GLOBAL CHALLENGES OF THE FUTURE. CAN WE SOLVE THEM?

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Abstract

The aim of this paper is not to address all the challenges that modern humanity faces, but rather to encourage further discussion. It is dedicated to a range of issues confronting the contemporary world, for which there are no coordinated, let alone implemented, solutions on a global scale. The paper will focus on several challenges, including the increasingly frequent mention of nuclear weapons, climate change and the need for a healthy and environmentally clean environment, artificial intelligence and general artificial intelligence, the problematic influence of multinational companies on local communities and global relations, as well as demographics and global migration. These topics influence global policies, shape international relationships, and affect the planet's future. Understanding their implications and how they interact with each other is crucial for creating effective solutions.

Keywords: Climate Change, Artificial Intelligence, Global Migration, Multinational Corporations. Nuclear Weapons

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CHALLENGES OF THE MODERN WORLD

We are living in times that are particularly sensitive for humanity. Today, there are more challenges than there are solutions. While some of these challenges are not completely new, the international community does not yet have ready-made answers. This paper is not intended to cover all the challenges world is currently facing, but instead aims to encourage further discussion.

The world is dealing with a number of well-known issues, many of which have worsened. The constant threat of nuclear weapons, along with weakening global frameworks for their control and supervision, is a significant challenge that could escalate international tensions. Additionally, climate change is a persistent issue that scientists have long identified as a key concern. Yet, political leaders have largely ignored this for too long.

Political leaders often overlook the significant influence international companies on local, regional, and global economies also. The advent of artificial intelligence reflects the tension between the pursuit of social progress and the fear of its implications. Beyond these issues, the world is also contending with demographic changes and both internal and global migration, which will have direct effects on our living conditions.

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1. THREATS OF NUCLEAR WEAPONS AS DETERRENTS

Nuclear weapons derive their immense power from nuclear reactions, and even those with relatively low yields possess much greater destructive capabilities than the largest conventional explosives. In the history of warfare, nuclear weapons have been deployed just twice. Both incidents occurred during the closing days of World War II, targeting the Japanese cities of Hiroshima and Nagasaki in August 1945. These attacks instantly claimed the lives of approximately 210,000 individuals, leaving another 210,000 survivors with severe health issues, including leukemia, various cancers, and psychological conditions such as depression and post-traumatic stress disorder (Tomonaga, 2019).

Following these tragic events, nuclear weapons have not been used in combat. Nevertheless, they have been detonated over two thousand times for testing and demonstration purposes. The nations that have conducted such detonations include the United States, the Soviet Union, the United Kingdom, France, China, India, and Pakistan, with North Korea joining this group since October 2006. These countries are recognized as nuclear powers, along with the Russian Federation, which inherited its arsenal following the Soviet Union's dissolution

Meanwhile, there is increasing evidence that some additional countries possess nuclear weapons but have never publicly acknowledged it. For instance, Israel is believed to have developed a sophisticated nuclear program with numerous warheads, although it has not officially confirmed this capability. Similarly, Iran is suspected of pursuing nuclear weapons development, despite its denial and claims that its nuclear activities, including uranium enrichment, serve peaceful purposes. In the past, countries like South Africa (under apartheid rule) and Yugoslavia, were also suspected of seeking nuclear weapons. In contemporary times, similar suspicions have arisen regarding Brazil.

For years, the threat of nuclear weapons has loomed over our daily lives. This danger escalated significantly after Russia's aggression against Ukraine. Although Russia primarily uses this threat, they are not the only country engaging in such perilous rhetoric. North Korea has also issued nuclear threats multiple times in recent years. Western countries underline that they, too, have nuclear capabilities, serving as both a warning and a deterrent against unwelcome actions by other world actors.

Currently, these actions are designed to dissuade other international community members from undertaking activities against the interests of countries with nuclear arsenals. The Russian Federation has always communicated its nuclear-related actions to Western allies – clarifying what, how, and limited in both space and time, any attack would be.

