

MASTER OF SCIENCE IN STATISTICS AND ECONOMETRICS



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INTERNSHIP REPORT

PROGNOSTICATE OF AGRICULTURAL WHOLESALE PRODUCTS IN THE YEAR 2018-2021

Place: Chennai

Date:

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ABSTRACT

The Report is about statistical methods of analysis 15 data are taken from Agriculture wholesale product prices in the year 2018-2021.

From this data, the total average is calculated for individual wholesale products price are used to find the data interpretation.

The forecast analysis is predicted the future price values in the year 2022-2025 in addition to predict upcoming year 2026-2031 was calculated with 95% of confidence interval for paddy, cholan and samai.

Here determined the linear trend analysis for eight years of trend line possibility are shown. This analysis make a proper comparison between two or more product over a period of time.

The data comparison from the year 2018-2021 was observed whether increase or decrease of price values at a steady rate.

Reason and solution for Agriculture product price hike and suggestion is also mentioned.

Exp. No	INDEX	Page.No
1	Introduction	04
2	Essential Commodities Act	07
3	Conditions for forecasting	10
4	Forecasting of products in year wise	12
5	Linear trend forecast	18
6	Data comparing from the year 2018 and 2021	24
7	Average value of individual product	27
8	Difference between values of 2018 and 2021	29
9	Predication of individual product price wise	31
10	Reasons for agriculture products price hikes in year 2017 to 2021	33
11	Ways to control agriculture waste	36
12	Recycling	37
13	Conclusion	39

PROGNOSTICATE OF AGRICULTURE WHOLESALE PRODUCTS IN THE YEAR 2018-2021

INTRODUCTION

WHOLESALE PRICE :

Wholesale price is the price charged for a product as sold in bulk to large trade or distributor groups as opposed to what is charged to consumers.

FORECAST:

A calculation or estimation of future events, especially coming weather or a financial trend.

LINEAR TREND:

Linear trend forecasting is used to impose a line of best fit to time series historical data (**Harvey, 1989; McGuigan et al., 2011**). It is a simplistic forecasting technique that can be used to predict demand (McGuigan et al., 2011), and is an example of a **time series forecasting model**.

Paddy Common
Cholam White Second sort
Cumbu Ordinary
Ragi Local
Maize local
Korra (Thinai)
Varagu
Samai
Tapioca local
Bengalgram Second Sort
Redgram Second Sort
Blackgram Nadu
Greengram Nadu
Horsegram
Groundnut Pods Dry

This are the Agriculture products are taken from the wholesale price production data for a data interpretation.

OBJECTIVES:

- In the basic have to know about the Essential Commodities Act (ECA) and implementation of new Amendments in 2020.
- To determine the prediction of future price value for Agriculture wholesale products have to follow some procedures.
- In data analysis, there are some basic patterns like Exponential, Linear, Moving average, Power, Polynomial and logarithmic.
- Here linear trend pattern is used to predict the future Agriculture wholesale price values.
- The Agriculture wholesale product price Comparison between 2018 and 2021 as well as 2018 to 2021 was founded.
- The Reason and solution for Agriculture product price hike due to Rainfall, floods, covid-19, locust Infestation.
- Also explained about the ways to control Agri-waste as recycling. It offers a way to reduce waste and reuse in useful manner and as profitability.

Essential Commodities Act:

The Essential Commodities Act (ECA) was a Parliamentary act which governed the delivery and supply of commodities, whose obstruction could affect the lives of the common people to a great extent.

The act was modified through the Essential Commodities (Amendment) Act, 2020 and also **Indian Agricultural Acts** (Also known as Farm Bills) is formed.

Details of the Essential Commodities Act

In 1955, The Essential Commodities Act was introduced and it has been used to manage the “essentials” commodities. The government makes these commodities available for consumption at acceptable prices. A minimum prices can also be fixed by the government should it deem it necessary

The list of commodities included under the ECA are

- Fertilizers
- Pulses
- Edible Oil
- Cereals
- Oilseeds
- Petroleum and allied products
- Seeds of fruits and vegetables

***Note:** In the COVID-19 outbreak, **Masks and Sanitizers** also became listed under the ECA.

A commodity's supply becoming less and its price increasing, then the Centre can set stock holding limits for a specific period. Once the limit is set, the States will ensure that adequate steps are taken to ensure the guidelines are followed.

However, the discretion of the State to impose any form of restrictions. But the restrictions be imposed and **by conducting raids and auctioning of the excess goods** the errant shopkeeper and traders will be punished by state, who involved in black market practices.

Changes under the Essential Commodities (Amendment) Act 2020

It was announced in **May 2020 by Finance Minister Nirmala Sitharaman** that the ECA would be further amended and implemented under circumstances like **war or famine**.

The Essential Commodities (Amendment) was passed in the Lok Sabha on 15 September 2020, while it was passed by the Rajya Sabha on 22 September 2020. It received approval from the President Ram Nath Kovind on 27 September 2020.

The amendment has brought about the following changes:

- It allows the government to remove few essential commodities due to war, famine, natural calamities etc.

- Future regulations would be based on the **trajectory of rising prices**. It should effect a prices that is 100% rise in horticulture produce and 50% increase non-perishable agricultural food items

In addition to these changes the following benefits would also be brought about by the ECA Amendment:

- Creation of a competitive agricultural market and prevention of agri-waste due to increased investment in cold-storage facilities.
- Bringing price stability for farmers.

Issues Regarding the Essential Commodities (Amendment) Act 2020

- The new amendment to the ECA is believed infringe on State's powers as they will be unable to regulate hoarding and blackmarket practices.
- The stock limit relaxations under the ECA may lead to black marketing and hoarding rather than benefiting the producers. This will lead to increase in inflation and holding few individuals over prices of certain goods.

In 1955, the amendment to the ECA the act was passed at a long time when India was not self-sufficient enough to feed its growing population. In Six decade's the scenario has changed and the Essential Commodities Amendment **Act may actually help in increasing farmer's income and improve ease of doing business.**

Conditions for forecasting year (2022-2025):

The absolute minimum amount of data that you need to create a monthly centre forecast is 13 months of data, but it will not be very good. It is generally said that three years of data is needed to work out both trend and also seasonality.

The ideal amount of calculating the forecast is five years.

We have calculated from the year 2022-2025 using forecast function in addition to predict future years and we have used lower confidence interval and upper confidence interval with 95% interval for the year 2026-2031

Long-term forecasting is done for a period ranging from six months to five years.

Procedure:

1. First enter the data in excel sheet
2. Calculate year wise forecast value by using the formula forecast function

=forecast(x, known _y value, known _x value)

Where x denotes prediction of the year

Known y value denotes total average

Known x value denotes total year

3. Select both data in excel

4. In the Create Forecast Worksheet box, pick either a line chart or a column chart for the visual representation of the forecast.

5. Confidence interval can help you figure out the accuracy of the prediction. A smaller interval implies more confidence in the prediction for the specific point.

6. In the Forecast End box, pick an end date, and then click **Create**.

Excel creates a new worksheet that contains both a table of the historical and predicted values and a chart that expresses this data.

This shows the future predication of the following year 2026-2031.

