



AGRICULTURAL FOOD CROP PRODUCTION AT A GLANCE

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RESEARCH ARTICLE



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Abstract

Economic development is a gradual process through which a nation goes through. It involves the natural wellbeing of the citizens of the country, improvement in the standard of living and many more. Economic development may mean economic growth but economic growth does not mean economic development. A country develops when its three sectors i.e. the primary, secondary and tertiary sector grows. And Agricultural Sector being the backbone of the entire economy, we must focus on it more consciously. And now a days sustainable development is the main motive of the economists. Sustainable development is the process by which we must use the current natural resources in way they can be used by our future generation equally. And in case of agricultural sector sustainable development can be done by banning the overuse of chemical fertilizers and substituting it with organic fertilizers. Agriculture is not only the source of food but also a window for employment, investment, savings for many people of our country and it also acts a source of raw materials for the industrial sector of the Indian Economy. Hence, we must preserve it more carefully. Here in this study, we would deal with the relationship of agricultural production with area under production and yield per sector and also their patterns and trends which includes the share of cereals and pulses and their growth rate. And by using the unit root test i.e. Augmented Dickey Fuller Test we would examine whether the time series is stationary or not using hypothesis testing. India has improved a lot in terms of agricultural sector and the main reason of success is the hardship of farmers, proper implementation of policies although there are some gaps in the entire development of agricultural sector.

Keywords: *Agricultural food crop production, sustainable development, JEL Classification: Q10, Q18, C22, Q01*

Introduction

Agriculture Sector is the backbone of the Indian Economy. Many developed and underdeveloped nations have benefited from agriculture. Economic growth is directly linked with the prosperity in the Agricultural sector of the economy. The importance of the growth of the agricultural sector was realized after India got its independence. Hence the First Five Year Plan of the economy was concentrated on the growth of Agricultural productivity and consequently it succeeded by achieving an increase in food grain production from 50 million tons in 1950-51 to 176.22 million tons in 1990-91. Agriculture is not only the source of food for the population but also the window of employment generation, savings, investment, and never the less it also provides raw materials in the production of various industrial goods. And as we know that India's food crop accounts for 40 to 50 percent of exports like basmati/non-basmati rice, wheat and maize. Indian Agriculture has shown massive growth in the last three decades and these could be achieved undoubtedly due to relentless efforts of the farmers who are the backbone of the Indian economy. The food crop production has increased sharply from 82 million tons in 1960-61 to over 330 million tons in 2023-24 caused mainly due to policy support, various strategy of production, public investment on infrastructure, research and extension for crop have helped in increase in food production and its availability. Moreover the increase in production has mainly resulted from yield rather than expansion in cultivated land. Availability of food grain production increased substantially from 452 to 476 gm per capita per day even though the country's population increased from 548 million to nearly 1000 million. Although there has been an increase in Agricultural productivity and industrial growth, India is still home to a large number of poor people of the world.

This paper has six sections altogether. Part I consists of literature review, Part II shows the components of GDP, Part III shows the patterns and trends of Agricultural production, Part IV shows the pattern and trend of Area Under Agriculture, Part V shows

the patten and trend of Yield per Hectare, Part VI shows the relationship between Agricultural production with Area under production and Yield per Hectare of both food and at last Part VII concludes the entire paper.

