

Environmental issues associated with computing and technological development

Elina R. Guzueva^{1*}, *Natalya I. Pikuleva*², and *Angela L. Kilchukova*³

¹Kadyrov Chechen State University, Grozny, Russia

²Kazan National Research Technical University named after A. N. Tupolev-KAI, Kazan, Russia

³Institute of Informatics and Regional Management Problems of Kabardino-Balkarian Scientific Center of the Russian Academy of Science, Nalchik, Russia

Abstract. Overpopulation and global warming are the issues that we are facing in the present. These issues force humanity to increase demands on goods and food, as well as improvement of technologies and their creations. New technologies are emerging every year to solve the existing problems. However, the truth is that they also introduce new problems, creating an endless circle of issues and solutions. One particular issue that is provided through the improvement of the technological side and by overpopulation is the mass production of new items. New items are in different variations and qualities that are endlessly conveyed to fulfill the demands of consumers. Although the usability time of most of the produced units is less than a day, meaning they are produced for the sake of it is possible and desirable. This kind of behavior introduced more issues, in other words, unnecessary trash, which will be degrading for hundreds of years and slowly destroying the environment that once was flourishing. The article will focus on issues that arise when unnecessary technologies, devices, goods are produced.

1 Introduction

From the very beginning, thanks to people's ability to generate ideas and then implement them, progress was inevitable. Each idea opened new doors for imagination and the creation of innovative outcomes that dramatically changed the way of living. The standard was restructured and the non-stopping locomotive of progress continued in the process. If ignore the effects of this wheel of fortune, one can see only the enrichment of ordinary lives in almost every angle. It could go on forever in such a manner, but the inevitable truth of progress is licking out that threatens our existence. The explicit examples of this case are the environmental disasters that have become more frequent [1].

The manifestation of the issues surrounds us daily. These matters can be visible if studied in depth, or otherwise if felt personally. The clear result of humans' print of augmenting nature is global warming. However, it is now called global boiling as its effect is felt more severely. There are different views on this particular case. Some scientists argue that it is less threatening to humanity as it is conveyed in public. The other side believes that global warming could be the cause of human displacement and natural destruction. There are many

* Corresponding author: guzueva@mail.ru

interpretations of its existence and thus can be perceived differently. Nonetheless, the issue is still there. Human activities, if not mitigated or reduced, will have a detrimental effect on nature and will have a negative impact on them [2].

The situation is worsened by overpopulation. The effect this has on nature is catastrophic and, in some cases, irreversible. Which introduces other issues related to the production of goods. It was already an issue with the production of items that humans most of the time use a few times before losing interest in them. With the technological progress, the goods diversity widens in a dramatic way. Even one product can be manufactured in numerous ways, and they are indeed. Overpopulation in this case only multiplies the problems and hence the easy solution is to create new methods and technologies to deal with the existing issues as new by itself could and will introduce another issue [3].

The article will cover the idea of mass production of goods. How does it influence our daily life, and what are the issues if there are so? The main focus of the work will be directed to the idea that diversification of goods will harm nature and, similarly, us if not dealt soon and correctly.

2 Technological progress and its issues

As we delve into the realm of technological progress, one can notice that the frequency of new technology emergence is shorter as progress into the future. Due to the accumulated knowledge, humans are capable of achieving drastic changes in almost all fields. Technological progress keeps the ongoing changes, whether they are related to positive or negative sides. If utilized correctly, these technologies are capable of bringing many positive outcomes. Although there are, as it was mentioned before in this work, sides that are unwanted. These sides cause massive destruction to the overall system. A common technological drawback will be considered in the following paragraph [4, 5].

2.1 Diverse production

A few centuries ago, goods were made to serve for a long time and a clear purpose. Most of the time, the produced items were built for a certain task and appearance. There were not many similar tools that did the same thing. Nowadays, we have different types of goods to do the same tasks. These types of productions are made to give a customer more choice not just in functionality but also in appearance, easiness, quality, and so on. This type of consumption can be justified by the fact that one company can produce the same things with the same amount as others. Although, the issue occurs when goods are produced in an uncountable variety. The first and most common problem is that most of them are not even reaching the consumer, meaning they end up in the damp. Most of them serve no meaning function or purpose. Some of them end up in the trash within a short time [6].

2.2 Focus change

For many industries, mass production is a normal thing. As stated before, demands on production rate increase with the population rise and hence it does effect industries' capabilities. One can argue that lately, goods are renewed in a short time. As a result, customers tend to purchase new items, even if the changes are unnoticeable. With the visible alternation, a common consumer will not be looking to use it. It all comes to the idea of having a new version of anything [7].

2.3 Meaningless items

In the market, there are products that are vital for any consumer, and most of the time they are the must-have ones. However, the market is also filled with products that bring no positive results in any aspect, but human feelings, bought for aesthetic or other reasons. The items serve no meaningful purpose for humanity or for humans. Yet the market is filled with them, whether they are useful or not [8, 9].

