PRODUCTION RATE OF AGRICULTURE PRODUCTS

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PROJECT DESCRIPTION:

Our Project aims to validate and calculate the agriculture crop yield and productions based on the previous year data.

By using the Machine learning technique such as “Arima Algorithm”, we can achieve the solution for the above mentioned statement.

We forecast the data with 90% accuracy based on the dataset collected from the Ministry of Commerce and Industry, Government Of India.

By predicting the upcoming rate,we can know the production rate and its corresponding profit rate or else loss rate.

ABSTRACT:

Agriculture is an important sector of Indian economy as it contributes about 17% to the total GDP and provides employment to over 60% of the population. Therefore it is essential to calculate the production rate and to maintain the GDP rate. Indian agriculture has registered impressive growth over last few decades. This project aims to predict the production rate of agriculture products for the upcoming year based on the previous year data. Scope of this project is to know about the rate of yield and growth rate. The existing model investigates the causality between agricultural crops and yield. But our project aims to predict the upcoming rate of productions by year. In this project, it is proposed to use “ARIMA ALGORITHM” machine learning technique to provide solution. The dataset used in this project has been collected from the “MINISTRY OF COMMERCE AND INDUSTRY, GOVERNMENT OF INDIA”. This data include commodity wise export rate over the past 20 years

ARIMA ALGORITHM:

ARIMA model is a statistical analysis model that uses time series data to understand the data and predict the future trends.

Using ARIMA model, you can forecast a time series using the series past values.In this model, we use “ARIMA model , to develop this model , and predict the values.

In order to understand ARIMA, we first have to separate it into its foundational

constituents:

1. AR
2. I
3. MA

AGRICULTURE

Agriculture modernization prepares condition for industrialization by boosting labor productivity, increasing the agriculture surplus to accumulate capital and increasing foreign exchange via exports.

DOES AGRICULTURE HELP ECONOMY?

Agriculture and its related industry contributed $1.05 trillion GDP to USA.

METHODOLOGY TO CROP ESTIMATION

As per National Account Statistics, during 2016-2017,in order to principal crops of food grains, oil seeds , sugarcane , and important commercial and horticulture crops account together for about 60% of the Gross Value Added of the agriculture and the allied sector at constant prices.

The estimation of area and yield rates prime rate importance in the entire gamut of agricultural statistics.

At present over , 95% of the production of food grains is estimated on the basis of yield rate.