Given the circumstances, using nuclear weapons would likely have disastrous consequences for Russian Federation. Even conducting a nuclear test, as it would breach the international agreements prohibiting such tests that Russian Federation ratified previously, could trigger severe economic and financial sanctions.

The world must prepare for the risk of an escalation in nuclear weapons use, despite all the developments mentioned earlier. The situation is dangerous due to two primary reasons. First, the Russian Federation, a state with a nuclear arsenal, frequently makes

public threats through its official representatives. Second, there is uncertainty around whether the US will protect all its allies if the situation escalates further. Consequently, some nations might consider starting their own nuclear weapons development projects to safeguard their sovereignty during these unstable times.

Once the current global tensions ease, resuming nuclear disarmament talks is essential. Nuclear weapons pose enormous risks and should ultimately be eliminated. Until this is achieved, they must be subjected to strict control.

2. CLIMATE CHANGE - A CRITICAL ISSUE THAT THE WORLD HAS NOT YET ADEQUATELY ADDRESSED.

Global warming refers to the gradual increase in Earth's surface temperature and the warming of the lower atmosphere. This phenomenon is driven by the greenhouse effect, contributing to global climate change. The scientific community agrees that climate change is underway (National Academies, 2008, p.2; Oreskes, 2007, p.68; Gleick, 2017). While Earth's climate has changed throughout history, present-day global warming is heavily influenced by rising greenhouse gas emissions.

According to the Intergovernmental Panel on Climate Change (IPCC), scientists predict that due to evident warming over the past century, using climate models and observing changes in the Earth's ice sheets, air temperatures will rise by 1.5°C to 4.0°C above pre-industrial levels by the year 2100 (IPCC, 2021). This increase will depend on the extent of greenhouse gas emissions.

If these predictions hold true, the consequences could be severe and even catastrophic for some world's regions. The melting of glaciers and snow will cause sea levels to rise, flooding many coastal areas and island nations. Additionally, the frequency of extreme weather events, such as cyclones, hurricanes, and floods, is likely to increase worldwide. Tropical conditions may move further north, while the Mediterranean region and areas to its north may experience increased dry spells and a significant rise in rainfall.

High temperatures will negatively impact human health, potentially leading to the spread of infectious diseases typically found in warmer climates, such as malaria, yellow fever, and encephalitis. Many plant and animal species might migrate northward, resulting in disruptions to ecosystems. The extreme weather conditions further stimulate global migration (Piguet, Pécoud, Guchteneire, 2011). The academic community emphasizes that mitigating these developments is only possible through significant reductions in the emission of greenhouse gases like carbon dioxide and nitrogen compounds (IPCC, 2021).

The world needs to take action in two key areas: limiting climate change and adapting to its effects. Developed regions with strong economies are better positioned to take action due to their greater access to resources, knowledge, and advanced technologies. For instance, the European Union is actively working to reduce the future impacts of unavoidable climate change through its EU Adaptation Strategy (EC, 2021). This strategy outlines how the EU can adjust to such impacts and build climate resilience by 2050. It emphasizes informed decision-making by closing knowledge gaps and enhancing the sharing of information across Europe (EC, 2021).

Given the existing effects of climate change, rapid and comprehensive adaptation is crucial. The EU strategy thus prioritizes the creation and implementation of adaptation solutions aimed at reducing climate-related risks, boosting climate protection, and ensuring the availability of fresh water (EC, 2021).

Regions that are both developed and economically strong should enhance their support for international initiatives on climate resilience and preparedness. This can be achieved by providing more resources, prioritizing effective actions, increasing international financial support, and engaging in robust global collaboration on adaptation strategies.

The academic community understands the necessary steps for mitigating and adapting to climate challenges. World leaders, during events like the United Nations Climate Change Conferences, regularly advocate for these measures. While it appears that effective strategies are being formulated, the focus must now shift to putting them into action.

3. MULTINATIONAL COMPANIES POSE CHALLENGES BOTH GLOBALLY AND LOCALLY

Multinational companies influence the economy positively by boosting development and reducing unemployment. They also drive advancements in science and technology. However, these companies can negatively impact politics and create monopolies at local, regional, and global levels.