Part I: Literature Review

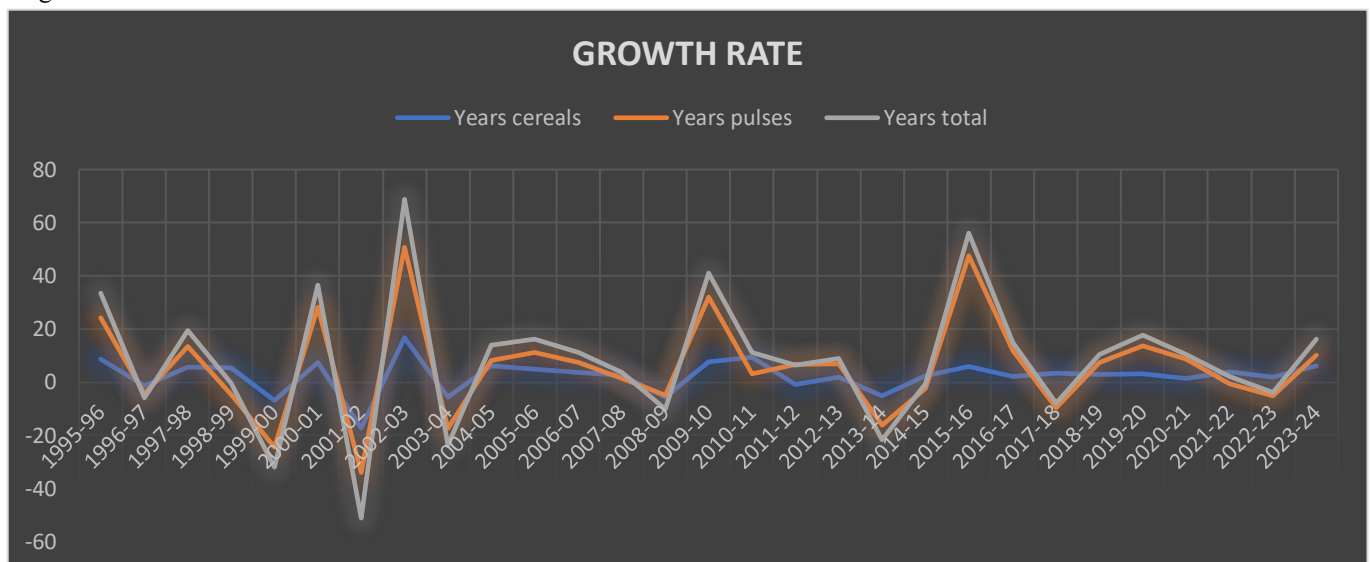
Now a days increase in agricultural production is not a concern the main concern is sustainable development hence as described by Gold, Stefan et al in Sustainable Agriculture in Developing Countries: the role of operation and supply chain management in group initiatives “alleviating farmer poverty, upholding human rights and protecting the environment are essential for sustaining the agricultural sector in developing countries.” Then by Kataria, P. et al. in National food security vis – a – vis sustainability of agriculture in high crop productivity region we found that it mainly talks about the condition of Indian food crop import in 1965 and set back to technology generation and many more. Rani, M. in “Growth and Trends of Agriculture: Food Grain Production and Area in India.” It mainly talks about the area and food grain production in the Indian Economy. Gahukar, R.T. in Food Security in India mainly talks about the human population pressure on the area under production.

Part II: Components of GDP

GDP consists of three components i.e. Primary Sector, Secondary Sector and Tertiary Sector. Primary Sector comprises of extraction and production of raw materials like agriculture, mining, quarrying and forestry; the Secondary Sector consists of manufacturing which includes producing textiles, electronics, automatics then construction which includes building infrastructures such as roads, bridges and many more; and last but not the least Tertiary sector which is also service sector. It includes trade , finance , information , healthcare , education and many more. Since we have chosen the time range 1995 to 2024, according to information the share of primary sector has declined from 30% in 1995 to 17.6% in 2024. The share of the secondary sector has increased from 27% in 1995 to 29.6% in 2010-11 but has declined to 27.6% in 2023-24 and the share of tertiary sector has increased from 43% in 1995 to 54.9% in 2024. But after the sudden outbreak of the covid we should focus more on primary sector and hence we can see an increase in the share of primary sector but due to lockdown the share of the secondary sector declined to 27.6% in 2023-24 while the share of the tertiary sector grew at 7.2% annually. Hence, we can observe how the tertiary sector dominates the economy at the cost of primary sector.