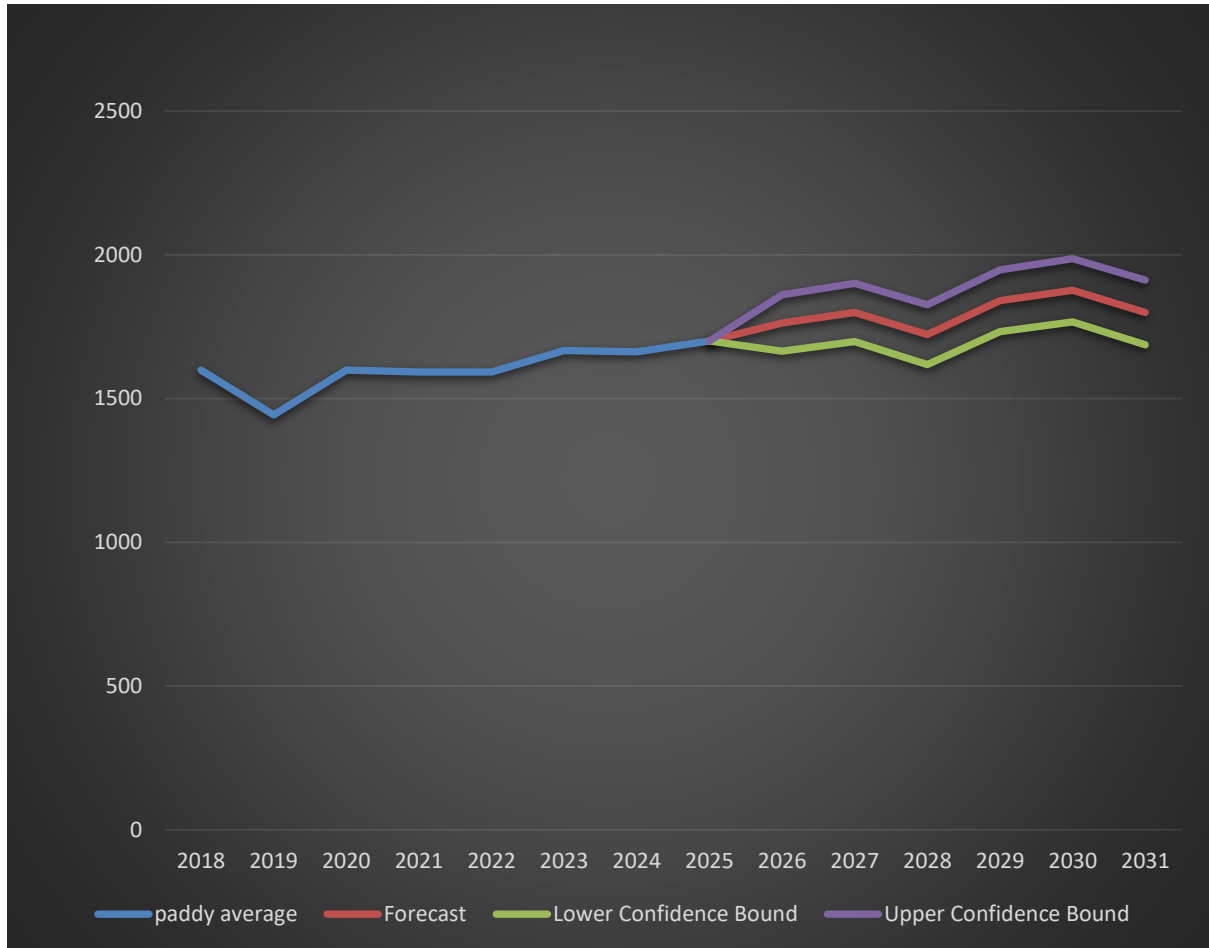
Uses:

Marketers always aspire to find the best digital marketing tactics. That is why forecasting for lead generation has become popular is now widely used.

Forecasting has applications in a wide range of fields where estimates of future conditions are useful. Depending on the field, accuracy varies significantly. If the factors that relate to what is being forecast are known and well understood and there is a significant amount of data that can be used, it is likely the final value will be close to the forecast. If this is not the case or if the actual outcome is affected by the forecasts, the reliability of the forecasts can be significantly lower.

Forecasting of Paddy products in Year-wise 2018-2031

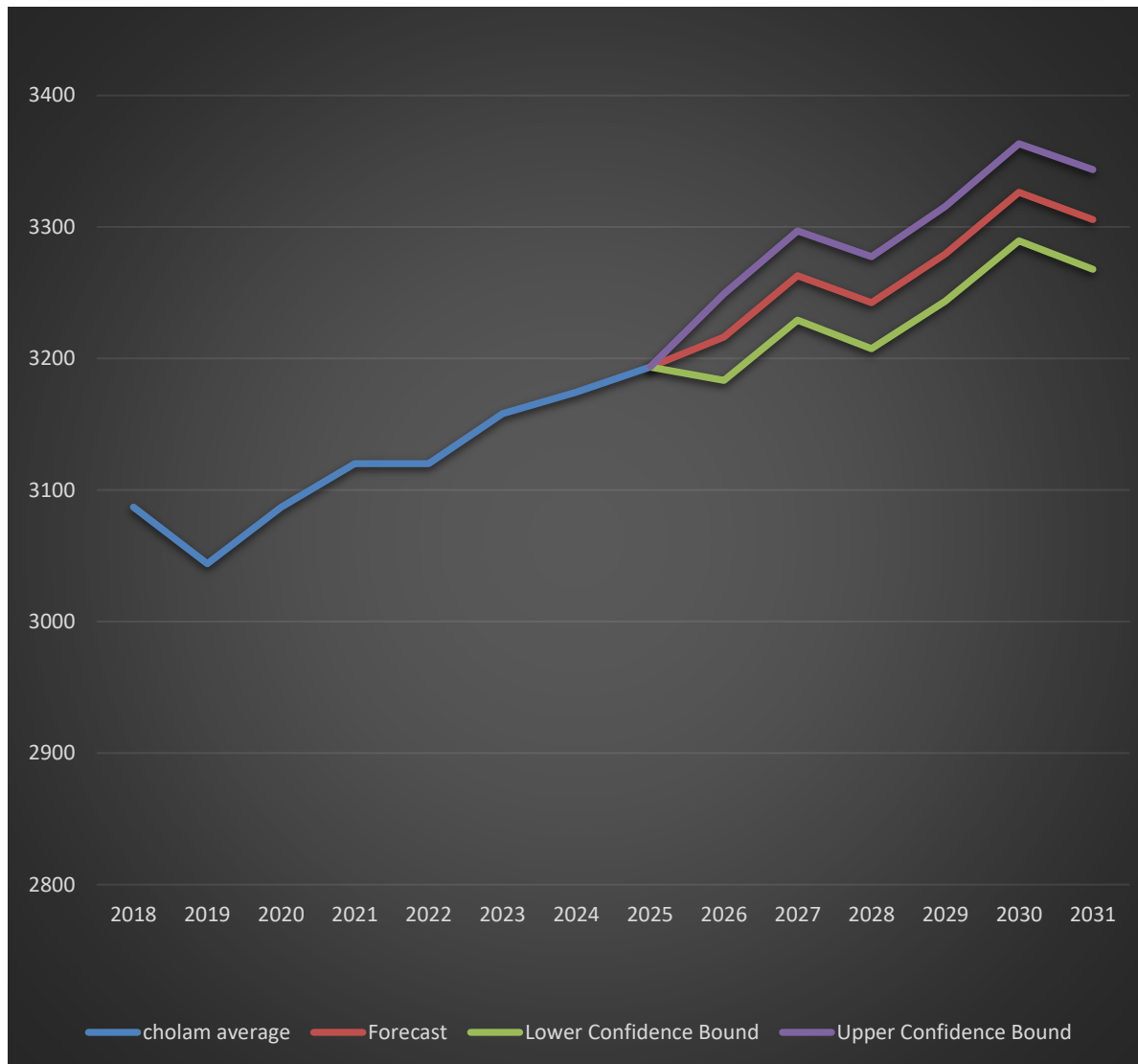
				Units in Quintal	Amount in rupees
Sl.NO	Year	Paddy Total Average	Forecast (Total Average)	Lower Confidence Bound (Total Average)	Upper Confidence Bound (Total Average)
1	2018	1599			
2	2019	1443			
3	2020	1599			
4	2021	1592			
5	2022	1592			
6	2023	1667			
7	2024	1663			
8	2025	1700	1700	1700	1700
9	2026		1763	1665	1861
10	2027		1799	1698	1900
11	2028		1722	1618	1826
12	2029		1840	1733	1947
13	2030		1876	1766	1986
14	2031		1799	1687	1912



