Drone Assisted Artificial Rains

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Abstract- India is an agro-based country. It is estimated that seventy two percent of Indian economy is through agriculture. Within the past thirty years our country faced a lot of water scarcity not only for agriculture but also domestic, Industrial and commercial

sectors. No country could survive if sufficient amount of water is not available for agriculture in specific. Effective utilization of available water resources, Conjunction of rivers for preventing wasteful flow of river waters in to sea, desalting of rivers from time to time are being followed. Besides in scanty areas of rain fall like, Anatapur, Cudapah, Rayalseema ,Nalagonda areas in Andhra Pradesh and dry areas in our country, Artificial raining methods were adopted. But still the problem could not be solved. Therefore, there was a need to think about the failures in the present systems in practice and at the same time to think novel ways of applying technologies available for increasing rainfall. In this paper, we have proposed a new idea of getting Artificial rains using Drones. We have described how it can be used, how effective it is compared to the existing practices and economical advantages.

1. INTRODUCTION

Agriculture is the back bone of our country. Most of the Indian population is based on agriculture directly and indirectly for livelihood. Rapid Industrialization, Urbanization, increased population and their needs, Deforestation are considered to be threats to water resources. In addition to this, failure of protecting the naturak resources like water available in the form of rivers, lakes, ponds etc is resulting in ending life's of thousands of farmers in our country. No good Irrigation projects were under taken and long standing project like Polavaram is yet incomplete.

Artificial raining via Ground Seeding, Cloud seeding has thrown a hope in the eyes of farmer community. Traditional Diwali Tarajuvvalu were used by T.Sivaji Rao et.al has made an attempt in holy Simhachalam hills and obtained satisfactory levels. Different scientists have made valid efforts but they are failed to cater the needs of farmers. Therefore, it was needed to think work and execute a better way of obtaining the rains with modifications either in the existing methods or try for a totally new method. This has driven us to work to apply the present day technologies available in more efficient way to reach higher rainfalls than the existing magnitude.

2. PROPOSED EXPERIMENTATION

Stage-I Getting suitable drone which can rise to 400 Feet

Stage-II Making accessories for projection of chemicals

Stage-III Identifying the right areas fro performing seeding

Stage-IV Monitoring the local conditions for a minimum of three days

Stage-V Spreading the chemicals through DRONES at effective heights

Stage-VI Data collection

3. Assumable Pictures of Experimentation

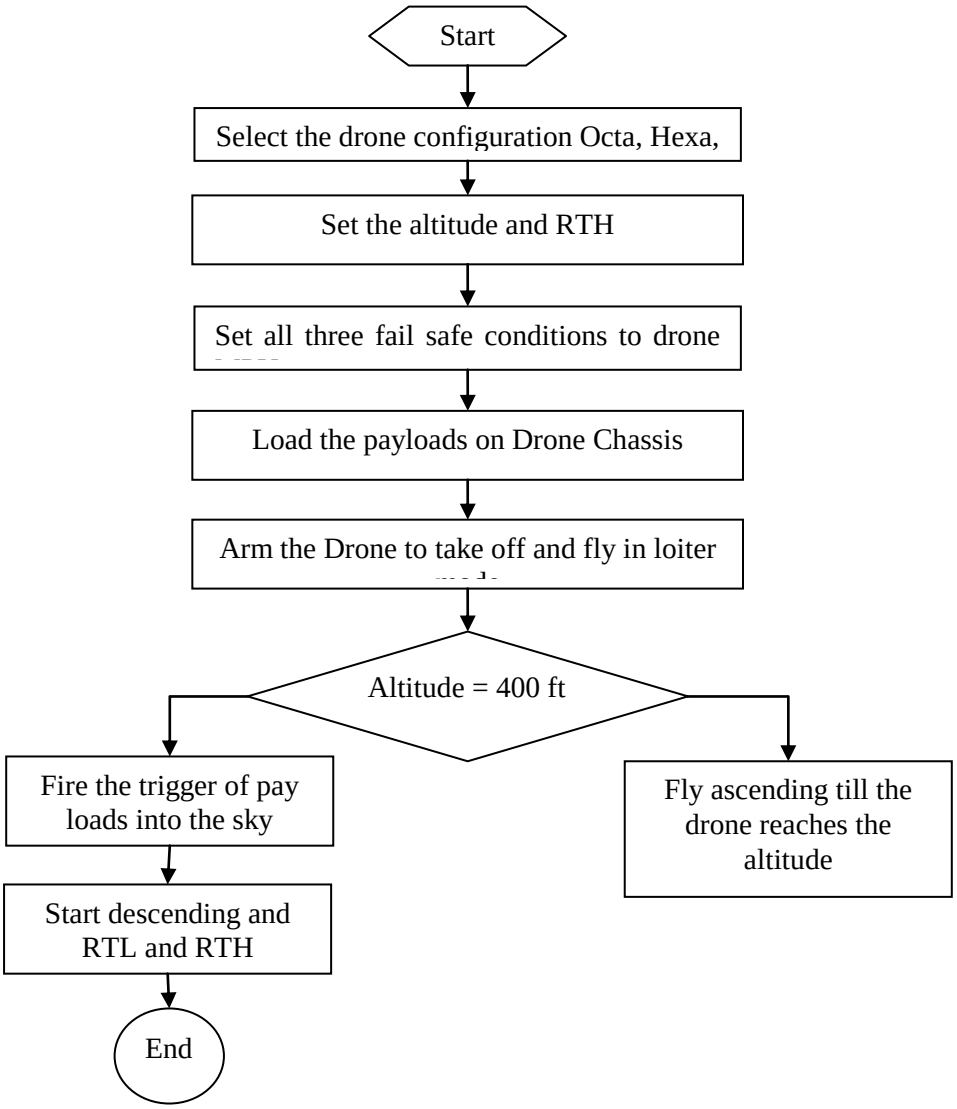

Figure 1. Flowchart of Drone Rain seeding.

Figure 2. Rain Seeding Payload.

Figure 3. Top View.

4. RESULTS AND DISCUSSION

1. The proposed method will certainly gives higher rainfall compared to existing methods, because seeding of evaporating chemicals like Silver Iodide, Sodium Chloride etc are done at very close distances compared to the experiments done by previous authors. Therefore enough heat energy is released to melt the clouds.

2. Cost point of view it is cheaper compared to Aero plane based cloud seeding keeping in view of escalating fuel charges from day to day.

3. Drone works on Electrical charging but not on combustion of fuels. Therefore, there is no chance of air pollution via aerosols.

4. Provides employment to good number of people

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