

Can Science Save Us?

1. Introduction

2. Innovations Of Science, As A Solution to most challenges Of Modern World.

2.1 Advancements in healthcare sector.

Use of genetic engineering, vaccinations, radiation therapy and precise technology to improve quality of life.

Eradication of fatal diseases such as small pox.

2.2 Science has a role in fostering economy of the globe.

2.3 Controlling the menace of climate change to save human existence.

2.4 Progress in the education sector through online education and research.

2.5 Easy communication and globalization through use of internet

2.6 Advances in transportation sector

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2.7 Artificial Intelligence (AI) has created feasibility in various sectors such as e-commerce.

3. Limitations Of science in fostering benefits for human life

3.1 Creation of technologies increases gaps between developed nations and third world countries.

3.2 Proliferation of nuclear weapons endangers human existence

3.3 Limitations of science due to ethical considerations and human priorities

3.4 Excess use of technology has worsened issue of climate change.

3.5 Hybrid warfare instead of conventional wars are difficult to control

3.6 AI may overpower human beings with replacement of workforce and increasing social inequalities.

4. Science is not a holistic solution to save humanity

5. Conclusion

Elon Musk, a famous businessman and tech innovator, argues,

"AI will undermine our freedom and security and be detrimental to the survival of human race in not so distant future"

Science and technology has been a cornerstone of human progress. It is due to science that human has reached in the era of industrial revolution from the era of hunting and gathering. Science has saved humanity with advancement in various sectors but it is not a holistic solution to every challenge. The challenging inventions in the healthcare such as vaccinations, medicines, robotic surgery and radiation therapy has drastically improved quality of life. Alongwith health, industrial growth, new agricultural techniques, and monitoring of soil has multiplied output of both industry and agriculture. It has stabilized the global economy. Environmental degradation and climate change ~~are~~ pose threat to the human existance but with the use of science, various solutions are produced. Science has also given other benefits such as easy communication, faster transportation and other technological innovations such as Artificial Intelligence (AI)

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which have eased multiple challenges of modern world. But the question that science can really save us has complex challenges. Advancing technologies in developed world have increased gaps with rise in social inequalities between developed countries and third world nations. Unprecedented proliferation of nuclear armaments poses great threat to human existence. The use of science is not limited to invention and usage but certain ethical values, faiths and conventions produce complex issues regarding its usage. In addition to this, the menace of climate ~~change~~^{change} is greatly due to uncontrolled burning of fossil fuels and industrial waste production that endangers not only human life but also aquatic life. Another threat that has loomed due to use of science is hybrid warfare with new scientific ways used to influence rival states. Cybercrime, state-sponsored terrorism and defamation tactics have increased due to scientific inventions. Another recent threat is that of Artificial Intelligence which can replace humanity. Therefore, science has multiple benefits to facilitate human beings but it has detrimental influence as well. With pragmatic and controlled use of technology, science can prosper human life, otherwise, it can become a major cause of extinction of human life.

Freshly, science has saved human beings from sufferings of multiple diseases. The advancement of healthcare sector is evident from multiple technologies used. Inventions of medicines and cure for fatal disease have saved millions of life such as Tuberculosis (T-B) ^{was} once a fatal disease. The development of medication for T-B is due to peaks of science. Similarly, invention of vaccinations for polio, hepatitis, COVID-19 etc is due to scientific development. It has resulted in eradication of fatal diseases such as small-pox. Additionally, ~~radiation~~ ^{radiation} therapy for stones, masses and cancers, robotic surgery, X-ray, CT-scan, MRI for diagnostic purpose have enabled early diagnosis and effective management. ~~Other~~ Likewise, other developments include gene editing, genetic engineering, in-vitro fertilization. They have drastically reduced healthcare challenges and enabled easy daily health monitoring with use of healthcare tools, smartwatches to control blood pressure and diabetes. With efficient use of artificial intelligence (AI) the healthcare professionals analyse and diagnose many diseases at initial stages which ~~greatly~~ helps in effective management. The analysis of health reports and vital signs helps predict chances of heart attack and stroke. Hence, science has effectively saved human life evident from sphere of health sector.

Secondly, science has raised global economy with development of advanced technologies in the fields of agriculture and industry. Advanced irrigation techniques, pre-active monitoring of soil nutrients, and new harvesting mechanisms have increased output and quality of crops. Science has enabled farmers to use small lands for large outputs. Similarly, industrial development with the use of technology has fostered production. The rise in production, easier harvesting and effective cultivation contributes to the country's overall gross development and economy. Hence, science contributes to development of global economy which has significant role in dealing with rising global food and hunger crisis, overpopulation and poverty. Hence, science saves humanity and life through its contribution in raising country's capital.

Thirdly, climate change and environmental degradation have increased frequency and intensity of natural disasters such as floods, earthquake, heavy monsoons, droughts, famine and tornadoes. In ancient times, natural disasters had killed thousands of lives and led to loss of millions dollars due to damage to the infrastructure.

In contemporary world, science has developed weather forecasts to predict floods, tornadoes or heavy rains and helps taking advance measures to tackle with disasters. The recent example is tornado in United states. It was a disastrous tornado with high intensity that could have led to thousands of casualties. But technological development of weather prediction and analysis saved many life lives. Another issue of climate change is global warming and raised temperature of globe. The science has provided alternatives such as renewable energy resources like solar panels, wind energy, hydal energy. These alternative approaches would reduce the excessive burning of fossil fuels. Therefore, contribute to control global climate change. Hence, science has saved life through abating the menace of climate change and helping humanity in dealing with natural disasters.