From the above, forecast predication value of the paddy price fluctuating in the year 2023-2030. From this analysis, the government should enact more precise fertilization strategies to adapt to change in soil, climate and terrain within region.

Forecasting of Cholan products in year- wise 2018-2031.

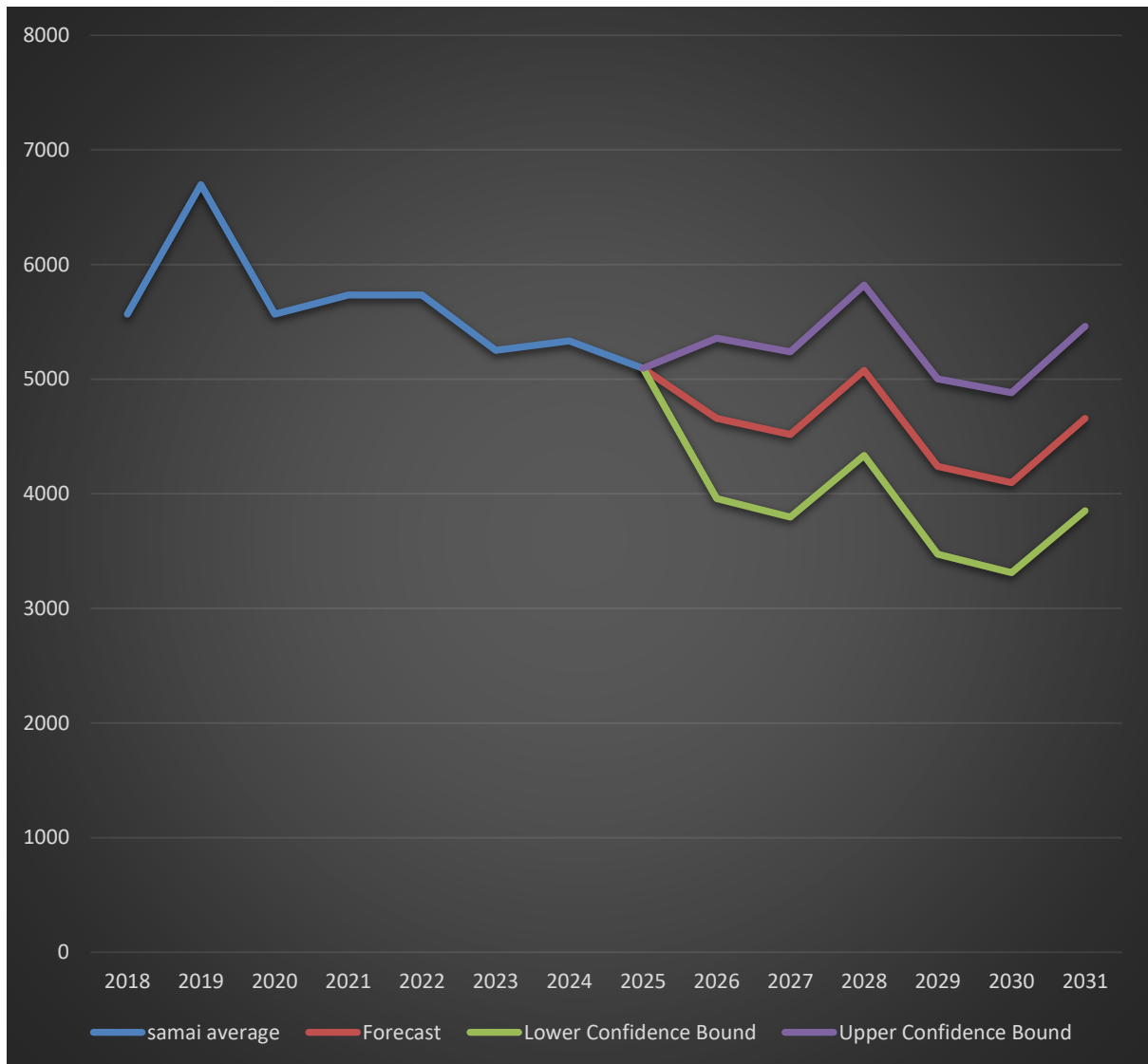
				Units in Quintal	Amount in rupees
SI.NO	year	Cholan Total Average	Forecast (Total Average)	Lower Confidence Bound (Total Average)	Upper Confidence Bound (Total Average)
1	2018	3087			
2	2019	3044			
3	2020	3087			
4	2021	3120			
5	2022	3120			
6	2023	3158			
7	2024	3175			
8	2025	3194	3194	3194	3194
9	2026		3216	3183	3249
10	2027		3263	3229	3297
11	2028		3242	3207	3277
12	2029		3280	3244	3316
13	2030		3326	3289	3363
14	2031		3306	3268	3344



In the above chart, the cholam price value rapidly increasing in year 2024-2026 and decreased in 2027-2028. From this prediction its helps to increase the growth rate and also farmers livelihood.

Forecasting of Samai products in Year-wise 2018-2031.

				Units in Quintal	Amount in rupees
Sl.NO	Year	Samai Total Average	Forecast (Total Average)	Lower Confidence Bound (Total Average)	Upper Confidence Bound (Total Average)
1	2018	5566			
2	2019	6697			
3	2020	5567			
4	2021	5733			
5	2022	5733			
6	2023	5252			
7	2024	5335			
8	2025	5094	5094	5094	5094
9	2026		4659	3959	5359
10	2027		4517	3795	5239
11	2028		5078	4334	5821
12	2029		4238	3474	5003
13	2030		4097	3312	4882
14	2031		4657	3852	5462



In the above forecast chart observed the average price value of samai is increases in the year 2024 and it also various in 2025-2027.

In 2028 the average price value reaches the peak level. From this prediction its helps to increase the growth rate and also farmers livelihood.

Linear trend forecast (2018-2025):

A linear trend usually shows that something increasing or decreasing at a steady state.

How will you define the data is linear trend:

- A linear trend is reported when the slope of the regression line is demonstrated to be statistically different from zero.
- This is a linear trend model, also known as a trend-line model.
- The main aim of linear trend is to predict future value using linear regression.
- It can also be used to interpolate and even predict the past.
- Linear regression is a statistical tool used to help predict future values from past values.

