

**IDEATION PHASE
LITERATURE SURVEY**

Date	22 September 2022
Team ID	PNT2022TMID31901
Project Name	Estimate the Crop yield using Data Analytics

1. AGRICULTURE DATA ANALYTICS IN CROP YIELD

(Author: B M Sagar, Cauvery N V Year :2019)

Agriculture is important for human survival because it serves the basic need. A well-known fact that the majority of population ($\geq 55\%$) in India is into agriculture. Due to variations in climatic conditions, there exist bottlenecks for increasing the crop production in India. It has become a challenging task to achieve desired targets in Agri based crop yield. Various factors are to be considered which have direct impact on the production, productivity of the crops. Crop yield prediction is one of the important factors in agriculture practices. Farmers need information regarding crop yield before sowing seeds in their fields to achieve enhanced crop yield. The use of technology in agriculture has increased in recent years and data analytics is one such trend that has penetrated into the agriculture field. The main challenge in using big data in agriculture is identification of effectiveness of big data analytics. Efforts are going on to understand how big data analytics can agriculture productivity. The present study gives insights on various data analytics methods applied to crop yield prediction and also signifies the important lacunae points' in the proposed area of research

2. CROP YIELD PREDICTION BASED ON INDIAN AGRICULTURE USING MACHINE LEARNING

(Author: N BanuPriya¹, D Tejasvi², P Vaishnavi³ Year :2021)

In our analysis, that we tend to have discovered within the previous studies papers is that everybody makes use of environmental condition factors like rain, daylight and agricultural factors like soil sort, nutrient possessed via the soil (Nitrogen, Potassium, etc.) however the matter is we want to gather the data so a third party will do this prediction and

later it is explained to the farmer and this takes a variety of attempts for the farmer and he doesn't perceive the technological study behind these factors. To make it straightforward and which can be directly utilized by the farmer this paper uses easy factors like the state and district is the farmer from, the crop and in what season (as in Kharif, Rabi, etc.). In India, there are more than a hundred vegetation plants across the entire country. These vegetation are categorized for better understanding and image. The data for this analysis has been nonheritable from the Indian Government Repository [1]. The statistics includes attributes like– State, District, Crop, Season, Year, Space and Production with around 2.5 Lakh observations. We used advanced regression techniques – Random Forest, Gradient Boost and Decision Tree to predict the yield and used Ensemble algorithms to minimize the error and reap higher predictions

3. AGRICULTURAL STATIC IN GLANCE

(Author: Sanjay Agarwal Year : 2018)

Agriculture and allied sector forms the bedrock of Indian economy as it engages more than 50% of the workforce and contributes about 17% to the country's Gross Value Added (GVA). The developments in this sector are keenly watched by the policy makers, business, academia and other stakeholders. The flagship publication of Directorate of Economics & Statistics, namely 'Agricultural Statistics at a Glance' is one of the most reliable sources of information to gauge the performance of agriculture and allied sector in India. This publication provides the exhaustive and updated database on various facets of Indian agriculture, including crop production and productivity across States, growth and investment in agriculture, cost of production, minimum support prices, terms of trade, land-use statistics, agricultural inputs, rainfall, etc.

4. IMPROVING CROP YIELD ESTIMATION IN THE INSURANCE UNITS

(Author:International Journal of Recent Technology and Engineering (IJRTE) Year :2018)

Globally, agriculture is exposed to multiple hazards leading to frequent crop losses. As a result, crop insurance has become an indispensable risk management tool in agriculture sector. Agricultural risk sharing through

crop insurance has been in existence in many countries, in many forms for more than many decades (Skees et al. 2005) but most of these products are being supported by huge subsidies from the Governments (Ibarra and Skees 2007). Highly subsidized agricultural insurance products have serious implications on the sustenance of crop insurance in the future (Atwood 2005, Mahul 2010). Therefore, the need for developing innovative crop insurance products that are actuarially stronger, has been largely recognized by both developed and developing nations in recent years (Anonymous 2014, Leblois and Quiron 2013). Index based insurance products (yield or weather) have been widely promoted since 1990s as efficient contracts in agricultural insurance (Binswanger-Mkhize, 2012). Review by Smith and Watts (2009) indicates that Index based insurance schemes in developing countries are faced with serious problems of basis risk and non-availability of historical data, making the scalability and sustainability of agricultural insurance in the long run, a big challenge defense. When the child or in abnormal or in emergency situation , they used to press the button that will intimate the message to registered phone number with link of capturing image and it has great option that speed monitoring using GPS , GPRS ,and GSM for child safety at low cost which will comfortable to common people With poor coverage in terms of crop area and the number of farmers, the crop insurance products despite having long history have served very limited purposes in India (Raju and Ramesh, 2007). Dominance of small and marginal farmers, highly heterogeneous farm practices and farm yields, lack of objective yield data have been serious obstacles in designing a workable crop insurance (Rao, 2010).

5. MINISTRY OF AGRICULTURE AND FARMER WELFARE

(Author: Shri Tomar Year :2021)

The Third Advance Estimates of production of major agricultural crops for 2020-21 have been released by the Department of Agriculture, Cooperation and Farmers Welfare. The total foodgrain production is estimated at 305.44 million tonnes. Union Minister of Agriculture and Farmers Welfare, Shri Narendra Singh Tomar stated that, “this positive situation is the result of tireless efforts of our farmer brothers and sisters, contributions of agricultural scientists, policies of the Government of India and better cooperation and coordination from

State Governments. Prime Minister Shri Narendra Modi's focus is on the development of the agricultural sector.”between the child and parents/guardian.The Child’s Location is Tracked using GSM to locate in real time.The Work is Constructed Utilizing LinkIT ONE Board that encoded using C language and it Interface with Several Sensors Like camera ,GSM and GPS.It can Sending SMS when the Child are in Emergency situation.It have option of childguard System that tracks abnormal Situations in real-time using Mobile Server