TITLE : **Exploratory Analysis Of RainFall Data In India For Agriculture**

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PROBLEM STATEMENT:

1. Human life depends heavily on the climate. Consequently, the prediction ought to be as accurate as feasible. In this essay, we attempt to discuss rainfall forecasting, which is a significant part of human existence and a key source of fresh water, a crucial resource for human life. Not only is fresh water essential for drinking, but it is also essential for farming, industry, and other human needs.

2. Because of climate change, making accurate climate predictions is increasingly difficult.

3. A poor rainfall forecast can have an impact on agriculture, particularly for farmers whose entire harvest depends on the weather. Agriculture is always vital to every economy. Consequently, it is partly successful in estimating the rainfall accurately.

OBJECTIVIES:

These days, rain has become a serious worry. For the moment, the weather is fluctuating. Forecasting rain is crucial because without it, many tragedies could occur. Regularly, severe rain can destroy crops and trigger deadly floods that can endanger human life. For efficient use of water resources, crop productivity, and advanced design of water structures, it is crucial to calculate the rainfall precisely.

With the primary goal of predicting the yearly rainfall in Allahabad district, the current inquiry includes a rainfall probability analysis of the past 34 years' worth of rainfall data (1980–2013). Weibull's formula was used to compute the observed values (1939). Gumbel and Log Normal, two proposed prediction models, were used to estimate the annual rainfall values (Chow 1964). The estimated probabilities for the rainfall data in the aforementioned distribution and the accompanying rainfall occurrences were 2.9, 11.4, 20.0, 40.0, 51.4, 60.0, 80.0, and 97.1 percent. The chi-square test was used to evaluate the quality of fit. It is evident that the Gumbel distribution was chosen as the top model for forecasting yearly rainfall (mm). Although the measured annual rainfall is quite close to the log normal distribution (mm).

LITERATURE SURVEY:

1. Agriculture India farm department and agricultural tips (2008) - Dr. P. Chandra Shankara

Objective:

To enhance awareness about source of extension, information and services among farmers.

To encourage farmers to avail extension services through ICT means.

To enhance farmers knowledge on agricultural credit, insurance and legal aspect.

2. Spatial analysis of Indian Summer monsoon Rainfall(Mar 26,2014 - Mark and Oz a C.M.Kishtawal

Objective:

Understanding the variability in rainfall, analysis of Indian Summer monsoon rainfall using Spatial resolution

3. Regional Rainfall prediction using support vector machine classification of Large-scale Precipitation(2020) - E slam A.Hussein, Mehrdad Ghaziasgar, Christopher Thron

Objective:

Large-scale precipitation maps can under some conditions give useful information for predicting regional rainfall.