Pattern:

Linear patterns in data show a constant rate of increase or decrease in product price over time. If trend analysts and forecasters plot the data points on a graph, they would take the shape of a straight, diagonal line, moving upward or downward, depending on the success of the item.

Procedure:

1.First fill the data such as item, year, linear trend in the excel.

2.To calculate linear trend we have to find intercept, slope.

3.To find intercept using the following formula

$$=\text{intercept}(\text{known y value}, \text{known x value})$$

Where known y value is total average.

known x value is time period.

4.To find slope using the following formula

$$=\text{slope}(\text{known y value}, \text{known x value})$$

Where known y value is total average.

known x value is time period.

5. Next we have to find the linear trend forecast formula

$$=\text{linear forecast}(\text{intercept}+\text{slope}+\text{time period})$$

$$Y=m(x)+c$$

We interpret the slope to mean that on average, the rate changed by the slope value each year. The issue is whether the slope value is significantly different from zero, i.e., is the P-value less than or equal to 0.05. If it is, we have a linear trend. If it is not, we must conclude there is no meaningful trend

The value of intercept is **1755.23394** and

The value of Slope is **47.56027309**

In the following graph shows the linear trend forecast which is plotted and represented by a linear trend line.

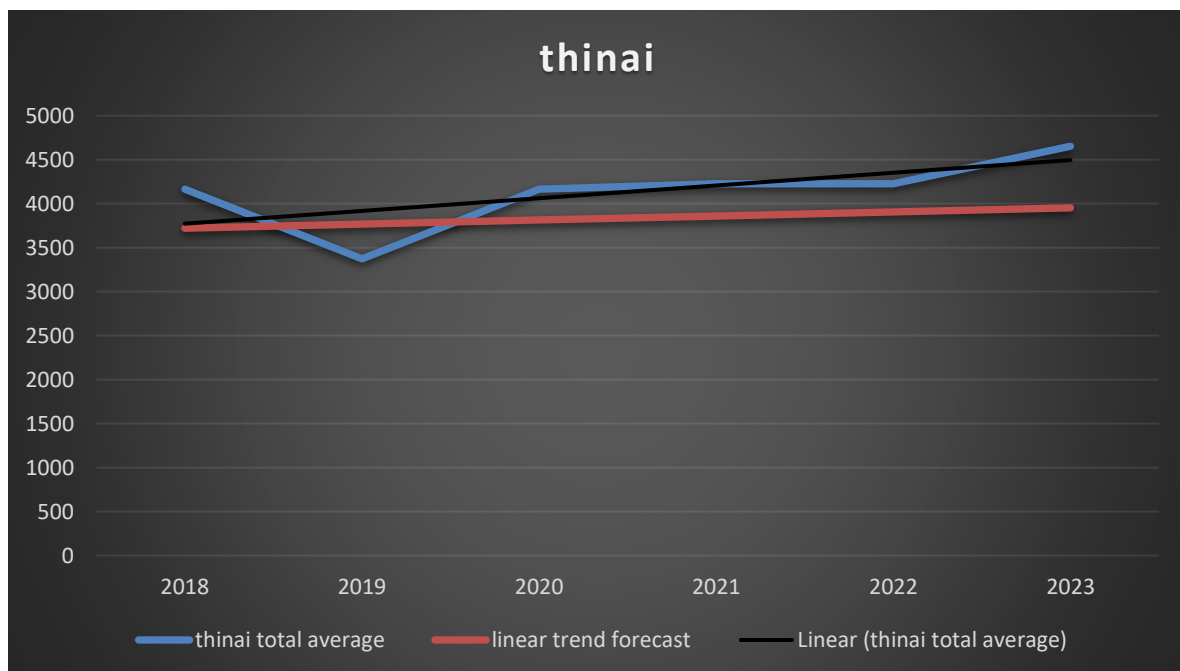
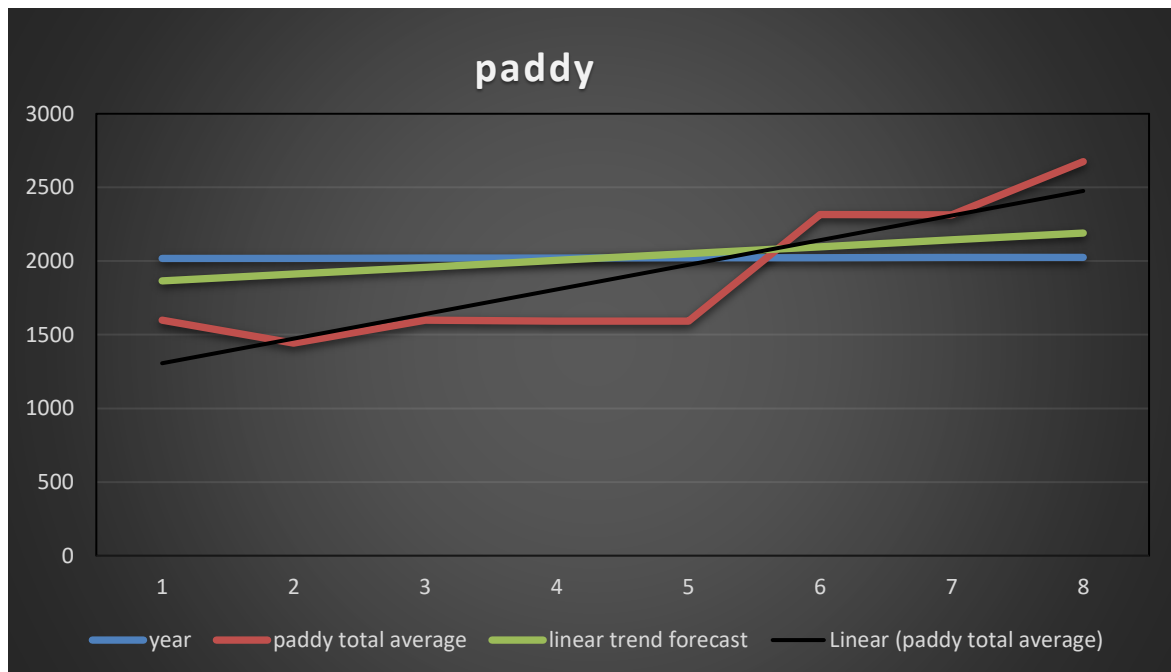
we have taken eight years data from the previous sample which shows