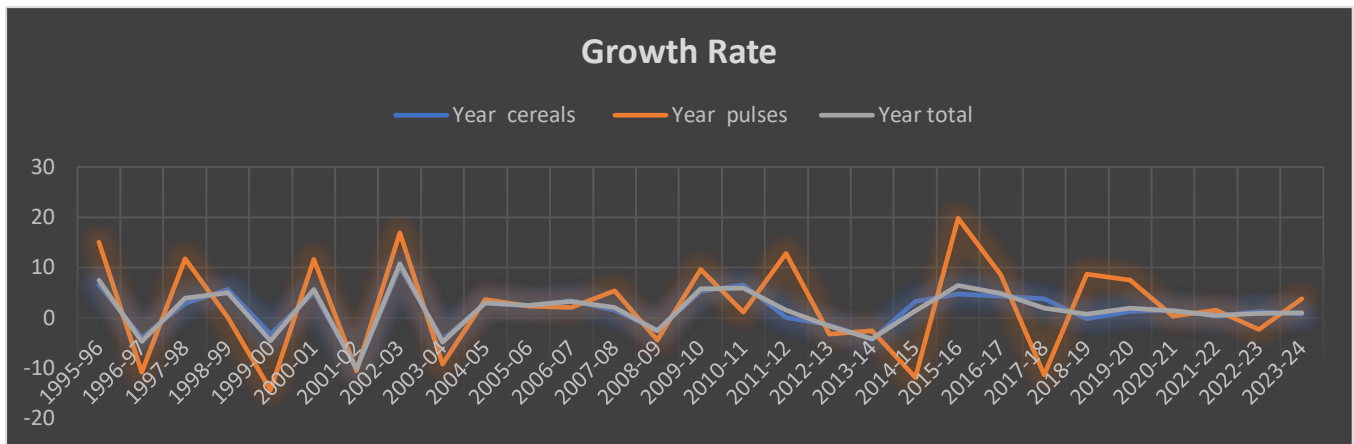
Part III: The Patterns and Trends of Agricultural Production

Agricultural production consists of two categories-Food grain production and Commercial crop production. But in this paper, we are mainly focusing on food grain production. Here two types of grains are taken into consideration-Cereals (Rice and Wheat) and pulses. From the data we can infer that the share of cereals is more than the share of pulses. According to table 1 we can observe that the share of the cereals is 91.87% in 1995-96 which further increased to 92.55% in 2001-02 then decreased to 90.93% in 2010-11 and further declined to 89.32% in 2017-18 and again increased to 91.34% in 2024-25. Similarly, the share of pulses was 8.13% in 1995-96 which declined to 6.68% in 2000-01 increased to 9.07% in 2010-11 and to 10.32% in 2021-22. This shows people might have focused more on protein rich diet post pandemic. The Compounded Annual Growth Rate (CAGR) is agricultural production of cereals and pulses is 2.27% and 2.51% respectively. The trend can be shown in the following diagram.

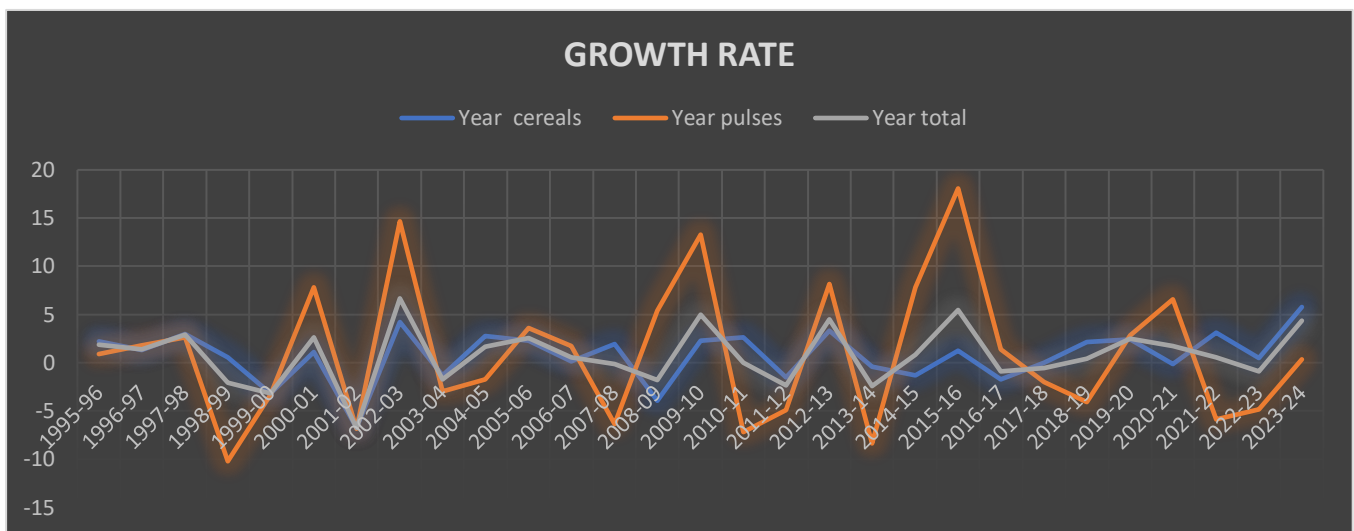


Part IV: Patterns and Trends of Area Under Production

In this section a small glance has been made to area under production of food grain production. The distribution of share of food grain production will be discussed below:



