

# SPACE EXPLORATION: A NECESSITY

## OR A LUXURY?

### 1- Introduction

Space exploration is a luxury in the face of many problems still existing on Earth. Ensuring the survival of human specie often portrays space exploration necessary. However, instead of space exploration, mankind should stop the destruction of Earth to ensure its survival.

### 2- IS space exploration a luxury or a necessity?

### 3- How space exploration is a luxury. (THESIS)

- a- Addressing current threats on Earth is more important
- b- Majority of Earth is still unexplored
- c- Space exploration is spreading nationalistic sentiments
- d- Human problems can be solved on Earth
- e- The cost of space program is too high

### 4- How space exploration is a necessity. (ANTI THESIS)

- a- Essential for the survival of human race
- b- New venues of exploration
- c- Promotion of international peace
- d- Solution to the problems of humanity

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e. Stimulates economic activities and jobs on Earth.

5- Addressing current problems is more important than space exploration (Synthesis)

a- Humans should stop destruction of Earth for survival

b- Open new venues of exploration on Earth

c- Nationalization of space will increase conflicts

d- Better planning is the solution to human problems

e- Funds can be utilized for development on Earth

6- Conclusion

Our future lies with today's kids and tomorrow's space exploration (Sally Ride, American astronaut and physicist). These words of Sally Ride stand true today as well. Saving the kids today by addressing plethora of problems earth is facing today is far more important than space exploration. With the increase in space exploration in recent decade, it is often debated whether exploration of space is a luxury or a necessity. Space exploration is a luxury in the face of many problems still existing on Earth. Ensuring the survival of human specie often portrays space exploration as necessity. However, instead of space exploration, mankind should stop the destruction of Earth to ensure its survival. Addressing current threats on Earth, exploring earth and finding solutions to human problems on Earth is more important than space exploration. Moreover, space exploration is a luxury due to its high cost and it invokes nationalistic sentiments as well. However, it can be considered as necessity for survival of human race and new venues of exploration. Space exploration promotes international peace and creates economic opportunities. But still, addressing current problems is more important than space exploration. Conservation of Earth, better

planning and utilization of funds for development on Earth is important for human survival. Nationalization of space will increase conflicts. Therefore, space exploration is a luxury, not a necessity.

The debate regarding space exploration as a necessity or a luxury is a common debate. Setting high ideals are well and good, but not when they come at the cost of present. Astronomers fear that a probable collision of Earth with meteorological objects and cyclic nature of Earth could cause extinction of humans just like Dinosaurs. But finding solutions, on other planets, of the Earth problems is costly. Human should focus on careful utilization of resources on Earth and better planning for the survival of humans.

Space exploration is a luxury. Addressing the current threats on Earth is more important. Multiple challenges are being faced by mother earth. These challenges included devastated forest, poor environment, climate change and nuclear weapons. Overpopulation could prove as the last nail in the coffin for Earth. The world population has reached eight billion and global average temperature has risen about  $1.5^{\circ}\text{C}$ . There is a threat

of nuclear war between super powers and devastating climate change induced incidents. Therefore, humans should focus on addressing current threats on Earth rather than finding homes on Moon and Mars.

Space exploration is a bad idea because major part of Earth is still not explored. There is sufficient room for exploration on Earth; space is excessive. Rather than probing Mars for life, we should be looking the 95% of the world's oceans that have yet to be explored and where we are constantly finding new forms of life and new scientific discoveries. For example, bacteria have been found which survive not by using sunlight as an energy source, but volcanic vents on the ocean floor. This discovery made scientists looking for life on Mars totally change their approach. Thus, humans should not extend their venture of exploration to space until Earth is fully explored.

Flag-staking is occurring in space and spread nationalistic sentiments. Humans have tendency of destructive competition and their behaviour replicates at national level and even in space. Sending humans into space or to other planets so

that they can erect the flag of a particular nation is a distinctly nationalist act and one that is likely to create aggressive 'races' in the future just as it has before. China's manned programme is openly intended to challenge the US dominance of the space. These space race conflicts could escalate into greater international conflicts. Thus, space exploration can damage international peace.

Another reason due to which space exploration can be regarded as a luxury is that human problems are solvable on Earth. Mankind is facing survival threats due to their own actions on Earth. It is foolish to keep destroying Earth and banking on journey to Moon and Mars. It would be better for mankind to direct its efforts in looking after this planet rather than finding another planet to destroy. Only constructive change in human actions and lifestyle can ensure its survival as species.

The high costs of space programmes makes them a luxury. Countries are spending billion of dollars to pursue their race in the space. Are there no problems on Earth which require capital? If one notices carefully, only developed and biggest economies are

pursuing space programs. In 2022, NASA got twenty four billion dollars budget for space exploration. There are many other organizations like SpaceX which are pursuing space programs. The cumulative budget of these companies for space exploration is far beyond 100 billion dollars. Hence, space exploration is a luxurious affair of rich countries. However, the proponents of space exploration as a necessity also build their arguments on solid reason.