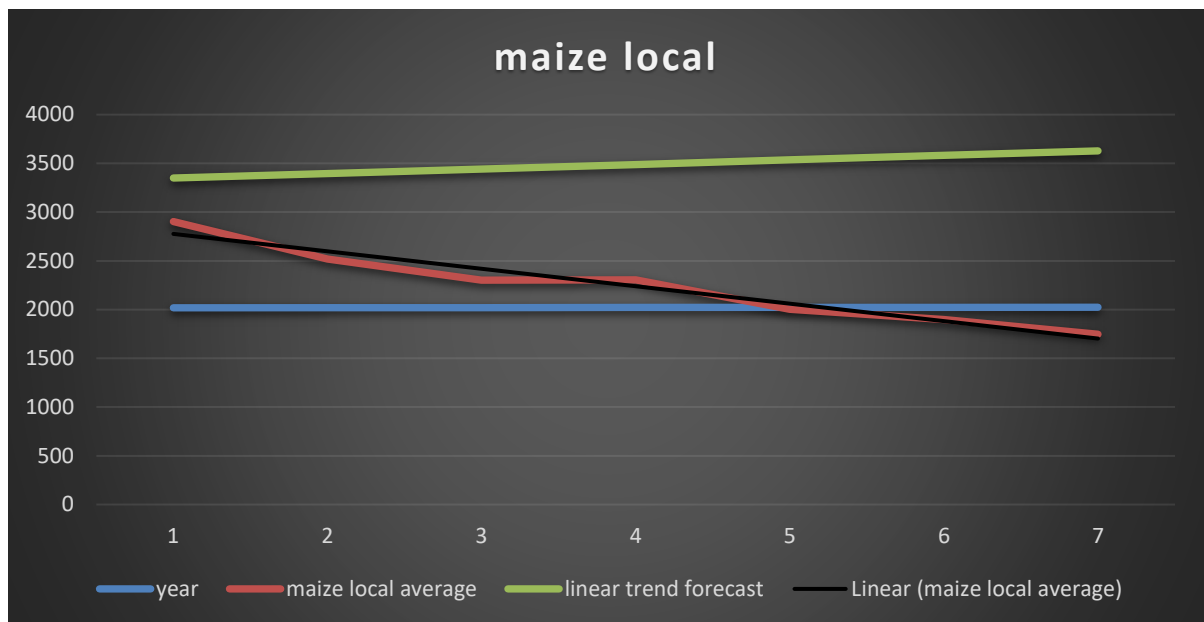
Uses:

Trend forecasting is a complicated but useful way to look at past price value or market growth, determine possible trends from that data and use the information to extrapolate what could happen in the future. We use trend forecasting to help determine potential future price growth.

SI.NO	ITEM	YEAR	TOTAL AVERAGE	LINEAR TREND FORECAST	SI.NO	ITEM	YEAR	TOTAL AVERAGE	LINEAR TREND FORECAST
1	0	2018	1599	2453	41	thinai	2018	4164	2767
2	Paddy	2019	1443	2461	42	0	2019	3373	2775
3	0	2020	1599	2469	43	0	2020	4164	2783
4	0	2021	1592	2477	44	0	2021	4226	2791
5	0	2022	1592	2485	45	0	2022	4226	2799
6	0	2023	2317	2493	46	0	2023	4653	2807
7	0	2024	2313	2500	47	0	2024	4684	2814
8	0	2025	2675	2508	48	0	2025	4897	2822
9	Cholam	2018	3087	2516	49	Varagu	2018	4809	2830
10	0	2019	3044	2524	50	0	2019	4815	2838
11	0	2020	3087	2532	51	0	2020	4809	2846
12	0	2021	3120	2539	52	0	2021	4858	2854
13	0	2022	3120	2547	53	0	2022	4858	2861
14	0	2023	3158	2555	54	0	2023	4880	2869
15	0	2024	3175	2563	55	0	2024	4904	2877
16	0	2025	3194	2571	56	0	2025	4915	2885
17	Cumin	2018	2594	2579	57	Samai	2018	5566	2893
18	0	2019	2374	2587	58	0	2019	6697	2901
19	0	2020	2594	2594	59	0	2020	5567	2909
20	0	2021	2622	2602	60	0	2021	5733	2916
21	0	2022	2622	2610	61	0	2022	5734	2924
22	0	2023	2746	2618	62	0	2023	5252	2932
23	0	2024	2760	2626	63	0	2024	5335	2940
24	0	2025	2822	2633	64	0	2025	5094	2948
25	Ragi	2018	3238	2642	65	Topica local	2018	1942	2956
26	0	2019	3249	2649	66	0	2019	1939	2964
27	0	2020	3238	2657	67	0	2020	1942	2971
28	0	2021	3223	2665	68	0	2021	1931	2979
29	0	2022	3223	2673	69	0	2022	1931	2987
30	0	2023	3210	2681	70	0	2023	1927	2995
31	0	2024	3203	2689	71	0	2024	1922	3003
32	0	2025	3196	2697	72	0	2025	1920	3011
33	Maize local	2018	2903	2704	73	Bengalgram second sort	2018	7249	3019
34	0	2019	2519	2712	74	0	2019	7242	3026
35	0	2020	2303	2720	75	0	2020	7249	3034
36	0	2021	2304	2728	76	0	2021	7237	3042
37	0	2022	2004	2736	77	0	2022	7237	3050
38	0	2023	1897	2744	78	0	2023	7235	3058
39	0	2024	1747	2751	79	0	2024	7229	3066
40	0	2025	1543	2759	80	0	2025	7227	3074

Linear Trend Forecasting for PADDY, THINAI and MAIZE LOCAL products in the year 2018-2025.





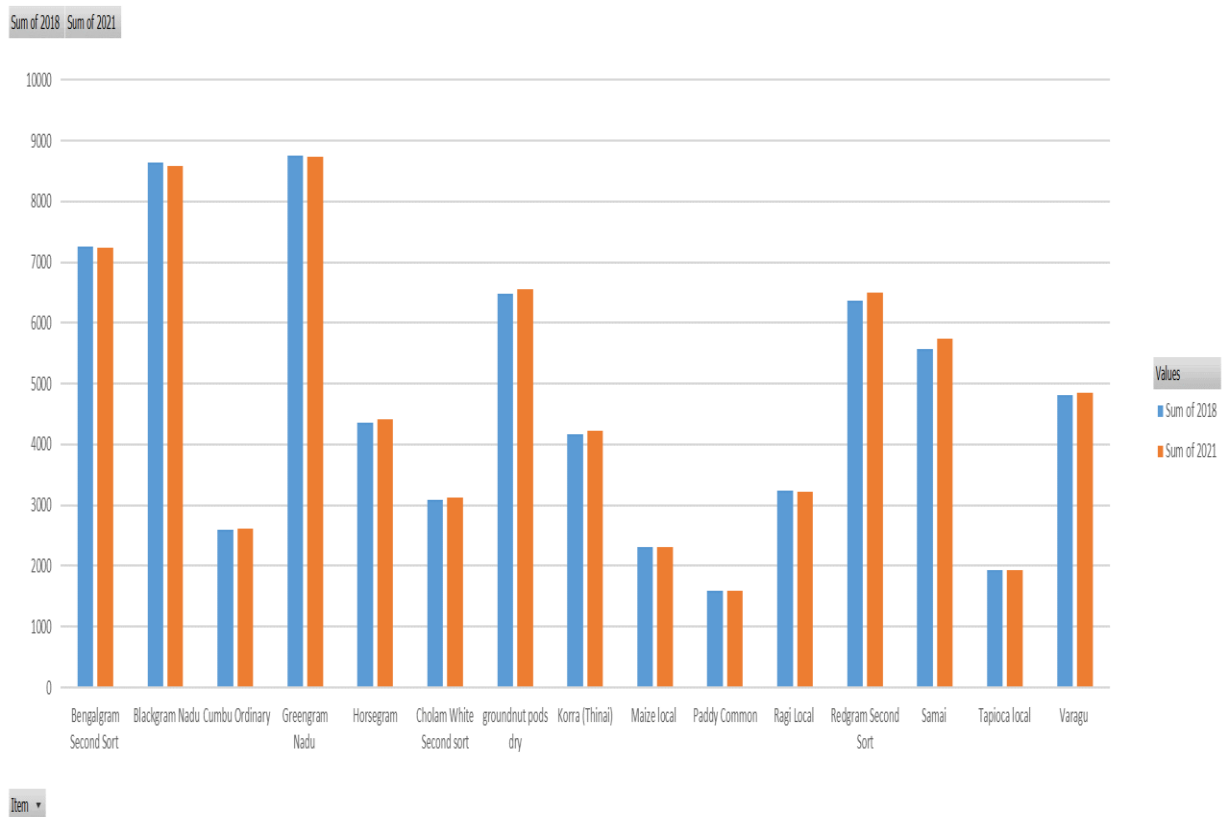
From the above linear trend line for paddy and thinai is constantly increasing over a prolonged period and Maize local is decreasing over a year due to varying in price value. From this analysis, may also able to decrease excess production levels, thus increasing overall profitability.

