

# Eco-friendly practices aimed at overcoming environmental problems using technological and algorithmic achievements applied in the agro-industrial complex (AIC).

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**Abstract.** It is essentially to track the current state of any event and to solve the occurred issue with the appropriate tool. We live in a world full of different mechanisms that work in a balance with each other. The disruption and collapse of single states are not feasible to the whole state, but when the impact is felt by all the gears, one could assume the change is required to sustain a comfort and health life. Due to the different phenomena and issues, our world is facing complex issues that need to be solved with practices that well suits the states. Therefore, this article will focus on the issues that need to be solved and the practices that are used for reaching the solution. The followings will be discussed: precise farming, carbon polygons, new regulations and human behaviour.

## 1 Introduction

The fast moving world introduces many opportunities for development and changes. One can easily be lost in the paths that are provided for us by the technological progress. Technology and the revolutions it brings had a massive impact in how we live and perceive certain aspects. Technology pushes our limits, introduces new opportunities and provides guidance on how to develop. Therefore, new technology and innovative approaches related to them must be implemented for the best of our planet and, hence, for us.

The meaning of technology changed over the years. If taking as an example old time, the sculpted rock or any other equipment was considered as technology, meaning progress in some of the areas. Nowadays, it is also had a wider meaning. Technology can be an equipment, a new approach, combination of different fields and technology and so on. Nonetheless, one main purpose of it is to ease some aspects of our daily life and bring comfort in a different form. Technology can be applied to perform some tasks, solve some problems, suggest some methodologies and so on. Its application is vast and hence it is a major part of our life.

Technology can be involved not just in development, but it can be utilized in a way that could have a negative impact on different aspects. They are the reason behind some of the issues that needs to be solved before reaching to the end state. The pending issue in the

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modern time is the accumulation of unwanted and hazardous gasses in our atmosphere. This phenomenon is dramatically changing and damaging our world and its ecosystem. Therefore, the old practices must be renewed and reinvented to fulfil the global issues. There are already some positive steps taken to remove or lower the impact. Some of these practices will be covered in this work. The following practices will be discussed: practice farming, carbon polygons, new regulation and human behavior. [1, 2, 3].

## **2 The need for change**

We are on the precipice of global catastrophe. Due to the combination of different factors, the escalation of environmental issues is getting worse every day. Global warming is a phenomenon that includes all the possible harms that human activities established. Its influence on the environment is vast, and it is not slowing down. Global warming can be linked to two main initiators. Technological progress and overpopulation of the planet. Technological progress opened so many doors for improvement and development. However this situation has also paved the way, for mass production, where the needs of the population take precedence over concerns. This results in increased emissions of gases and greenhouse gases as wastage of resources. The issue of overpopulation is closely linked to resource consumption. More people equate to higher resource usage. Some resources are irreversibly depleted, meaning they cannot be naturally replenished. Overpopulation stands out as the factor driving our planet to its state. Taking all these factors into account it becomes evident that a comprehensive and viable solution is imperative. If addressing overpopulation and technological advancements proves challenging for us humans alternative approaches must be explored. Embracing cutting edge technologies and innovative strategies will be crucial, in tackling these challenges. The upcoming section will delve into practices aimed at combating or eradicating these issues. [4, 5].

## **3 Application of practices**

The below presented practices are selected due to the novel approaches and the ability to reduce the effect of unwanted gasses in the atmosphere. It is important to understand that there are many other fields, approaches, technology and other activities that can positively effect the nature. However, the aim of the work is to illustrate that implementation of these approaches can ease the impact on nature.

### **3.1 Precise farming**

Agriculture is one of the significant sectors that fulfils the needs of millions of people. Due to the overpopulation, the pressure on this sector is increased. Thus, the sector goes through constant changes to sustain the capabilities for the mass production. Since it is involved in mass production, the end result is resources use, increase of waste and chemicals that results in contributing to the environmental crisis. It is believed that this sector is responsible for almost 30 percent of total emission. Meaning that this sector is sustaining our food and goods and at the same time providing the foundation for our nature to be destroyed. Therefore, new practices are adopted, and old methods are reimaged to focus on reducing the impact of mass production on nature. Precise farming is an approach that tries to minimize all the potential harmful parts from the overall process. It's aims to be as eco-friendly as possible. To reach the goal, it uses both technological and methodical paths. It consists of sensors, mechanism, and algorithms that provide the precision in every move. The precision of the method allows benefits to be reached through complex tasks and solutions. In other words, it

can be described as Internet of things working in agriculture sector to scope the whole process and then to optimize the processes [6, 7].

