Funding Proposal for Space Travel

Executive Summary/Overview:

Reach for the Stars is a non-profit organization that aims to address issues of global warming in relation to how it affects Earth's natural resources, such as the decrease in growth of crops and the increase in sea level, thus affecting coastal regions all over the world. After addressing the importance of these issues, our organization believes that it would be imperative for everyone to have an idea on the seriousness of this issue due to global warming. As a result, we believe now is the time to start looking for other possible means for humans to survive on after the Earth's natural resources runs dry due to human actions. We believe that space travel is the answer that we seek, therefore, we are going to help gathering resources in the form of funds to support NASA in continuing to be the pioneer in space research and travel, which will ultimately, we believe, help to save the human race.

Background on the Issue:

Our planet Earth's health has been declining day by day due to various environmental declines such as the rise in sea level, the increase in carbon emissions, and agricultural deficiency. It is estimated that by the year 2050, the earth's population will reach 9.07 billion ("The New Worldmappermapping Your World…"). With the increase in world population, it would be hard not to think about whether the Earth will have enough resources to supply the demand of the human race. At this rate, the Earth will be completely depleted of natural resources and will become uninhabitable for humans.

It would be hard not to believe that climate change is happening with all the evidences from the scientific community all pointing towards the same conclusion: humankind has contributed to the current global warming and the various side effects associated with it. One of the most significant consequences as a result from human activities is the increase in the atmospheric CO2. According to the data from NASA's global climate change website, for 650,000 years, atmospheric carbon dioxide has never been above a little bit over 300 ppm (parts per million), but in the last 1,300 years, the Earth's carbon dioxide level has skyrocketed to 400 ppm, which suggests it as a man-made issue. The carbon dioxide level is a significant issue that needs immediate attention because it can be directly related to the rise in sea level and agriculture deficiencies just to name a few.

The main factors that lead to a rise in sea level include the melting of the glacier and the expansion of the sea water as it warms. What causes the increase in sea level in the first place goes back to the rise in CO2. Once CO2 is released into the atmosphere, it remains there for 100 to 200 years. The increase in CO2 in the atmosphere then leads to the increase in Earth's temperature, thus creating global warming effects. Looking back at the data from NASA, it can be concluded that there has been a rise in sea level ever since the 1870s. Currently the sea level has been measured at 61.91mm since January 2015. That would be at a change of 3.19mm/year.

We should be concerned about the change in sea level because an increase could have immediate environmental effect for those that live close to the coast, thus forcing people to move away from the shores as sea level continues to rise.

A change in sea level is not the only side effect that was affected by global warming, as illustrated by the impact it has on the agriculture and food supply. Even though an increase in temperature and carbon dioxide can aid in the speed of growth for some crops, other factors such as water availability, nutrient levels, and soil moisture must all come into consideration as well when it comes to agriculture. An increase in temperature speeds up the process of weeds and pests, which can cause a serious problem for farmers' crops. Under extreme weather conditions such as intense heat can also prohibit the growth of crops, thus creating an agriculture deficiency worldwide ("Agriculture and Food supply Impacts & Adaptation"). One study focused on the potential impact that a rising atmospheric carbon dioxide might do in relation to the chickpea quality. The finding of the study states that as the atmospheric carbon dioxide increases, the seedling vigor will decrease, as well as its viability (Saha et al. 140-46). This illustrates that If the rise in carbon dioxide demonstrated the detrimental effects of the chickpea species, imagine what it's already doing/affecting the human crop/agriculture in societies throughout the world.

As illustrated from the above examples, the facts are staring at us in the face, which is that we as the human species will need to be looking for ways to survive beyond this planet we call Earth, and what better way to do that than to embark on more space expeditions to find the best habitable planet to preserve the human race.

A Rationale to Fund Space Travel Through "Reach for the Stars"

Currently Earth's natural resources is being depleted by the human population at a greater rate than ever before, with the estimation that all of the fossil fuels-crude oil, gas, and coal will have been depleted by the year 2088 ("The End of Fossil Fuels"). With the possibility of running out of Earth's natural resources in less than 100 years from now and the constant rise in the human population, there is an immediate urgency for space travel and exploration to search for other habitable planets.

The increases in greenhouse gas emissions due to the increased concentration in carbon dioxide are likely to affect agriculture worldwide in the future through global climate change (Darwin). This clearly suggests that carbon dioxide level directly affects the food resource on a global scale. This can have a detrimental effect as the global population is increasing while the food sources are decreasing. Other direct impacts of climate change includes the increasingly rise in sea level that can directly affect the coastal population. Side effects of the rise in sea level are likely to affect elsewhere as well due to coastal settlers having to move more inland, thus causing tighter and more populous communities worldwide.

Reach for the Stars will be focusing on funding for space travel from different sources that share the same ideals and are willing to provide the resources for us to make space exploration possible for the future of mankind.