Since their creation, multinational companies have wielded significant power over different nations and societies. A major issue is the lack of effective regulation governing their operations. Many multinationals companies control budgets larger than the GDPs of numerous countries worldwide, thus exerting substantial influence locally and globally.

These multinational companies have historical roots, tracing back to early ventures that established factories in distant colonies (Gelderblom, Jong, Jonker, 2013). Notable corporations from that era include the British East India Company, established in 1600, and the Dutch East India Company (VOC), founded in 1602 (Jeffrey and Painter, 2009, pp.174–75). Even then, multinational companies pushed their focused economic and political agendas in colonial societies.

At the end of the 19th century, multinational companies solidified their global presence, thanks to industrialization. Their influence surged once more after World War II, driven by the expansion of international trade. The 1980s saw yet another remarkable rise due to the impacts of globalization and growing direct investments (Broll, 1994). Since the late 1980s, multinational companies have become key players in global relations. Consequently, they now bear a much larger responsibility towards global society than ever before.

The United Nations, alongside its member states, rolled out the 2030 Agenda, which encompasses the Sustainable Development Goals (UN, 2015). These objectives illustrate the vision for future global development, with sustainability as a key priority. Social

responsibility within the modern economy forms a crucial component, attentive to both local communities and the global stage.

Consequently, social responsibility has become a cornerstone in today's business landscape, prompting a reevaluation of how corporations affect society, the environment, and economic sustainability. Multinational companies and their leadership play a vital role in shaping international social, environmental, and economic dynamics. Their commitment to social responsibility is crucial for fostering sustainable and ethical business practices. By embedding these positive strategies globally, societies can look forward to a future with fewer challenges.

4. COPING WITH ARTIFICIAL INTELLIGENCE TECHNOLOGY

Artificial intelligence (AI) is any non-living system that demonstrates the ability to cope with new situations (intelligence). It is commonly used to refer to computers and computer systems. The term is also inappropriately applied to robots, as their systems do not necessarily have to be intelligent.

AI technology has numerous advantages, including: improving efficiency, accuracy, and fostering creativity. AI technology can automate tasks currently performed by human workers, which can lead to increased efficiency. In addition, AI technology can be more accurate than human workers in performing certain tasks, such as diagnosing diseases or recognizing patterns. Also, in fostering creativity, AI technology can help generate new ideas and solutions, which can lead to the development of new technologies and innovations.

On the other hand, AI also has certain disadvantages, including the extremely high cost of development, incomplete reliability, and unethicalness. The development and implementation of AI technology is a very expensive process, which can be afforded by a very narrow circle of actors in the world. In addition, AI technology can be vulnerable to malware and other security threats, which makes it an unreliable tool. A particular challenge is that AI technology can be used in ways that are harmful to people or society.

However, the real challenge for the future of the world is one type of AI – Artificial general intelligence (AGI). AGI is defined as an autonomous system that surpasses human capabilities in most economically valuable tasks. It should be noted that AGI is also known by a number of other terms, that have been used by other authors, such as "strong AI" (Searle, 1980; Kurzweil, 2005), "human-level AI" (McCarthy, 2005), "true synthetic intelligence" (Brachman, 2005), "general intelligent system" (Langley, 2006), and even "thinking machine" (Turing, 1950) (Wang, Goertzel,. 2007).

For now, Artificial General Intelligence is a hypothetical type of intelligent agent (Iklé, Franz, Rzepka, Goertzel, 2018). The emergence of artificial general intelligence is the primary goal of some artificial intelligence research and companies such as: OpenAI, DeepMind and Anthropic. Artificial general intelligence is a common topic in science fiction and future studies. A 2020 Survey of Artificial General Intelligence Projects for Ethics, Risk, and Policy identified 72 active AGI projects in 37 countries (Baum, 2020).