Additionally, science has developed itself through research and continuous experimentation. Similarly, it has fostered the field of education by promoting digitization, online education and research. The use of electronic gadgets, internet and virtual classrooms have eased the challenge of getting education. It reduced challenges which are faced by those students living far

from large cities. Likewise, ~~a~~ ~~is~~ online learning has promoted easier skills and human resource development. Hence, science has a significant contribution for research development. The new researches further improve quality of lives and save human life.

Furthermore, science has promoted human life with advanced communication techniques through use of **internet, social media**. Whole world has shrunken into a global village. Easier communication and faster transportation through **airplanes, bullet trains, buses and other automobiles** contribute to faster growth and adaptive capability of human life. Hence, science can save humanity through increased collaboration and integration mechanisms.

Moreover, artificial intelligence (AI) is a field of science which has significant role in growth of humanity. AI's ability to diagnose, analyze and monitor health of many patients, ~~it~~ analyzes traffic system through mapping and satellites and reduces chances of accidents. Therefore, AI and science have great contribution to save human life and improve quality of life.

Further, Science has transformed the world in remarkable ways. However, it is not a panacea. It operates within confines of human priorities, ethical considerations and resource availability. The technological development in developed world has enabled them to use cheap labour and exploit resources of third world countries. Due to lack of technology, developing nations are continuously being exploited and face challenges posed by world powers. For example western countries like United States of America continuously exploit resources and labour force of African land. This exploitation increase the gap of social inequalities. These inequalities can rise into conflicts and global wars in future which will result in human sufferings and casualties.

Likewise, misuse of scientific knowledge has led to significant harm. Global conflicts, misuse of power and scientific knowledge for national interest have pushed the world into frequent wars. Unprecedented proliferation of nuclear armaments endangers human existence. Conflicts between global powers and their allies are continuously ~~multiplying~~ ^{leading to multiplication of} their nuclear weapons and armaments. Therefore, science, on one hand, saves humanity and it proves detrimental

for human life on the other hand. Ultimately the question of whether science can save us hinges on the humanity's ability to harness its power responsibly.

In addition to this, science and technology operate within confines of ethical considerations, beliefs and human priorities.

For example use of in-vitro fertilization, genetic engineering, questions of transplantation of organs, use of animals for experimentations etc are complex challenges that limit the use of science. The efficacy of science is also contingent on political will and societal values. Despite overwhelming support for need of climate action, global responses remain inadequate due to cultural resistance, economic interests and political inertia. Science can provide solutions but it can't compel societies to adopt them. Hence, it underscores the importance of integrating scientific insights with effective governance and public engagement.

On the other hand, excessive use of technology has worsened the issue of climate change. The development of various industries, irregular and uncontrolled disposal of chemicals

and waste, excessive burning of fossil fuels have raised concerns for climate change. While development of climate resilient cities on one hand, science has significant contribution in worsening the situation. It would further increase frequency and intensity of natural disasters posing threat to human life.

Additionally, globalization and technological advancements have raised concerns for hybrid warfare. The conventional wars were apparent in ancient time that could be easily controlled. Due to scientific innovations, there is rise in terrorism, cybercrime and defamation tactics. The terrorist organizations have spreaded globally. They control finances and attacks from different corners of the world. Use of drones, and other technologies for anonymous attacks have raised serious concerns. These activities hampers lives of many people. With deliberate use of internet and artificial intelligence (AI), misinformation, news of defamation spreaded rapidly. Hence, the use of science presents significant complex challenges for humanity.

Furthermore, robotic inventions and artificial intelligence would deliberately replace humanity. ~~Time~~ Time is no far when AI will replace human workforce creating mass unemployment and hunger crisis. It will disrupt labour markets and exacerbate economic inequalities if not managed responsibly. The proliferation of AI and automation has already started curtailing analytic capability of human beings. There is increased dependence on technology for even smaller tasks. Hence, these challenges raises concerns about unintended consequences and ethical dilemmas.

Lastly, to navigate these challenges and limitations, societies must adopt proactive approach to governance and regulation. The question of whether science can save us has complex answers. Science has improved quality of life, increased life expectancy of million people, and fostered global economic growth. Science ~~has~~ is still looking for novel therapies such as gene editing and immunotherapy, that have potential to cure genetic diseases and combat cancer. Science itself is not a panacea but it significantly play role in saving us. It is not a holistic solution for every

concern but it requires a balanced ^{approach} to use science and technology in controlled and innovative manner.

Concluding, science is the most powerful tool humanity has ever developed. It offers solutions, insights and possibilities that can transform our world for better. Yet, it is not an alone savior of the world. The ability of science to save us depends on our collective will to apply the findings ethically, equitably and sustainably. It has improved life standards with continuous and easy monitoring of vital signs, better analysis of future diagnosis and management of fatal diseases. Science has reduced casualties of human life that used to happen in ancient times due to ~~human~~ ^{natural} disasters. The invention of AI predicts climate changes, traffic congestions and chances of accidents. ~~But~~ However, increased proliferations of nuclear armaments, hybrid warfare and increased gap between developed countries and developing nations leading to social inequalities due to technology, threatens humanity due to chances of global conflicts and wars. By integrating scientific progress with inter-disciplinary collaboration and humanistic values,

challenges of modern time can be addressed. Hence, science is only as effective as societies wield it. It is not merely a matter of discovering new technologies and unravelling mysteries of nature. It is about cultivating shared vision for better world and taking collective action needed to achieve it. If humanity can rise to this challenge, science will undoubtedly play central role in securing a brighter future for all.

