**IDEATION PHASE**

**Literature survey**

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| Maximum Marks |  |

**INTRODUCTION**

Agriculture paperwork the basis for food security and therefore it is crucial. In India, majority of the population i.e., above 55% is depending on agriculture as consistent with the recent facts. Agriculture is the sphere that enables the farmers to grow ideal plants according with the environmental stability. In India, wheat and rice are the principal grown plants along with sugarcane, potatoes, oil seeds and so on. Farmers also develop non-food gadgets like rubber, cotton, jute and so forth. More than 70% of the family inside the rural place depend on agriculture. This area offers employment to extra than 60% of the full populace and has a contribution to GDP also (about 17%). In the farm output, India ranks 2d thinking about the sector wide situation. This is the widest economic sector and has an essential position concerning the framework of socio-monetary fabric of India. Farming relies upon on numerous elements like weather and financial factors like temperature, irrigation, cultivation, soil, rain fall, pesticide and fertilizers. Historical data concerning crop yield provides principal enter for corporations engaged in this domain. These organizations make use of agriculture merchandise as raw substances, animal feed, paper production and so on. The estimation of production of crop helps those companies in planning deliver chain decision like production scheduling. The industries such as fertilizers, seed, agrochemicals and agricultural equipment plan manufacturing and activities like advertising and marketing based at the estimates of crop yield. Farmers revel in become the simplest manner for prediction of crop yield in the past days. Technology penetration into agriculture subject has led to automation of the sports like yield estimation, crop health tracking and so forth. Crop yield prediction has generated lots hobby within the research network and also for agriculture related corporations. Crop yield prediction enables the farmers in numerous approaches with the aid of supplying the record of previous crop yield. This is helpful to government in framing regulations associated with plants together with crop coverage policies, deliver chain operation rules. Knowing what vegetation has been grown, and how much location of it had been proven historically, blended with the charges at which it is able to have been sold on the nearest marketplace-area affords the income-increase profile of the farmer. Agriculture area is struggling to boom the productivity of crop in India. Monsoon rainfall is the main source of water for greater than 60 percent of the vegetation. Smart agriculture driven by means of Information Technology is the emerging fashion inside the studies in this area in recent days. One of the areas being explored is the hassle of yield prediction that's a chief concern. Data mining techniques are being widely used as a part of solution for crop yield prediction. Various records mining techniques are below assessment for estimation of crop production of the destiny years. Data mining is the technique wherein the hidden styles are determined using analysis of large information sets. The information mining and statistics analytics techniques use synthetic intelligence, statistics, device learning and database device. In records mining, unsupervised and supervised methods are getting used. In unsupervised mastering, clusters are shaped the use of massive records units and in supervised getting to know type are finished based totally on the records sets. In clustering technique, ‘facts points’ are tested to organization them into ‘clusters’ in step with unique parameter. The facts factors in same cluster have less distance compared to information factors of different clusters. The analysis of the cluster divides data into well prepared organizations. The herbal structure of the statistics is captured through these properly-formed agencies. This survey focuses on numerous techniques being used for crop yield prediction. The strategies getting used are Density primarily based clustering strategies, Multiple Linear regression, clustering large applications (CLARA), Petitioning around Medoids (PAM) and density-based clustering algorithm called DBSCAN.

**REVIEW OF LITERATURE METHODS OF CROP YIELD PREDICTION**

At gift we're on the substantial need of some other green revolution to deliver the meals call for of developing populace. With the decrease of to be had cultivable land globally and the decreased cultivable water resources, it's miles almost not possible to record higher crop yield. Agriculturally based totally massive statistics analytics is one technique, believed to have a vast position and effective effect on the growth of crop yield with the aid of providing the greatest situation for the plant increase and lowering the yield gaps and the crop harm and wastage. With this aim the present paper evaluations approximately the diverse advances, design fashions, software program gear and algorithms applied in the prediction assessment and estimation of the crop yield. India is basically agriculture based totally USA and about 70% our us of a economics is immediately or circuitously associated with the agricultural vegetation. The principle crop which occupies the highest (60-70%) percent of cultivable land within the Indian soil is the paddy way of life and it is the principal crop specially in imperative and south elements of the India. Rice crop cultivation performs a vital part in sustenance safety of India, contributing over forty% to well known yield technology. The stronger yield of the rice crop relies upon in large part at the water availability and climatic situations. For instance, low precipitation or temperature extremes can appreciably diminish rice yield. Growing higher strategies to foresee yield performance in a mixture of climatic conditions can help to understand the position of various principle factors that influence the rice crop yield. Big data analytic techniques related to the rice crop yield prediction and estimation will truly aid the farmers to recognize the optimum circumstance of the significant elements for the rice crop yield, hence can attain better crop yield.

**CONCLUSION**

As a result of penetration of generation into agriculture field, there may be a marginal improvement in the productivity. The improvements have brought about new standards like virtual agriculture, clever farming, precision agriculture etc. In the literature, it has been located that analysis has been performed on agriculture soils, hidden styles discovery using facts set related to climatic conditions and crop yields facts. The sports of agricultural discipline are several like weather forecasting, soil high-quality assessment seed choice, crop yield prediction etc. In this survey, the particular pastime, crop yield prediction has been surveyed and the principal developments have been diagnosed. The rice crop yield prediction has been done in the state of Maharashtra the usage of information mining techniques in one of the works. The evaluation has been carried out the use of gadget studying framework WEKA. In the paintings done, numerous algorithms implemented in the assessment crop yield and mechanism for knowledge discovery has been mentioned. The demanding situations and possibilities in the area of Big Data analytics in agriculture has been mentioned in with a case look at of Netherlands. Fuzzy logic designs had been used in optimizing the crop yields and the equal has been defined inside the research paintings. A case looks at of Nebraska - USA and at a countrywide scale for Argentina and Kenya has been performed and offered. The far-off sensing technology for identification and measurement of the causes of yield gaps and their effect on final crop yield is supplied in. It can be concluded that the research in the field of agriculture on the subject of using IT trends like statistics analytics is in its infancy. As the food is the fundamental want of people, the requirement of getting the most yields the use of most fulfilling resource becomes the need in close to future as a result of developing populace. The survey results indicate the need for progressed techniques in crop yield analytics. There exists numerous studies scope on this research are election, crop yield

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