Proposed solution:
As a result from the destruction that the mankind has bestowed upon us, Reach for the Stars' purpose will be to reach out and persuade various small and private companies, the government, as well as encouraging lobbyists to inform the government to give out more spending towards space exploration for NASA. Our ultimate goal of course, is to be able to gather enough funding for many space exploration opportunities that will be conducted by NASA to bring back their scientific findings on the possibility of habitable environments outside of Earth. Space exploration is not new, in fact, it has always been human's curiosity to want to travel to space and explore the unknown, as illustrated by the historic Apollo 11 expedition in 1969. Since then, robotic space crafts, space stations, space shuttles, and landings at different planets were able to provide the public with images of what alien planets looked like ("Space"). All of these achievements and many more stemmed from human's innate curiosity to always want to explore the unknown. The closest exploration that is about to happen would be the Mars One expedition, which is set to have its demo land in Mars in 2020 ("Roadmap-Mission-Mars One"). With the possibility of humans being so close to settling on Mars, even if it was just a test to see if humans will be able to survive- it would be a huge feat in the history of humankind for eternity. The Mars One mission and its preparation for human settlement has illustrated that with enough preparation and funding, the human race can start its journey to find a habitable planet in no time. In addition, through many missions of sending robots to Mars to collect samples has been shown that Mars does show some kind of habitability, through the discovery of sulfates on the planet. The indication that there are sulfates on Mars illustrated that Mars' environment "were once aqueously active" (Ackiss and Wray 311-24). Any sign of water on the planet suggests that the planet can be habitable, because without it, no species would be able to survive on it. With the not-for-profit Mars One getting ready to make its move into setting up its first human establishment on Mars, and NASA coming close in as well, it is more important than ever to address the issues of why space exploration is a must for the future of mankind. If we have the technology to implement space travel, we must do so without delay since resource depletion is happening at a faster rate than ever before. Thus having some of the Earth's population living on other planets will help the Earth in taking away some of the burdens it's facing, such as resource depletion. Even though removing some of the Earth's population won't be able to entirely stop global warming since the damage has already been done, but it would at least slow down and prolong Earth's life while humans continue to explore space and look for other viable options for settlement. That's why Reach for the Stars will need funding from different sources in order to speed up the process of researching to make sure that life outside of Earth will be possible when the day comes that the human species will no longer be able to live on planet Earth.

Outcome:

If funding goes well, expected results from Reach for the Stars will be to transfer the funding to NASA to continue their top research and development, and this in turn, will hopefully speed up the process and any barriers associated with lack of funding for their projects. We hope that with the funding, NASA will be able to recruit more people to aid in their research and in turn, accelerate or be able to conduct more than one tests such as the "One-Year Mission" that is currently going on right now on the International Space Station (ISS).. NASA's One-Year Mission, as suggested by NASA, is a "stepping stone to future missions to Mars and beyond" ("One-Year Mission"). Furthermore, this mission cannot be made possible without the collaboration with Russian crew members who are working together to share their knowledge and findings, which illustrates the point that NASA needs other like-minded organizations to aid in their research, which "can reduce cost, improve processes and procedures, and improve efficacy on all future ISS missions" ("One-Year Mission & Twins Study"). This further brings up the point that the more people are made aware of the situation and the more help and support NASA receives will be able to aid in a more efficient space research, which will in turn expedite the possibility of space missions as the fate of the human race depends on it. Other possible outcomes from this funding also includes the numerous NASA technologies that people will be able to benefit from in our everyday lives, such as infrared ear thermometers, artificial limbs, solar panels, water purification systems, and portable cordless vacuums, to name a few ("NASA Technologies Benefit Our Lives"). Normally people will take these things for granted without knowing where the technology was originally from. As a result, the world would not have been in such a technologically advanced state if it weren't for NASA's innovations that were only made possible through space travel and exploration.

Logistics (goals & objectives):

The mission of Reach for the Stars is to raise awareness of better care of the environment and explore potential avenues for space travel by raising funds for NASA.

Goal 1: To aid NASA in their current studies on space travel to ensure of all possible scenarios as to when the actual mission on another planet (Mars) will happen.

Goal 2: To raise awareness of the depletion of Earth's natural resources through the help of lobbyists, thus in their turn will help in our funding for space travel.

Goal 3: With enough funding, we will be able to speed up and/or carryout more important missions such as NASA's One-Year Mission side by side to ensure quality control and that no time is wasted in implementing missions that are possible with today's technology and knowledge.

Funding timeline:

Ideally, funding will span over the course of a year since we want to be able to transfer those funds directly to NASA so they can have the flexibility to start utilizing the funds to support space travel immediately. Our estimated funding is based off from NASA's yearly request from the President of the United States (FY 2016 President's Budget Request Summary") Reach for the Stars hopes to accomplish gathering at least half the funds that NASA requested from the President to supplement them in addition to the funds they are going to be getting from their request.

Funds/Budget:

Exploration systems development:	$1,431 million
Orion Program:	$548 million
Space launch system:	$678 million
Exploration ground systems:	$205 million
Commercial spaceflight:	$621 million
Exploration research and development:	$200 million
Exploration total:	$3,683 million
International Space Station(ISS):	$1,550 million
Space and Flight support:	$500 million
Space Operations total:	$2,000 million
Exploration + Space Operations total	= $5,683 million

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