### 3.2 Carbon polygons

New challenges need innovative and complex approaches. Therefore, carbon polygons were launched to reduce and sequester unwanted gasses from the atmosphere and bring them back to the earth. Also, they are aimed to reshape the old methods and create new practices that are more eco-friendly to the nature. In addition, its aim to get into the researches of different factors that present opportunities for scientists. Right now, these polygons are fully functioning and showing some positive results. They are established all over the Russian territories. Placed in the areas away from civilization. In this case, the evaluation of different values will not be effected by other factors. However, these polygons are established as trial projects. Meaning, the positive outcomes and real effect on nature of these polygons will be in the near future [8, 9].



**Fig. 1.** Carbon polygon located in the Caucasus mountains

### 3.3 New regulation

New regulation is one of the immediately methods to eliminate harmful practices. With the occurrence of global warming, some of the well-established routine practices were disturbed by the regulators to reach low carbon dioxide emission. The regulations also were introduced to these fields that contribute not just to the emission but to the environment too. Meaning that some of the hazardous waste and chemical use are covered in these regulations. New regulation might be directed to eliminate harmful and unproductive methods and to push practices that are built with the situations and with the clear aim. Of course, it will be a dramatic transformation for the industries at first, some of which might be out and lowered in their production, but after a while the impact in the nature will be eased. It is a complex task to come up or create new regulation by third party without involvement of others. By others meaning the very interested parties such as industries themselves, scientists, directly

profiting organizations from implementation of regulations and so on. Henceforth, these regulations must be created in the space where they are free from corruption [10, 11].

### **3.4 Human behaviour change**

The most unconventional scientific method to fight climate change is the psychological influence on the society. As it was mentioned many times in this work, technology is the main contributor to the environment and, hence, the blame goes to humans that utilize them. All the issues related to global warming is the footprint of humans. Entertaining and attracting events must be done in favour to change the harmful habits of humans that destroys and disturbs ecosystems. Work the correct knowledge and habits one can be used as a contributor not to the emission but to the bright and clean future [12, 13].

## **4 Discussion**

Summing up the implication of looking through the possible solution, there are plenty of opportunities out there to be implemented to fight back the negative effect on the environment. There are more approaches that can be introduced in our life, not including those, which were supposed to in this paper; these are the common tools that can be used as the first step to start the process of bringing the nature feeling itself in the safe zone, where it will no longer be in danger. Precise farming opens up many opportunities for those who are willing to change their impact on nature, and applying new technologies in their practices. They reduce workforce in one side, but the overall effect is much greater than before. Precise farming is an example to other fields and not agriculture how process can be automated to the level where it can have a positive impact on nature. Precise farming is also the use of methods that are not directly related to technology. This is a portfolio of all the methods that can produce results in the best-case scenario. Carbon polygons are attempts to get something new in this matter. I put it as a separate example because it is the newest way to solve issues as well as new installations. This method can hardly be compared with the previous documents' examples as the final result will be seen shortly. On the other hand, in the case if everything needs to be changed immediately, one should not neglect such force majeure regulations. It is also unclear what will resist. The last and possible one to stop all the issues connected to the natural disasters; disturbed ones are human behaviour. We are the ones who caused the problems and the only ones who can solve it. The presented methods can be used together and separately to get read off or at least to reduce the affected results.

## **5 Conclusion**

To conclude, this work was done to highlight the methods that are intended to enthusiast or completely remove the elements that are hurting our nature. Primary elements that are affecting our nature were talked about in this job. It revealed that just intricate as well as completely refined techniques should be applied to address the problems that are happening in today time. A few of the methods were talked about in this job that could favorably affect the setting of our world. The picked techniques are picked because of their intricacy as well as capacity to favorably affect.

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