The timeline for the development of artificial general intelligence remains a subject of ongoing debate among researchers and experts. There is disagreement within the

academic community about when AGI could be achieved. It is assumed that science will take several decades to fully develop AGI, but there are minority views that it will develop significantly faster, within a few years, as well as those that it will never be possible to achieve the stage of development of AGI in a way that is fully autonomous. In addition, there is debate about whether modern large language models, such as GPT-4, are an early but incomplete form of artificial general intelligence or whether new approaches are needed (Bubeck et all, 2023).

There is controversy within the academic community about the potential for AGI to pose a threat to humanity. If realized, AGI could learn to perform any intellectual task that can be performed by human beings or animals. This can be an advantage for developed societies, but it will open additional gaps between developed and developing societies, as well as significant friction in labor markets, both locally and globally.

However, a key challenge is the unethical use of AI. We already see AI technologies being used to monitor and control citizens or to produce fake news and propaganda. It is important to be aware of the potential risks associated with AI technology and take steps to mitigate them.

Some of the measures that modern society needs to implement include developing ethical guidelines for the development and use of AI technology, ensuring transparency in the development and use of AI technology, and investing in research and development of safer and more reliable AI systems.

5. DEMOGRAPHICS AND GLOBAL MIGRATION

Population decline is mainly seen in developed nations, especially in the West. In contrast, developing countries, particularly on the African continent, show strong growth. The 20th century witnessed unprecedented population expansion. During this time, the global population soared from 1.65 billion to 6 billion. The late 1960s saw the highest growth rate, with a yearly increase of 2.04%, while the late 1980s recorded the largest yearly addition of 86 million people (UN, 2000). The UN, when announcing that the global population had reached 7 billion, warned of a 'serious challenge' ahead (UPI, 2011). By 2022, the world housed 8 billion individuals. The United Nations Population Fund projected that the population would reach a peak of about 10.4 billion in the 2080s, maintaining that level until the end of the century (UNPF, 2022).

The rapid increase in Earth's population is one of the key factors making people more mobile than ever before. Innovations in technology, enhanced global communication, and improved infrastructure, along with greater awareness of different cultures and their economic assets, have all played a major role in this trend. Nowadays, moving from one place to another is much easier, leading to a notable increase in global migration.

5.1. Global migrations

Modern-day discussions on the causes of global migration primarily focus on three main reasons why people leave their home countries to live in new places: social and political factors, demographic and economic reasons, and environmental and climate changes.

A substantial number of individuals migrate due to social and political circumstances. Factors such as ethnic, religious, racial, or political persecution, along with wars and conflicts, often drive people to leave their countries. Refugees flee situations involving armed conflict, human rights violations, or persecution, and they typically seek refuge in the nearest safe country that accepts asylum seekers. However, many prefer relocating to distant countries to ensure their safety, as neighboring regions may not offer the security they need.

Demographic and economic shifts often correlate with a reduction in the living standards of certain populations, leading to fewer educational institutions, diminished business prospects, and higher unemployment rates. Migrants are drawn to countries where wages are more attractive, living standards are better, and there are more opportunities for employment and education. When a country's economic and social conditions deteriorate, corruption levels soar, and the rule of law weakens, alongside an elevated risk of worsening future conditions, individuals tend to emigrate to places with more promising prospects. According to the International Labor Organization (ILO, 2021), the global number of international migrant workers has surged to 169 million, marking a three percent increase since 2017.

Throughout history, environmental factors have been a significant catalyst for migration. People often emigrate from harsh environments, such as high mountain regions or flood-prone areas, in search of more hospitable conditions. The pace of migration can drastically increase following natural disasters like floods, earthquakes, droughts, extreme heat waves, hurricanes, or volcanic eruptions. These extreme weather conditions, along with climate change, are major drivers of global movement (Piguet, Pécoud, Guchteneire, 2011). As defined by the International Organization for Migration (IOM), environmental migrants are individuals who are compelled to leave their homes, either temporarily or permanently, due to sudden or slow environmental changes that adversely impact their living situations. These individuals may migrate within their own countries or cross international borders (IOM, 2017).

