THE GRAND CHALLENGE:

How Engineers Will Be Saving Our Future

With global warming comes the shocking reality of increasing natural disasters. Hurricanes, tsunamis, tornadoes, landslides, and earthquakes have always been common occurrences on this planet. Already we are beginning to see startling new intensity in property damage and civilian casualties that natural disasters cause. The question arises whether or not natural disasters can even be called "natural" anymore, what with humans rapidly accelerating the global warming process. Global warming is no longer a concern of the future, it is an issue of the present, and it is very real. With this in mind, we are nearing an age where increased technological engineering will mean the difference between withstanding the elements, or possible extinction.

The future generation of engineers will need to devise new building techniques and locations adapted to the natural disasters present in certain areas. For example, seaside communities may need thicker, higher walls to act as fortresses against hurricane damage. Communities vulnerable to earthquakes may need altogether newer, sturdier buildings to withstand increasingly violent tremors. Perhaps engineers will deem it necessary to move some communities underground, or elevate others into the sky. It would be truly miraculous if engineers could find a way to patch the hole in the atmosphere and halt the increasing disasters altogether.

Many factors will need to be taken into account by future engineers. In the past, it wasn't considered essential to choose environmental-friendly building materials and techniques. Now and in the future, making environmentally conscious decisions will be vital to keeping natural disasters at bay; using electricity instead of fossil fuels, recycled building materials instead of newly cut trees. Already a concern with environmental-friendly resources is cost.

In matters of construction and transportation, we tend to use whichever alternative is cheapest, regardless of whether or not it is harmful to the environment. Leaders will need to devise ways to keep costs of environmentally acceptable goods affordable to the public. Environmental agents must also be made readily available and convenient, so that we will no longer have reason to choose harmful alternatives. Future engineers will not only need to be able to make environmental health appealing, they'll also need to show the world that it's mandatory. Lawmakers may need to take steps to enforce environmental protection more effectively. Higher fines for burning barrels and roadside littering, perhaps community service in the form of roadside cleanups and recycling efforts to help give back to the earth we are damaging.

Engineers will play a massive role in determining our future fate on earth. However, they will not be able to save us single-handedly. Politicians, lawmakers, celebrities, manufacturers, traveling agencies, and ordinary people in communities will all need to work in cooperation to promote and enforce environmentally safe actions. Awareness about the seriousness of increasing natural disasters must be heightened. If we fail in this endeavor, the elements may soon become too intense to withstand, and we will face severe overcrowding and mass fatalities. Courses of action, as well as technology, must be built to withstand the increasingly violent nature of our fragile planet.