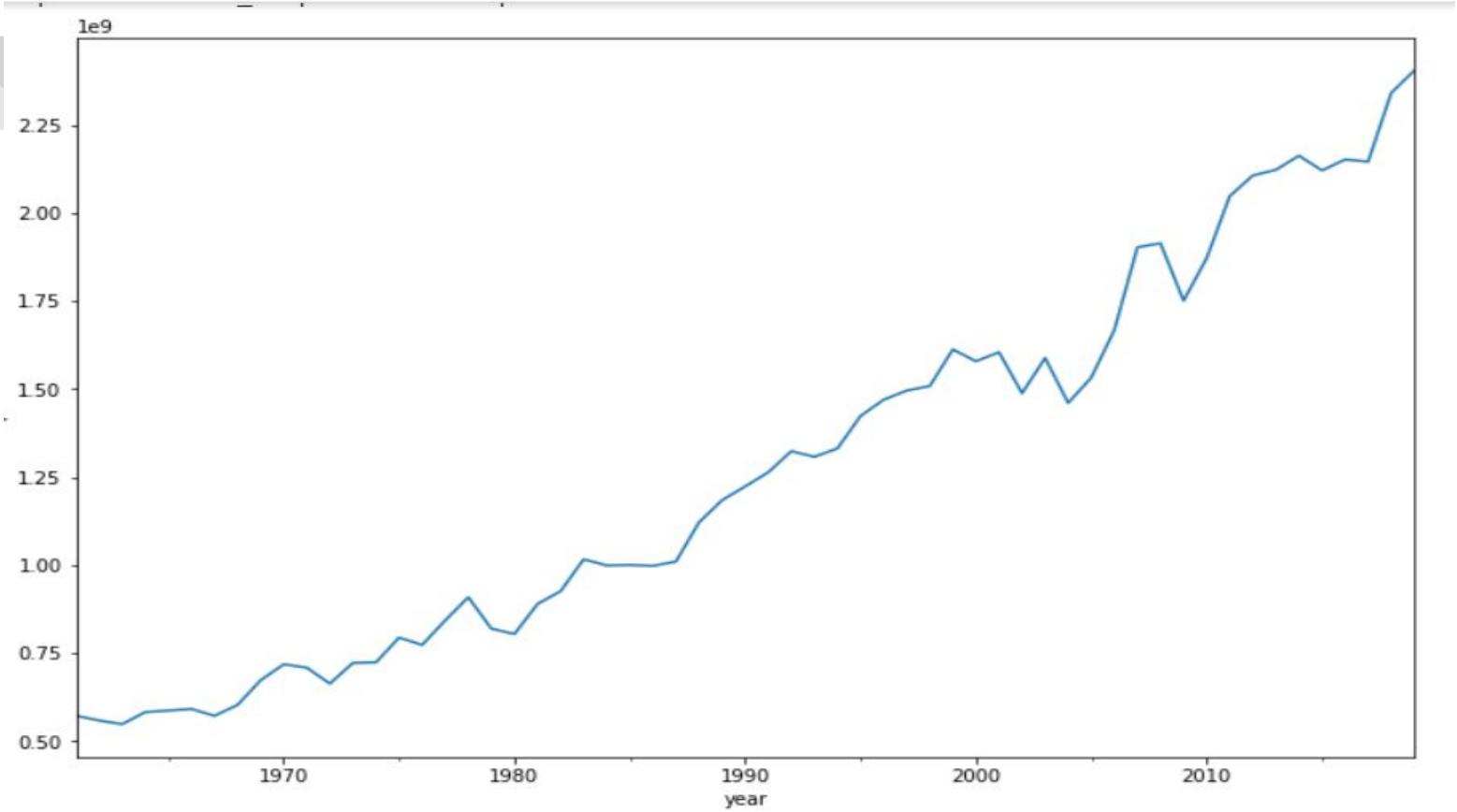
ESTIMATE AREA AND PRODUCTION

Different crops are grown during the agricultural seasons in a crop year.

Final estimates of production based on complete enumeration of area and yield through crop cutting experiments become available much after the crops are actually cultivated.

However,the government requires advance estimates of productions for various decisions relating to pricing , marketing , import/export distribution etc.

YEAR WISE PRODUCTION:



YEAR WISE AREA HARVESTED:

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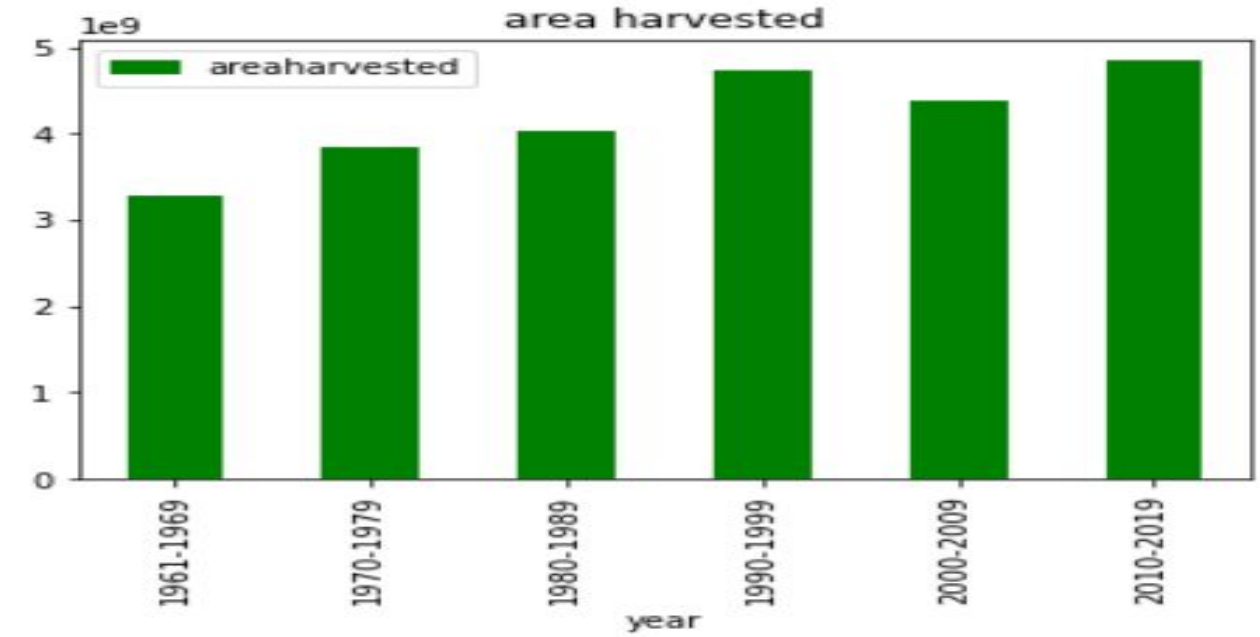
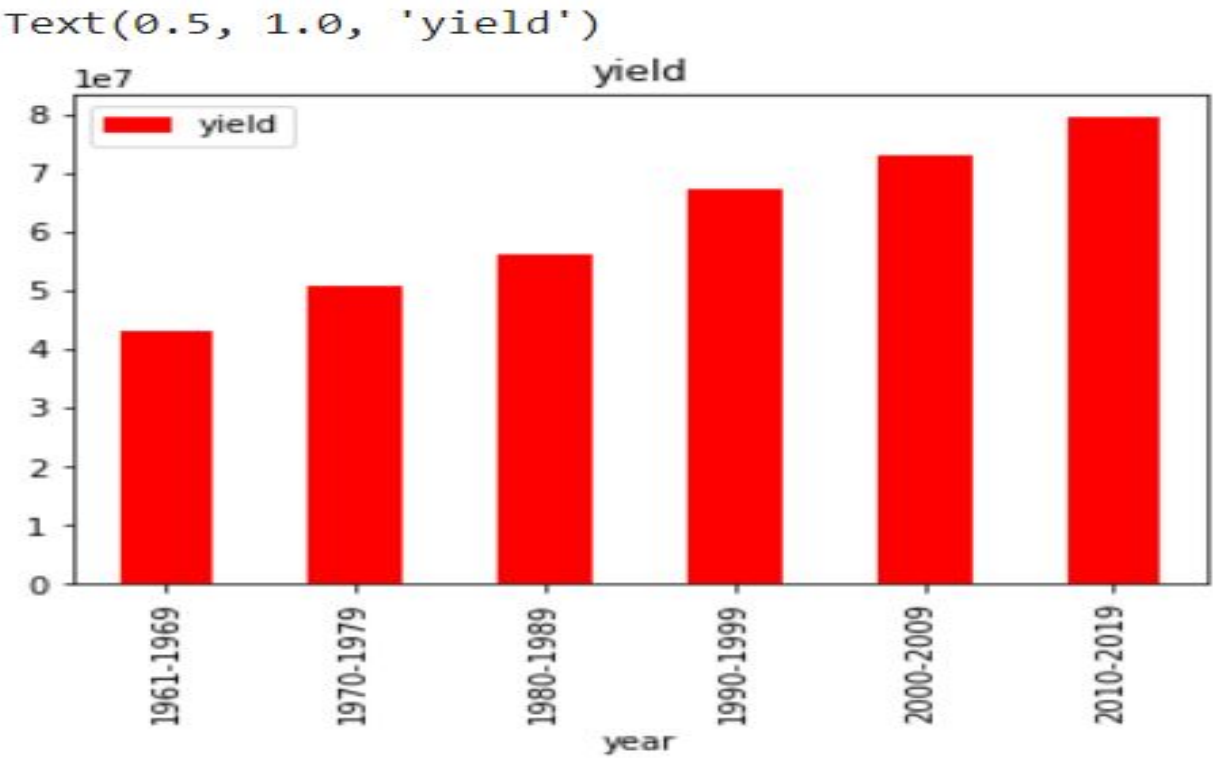