According to the observation Cereals hold the lion’s share of the total area under production .As we can see that there is not much fluctuation in the area under cereal cultivation which ranges from 71% to 77% throughout .As we can see the share of cereals was 75.25% in 1995-96 which declined to73.17% in 2010-11 and further increased to 73.31% in 2024-25.Similarly for the pulses the share is 24.75% in 1995-96 which declined to 23.10% in 2008-09 and further increased to 28.55% in 2021-22.The slight shift of the share of pulses shows agricultural diversification . The Compounded Annual Growth Rate(CAGR) of area under cultivation of cereals is 0.75% under the given period and the CAGR of pulses is 0.74% under the given period. Which is shown in the following diagram:



Part V: Patterns and Trends of Yield Per Hectre

In the similar pattern as we can observe the share of the cereals in terms of yield per hectare was 88.57% in 1995-96 which declined to 87.65% in 2024-25. There no much fluctuation in the data and the yield never falls below 87%.However the share of pulses is 11.42% in 1995-96 which increases to 12.35% in 2024-25. However, the CAGR of cereals and pulses in terms of yield is 1.44% and 1.75% respectively. It is shown in the following diagram:

Part VI: Relationship Between Agricultural Production With Area Under Production And Yield Per Hectre

In this part we will analyze the relationship between Agricultural production with that of area under production and yield per hectare of food crop.

Cereals: We use the Multiple Regression Model to analyze the relationship as follows:

$$\ln_{production} = \alpha + \beta_1 \ln_{Area} + \beta_2 \ln_{Yield} + \epsilon$$

Where, $\ln_{production}$ is the agricultural production; \ln_{Area} is the area under agriculture and \ln_{Yield} is the yield per hectre. β_1 and β_2 are the two estimated coefficients and ϵ is the error term in the equation at time period t. The specifications are as follows:

- a) Dependent Variable: is the $\ln_{production}$ which is the Agricultural production.
- b) Independent Variables: are \ln_{Area} and \ln_{Yield} which are area under production and Yield per hectre respectively.

Method of Analysis: The analysis has been done using the software STATA. This is a Time Series Analysis and we regress the dependent variable production on the independent variable Area and Yield.

Anova Table:

Source	SS	df	MS	Number of obs = 30 F(2, 27) = 14507.55
Model	.989941591	2	.494970795	Prob > F = 0.0000
Residual	.00092119	27	.000034118	R-squared = 0.9991 Adj R-squared = 0.9990
Total	.990862781	29	.034167682	Root MSE = .00584

Sources: These are the categories of variance outcome :model, residual, total. The model is the position of the variance which is explained by the independent variables and residual is the variance which is not explained by the independent variable.

- **SS:** is the sum of square :model , residual and total.
- **MS:** is the mean square which is just the sum of square divided by df.
- **df:** is the degrees of freedom. Total has N-1 degrees of freedom i.e 30-1=29, similarly the model’s df is (number of coefficients-1)=3-1=2 and the residual’s df is n-k where n is the total number of observations and k is the number of parameters i.e. 29-2=27.
- **F (2, 27) :** is the F statistic which is the model sum of square divided by the residual sum of square.
- **Prob>F:** Here the value is 0.0000 which resembles that the data is significant 1% Level Of Significance.
- **Adjusted R square and R square:** Here R square is 0.9991 which means that the dependent variable Agricultural production is 99% explained by its independent variables. So these variables are quite a good fit for the model.
- **Root MSE:** is the standard deviation of the error term.

ln_production~n	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ln_area	1.012152	.0443397	22.83	0.000	.9211741	1.103129
ln_yield	1.042739	.016993	61.36	0.000	1.007872	1.077606
_cons	-8.07709	.1791047	-45.10	0.000	-8.444582	-7.709597

Regression Equation: $ln_production = \alpha + \beta_1 ln_Area + \beta_2 ln_Yield + \epsilon$

$$=-8.07709 + 1.012152 ln_Area + 1.042739 ln_Yield + \epsilon$$

According to the above table the coefficients represents the relation with the dependent variable production, t statistic is used for testing whether the coefficient is different from 0. If the calculated t value is greater the tabulated t value we reject the null hypothesis and accept the alternative hypothesis which means that the independent variable can properly explain dependent variable. Here the p value of both the independent variable is 0.000 which means that the model is significant at 1% LOS.

