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Subject : Essay

Topic : Can Science Save us

Outline:

1- Introduction:

2- Factors that establish the fact that science can save life if used effectively:

2a- By bringing advancements to cater the issue of climate degradation;

- Four billion people experience water scarcity for at least one month a year: UN water

2b- By fostering technological revolution to save the bio-diversity.

- "This changes everything: Capitalism vs. the Climate" by Naomi Klein

2c- By stimulating agricultural productivity to meet the

food shortage and global hunger

- Drip irrigation program by The Food and Agriculture Organization (FAO).

2d. Combating diseases like COVID-19

by reaching far-flung areas for Public health surveillance;

- India's telemedicine market for AI valued \$374.7 m

in 2023, expected to reach \$6.9 b

by 2032.

2e - The issue of mass mobilization and congestion can be

minimized by smart homes.

- Naya Pakistan Housing Scheme 2020

by X. Prime Minister of Pakistan

Imran Khan.

2f - By bringing advancement in

space exploration programs

as last resort.

- Elon Musk's space-X Mars mission.

2g - By launching AI based

automated surveillance mechanisms

for timely prediction and mitigation

- Crime Radar is developed by United Nations this uses AI and big data to analyze crime trends and support safe cities.

2h- A revolution in Communication

is directly needed to protect humanity from pandemic of fake news and misinformation;

- Reverse Image Search is a program that identifies manipulated images and videos.

2i- Boosting of renewable energy development to meet the

shortage and demand of energy in modern day;

- Waste to Energy Technology can convert 1 ton of municipal waste into 1550-7500 kWh of electricity. - Economist

2j- By bringing innovation in education and skill development with incorporation of smart

tools and remote programs.

→ Khan Academy of India.

3. Challenges to scientific development that hinders Human Prosperity:

3a. Concern of ethical dilemmas in Artificial Intelligence;

→ Data ownership and content handling by Darktrace.

3b. Risk of Bio-technological advancements in the name of

• progress;

→ Manipulations of human clones, "No ordinary Baby"

• movie.

3c. Environmental degradation would even get worse;

→ 100 - 250 grams feces are excreted by human adult daily. ^{• Britannica}

3d. Over-dependence on science

will lead to anxiety;

• Media Dependency theory by Melvin

Conclusion:

Science is the study of natural world. Science has a glorious past and it has helped human being to achieve sustainability and pleasure for so many centuries. The sky rocketing buildings are the miracles of science. The smooth roads that have reduced the bitterness of tiring jounies are the gifts of science. The invention of light year $E=mc^2$ is the mercy of science. It is evident that science has always been beneficial and progressive when it comes to serving humanity. But it is man who has misused this blessing and created a death trap for himself with the help of science. But once again science and scientific developments have step forward to save humanity and other living being on Earth from modern day challenges.

The technological revolution, the economic advancements, the artificial intelligence as subordinate to man for crime control, scientific inventions to combat epidemics and pandemics, space exploration programs, revolution in communication to avoid fake news and misinformation, modifications in education systems and addressing energy crisis can save human being from the man-made disasters and environmental degradation as until now Earth is the only habit for human beings. As Thomas Carlyle says, "This world, after all our science and sciences, is still a miracle." Hence Science has potential to save humanity if it is applied with balanced approach and checks.

To begin with, the first and foremost magic of science is its technological revolution which begin with industrial revolution of 1800's. But industrial revolutions

brought - climate change and environmental degradation as its by product.

It is high time to address this issue, prevent carbon emissions and avoid water waste as it is leading towards

global warming and scarcity of resources. According to UN water

Four billion people experience water scarcity for at least one month a year worldwide. This is a

very big number and it is increasing day by day. If the number would not be control it would lead

to drought and one degree raise in temperature till 2050.

Besides that the elimination of species from Earth is an alarming situation and an uphill task to deal with.

The spoiling of sea water and fresh water by the residue of factories is leading to extinction of many species of marine life and will ultimately lead to

destruction of biodiversity and ecosystem.

The main goal of man in today's

World is maximizing capital &

but, in achieving this goal man is

putting his own survival on stake.

This is also endorsed by

Naomi Klein in his book

"This changes everything, Capitalism

vs the Climate." But bringing

water purification projects, ^{rain}water

conservation programmes and collecting

funds for marine life security

via the use of science and technology

can save the ecosystem before

its too late.

Moreover, the world

today is facing extreme food

shortage and African countries

are dealing with extreme heat

waves, infant malnutrition and

pan-African starvation. This issue

of food scarcity cannot be

neglected at any cost as it

is amongst the basic needs of

human beings in Maslow's hierarchy of needs model. The only way to cater this man-issue is agricultural research and advancement. Once again mother science will nurture this need of man by providing innovative ideas for maximizing yield of crops, avoiding insect attacks, locust free grains and modern irrigation techniques. The current programme of science that (FAO) Food and Agriculture Organization is using is Drip irrigation technique. It uses less water resource and irrigates a big land in minimum time. This technique is helpful both ways in saving water and in cultivating big land with less resource.

Another way science can be saviour of mankind is through its miraculous inventions in the field of medicine and health care. The major fear of every

person on Earth is not death but a painful death and dying with hopelessness. Medical diagnosis and treatment are the most admired and celebrated potential of science worldwide but modern day lethargic life styles, fast food dependency, contamination of food is leading to innovative diseases like COVID-19. Scientific research helped humans fight COVID gracefully and it is hoped that in future science will save humans from any such calamities. The concern here is what will happen to areas where there is lack of electricity, mobility issue and least medical facilities are provided there? Science has answer to this question too. India has launched its Telemedicine market that will digitally diagnose the patients and will prescribe them future treatments remotely. IT

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has invested \$374.7m on it in 2023
and will spend \$609 billion till
2032.

