

## Can Science Save Us ?

1- Introduction

2- The role of science in saving the mankind

a- Science has significantly improved medicine and the health sector.

b- It has led to development of innovative agricultural techniques addressing food security.

c- Science has led to advancements in the digital technology with smart devices and Artificial Intelligence.

d- It has revolutionized the industrial sector causing boost to economy.

e- Scientific methods improved the critical thinking skills of human beings.

f- Science modernised the transport system with development of electric vehicles which are environment friendly.

g- It helped in the advancement of weather monitoring systems to mitigate climate change impacts.

- h- Science has improved the technology to enhance disaster risk management.
- i. Improvement in the criminal procedures through scientific research and use of digital means.
- j. It upgraded the education system by integrating technology in it.
- k. Developments in the field of biotechnology led to significant improvements in life.

### 3- Conclusion

One can imagine the life in the stone ages when people had no scientific knowledge and had to face challenges in daily life. The ease of life came with the improvements in science. It can be clearly differentiated how science has improved the standard of living. Science is the systematic method of study by observing ~~and~~ the natural world and doing experimentation to get knowledge with ~~pro~~ evidences. Science has saved the mankind in many ways as there was no <sup>protection</sup> ~~safety~~ for man against diseases.

and death was the ultimate end before science. Such challenges were being faced by the society. Science benefited the humanity with improvement in the medicine and health sector to provide them safety. It also caused development of innovative techniques in agriculture which addresses the challenge of food security. Moreover, science ~~also~~ revolutionized the industrial sector with development of products which helped boost the economy of a country. Furthermore, science led to advancements in the transport sector making it environment friendly by developing electric vehicles. It is argued that science has, no doubt, played a significant role in the society with its advancement in health sector, agriculture sector and advancement in digital technology.

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Science has caused improvements in the medicine and health sector that saved people from the risks associated with health. Development of vaccines helped in the treatment of various life-threatening diseases. Vaccines against rabies, tetanus, polio have been developed to protect people. Advancements in the treatments and development of drugs helped to treat diseases such as cancer. For instance, COVID-19 was caused by the virus ~~caused~~ leading to death of people and the vaccines were developed by the scientists which were effective against the disease and helped in dealing the challenge. So, scientific advancements in ~~this sector~~ improved the health sector.

Moreover, science revolutionized the agriculture sector to deal with food security. Today, with increasing population, there is a requirement to produce

enough food to meet the requirements.

So, efficient and effective fertilizers are being developed to improve crop yield and quality. In addition to this, new food varieties are being developed through cross-breeding by the use of biotechnology. The development and application of biochar fertilizers help provide the essential nutrients to crops hence, improve their productivity and prevent environmental degradation such as surface run-off of fertilizers as biochar has the soil-retention properties. In this way, agriculture sector improved with the scientific advancements.

Science innovated the digital technology providing a better standard of lifestyle. The use of smart devices such as mobile phones, laptops and internet helps provide easy access to everything. The dimensions of the smart technology

such as online shopping, online banking, online education and others have proved beneficial. Moreover, Artificial Intelligence has reduced reliance on human resource and has proved beneficial in every aspect. For example, AI has improved the security systems with its feature of facial recognition. Hence, significant progress has been achieved due to innovations in digital technology.

Science has also improved the industrial sector. The design of products with scientific knowledge improve their quality and demands. In this way, exports can be increased which would help stabilize the economy. Also, with the use of pollution control devices, industries can be operated through sustainable methods to improve efficiency of industrial sector. A cotton research center has been established in Multan by ~~Jayran International~~

~~Cooperation~~ Agency that would improve cotton varieties and help the textile industry to grow and compete in the world. So, an integration of scientific methods in industrial design has helped it ~~to~~<sup>in</sup> growth.