Wholesale data comparing from the year 2018 and 2021 :

We have taken some of the items and comparing with their prices. The highest price difference of the item in the following table is samai which is 167. this is due to the reason of the agriculture sector suffered heavy damages in 1.54 % of the net cropped area; Wayanad and Idukki were worst affected. Losses to crops have been estimated at INR 3,558 crore across 89.6 thousand hectares (4.44 % of the net cropped area).

This is major cause of increase in samai and the least price difference is black grammar Nadu. it is due to During 2019-20, locust attack was reported in some districts of Rajasthan and Gujarat. Rajasthan Government has reported that a total area of 1,79,584 hectares of 8 districts of the state was affected by locust attack during 2019-20. The State Government of Gujarat has reported that crop loss due to locust attack was observed in a total area of 19,313 hectares of 2 districts of the State during the year 2019-20.

		Units in Quintal	Amount in rupees
SI.NO	ITEM	2018	2021
1	Paddy Common	1599	1592
2	Cholam White Second sort	3087	3120
3	Cumbu Ordinary	2594	2622
4	Ragi Local	3238	3223
5	Maize local	2303	2304
6	Korra (Thinai)	4164	4226
7	Varagu	4809	4858
8	Samai	5566	5733
9	Tapioca local	1942	1931
10	Bengalgram Second Sort	7249	7237
11	Redgram Second Sort	6370	6501
12	Blackgram Nadu	8637	8579
13	Greengram Nadu	8757	8739
14	Horsegram	4360	4412
15	groundnut pods dry	6479	6549



Here X axis denotes the item of the agricultural product

Y axis denotes the average prize value in yearwise.

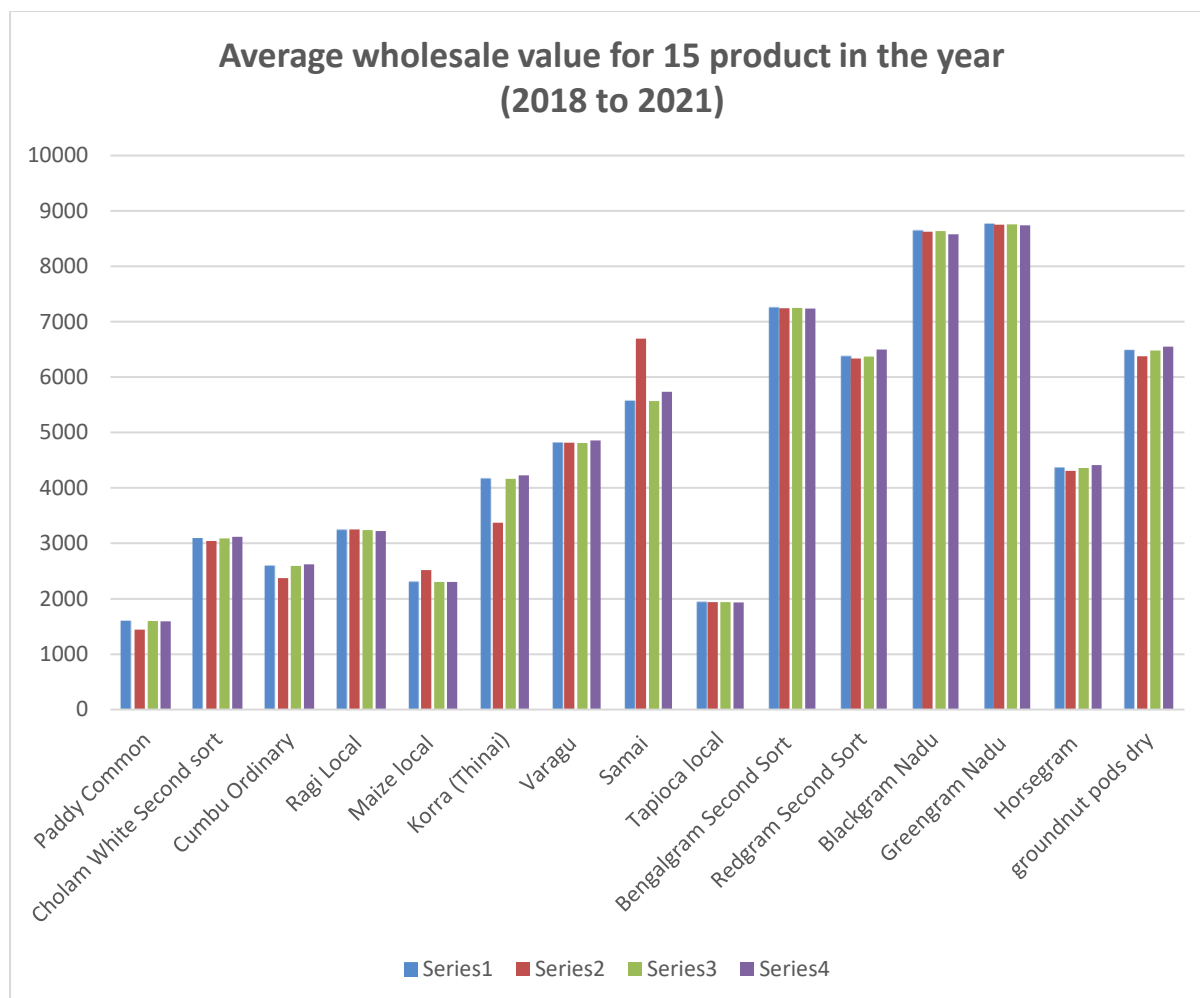
Comparing the yearwise price values helps us to give a clear information about the items which we mentioned in the above and also improves the growth of the economy.

Average wholesale value of 15 product:

We have chosen 15 items from the following given sample and analysed with their prices according with their year wise from 2018 to 2021.