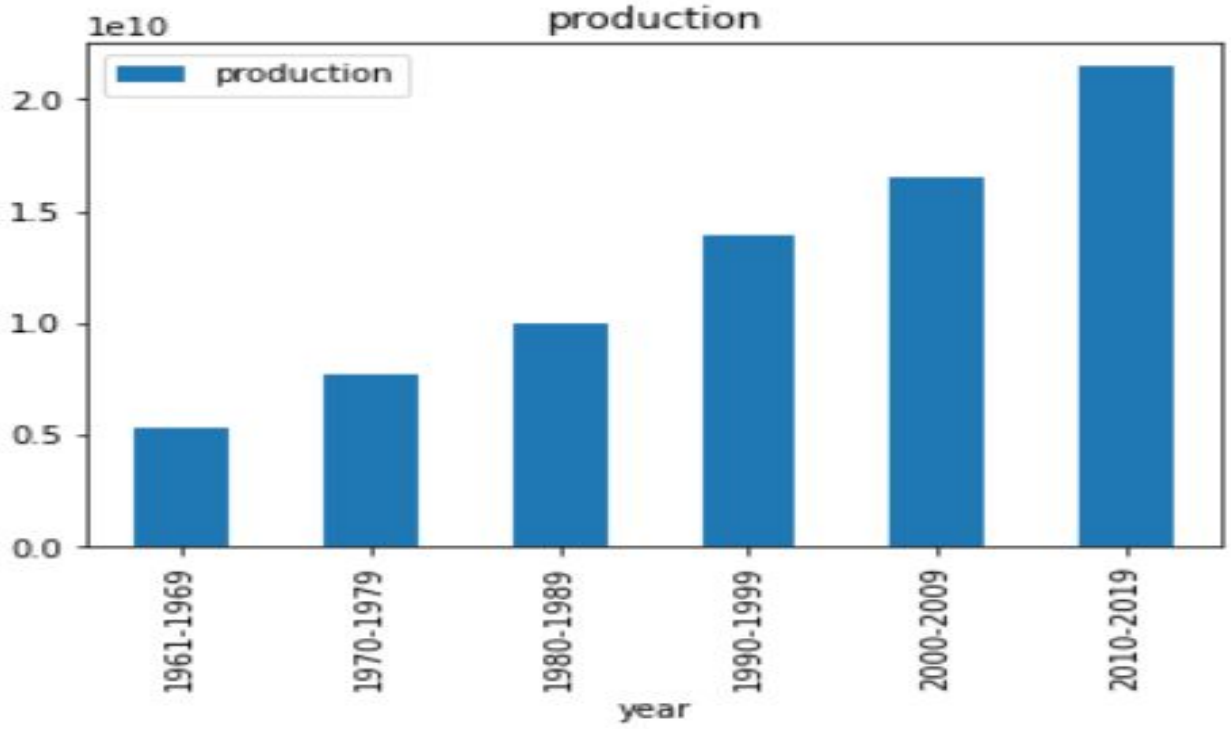
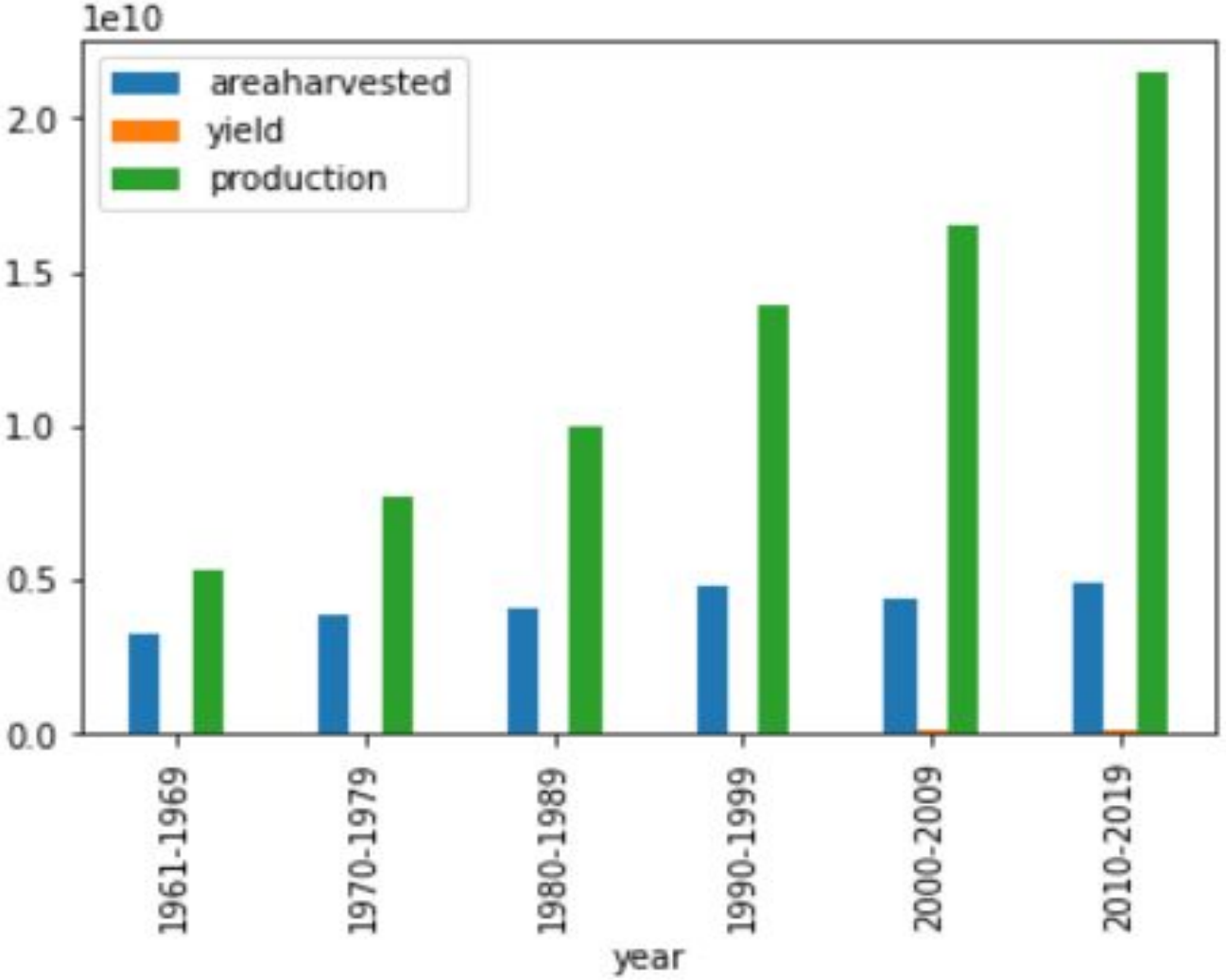