Science caused human progress by enabling man to develop critical thinking skills. The innovative ideas are proposed by humans due to their observation skills and their curiosity to do experimentation and its base is provided by science. The discoveries and innovations by the scientists are due to their ability to observe and do research to reach scientific conclusions. During the Scientific Revolution, Newton developed the laws of motion by understanding the physical world. So, science laid the foundation for modern scientific methods.

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The progress in science also modernised the transport system. Catalytic converters and other pollution control devices are used in the vehicles to reduce fuel emissions that would help reduce air pollution. Another development is the use of electric vehicles that removes dependence on the petrol and other fuels. So, it is a cheap alternative and also protects the environmental quality. In Pakistan, the government has initiated the EV buses transport system. So, people utilize public transport instead of their own vehicles. In this way, science has led to improvements in the transportation system.

Science helped in the advancement of weather monitoring technology to deal with the increasing climate change impacts. Pakistan is the 8th most vulnerable state in terms of climate change hazards. In order to mitigate



the negative impacts of climate change, Pakistan needs to improve its mitigation measures. The advanced weather monitoring systems predict the upcoming hazards and tell the forecast so that to improve preparedness and response in that situation. Pakistan has initiated a project with Japan International Cooperation Agency to install telemetry stations and weather monitoring systems to improve forecasting for floods and other weather related events. Thus, science has proved beneficial in catering the climate change impacts.

Science with advanced technology has led to improvement in disaster risk management. Disaster risk management deals with the hazards and their possible risks to decrease vulnerability of people. It ensures effective measures are taken to reduce susceptibility of

people and minimize damage. Furthermore, immediate and effective recovery is done after any disaster to prevent losses and strategies are utilized to be beneficial for long-term. For instance, Japan that is hit by catastrophic earthquakes have improved their disaster risk management by designing the buildings to absorb earthquake shocks and reduce damage. So, science is improving the disaster risk management.

In addition to this, science has improved the criminal procedures. The scientific research led to development of theories to better understand crime and criminal behaviour. Scientific theories of crime predicts the causes of crime. The use of digital means in the legal framework has further enhanced the criminal justice system. The development and use of

databases such as fingerprints database, DNA databases and excise database help maintain the criminal record.

Punjab Police has improved their digital framework by maintaining databases. Moreover, updated legal framework reduces the cost of the cases. Hence, it is evident that science caused noticeable enhancement in the criminal systems.

Furthermore, science upgraded the education sector. It led to development of different equipments and tools to improve research leading to new discoveries. Also, the use of science in education sector <sup>such</sup> as making animation has eased the learning process. The development of different applications and websites provides access to students <sup>by</sup> and making information accessible for them. For

instance, students and researchers are updated about the new discoveries and research through the published articles and journals. Games have been developed for kids that aid in basic learning. ~~Thus~~ Therefore, science caused betterment in the education system.

The developments in the field of biotechnology led to significant improvements in human life. One aspect of biotechnology is genetic engineering in which the gene of interest is isolated and inserted into another organism for desired characteristics. Another benefit of biotechnology is the development of artificial babies. Test tube babies are developed by fertilisation of egg and sperm outside the human body. Genetically engineered vegetables and fruits are being developed.

that enhance their yield and variety.

These include the drought resistant varieties of wheat. Hence, science led to advancements in the biotechnology field.

To conclude, it is evident that science has definitely improved the lifestyle by significant developments in the health sector, agriculture sector and digital technology. The science has saved the mankind in a number of ways. The development of advanced weather monitoring systems has helped in the mitigation of climate change impacts. The use of modern technology can enhance the disaster risk management to reduce the vulnerability of disaster effectees. Moreover, the use of scientific technology in criminal procedures such as the development of

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databases had led to improvement in the criminal justice system. ~~Moreover~~

Furthermore, science upgraded the education system through integration of technology. The advancements in the field of biotechnology also enhanced the living standards.

However, the right use of everything makes it beneficial. So, science should be utilized for the appropriate knowledge and benefit of mankind.

The advancements in science for right purpose has proved beneficial for the humanity.