We calculated the average of individual product for the whole year which determines whether increase and decrease of price values in the below chart

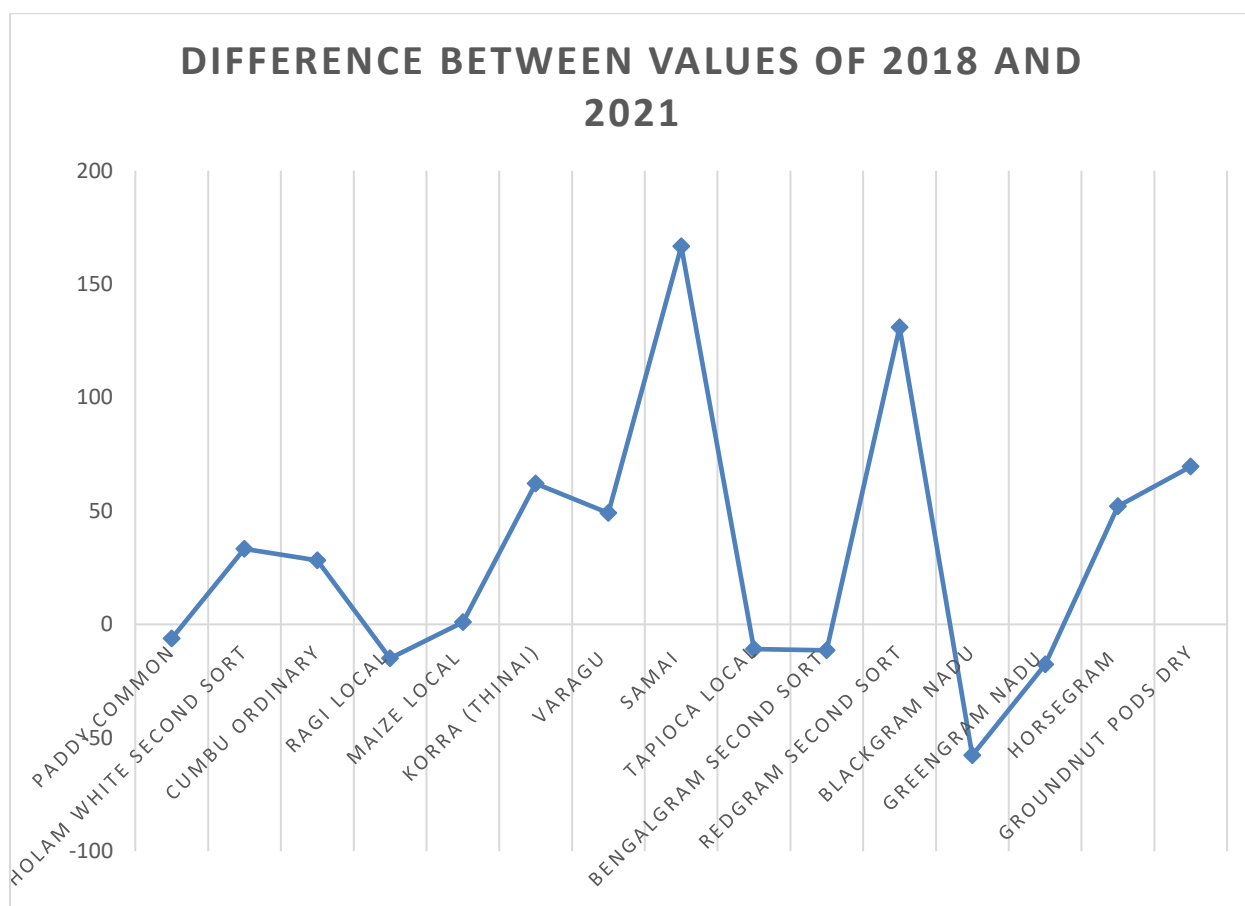
				Units in Quintal	Amount in rupees
SI.NO	ITEM	TOTAL AVERAGE FOR 2018	TOTAL AVERAGE FOR 2019	TOTAL AVERAGE FOR 2020	TOTAL AVERAGE FOR 2021
1	Paddy Common	1599	1443	1599	1592
2	Cholam White Second sort	3087	3044	3087	3120
3	Cumbu Ordinary	2594	2374	2594	2622
4	Ragi Local	3238	3249	3238	3223
5	Maize local	2303	2519	2303	2304
6	Thinai	4164	3373	4164	4226
7	Varagu	4809	4815	4809	4858
8	Samai	5566	6697	5566	5733
9	Tapioca local	1942	1939	1942	1931
10	Bengalgram Second Sort	7249	7242	7249	7237
11	Redgram Second Sort	6370	6336	6370	6501
12	Blackgram Nadu	8637	8626	8637	8579
13	Greengram Nadu	8757	8754	8757	8739
14	Horsegram	4360	4308	4360	4412
15	groundnut pods dry	6479	6376	6479	6549



Most of the items in the above chart has little bit difference but the *samai* average value difference has been increased higher compared to other items. Whereas *thinai* also suddenly decreased in the year 2019 whereas compared to other year in the above bar diagram. From this chart the people can easily understand growth of the particular item prices varying in year-wise. The farmers can easily benefited and precautioned how to sell and buy the product during upcoming four years with the help of this chart.

Difference between wholesale values of 2018 and 2021

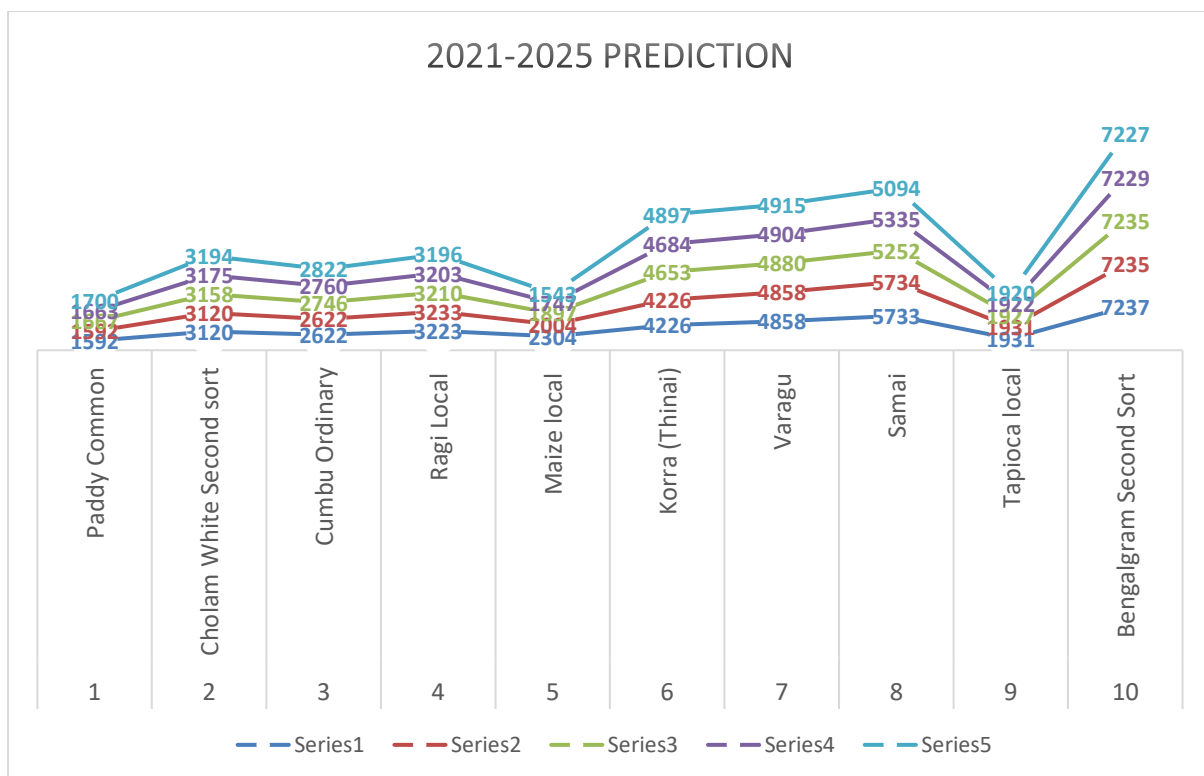
	Units in Quintal	Amount in rupees
Sl.NO	Item	Difference value from 2018 to 2021
1	Paddy Common	-6
2	Cholam White Second sort	33
3	Cumbu Ordinary	28
4	Ragi Local	-15
5	Maize local	1
6	Korra (Thinai)	62
7	Varagu	49
8	Samai	167
9	Tapioca local	-11
10	Bengalgram Second Sort	-12
11	Redgram Second Sort	131
12	Blackgram Nadu	-58
13	Greengram Nadu	-18
14	Horsegram	52
15	groundnut pods dry	70



From the above table, the item *samaai* has the highest price difference compared to other items. In the other hand the lowest price difference comparing the items in the table we conclude that the *blackgram nodu* is the least difference price value.