2.4 Choice

The idea of choice in modern times seems unclear. Some people think that the paths and choices they make are fully generated in their heads to serve the goods, and they are not invaded or interfered with by any other forces. The reality is that we are influenced from the beginning of our lives from different sides. Some imposed thoughts are clear and some are feasible. Therefore, the thirst for consumption is built in slowly by the corporation to promote and impose their products [10].

2.5 Circle of endless technology

Technology similar to products can become outdated or unnecessary. Lately, the issue has become more pronounced as new technology occurrences have become more frequent. The first issue and most common is the implementation of new technology immediately after its release. Indeed, the technology proved to be useful in some aspects. However, after a while, due to the fact that it is not fully tested or failed prediction analysis starts to emerge. Therefore, the technology will be changed to the new one or old one. It creates unnecessary items and consequently becomes trash [11].

3 Future of trash

What we will have in the future depends on the present. How the existing issues and how they are dealt with will defy the future. Right now, everything is not in place. There is great technology and the paths of solutions, but other human issues are on the way. Mass production is already manifesting itself unnaturally. What we see in modern times as gold will be unnecessary trash in the future. Most of the time it is technology that ages worse than any other goods. They can be easily outdated and replaced by new ones. Of course, most of them are recycled, but only if it is profitable but not necessary. Consequently, the issue lies within us. Mass consumption is the number one reason for ecological issues. Different industries can not be blamed alone due to their endless production. We are the drivers of their engines as we demand the goods that are produced endlessly. The other issue is linked to the consumption problem. The companies impose and promote items that are not vital or even useful. This radical advertisement and human's inability to resist combined together create this unclear future where we all live deep in trash [12].

4 Solution

Addressing the challenges posed by technological progress and overproduction requires a comprehensive strategy. Industries should shift towards sustainable production practices, prioritizing durability, recyclability, and reduced waste, while regulations and policies should be strengthened to hold companies accountable for their environmental impact. Consumer education plays a crucial role in fostering awareness about the consequences of

overconsumption and disposable culture, promoting informed and responsible purchasing decisions. Emphasizing product design for longevity and reparability, encouraging the adoption of a circular economy model, and supporting initiatives for proper electronic waste disposal are essential steps. Governments and corporations must take responsibility for their environmental footprint, investing in eco-friendly technologies and promoting transparency in reporting practices. Community engagement is vital, with local initiatives driving waste reduction and sustainable living practices. Advocacy for ethical advertising practices and international collaboration on environmental issues can contribute to a collective effort toward a more sustainable and environmentally conscious future [13, 14].

5 Conclusion

To conclude, the issue of mass production is a world issue that needs to be dealt with in the near future. The problem will only accelerate to the new stage if left untouched. Therefore, the article tries to outline the issue that lies in the endless production of goods. The focus of the work was shine to on the diversification of products and how they influence us. The work also outlines the meaning of present deeds and their trajectory in the future. The flexible solutions are also discussed in this work.

References

1. I.A. Magomedov et al., IOP Conf. Ser.: Earth Environ. Sci. **677**, 032109 (2021)
2. Islam Arbievich Magomedov, Timur Gadzhievich Aygumov, Natalya Ivanovna Pikuleva, E3S Web of Conf. **451** 06012 (2023)
3. V.A. Gerasimov, M.G. Nuriev, D.A. Gashigullin, International Russian Automation Conference (2022)
4. I.A. Magomedov, M.S-U. Khaliev, A.M. Bagov, IOP Conf. Ser.: Earth Environ. Sci. **548** (2020)
5. I.A. Magomedov et al., IOP Conf. Ser.: Earth Environ. Sci. **677** (2021)
6. J.L. Ordoñez-Avila et al., J. Phys.: Conf. Ser. **2094**, (2021)
7. D.M. Rodríguez, J. Phys.: Conf. Ser. **1409**, 012018 (2019)
8. I.A. Magomedov, A. Dzhabrailov, A. Bagov, AIP Conf. Proc. **2647(1)**, 040096 (2022)
9. I. Magomedov, M.M. Khulamkhanova, N.A. Staroverova, BIO Web Conf. **63**, 05010 (2023)
10. O.A. Fernandez, J.L. Ordóñez-Ávila, I.A. Magomedov, AIP Conference Proceedings **2442(1)**, 030015 (2021)
11. Third World Network (TWN) 2015 Agroecology: Key Concepts Principles and Practices (2015)
12. A. Rohila, A. Duhan, D. Maan, A. Kumar, K. Kumar, Impact of agricultural practices on environment Asian Journal of Microbiology Biotechnology and Environmental Sciences 19 (India: Global Science Publications), p. 381- 384 (2017)
13. S. Neethirajan, Artificial Intelligence & Sensor Innovations— Enhancing Livestock Welfare with a Human-Centric Approach. Preprints, 2023090214 (2023)
14. Islam Arbievich Magomedov, Khyzyr Vyacheslavovich Mashukov, Gulshat Ildusovna Gaptullazyanova, E3S Web of Conf. **451**, 03008 (2023)