In the coming years, an increase in extreme weather events due to climate change is anticipated. This will likely result in more frequent migration. It's challenging to determine the precise scale of migration solely driven by environmental factors globally, as other variables like population growth, poverty, and conflicts also play significant roles.

Projections from the Institute for Economics and Peace indicate that 1.2 billion individuals may migrate by 2050 (IEP, 2020). The global community needs to brace for this shift, yet currently, only a few world's regions are addressing the complex issues related to global migration.

CONCLUSION

The global challenges we face today demand cooperation and joint solutions from all international relations actors, particularly the world's leading political, economic, and military states. Despite this need for international community unity, we are experiencing turbulent times where dialogue has given way to silence, and cooperation is

overshadowed by conflict. Instead of resolving disputes, tensions are rising. During the Cold War, the absence of open communication channels led to dangerous scenarios like the Cuban Missile Crisis in 1962. It would be perilous if the world returned to being divided into smaller ideological blocs and communication came to a halt.

The world was optimistic about denuclearization when the Treaty on the Non-Proliferation of Nuclear Weapons was established in 2017. This treaty committed signatory countries to ban the production, storage, sale, and use of nuclear arms. Regrettably, nuclear-armed nations did not participate in this treaty. The situation has further complicated due to Russian aggression, with Russia frequently referencing nuclear weapons, presumably as a deterrent tactic. However, there is a shared concern over the possible escalation of nuclear tensions. The Treaty on the Non-Proliferation of Nuclear Weapons marks a significant step forward, and it is imperative for world leaders to encourage nuclear-armed states to join the global denuclearization effort.

One of the major global challenges is climate change. Once just a topic on TV screens, it's now visible right outside our living room windows. For years, experts have been alerting the world to climate change. The world needs to swiftly and effectively come together to combat this issue. Our aim should be to mitigate the adverse effects of climate change and adapt to the upcoming weather patterns. Ratifying important agreements is a crucial step, but world leaders must actively implement their resolutions. Prioritizing the United Nations' 2030 Agenda is vital for responsible action.

Furthermore, the world must use artificial intelligence (AI) responsibly. AI has the capacity to revolutionize healthcare, education, and business. However, there are risks associated with AI, such as discrimination, job displacement, and security threats. It is therefore critical to use AI ethically and safely, which requires strict legal regulations. It's crucial for all players in international relations to act responsibly and manage AI use with care.

International companies must act responsibly. They play a crucial role in improving the economy by fostering development and decreasing unemployment. Companies also push scientific and technological progress. However, multinational companies may have negative political effects and contribute to the creation of monopolies, both locally and globally. They significantly shape societal development, technological innovations, infrastructure, and essential industries like food, water, and healthcare. Thus, their responsibility towards global society is nearly as crucial as that of governments and major international organizations.

The world of the future will face significant global migrations. It is crucial to prepare responsibly for these changes. Both developed and developing nations must brace themselves, as failing to do so could lead to serious crises. Cooperation, dialogue, and collective efforts are necessary to achieve sustainable development goals of the UN Agenda 2030. If successful, many migrants will find reasons to stay in their homelands, resulting in more manageable and sustainable global migration patterns.

REFERENCES

Baum, Seth D. 2020. A Survey of Artificial General Intelligence Projects for Ethics, Risk, and Policy. Global Catastrophic Risk Institute. Retrieved 2 November 2024.

Brachman, R. 2005. Getting Back to "The Very Idea", AI Magazine, 26. 48–50.

Broll, U. 1994. Bernhard Gilroy: Foreign trade theory: introduction and newer approaches. 2nd edition, Oldenbourg, Munich.

EC - The European Commission. 2021. EU Adaptation Strategy. Brussels. 24 February, 2021.

EU - European Union. 2022. Eurostat. Brussels.

https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220330-2, Retrieved 4 November 2024.