Predication of individual product price wise

					Units in Quintal	Amount in rupees
Sl.NO	Item	2021	2022	2023	2024	2025
1	Paddy Common	1592	1592	1667	1663	1700
2	Cholam White Second sort	3120	3120	3158	3175	3194
3	Cumbu Ordinary	2622	2622	2746	2760	2822
4	Ragi Local	3223	3233	3210	3203	3196
5	Maize local	2304	2004	1897	1747	1543
6	Korra (Thinai)	4226	4226	4653	4684	4897
7	Varagu	4858	4858	4880	4904	4915
8	Samai	5733	5734	5252	5335	5094
9	Tapioca local	1931	1931	1927	1922	1920
10	Bengalgram Second Sort	7237	7235	7235	7229	7227



In predication of these product from the above table in the yearwise comparsion of maize local has poorly decreased in the upcoming year 2025 and the paddy common has slightly increased in the year 2024 with the help of this predicting the values the economy of the agricultural production can easily benefited to the farmers and consumers .

Reasons for agriculture products price hikes in year 2017 to 2021:

Rainfalls and Floods

India has suffered a huge crop loss on 18.176 million hectares (mha) of land, roughly 8.5 per cent of the total gross cropped area due to floods from 2017-2019, according to data shared by the government in the Lok Sabha February 11, 2021.

Of this, 10.68 mha was affected in 2019 alone. In 2018 and 2017, 2.515 mha and 4.973 mha of cropped area was lost in India. The intensity of extreme floods has increased in the country, affecting newer areas that were not flood-prone earlier.

In 2019, the state also saw the second highest claims, after Maharashtra, by farmers for crop insurance under the **Pradhan Mantri Fasal Bima Yojana**.

Agriculture in Tamil Nadu has faced a thunder like hit since the low rainfall had left the crops and agricultural lands with no water for irrigation purposes. Also the Kaveri water issue became a huge headache for the farmers in Tamil Nadu, as no water is obtained from the tributaries of Kaveri river where it is the only source of irrigation for the Tamil Nadu farmers. The crops had severely charred in lakhs of hectares. It is said that the harvest in the year will be the worst ever in Tamil Nadu.

Kerala Floods (2018 to 2019)

The agriculture sector suffered heavy damages in 1.54 % of the net cropped area; Wayanad and Idukki were worst affected. Losses to crops have been estimated at INR 3,558 crore across 89.6 thousand hectares (4.44 % of the net cropped area). About 36.74% of the net cropped area of Wayanad and 17.59% of that in Alappuzha was damaged. Infrastructure worth INR 457 crore has been damaged. Perennial and annual crops, such as bananas, coconuts, areca nut, pepper, and coffee were the most impacted. Seasonal crops, such as rice, vegetable, tapioca, and other tuber crops also suffered significant losses. The recovery needs for the crop sector are estimated at INR 4193.5 crore. The major crops in panamaram panchayath are Banana, Pepper, Ginger, Coffee, Paddy and Arecanut.

Locust Infestation (2020 to 2021)

During 2019-20, locust attack was reported in some districts of Rajasthan and Gujarat. Rajasthan Government has reported that a total area of 1,79,584 hectares of 8 districts of the state was affected by locust attack during 2019-20. The State Government of Gujarat has reported that crop loss due to locust attack was observed in a total area of 19,313 hectares of 2 districts of the State during the year 2019-20.

Initially during May-June 2020, Government of Rajasthan reported crop damage of 33% and more due to locust attack in 2235 hectare area in Bikaner, 140 hectare in Hanumangarh and 1027 hectare area in Sri Ganganagar; but now, as per revised report, it has been stated that earlier submitted data was related to initial stage of crop sown in Kharif season and this area of crop loss has been re-sown by farmers.

Covid-19 (2020 to 2021)

COVID-19 pandemic has disrupted the Indian agricultural system extensively. Nevertheless, the recent quarterly GDP estimates post-COVID scenario showcase robustness and resilience in Indian agriculture, the only sector to register a positive growth of 3.4% during the financial year (FY here after) 2020–21 (Quarter 1: April 2020 to June 2020).

At the same time, the immediate past quarter growth was estimated at 5.9% witnessing a decline by 2.5% point. In this context, we aim to synthesize the early evidence of the COVID-19 impact on the Indian agricultural system viz., production, marketing and consumption followed by a set of potential strategies to recover and prosper post-pandemic.

Suggestion:

Ways to control agriculture waste

Agricultural waste is composed of organic waste excreta in the form of slurries and farmyard manures, spent mushroom compost, soiled water and silage effluent.

Include:

- **Natural waste**
- **Animal waste**
- **Plant waste**
- **Waste management**

If waste are not properly handled they can pollute surface and groundwater and contribute to air pollution.

The proper management of waste from agricultural operations can contribute in a significant way to farm operations.

The waste which is reduce, recycle and make it usable for different purpose is a waste management

COMPOSTING:

Farmers can reduce waste by composting many of their items. They are good for the soil and help the plants to grow. This is a great environmentally friendly option that farmers can take advantage of. Some of the many things that you should compost are

- **Animal Waste**
- **Plant**
- **Weeds and Grass Cuttings**
- **Leaves, Straw, and Hay**

RECYCLING (மறுசுழற்சி)

Recycling is the process of converting unusable product into usable to prevent someone loss.

Some of the recycled items

1.Biofuel

- Crops rich in cellulose (corn stalk)-ethanol
- Crops rich in lipids (unproductive oil)-biodiesel

2.Plastic Substitute

Bagasse(stalk of sugarcane)-bowls,plates etc.,

Plastics made from bagasse are natural fiber products that are compostable and degrade in 30-60 days after use. This makes them a great alternative to Styrofoam and other plastic products.

3.Bioplastics

Bioplastic can be used as flower bed and green waste.

They reduce the company's overall footprint because they are more sustainably produced than conventional petroleum-based plastics, and are also recyclable.

4.Compost

Animal waste has long been used as a field fertilizer to add nutrients to existing topsoil.

Many people are using manure to mix with other plant byproducts such as straw, corn stover, wood residue or leaves to create a richer compost to be used in gardens and fields.

CONCLUSION:

Over view of data, the analysis such as forecast , linear trend, data comparison and predication of the individual products in year-wise . It observed that average product price fluctuation over a prolonged period. From this prediction it can leads to better-informed business and investment decisions making. Also improve production capacity and quality. This will help identify future earning and expenditure trends that long term influence on government policies and strategic goals.