ADF Test

Dickey Fuller Test

Variables	Test statistic	1% critical value	5% critical value	10% critical value	Decision
ln_production	-3.635	-4.343	-3.584	-3.230	Stationary
ln_Area	-2.030	-4.343	-3.584	-3.230	Non stationary
ln_Yield	-3.787	-4.343	-3.584	-3.230	Stationary

Stationarity of the data is tested using the Augmented Dickey Fuller Test(ADF Test) using the software STATA .The test hypothesis for the unit root test is given under:

Null Hypothesis: $H_0: \beta_0 = 0$ (time series is non-stationary)

Alternative Hypothesis: $H_1: \beta_0 > 0$ (time series is stationary)

If the calculated ADF test statistic is greater than the critical value then we will reject the null hypothesis and accept the alternative hypothesis i.e the time series is stationary at 1% or 5% or 10% Level Of Significance (LOS). According to the above table the variable \ln_Area is non-stationary. Hence to make it stationary we need to take first difference i.e I (1).

Pulses

Source	SS	df	MS	Number of obs	=	30
				F(2, 27)	=	8183.31
Model	2.20518656	2	1.10259328	Prob > F	=	0.0000
Residual	.003637895	27	.000134737	R-squared	=	0.9984
				Adj R-squared	=	0.9982
Total	2.20882446	29	.076166361	Root MSE	=	.01161

Sources: same as previously explained these are the categories of variance outcome: model, residual, total. The model is the position of the variance which is explained by the independent variables and residual is the variance which is not explained by the independent variable.

- **SS**: is the sum of square :model , residual and total.
- **MS**: is the mean square which is just the sum of square divided by df.
- **df**: is the degrees of freedom. Total has N-1 degrees of freedom i.e 30-1=29, similarly the model’s df is (number of coefficients-1)=3-1=2 and the residual’s df is n-k where n is the total number of observations and k is the number of parameters i.e 29-2=27.
- **F(2, 27)** : is the F statistic which is the model sum of square divided by the residual sum of square.
- **Prob>F**: Here the value is 0.0000 which resembles that the data is significant 1% Level of Significance.
- **Adjusted R square and R square**: Here R square is 0.9984 which means that the dependent variable, Agricultural production, is 99% explained by its independent variables. So, these variables are quite a good fit for the model.

Root MSE: is the standard deviation of the error term.

\ln_prod1	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
\ln_area1	1.03786	.0361911	28.68	0.000	.9636018	1.112118
\ln_yield1	.9619727	.0260477	36.93	0.000	.9085272	1.015418
$_cons$	-6.865808	.0988765	-69.44	0.000	-7.068686	-6.66293

Regression Equation: $\ln_production1 = \alpha + \beta_1 \ln_Area1 + \beta_2 \ln_Yield1 + \epsilon$

$$= -6.865808 + .9619727\ln_Area + 1.03786 \ln_Yield + \epsilon$$

According to the above table the coefficients represents the relation with the dependent variable production, t statistic is used for testing whether the coefficient is different from 0. If the calculated t value is greater the tabulated t value, we reject the null hypothesis and accept the alternative hypothesis which means that the independent variable can properly explain dependent variable. Here the p value of both the independent variable is 0.000 which means that the model is significant at 1% LOS.

ADF TEST

Dickey Fuller Test:

Variables	Test statistic	1% critical value	5% critical value	10% critical value	Decision
$\ln_production1$	-3.437	-4.343	-3.584	-3.230	Non-Stationary
$\ln_Area 1$	-3.302	-4.343	-3.584	-3.230	Non-stationary
\ln_Yield1	-4.272	-4.343	-3.584	-3.230	Stationary

Stationarity of the data is tested using the Augmented Dickey Fuller Test (ADF Test) using the software STATA 16. The test hypothesis for the unit root test is given under:

Null Hypothesis: $H_0: \beta_0 = 0$ (time series is non-stationary)

Alternative Hypothesis: $H_1: \beta_0 > 0$ (time series is stationary)

If the calculated ADF test statistic is less than the critical value then we will reject the null hypothesis and accept the alternative hypothesis i.e. the time series is stationary at 1% or 5% or 10% Level of Significance (LOS). According to the above table the variable $\ln_production1$ and \ln_Area1 are non-stationary. Hence to make it stationary we need to take first difference i.e. $I(1)$.