Space exploration is a necessity for the survival of human race. Survival of human race is endangered because of Earth's cyclic behaviour which is also known as Milankovitch cycle. Milankovitch cycle has one round trip of 120 thousand years in which Earths move from ice age to fair temperature age and then back to ice age. We are currently witnessing fair temperature age in which human survival is possible. A time will come that the temperature of Earth will be either too high or too low for the survival of human specie. Hence, there is a need for humanity to find another habitat to ensure survival.

Space exploration also offers new ventures of exploration. Although it

is an established fact that a major part of Earth is unexplored, yet space exploration is doing no harm. The curiosity of humans leads us to do many things. It is probably the reason for outer space research. Curiosity is the root of all sciences. Archaeology, biology, chemistry, physics and many other branches of science were developed out of curiosity. Hence, space exploration will open many new avenues for research.

Space exploration also promotes international peace. Multinational space programs are good for international diplomacy. States develop friendly relations for the sharing of technology. In 1975, there was a historic handshake in space when a US Apollo and Soviet Soyuz capsules docked. After that, the two states developed close relations in the field of space exploration. Governments put aside their differences in the pursuit of something more fundamentally important to humanity. Hence, space exploration also results in international peace promotion.

The solution to the problems of humanity also lies in space exploration. The potential damage that has been done to the environment and atmosphere



seems irrecoverable. According to a report by World Bank and United Nations, the world population would be 9.7 billion by 2050. Even if population control measures are applied, world population would be 11 billion by 2100. Therefore, it is nearly impossible to reverse the damage that has been done. Therefore, space exploration is a necessity as it would yield new habitats for humanity where they could develop as new civilizations.

The proponents of space exploration also believe that it stimulates economic activities and jobs on Earth. Space exploration supports innovation and economic prosperity by stimulating advances in science and technology. It also stimulates spending of states for space exploration. Navigation system, weather forecasting system and telecommunication satellites have evolved the businesses on Earth. Through space exploration, new technologies are developed which promote economic activities on Earth. However, addressing current problems is more important than space exploration.

Humans should stop destruction of Earth for their survival. Mankind has developed infrastructure at the cost of environment. Economic growth has spurred at the cost of urban expansion. Transportation

has evolved at the cost of air pollution. Security of states have increased at the cost of nuclear weapons. Analysis of all problems would reveal that humans have destroyed their habitat. The only solution lies in sustainable development. SDGs which are proposed by United Nations give the roadmap to sustainable development. Humans should follow these set principle to ensure their survival.

Nations should open new venues of exploration on Earth rather than reaching to space. The scientific benefits of space exploration are usually overstated. The cost incurred by such projects is very high as compared to the value of discovery which make Earth a cheaper venue of exploration. Oceans are the first place to be explored which can yield high energy source and new scientific discoveries. Research should focus on human survival on Earth. Electric vehicles and solar energy systems are the prime examples of the fact that research on Earth is sufficient for survival of mankind. Therefore, luxurious space ventures in the name of exploration and research should be minimized.

Nationalization of space will increase conflicts in the space as well

as on the Earth. Once the nations will ensure survival in space, space stations and space territories would be marked. Then, to ensure deterrence, nations will weaponize the space. Once the space will weaponize, nations will again fight out of superiority complex. Their fight will not remain to space but it will have impacts here as well. Hence, space exploitation could destroy the international peace.

Better planning is only solution to human problems. Humans have lacked planning at both national and international levels. Skewed development is not an accident but a visioned hypocrisy of elite nations and humans. Why is Europe a better place than Africa? Why Asia was considered as dump station for the trash of Europe? The solution lies in changing mindsets at both national and level of public. There should be harmony in development across the globe. Resources should be managed and proportionally utilized. Hence, better planning is the only solution to human problems.

Lastly, the funds spend on space exploitation should be utilized for the development on Earth. Only developed nation spend billions on space exploitation.

The lust for hegemony cause them to do so. A report by World Bank depicts that one third of the world population is facing severe food shortage. Moreover, the water available to a large population is not clean. Therefore, funds allocated for space explorations should be directed towards poor nations and people.

In a nutshell, space exploration is not a necessity but a luxury of few developed nations. Space exploration is a race of who wins gets all. Nations are trying to find new habitat to capture it before any other nation. The aim is nationalization of space and not the betterment of humanity. The only chance of human survival lies with better planning and equitable distribution of resources. The race of domination will destroy humanity and not any comet can do so. There is dire need for the change of mindset. Only then there would be peace and equality on earth.