomar AI Principles.* Furthermore, on December 6, 2022, the European Union’s marquee legislation, the Artificial Intelligence Act, took specific measures to regulate General Purpose AI Systems (GPAIS)† for technologies which can accomplish a range of distinct tasks, including those that were not intended or specifically trained.

“We know what to do, we just need to do what we know in a massive joint effort worldwide.”

Related to Beneficial AI, the future of healthcare, work, criminal justice, and ethics, law professor Ryan Calo,¹¹ insists that the conversation around AI ethics is not only about simple ethical standards but also policy and binding rules to enforce it. In his paper entitled AI Policy: A Primer and Roadmap,[‡] Calo encourages governments, regulators, and other stakeholders to add the following perspectives:

- *Justice and Equality* through the stability of algorithms to reflect human values including fairness, transparency, and accountability, which include bias and material decisions with other financial, health, and freedom outcomes.
- *Include Legality Issues*, because legality does not always equate to democratic law (see Edward Snowden’s whistleblowing¹² and the UN Prism act)
- *Use of Force* as an exceptional case of AI-enabled decision making and consensus about meaningful human control and decisions for or against wars.
- *Safety, Certification, and Cybersecurity*, particularly with respect to autonomous systems, cars, robots, and airplanes.
- *Privacy and Power* (see data hunger): consumer privacy has become increasingly under siege with citizens having little or no ability to avoid various forms of surveillance.
- *Various Cross-cutting Questions*: law and technology are reacting too slowly to one another. This could backfire, given the exponentially growing nature of AI technology and the lack of expertise at policy level.
- *Taxation and Displacement of Labor*, which is concerned with the prospect of AIs displacing jobs currently performed by humans (e.g., autonomous vehicles), providing Universal Basic Income through taxes.
- *Regulating Data Collection*: AIs cannot develop without significant amounts of data. Thus, prevention of data collection without the owner’s consent must be addressed.

* <https://futureoflife.org/open-letter/ai-open-letter/> and <https://futureoflife.org/ai-principles/>

† <https://www.consilium.europa.eu/en/press/press-releases/2022/12/06/artificial-intelligence-act-council-calls-for-promoting-safe-ai-that-respects-fundamental-rights/>

‡ https://lawreview.law.ucdavis.edu/issues/51/2/Symposium/51-2_Calo.pdf

To ensure human security, governments must heed expert advice and regulate unethical application of such exponentially growing technologies before they get out of control.¹³

3. The Source of Capital

In *The Collapse of Complex Societies*,¹⁴ anthropologist Joseph Tainter argued that evolved societies, such as the Sumerian, the Mayan, or the Roman Empire, ultimately collapsed due to the *Law of Diminishing Returns*, because the increasing societal complexity could no longer be financed. Since the fall of the Roman Empire, many more complex societies have emerged in Europe, China, and the United States of America, to name a few. Unlike in previous times, today's economies are intertwined, interdependent, operating globally, and push the limits of safe planetary operating system. But today's societies do not have to collapse because our technological development could enable us to address current crises and avoid breakdown if enacted upon ethically, integrally sustainable, and in a timely manner. That should give us tremendous hope. As we have seen above, we know what to do, we just need to do what we know in a massive joint effort worldwide.

There is more hope. For the first time in human history, we witness what Ray Kurzweil (2005) calls the *Law of Accelerating Returns*.¹⁵ It refers to the speed and power of the evolutionary process that increases exponentially over time and leads to massive cost reduction and demonetization. It is based on the evolution of human individual and collective consciousness, which explodes exponentially so that *the rate of exponential growth itself grows exponentially* creating an abundance that could provide humanity with a window of opportunity to build more resilient and sustainable societies and avoid the collapse. Notwithstanding the unprecedented population growth over the past 100 years, we live during one of the most peaceful, advanced, and stimulating eras in human history.*

The *Law of Accelerating Returns* counteracts the *Law of Diminishing Results*. This should give us tremendous hope, because it creates a unique opening for humanity and the planet.

4. Human Security in the New Era

Ensuring human security must include rethinking humanity, which is what James Arbib and Tony Seba did in their paper with the same title *Rethinking Humanity: Five Foundational Sector Disruptions, the lifecycle of Civilizations, and the Coming Age of Freedom*.¹⁶ Arbib and Seba are aligned with a vast spectrum of other researchers¹⁷ in arguing that the 2020s are critical for ensuring not only humanity's security but its very future. They expect that the cost of most major sectors of the global economy from information technology to energy, to food, to transportation and new materials may eventually fall while the production processes will become by several orders of magnitude more efficient and use 90% fewer natural resources and produce significantly less waste. We can choose to implement the UN SDGs within Planetary Boundaries within the next several decades or allow human civilizations to collapse and descend into another dark age as previous civilizations. Seba and Arbib recommend the following high-level leadership action plan:

* More on <https://ourworldindata.org/> and in Bozesan M. (2020). *Integral Investing: From Profit to Prosperity*. Springer: Cham, Switzerland.