Part VII: Conclusion

From becoming the net importer in 1950-51 to 1990-91 to becoming net exporter in 1993-94 to 2005-06 was spectacular journey with a lot of hardship that lead to success for India. As the compounded growth rate of agricultural production is mentioned in this study, according to NITI Ayog a 2.5% CAGR is sufficient enough to meet the demand of the growing population but a figure below it is not expected. But the figures 2.27% and 2.51% is a modest figure.

According to the findings of this study we have found that increase and decrease of agricultural food crop production is directly related to increase and decrease in area under production and yield per hectare. If there is slight decrease in the area under production then it negatively effects the agricultural food crop production. Even if Government of India is trying to bring some improvement in the agricultural sector from a long time, Indian agriculture is facing problem in some or the other way. Hence, we have suggested some policies which may help in to bring some improvement:

1. We must keep a constant focus on the farmers by keeping an attention that they do not use an old variety of seed for a long time. The government must continuously distribute the new variety of seed to them.
2. We must use AI and improved technologies in the production because we not only need increase in production but we need efficiency in production.
3. Government must facilitate more irrigation facilities like installing more drip or sprinkler system along with long term maintenance contract.
4. The overuse of chemical fertilizers must be banned and provide incentive on the farmers to use more of organic fertilizers.
5. Since the CAGR is 2.27% and 2.51% crop diversification is the only way through we can increase production.

Table 1:
Agricultural Production

Years	cereals	Pulses	total
1995-96	769.8	621.0	1513.9
1996-97	817.3	693.5	1653.2
1997-98	825.4	663.5	1627.2
1998-99	860.8	712.9	1722.8
1999-00	896.8	763.7	1794.6
2000-01	849.8	696.8	1657.3
2001-02	933.4	727.7	1794.8
2002-03	718.2	657.6	1487.1
2003-04	885.3	721.6	1756.0
2004-05	831.3	686.4	1649.0
2005-06	917.9	693.5	1745.2
2006-07	933.6	758.1	1833.7
2007-08	966.9	785.7	1900.2
2011-12	1053.0	948.8	2172.7
2012-13	1052.4	935.1	2170.9
2013-14	1066.5	958.5	2217.5
2014-15	1054.8	865.3	2091.6
2015-16	1044.1	922.9	2130.2
2016-17	1097.0	985.1	2313.4
2017-18	1127.6	998.7	2380.5
2018-19	1164.8	1036.0	2421.6

2019-20	1188.7	1078.6	2497.6
2020-21	1243.7	1095.9	2594.2
2021-22	1294.7	1077.4	2645.1
2022-23	1357.6	1105.5	2723.7
2023-24	1378.3	1132.9	2753.7
2024-25	1490.7	1175.1	2918.2

Table 2

Years	% share of Cereals	% share of pulses
1995-96	91.86868353	8.131316467
1996-97	91.38640213	8.613597871
1997-98	91.50073746	8.499262537
1998-99	91.3454841	8.654515904
1999-00	92.52758275	7.472417252
2000-01	93.32046099	6.679539009
2005-06	92.33325693	7.666743067
2006-07	92.25609424	7.743905764
2007-08	92.23239659	7.76760341
2008-09	92.50630047	7.493699532
2009-10	92.05635329	7.943646708
2010-11	90.92943458	9.070565418
2011-12	92.13421089	7.86578911
2012-13	91.55189092	8.448109079
2013-14	91.31905299	8.680947012
2014-15	91.80053548	8.199464525
2015-16	92.33874754	7.661252465
2016-17	90.00172906	9.998270943
2017-18	89.3215711	10.6784289
2018-19	90.88206145	9.117938553
2019-20	90.77914798	9.220852018
2020-21	90.18579909	9.81420091
2021-22	89.67902915	10.32097085
2022-23	90.43213276	9.567867239
2023-24	91.1936667	8.806333297
2024-25	91.35083271	8.649167295

TABLE 3:

Years	cereals	pulses	total
1995-96	8.628127696	15.67831032	9.201400357
1996-97	-1.449563145	-2.879213483	-1.572707476
1997-98	5.695479884	7.809110629	5.875122911
1998-99	5.515663722	-10.06036217	4.167634084
1999-00	-6.859379705	-17.44966443	-7.650729968
2000-01	7.403336351	20.77687444	8.296627044
2001-02	-17.17536572	-16.7539267	-17.14397147

2007-08	2.624671916	-1.287262873	2.320808336
2008-09	-5.543200267	0.617707618	-5.081520342
2009-10	7.628465478	24.420191	8.962340829
2010-11	9.477713973	-6.304824561	8.046148491
2011-12	-0.714357079	7.314218841	-0.082846228
2012-13	1.886792453	4.961832061	2.146575153
2013-14	-5.180246914	-10.90909091	-5.677564825
2014-15	2.442581116	-4.839650146	1.845477147
2015-16	5.851550585	41.72794118	8.600131443
2016-17	2.122856731	9.900562041	2.900492781
2017-18	3.503738889	-13.13926042	1.72652804
2018-19	3.021628499	4.302536232	3.138420879
2019-20	3.18881489	10.55145462	3.867713004
2020-21	1.389126346	7.227022781	1.962069231
2021-22	3.836263227	-4.542124542	2.971532267
2022-23	1.952823677	-6.945510361	1.10144289
2023-24	6.156419242	4.082474227	5.973780731

Area Under Cultivation

TABLE 4:

Year	Cereals	Pulses	TOTAL
1995-96	428	250	901
1996-97	434	259	918
1997-98	435	267	931
1998-99	448	275	958
1999-00	452	275	938
2000-01	447	257	908
2001-02	449	263	932
2002-03	412	252	869
2003-04	426	266	927
2004-05	419	264	911
2005-06	437	265	926
2006-07	438	280	950
2007-08	439	280	955
2013-14	440	312	1004
2014-15	439	310	980
2015-16	435	304	988
2016-17	440	308	1042
2017-18	438	297	1033
2018-19	442	293	1027
2019-20	437	314	1031
2020-21	458	311	1057
2021-22	463	305	1075
2022-23	478	314	1081
2023-24	478	318	1071
2024-25	514	328	1118

TABLE 5:

Year		
	% share of Cereals	% share of pulses
1995-96	75.24972253	24.75027747
1996-97	75.49019608	24.50980392
1997-98	75.4027927	24.5972073
2001-02	76.39484979	23.60515021
2002-03	76.40966628	23.59033372
2003-04	74.64940669	25.35059331
2004-05	74.97255763	25.02744237
2005-06	75.80993521	24.19006479
2006-07	75.57894737	24.42105263
2007-08	75.28795812	24.71204188
2008-09	76.83438155	23.16561845
2009-10	75.13340448	24.86659552
2010-11	73.17073171	26.82926829
2011-12	75.10162602	24.89837398
2012-13	75.75442248	24.24557752
2013-14	74.90039841	25.09960159
2014-15	76.42857143	23.57142857
2015-16	74.79757085	25.20242915
2016-17	71.78502879	28.21497121
2017-18	71.15198451	28.84801549
2018-19	71.56767283	28.43232717
2019-20	72.84190107	27.15809893
2020-21	72.75307474	27.24692526
2021-22	71.44186047	28.55813953
2022-23	73.26549491	26.73450509
2023-24	74.32306256	25.67693744
2024-25	75.31305903	24.68694097

TABLE 6:

Year			
	cereals	pulses	total
1995-96	2.212389	0.896861	1.886792
1996-97	1.298701	1.777778	1.416122
1997-98	2.991453	2.620087	2.900107
1998-99	0.55325	-10.2128	-2.08768
1999-00	-3.16369	-3.31754	-3.19829
2000-01	1.136364	7.843137	2.643172
2001-02	-6.74157	-6.81818	-6.75966
2002-03	4.216867	14.63415	6.674338
2003-04	-1.30058	-2.97872	-1.726
2004-05	2.781845	-1.75439	1.646542
2005-06	2.279202	3.571429	2.591793
2006-07	0.139276	1.724138	0.526316