YEAR WISE YIELD:



YEAR WISE PRODUCTION:

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areaharvested
yield
production
2.0
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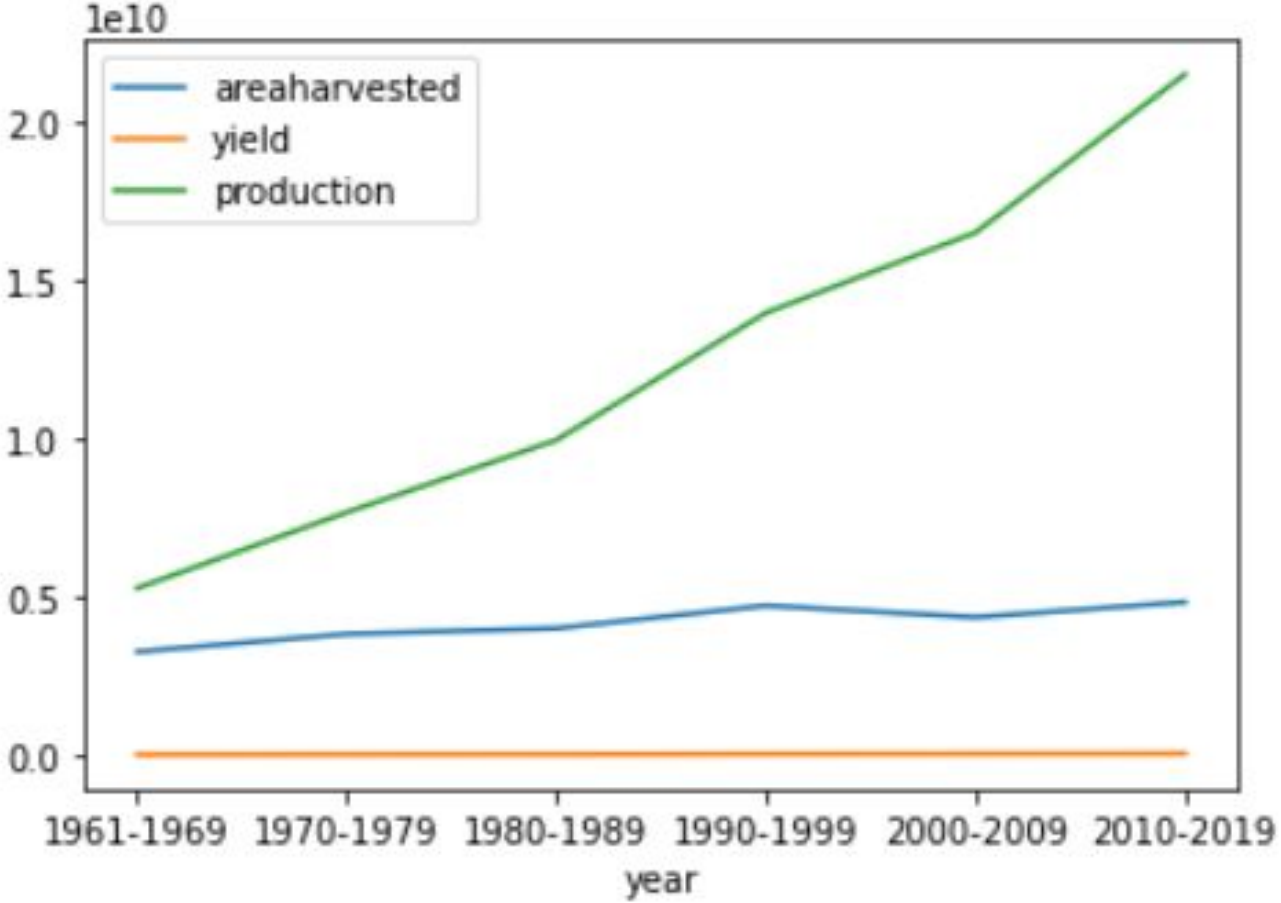
1961-1969
1970-1979
1980-1989
1990-1999
2000-2009
2010-2019
year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CONCLUSION:

Under this system of crop estimation , the forth advance calculates the upcoming production rate, for the agricultural year based on previous years data.

The main factors contributing to the relatively large number of crop estimates are the large variation in crop seasons across the country.

These forecasts are used to validate the crop estimation.