

Crop Yield Prediction Using Naïve Bayes Algorithm

Arjun Patil¹ and Tanmay J Gharat²

Assistant Professor and Head Department of IT¹

Student, P.G. Department of IT²

Veer Wajekar ASC College, Phunde, Uran

Abstract: *Agriculture is the backbone of India and plays a vital role in its economy. Around 58% of India's population depends on agriculture for livelihood. According to government estimates, the food production in India was 291.95 million tonnes in 2019–20 and was projected to increase to 298.3 MT in 2020–21. To sustain population growth, food production must double by 2050. Small and marginal farmers are critical for ensuring food security and achieving Sustainable Development Goals (SDGs). However, nearly 14% of the population remains undernourished, and India ranked 94th out of 107 countries in the Global Hunger Index (2020). Achieving 'zero hunger' by 2030 requires a data-driven, integrated approach to sustainable agriculture. In this work, we apply machine learning—specifically the Naïve Bayes algorithm—to build a predictive model for crop yield. This system aims to aid farmers in optimizing crop selection based on climate, soil, and other parameters.*

Keywords: Naïve Bayes, Machine Learning, Crop Yield, KNN, Agriculture Prediction

