**Objective:**

Our project is an environmental multifunctional drone. Drones are low cost and require little preparation and no fuel. They are cost benefit. Our multifunctional drone will gather the air pollutant density information over the city landscape through its sensors and capture live images of that location for further actions to be considered in improving the air pollution. There in the drone along with the camera, an air filter will be attached that will filter the air immediately right at the moment when the air pollutant density is detected to be above the threshold frequency Our goal is to collect the data of how much air pollution density is over a certain landscape and further analyze that data through image processing, alongside capture images of the location for further locality improvement and also provide on-spot filtration for the air monitored. Dhaka city is ranked as the second worse polluted capital and our objective is to improve the air quality.

**Background information:**

There are some existing systems for what we proposed but not all in one. For instance, Red Edge-MX Dual Camera Imaging System, Weather Sensors Aid Drone-Based Atmospheric Studies System and also Drone-Based Electroluminescence Imaging of Solar Panels with SWIR Cameras from a famous company Raptor Photonics

We have designed our drone with different sensors, for the air pollution monitoring. In the context of Dhaka city we will at first detect and monitor the air pollutants intensity of different landscapes. Our drone will start navigating automatically due to the GPS technology. We used DJIF450 Quadcopter frame to build drone. Next we will collect the data in a server and analyze it. Post analyzing the data we can compare the values and know where there is more pollutants and how it can be minimized. Our drone will even automatically filter the air using a small air filter device installed in it, “Hepa mini”..

**Significance:**

The main motive is to contribute as little as possible, to put an end to climate change and global warming. This year Dhaka city has been ranked 17th worst polluted city on the Air Quality Index (AQI). This project of our when implemented for our country, it will help improve the Air Quality Index (AQI) as we will be detecting the air pollutant density and report by further analyzing the data on what measures needed to be taken for the air quality improvement. When the air quality of cities will be better, citizens would be suffering less from diseases and life expectancy of people will increase. Our project will be beneficial for human health as well as for preserving the nature.

Excessive use of private vehicles, lack of awareness, overcrowding and lacking in implementing laws are also the reasons behind all. Our camera output will help us take action on reinforcing the situation at the places being monitored by our drone. The camera output will give us clear picture of the day and night live routine of the landscape being monitored. This doesn’t even require much labor force either and is even energy efficient.