In a similar way,
the issue of mass mobilization
and urban congestion is leading
to infections, resource scarcity,
traffic jams and residence issues.
Architectural science has advanced
so much that by building
smart homes, AI based traffic
lights, CCTV cameras for
surveillance the issue of urban
sprawl can be minimized
before it leads to a Darwinian
society and people start killing
each other to prove the philosophy
of 'survival of fittest'. The Prime
minister of Pakistan launched
Naya Pakistan housing society to
cater the issue of housing in
urban and slum locations for
at least 60 districts of Pakistan in
2020. Such initiatives if managed

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properly can save humanity from 'day to day' problems and survival issues.

• Additionally, The science of today is technology of tomorrow. The space exploration is no more limited to discovery of galaxies and measurement of stars sizes and distances. It is neither limited to installation of satellites for communication only. The new space missions are searching for a new habitat for human beings in space. Elon Musk's space-X Mars mission is finding traces for survival of human being on Mars after the big crunch happens in near future. It has found traces of water and the soil of Mars is under examination for cultivation. This is an eye-opening research of science that is under process and is

expected to bring magnificent results in future. The only issue lies here is a conducive climate that needs further research in this domain.

Apart from this, the launching of Artificial intelligence for crime prevention and control, can limited the extent of crimes happen in current era. Intelligence bot can predict and mitigate the crimes by using records of criminal history of a certain group and a certain geography. It can propose an exclusive security policy for a specific crime at a specific time in a specific place. Crime Radar is developed by UN that uses AI and big data to analyze crime trends and support safe cities. This cannot be ignored that technological advancement has also paved way for criminal minded people to.

better execute crime and escape from getting detained. So counter such modern criminals modern intelligence and modern weaponry is required that eliminates the doubt of human error.

In addition to this information and communication revolution is also required to protect human from pandemic of fake news and misinformation. In the modern world where smart phones, smart TVs, smart homes, smart surveillances and smart slaves have surrounded the man. It is important to establish an airtight approach to avoid fake news capture. The global trends, competitions of likes and follows has increased the probability of 'consuming' misinformation to a greater extent. Reverse Image search is a program that identifies manipulated images and videos.

It also locates the IP of the person who manipulates the data and the geographical location of the offender. This way scientific problems get scientific solutions.

Boosting of renewable energy development to meet the shortage and demands of energy in modern day to cater the energy crisis issue. Current lifestyle required continuous supply of electricity and electric appliances to meet the needs of fast pace world. Slow internet and load shedding costs the whole region apart from individual losses and frustration. Waste to Energy Technology can convert 1 ton of waste into 550 - 750 Kwh of electricity, reported in Economist Today, education, employment, house hold services, electric cars, street lights, hospitals and service sector all work on electric

power. It increases the demand and puts a burden on supply of energy on institutions and on government as well. A scientific remedy as suggested need to be implemented in no time.

Lastly innovation in education and skill development is also required by incorporating smart syllabus, smart teaching modules, smart tools and remote learning programs that are need of the hour. The world is facing shortage of resources and more adaptability to modern techniques to meet the modern needs for information and quench of knowledge seeking. Khan Academy of India is the best module for Asian countries to follow and spread education to the needy and poor. As education is among the basic rights of Humanity. It spreads awareness

that will produce offsprings which are well informed about the pros and cons of scientific inventions and how science can be used to get a better lifestyle.

Above-mentioned were the facts that how science can save humanity from modern day issues but there are certain challenges to these scientific implementations that are discussed as follows:

The ethical limitations of Artificial intelligence like data leaks and identity theft need to be controlled first and surveillance programs should be launched later. Data ownership and consent issues are addressed by the company of UK named Darktrace.

Another hurdle in scientific solutions to make made. Distourous is risk of biotechnological

advancements in the name of scientific research and development programs. The movie named 'No ordinary baby' shows how human clones are made and manipulated for criminal purposes and evil deeds. This type of research must be fully checked and controlled.

More industries, more revolutions would lead to more polluted Earth. The issue of pollution, food waste, human and industrial matter should be cleaned and decomposed first before any further investment in revolution of science. A report by Britannica shows 100-250 grams of feces is produced by single individual daily.

Lately, man is already dependent on machines. Machines were slaves of man in past but today they are the masters of

decide our day to day activities, they alarm us about future risks, they need power and care that cost human financially. Further use of science to cater already produced scientific issues would lead to over-dependence on science. As told by Melvin DeFleur in his Media dependency theory that media has crippled the minds of man.

Conclusively, science is a tool and it cannot function on its own unless commanded.

It has high capacity to save and serve mankind but in a very balanced and controlled manner. Overuse and misuse of anything is hazardous so a neutral dependency would better suit human beings after they reach a sustainable point in near future. The use of scientific technology till then must be extremely

cautious and responsible. The ethical considerations must be kept in mind while agricultural revolution, urban planning, space exploration and healthcare advancement is done. The collaboration of scientists, policy makers and members of society for the innovative use of science would bring harmless, modern and impactful results.

The greatest discovery
is to keep open the
way for future
discovery.

(Pamela Shoemaker)