- *Admit that we are at a breaking point without equilibrium with no return.*
- *Bracing for impact.* Due to multiple governmental failures over several past decades, the old systems (i.e. financial, environmental, and social) have already begun to collapse and the turmoil will be intensified by technological disruption.
- *Beware of the cascading impact of further disruptions.*
- *Equalize the need for quick transformation with the need for social, economic, and political stability.*
- *Create a clear vision and a tactical implementation plan* to manage adverse outcomes such as further instability, unemployment, and mass migration.
- *The race to the top has begun.* Governments and private capital must ensure nobody is left behind to avoid further social destabilization.
- *Exponential thinkers are more likely to succeed than linear thinking forecasters.*
- *Apply existing technology and tools to solve the problems;* do not waste time to develop new ones.
- *Smaller communities and big cities may succeed better and earlier* (see Shanghai, Seattle) *over large countries.*
- *Resiliency and robustness will win.*
- *Rethink old concepts like economies of scale and efficiency.*

In summary, human security can only be addressed within the context of understanding and addressing the meta crisis. A problem well understood is half solved. That requires a significant mindset shift. The abundance created by, and the capital unleashed through the *Law of Accelerated Returns* should be used to build the new sectors of sustainable economies from energy to food, to healthcare, to transportation, to new materials, and information technology. The collapse of old systems is already occurring and causing major and rather unpleasant crashes.

The request: Brace for the impact.

And we must act now, be united, and act in line with planetary boundaries, the safe operating system of our Earth. That requires effort, capital, and significant social and cultural cohesion. We know what to do, but we must finally do what we know. That should give us tremendous hope, confidence, and a sense of direction.

Author Contact Information

Email: mbozesan@AQALfoundation.org

Notes

1. J. Randers et al. *Transformation is feasible. How to achieve Sustainable Development Goals within Planetary Boundaries*. A report to the Club of Rome (Stockholm Resilience Center, 17 October 2018) <https://tinyurl.com/y9epzlmk>
2. M. Bozesan (2020). *Integral Investing: From Profit to Prosperity*. Springer, New York. See <https://tinyurl.com/yxgx5ogb>
3. S. Ratcliffe (Ed.) (2016). Oxford Essential Quotations. Quote by E.O. Wilson «the real problem of humanity is “we have Paleolithic emotions, medieval institutions and godlike technology. Debate at Harvard Museum of Natural History Cambridge, Mass., 9 Sept 2009.
4. M. Bozesan (2022). Turning Mindshifts into Transformation Leadership. In P. Künkel, & K.V. Ragnarsdottir (Eds.), *Transformation Literacy: Pathways to Regenerative Civilizations* (pp. 235-253). Cham, Switzerland: Springer. Downloadable at https://link.springer.com/chapter/10.1007/978-3-030-93254-1_16
5. Masson-Delmotte et al. Summary for Policymakers. In: 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. (In Press, 2018)
6. J. Randers et al. *Transformation is feasible*. A report to the Club of Rome (Stockholm Resilience Center, 17 October 2018) https://www.stockholmresilience.org/download/18_51d83659166367a9a16353/1539675518425/Report_Achieving%20the%20Sustainable%20Development%20Goals_WEB.pdf
7. W. Steffen, et al. “Planetary Boundaries: Guiding human development on a changing planet.” In *Science*. Vol. 347 no. 6223, (13 Feb 2015)
8. J. Randers et al. *Transformation is feasible*. A report to the Club of Rome (Stockholm Resilience Center, 17 October 2018) https://www.stockholmresilience.org/download/18_51d83659166367a9a16353/1539675518425/Report_Achieving%20the%20Sustainable%20Development%20Goals_WEB.pdf
9. J. Randers et al. *Transformation is feasible*. A report to the Club of Rome (Stockholm Resilience Center, 17 October 2018) https://www.stockholmresilience.org/download/18_51d83659166367a9a16353/1539675518425/Report_Achieving%20the%20Sustainable%20Development%20Goals_WEB.pdf
10. J. Randers et al. *Transformation is feasible*. A report to the Club of Rome (Stockholm Resilience Center, 17 October 2018), https://www.stockholmresilience.org/download/18_51d83659166367a9a16353/1539675518425/Report_Achieving%20the%20Sustainable%20Development%20Goals_WEB.pdf
11. Calo R (2017) Artificial intelligence policy: A primer and roadmap. University of California Davies, 51, 399. Viewed 26 October 2019 at https://lawreview.law.ucdavis.edu/issues/51/2/Symposium/51-2_Calo.pdf
12. Snowden E (2019). Permanent record. Macmillan, London, UK
13. Russell S. (2019) Human compliance: Artificial intelligence and the problem of control. Viking, New York
14. Tainter, J. A. (1988). *The Collapse of Complex Societies*. Cambridge UK: Cambridge University Press.
15. Kurzweil, R. (2005) *The singularity is near: When humans transcend biology*. New York: Viking Penguin.
16. Arbib, J. & Seba, T. (June 2020). Rethinking Humanity: Five Foundational Sector Disruptions, the lifecycle of Civilizations, and the Coming Age of Freedom. Viewed 5 February 2021 at <https://www.rethinkx.com/humanity>.
17. Diamandis PH, Kotler S (2012) *Abundance: The future is better than you think*. Free Press, New York; Diamandis PH, Kotler S (2015) *Bold: How to go big, create wealth, and impact the world*, Simon & Schuster, New York; Kurzweil R (2005) *The singularity is near: When humans transcend biology*. Viking Penguin, New York; Kurzweil R, Grossman T (2004) *Fantastic voyage: Live long enough to live forever*. Rodale, New York; Kurzweil R, Grossman T (2009) *Transcend: Nine steps to living well forever*. Rodale, New York; Pinker S (2011) *The better angels of our nature: The decline of violence in history and its causes*. Allen Lane, London, U; Pinker S (2018) *Enlightenment now: The case for reason, science, humanism, and progress*. Viking, New York.