Gelderblom, O., Jong, A. and Jonker, J. 2013. The Formative Years of the Modern Corporation: The Dutch East India Company VOC, 1602-1623. The Journal of Economic History. 73 (4). Cambridge University Press (on behalf of the Economic History Association).

Gleick, P. 2017. Statements on Climate Change from Major Scientific Academies, Societies, and Associations. ScienceBlogs. 7 January. Retrieved November 1, 2024.

IEP - Institute for Economics and Peace. (2020) Over one billion people at risk of being displaced by 2050 due to environmental change, conflict and civil unrest. London. https://www.prnewswire.com/ae/news-releases/iep-over-one-billion-people-at-threat-of-being-displaced-by-2050-due-to-environmental-change- conflict-and-civil-unrest-301125350.html, Retrieved 7 November 2024.

ILO - International Labor Organization. (2021) Global Estimates on International Migrant Workers - Results and Methodology. Third edition. Geneva.

Iklé, M., Franz, A., Rzepka, R. and Goertzel, B. 2018. Artificial General Intelligence. Springer Nature.

IOM - International Organization for Migration. (2008) Migration and Climate Change. Geneva.

IOM - International Organization for Migration. (2017) Environmental Migrants and Global Governance: Facts, Policies and Practices. Geneva.

IPCC - The Intergovernmental Panel on Climate Change. (2021) Sixth Assessment Report. Working Group 1: The Physical Science Basis. Chapter 11: Weather and Climate Extreme Events in a Changing Climate. New York.

Jeffrey, A., and Painter, J. 2009. Imperialism and Postcolonialism, in: Jeffrey, Alex and Painter, Joe. Political Geography: An Introduction to Space and Power. 2nd edition. London. SAW.

Kurzweil, R. 2005. Long Live AI. Forbes. 5 August 2005. Retrieved November 2, 2024.

Langley, P. 2006. Cognitive Architectures and General Intelligent Systems, AI Magazine 27. 33-44.

McCarthy, J. 2005. The Future of AI — A Manifesto. AI Magazine. n.26.

National Academies (2008). Understanding and responding to climate change: Highlights of National Academies Reports.

Oreskes, N. 2007. The scientific consensus on climate change: How do we know we're not wrong? in: Di Mento, Joseph F. C.; Doughman, Pamela M. (eds.). Climate Change: What It Means for Us, Our Children, and Our Grandchildren. The MIT Press.

Piguet, E., Pécoud, A. and Guchteneire, P. 2011. Migration and Climate Change: An Overview. Refugee Survey Quarterly 30(3). 1-23. LicenseCC BY-NC-ND 4.0.

Searle, John R. 1980. Minds, Brains, and Programs, Behavioral and Brain Sciences 3. 417-424.

Tomonaga, M. 2019. The Atomic Bombings of Hiroshima and Nagasaki: A Summary of the Human Consequences, 1945-2018, and Lessons for Homo sapiens to End the Nuclear Weapon Age. In: Journal for Peace and Nuclear Disarmament. London. 491-517.

Turing, Alan M. 1950. Computing machinery and intelligence, Mind LIX..433-460.

UN - General Assembly. (2015) Transforming our world: The 2030 Agenda for Sustainable Development,

UN - United Nations. United Nations Population Division. (2000) The World at Six Billion. New York. https://web.archive.org/web/20160205063346/http://www.un.org/esa/population/publications/sixbillion/sixbilpart1.pdf, Retrieved 4 November 2024.

UPI - United Press International. (2011) 7 billion people is a 'serious challenge'. New York. https://www.upi.com/Top_News/US/2011/10/31/7-billion-people-is-a-serious-challenge/UPI-73301320046200/, Retrieved 4 November 2024.

UNPF - United Nations Population Fund. (2022) Demographic milestone is evidence of great progress, but opportunities, challenges lie ahead. New York. https://www.unfpa.org/press/world-set-reach-8-billion-people-15-november-2022, Retrieved 4 November 2024.

Wang, P. and Goertzel, B. 2007. Introduction: Aspects of Artificial General Intelligence. Artificial General.