2007-08	1.947149	-6.35593	-0.10471
2008-09	-3.95634	5.429864	-1.78197
2009-10	2.272727	13.30472	5.016009
2010-11	2.638889	-7.19697	0
2011-12	-1.4885	-4.89796	-2.3374
2012-13	3.296703	8.154506	4.474506
2013-14	-0.39894	-8.33333	-2.39044
2017-18	0	-2.01342	-0.58083
2018-19	2.176871	-4.10959	0.389484
2019-20	2.396804	2.857143	2.521823
2020-21	-0.13004	6.597222	1.702933
2021-22	3.125	-5.86319	0.55814
2022-23	0.505051	-4.84429	-0.92507
2023-24	5.778894	0.363636	4.388422

Yield Per Hectare

TABLE 7:

Year	cereals		
		pulses	total
1995-96	1797	2483	4832
1996-97	1882	2679	5196
1997-98	1900	2485	4952
1998-99	1921	2590	5145
1999-00	1986	2778	5399
2000-01	1901	2708	5153
2001-02	2079	2762	5448
2002-03	1744	2610	4897
2003-04	2077	2713	5425
2004-05	1984	2602	5163
2005-06	2102	2619	5319
2006-07	2131	2708	5451
2007-08	2202	2802	5629
2008-09	2178	2907	5744
2009-10	2125	2839	5594
2010-11	2239	2988	5918
2011-12	2393	3177	6269
2012-13	2461	3117	6367
2013-14	2424	3075	6263
2014-15	2390	2872	6006
2015-16	2400	3034	6090
2016-17	2494	3200	6480
2017-18	2576	3368	6797
2018-19	2638	3533	6928
2019-20	2722	3440	6985
2020-21	2717	3521	7123
2021-22	2798	3537	7223

2022-23	2838	3521	7261
2023-24	2882	3559	7322
2024-25	2899	3587	7400

TABLE 8:

Year	% share of Cereals	% share of pulses
1995-96	88.57615894	11.42384106
1996-97	87.77906082	12.22093918
1997-98	88.55008078	11.44991922
1998-99	87.67735666	12.32264334
1999-00	88.2385627	11.7614373
2003-04	88.29493088	11.70506912
2004-05	88.82432694	11.17567306
2005-06	88.7572852	11.2427148
2006-07	88.77270226	11.22729774
2007-08	88.89678451	11.10321549
2008-09	88.52715877	11.47284123
2009-10	88.7379335	11.2620665
2010-11	88.32375803	11.67624197
2011-12	88.84989632	11.15010368
2012-13	87.60797864	12.39202136
2013-14	87.80137314	12.19862686
2014-15	87.61238761	12.38761239
2015-16	89.22824302	10.77175698
2016-17	87.87037037	12.12962963
2017-18	87.45034574	12.54965426
2018-19	89.07332564	10.92667436
2019-20	88.21760916	11.78239084
2020-21	87.57545978	12.42454022
2021-22	87.70593936	12.29406064
2022-23	87.57746867	12.42253133
2023-24	87.96776837	12.03223163
2024-25	87.64864865	12.35135135

TABLE 9:

Year	cereals	pulses	total
1995-96	6.565420561	15.03623188	7.533113
1996-97	-3.858802894	-10.70866142	-4.69592
1997-98	2.873432155	11.81657848	3.897415
1998-99	5.608512525	0.157728707	4.936832
1999-00	-3.25356843	-14.33070866	-4.5564
2000-01	5.033629855	11.58088235	5.72482
2001-02	-10.05990498	-10.54365733	-10.1138
2002-03	10.01378043	16.94290976	10.78211

2003-04	-4.258872651	-9.133858268	-4.82949
2004-05	2.943741823	3.639514731	3.021499
2005-06	2.499470451	2.341137124	2.481669
2006-07	3.409795412	2.124183007	3.265456
2007-08	1.618705036	5.44	2.042992
2008-09	-2.379547689	-4.40060698	-2.61142
2009-10	5.298146656	9.682539683	5.79192
2013-14	-4.309874523	-2.617801047	-4.10346
2014-15	3.268719118	-11.82795699	1.398601
2015-16	4.784688995	19.81707317	6.403941
2016-17	4.390586582	8.524173028	4.891975
2017-18	3.81897712	-11.25439625	1.927321
2018-19	-0.145843461	8.718626156	0.822748
2019-20	1.23336579	7.533414338	1.975662
2020-21	1.554985572	0.338983051	1.403903
2021-22	0.378847672	1.576576577	0.526097
2022-23	1.289510929	-2.328159645	0.840105
2023-24	0.698649278	3.745743473	1.065283

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