PERFORMANCE OF AGRICULTURE SECTOR IN ANDHRA PRADESH

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ABSTRACT:

Despite the implementation of earlier agricultural growth policies in the state, the growth of the agriculture sector is not improved as fast as it is expected. Due to unexpected natural calamities and drought situations led to the decline in cultivated area. The prices of pesticides and fertilizers are also increased which led to inadequate usage of fertilizers and untimely application of pesticides resulted in lower production. Recently the organic forming method is introduced and implemented in several purls of A.P. But it has not been realized as expected by so many farmers residing in remote corners of the villages in A.P. The decrease in cultivated area is alarming the feature food crisis in coming years. Keeping the alarming situation in view the present paper aims to explain the problems and opportunities for better production in agriculture and suggest policy measures for future development of agriculture in A.P. The analysis presents the present situation of irrigated area in the state. The decrease in area under tanks forced the farmers to depend on minor irrigation wells for irrigating their crops. Finally this paper suggests increasing the cropped area by bringing seasonal/current fallows into cultivation by providing irrigation facilities.

KEY WORDS: *Agriculture; sown area, irrigated area, growth, acceleration, deceleration, intensity, food crops, non-food crops, rain fed, channel fed, cost of cultivation, food grains.*

INTRODUCTION:

Agriculture plays a crucial role in providing food to the nation, employment to the population, raw materials to the industry and surpluses for national economic development. Andhra Pradesh will be a power house of Indian agriculture by harnessing water resources, developing agriculture in rain fed areas and reforming policy to stimulate growth in the state.

"The newly formed Andhra Pradesh State, popularly known as the 'rice bowl of India' has huge potential to develop agriculture and allied sectors. Majority of the population (62%) depend on agriculture related activities for their livelihood. It contributes only 27.84% to the State Gross Domestic Product (GSDP) and is growing at 5.9% (2014-15). Though it has a total cultivated area of 6.35 million ha, crop productivity is low and stagnant while the cost of cultivation has been increasing in recent years. The State is not a homogeneous entity in the endowments with vast tracts of dry lands and flood affected areas, despite its volatility, centering on unpredictable weather conditions, huge farm

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expenditure and non-profitability continues to be the mainstay for millions of population in the state. Making the agriculture sector more resilient and helping the farming community is the most important priority for the state of Andhra Pradesh" (Giribababu M, 2019).

- *APFPS, Dept. of Agriculture & Marketing*

Despite the implementation of earlier agricultural growth policies in the Mate, the growth of (The agriculture sector is not improved as fast as it is expected. Due to unexpected natural calamities and drought situations led to the decline in cultivated area. The prices of pesticides and fertilizers are also increased which led to inadequate usage of fertilizers and untimely application of pesticide, resulted in lower production. Recently the organic farming method is introduced and implemented the several parts of Andhra Pradesh. But it has not been realized as expected by so many farmers residing the remote corners of the villages in Andhra Pradesh.

However the decrease in cultivated area is alarming the future food crisis in coming years. Keeping the alarming situation in the view the present paper aims to explain the problems and opportunities for better production in agriculture and to suggest policy measures for future development of agriculture in Andhra Pradesh.

The present paper aims to analyze the growth performance of agriculture in Andhra Pradesh during 2008-09 to 2022-23 with the following objectives; they are

(1) to analyze the growth of Land Utilization Pattern,
(2) to analyse the trends in irrigated area,
(3) to study the growth pattern of area under food and non-food crops,
(4) to observe the variations in the cost of cultivation of selected major crops and
(5) Finally to suggest possible policy measures to develop the pattern of agricultural growth in Andhra Pradesh in future.

DATA SOURCE AND METHODOLOGY:

The present paper mainly based on secondary data collected from various published and unpublished sources. Time series data is collected for the period 2008-09 to 2022-23 from various Statistical Abstracts of Andhra Pradesh, published by the Directorate of Economics and Statistics. Government of Andhra Pradesh.

To estimate the growth rates exponential form of equation $\ln Y = a + bt + ut$ is used and for testing acceleration or deceleration in the growth the equation $\ln Y = a + bt + ct^2 + u_t$, is used.

In the model $\ln Y = a + bt + u_t$, the growth rate is 'b' which implies that there is growth and the growth rates are constant over time, provided $b > 0$.

In the model $\ln Y = a + bt + ct^2 + ut$, an examination of the coefficients of t and t^2 give an indication of any acceleration or retardation in the growth and growth rates

Here the coefficient of t^2 i.e. 'c' indicates the acceleration or deceleration in the growth depending upon the sign of the coefficient. If the sign is positive there is acceleration and if the sign is negative there is deceleration in the growth.

ANALYSIS OF THE RESULTS:
Decline in cropped Area

Over a period of one and half decades the net sown area is decreased from 67.26 lakh hectares in 2008-09 to 60.63 lakh hectares in 2022-23. The reason may be attributed to the increase in the area under current follows (Table-1)

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Table 1: Growth Rates and coefficients of Log - quadratic Function (2008-09 to 2022 -23)

Land	Exponential Growth Rate (%) $	't'	't²'
Forests	0.57*	0.012224**	-0.000408***
Barren	-0.48*	-0.014833*	0.000627*
Land put to non-agrl uses	0.92*	0.022356*	-0.000824*
Permanent pastures	-1.81*	-0.050153*	0.002003*
Misc. Tree crops	-1.30*	-0.034059*	0.001315*
Cultural Waste	-1.08*	-0.040726*	0.001869*
Other Fallows	1.68*	0.042741*	-0.001623***
Current Fallows	3.21*	0.061000	-0.001806
Net area sown	-0.51	-0.054312	0.003078

* Significant at 1% level, ** Significant at 5% level, *** Significant at 10% level

Data Analytics using PYTHON is performed.

Growth rates and coefficients of log quadratic function arc presented for land utilisation pattern in Table 2. The area under forests showed a significant growth and though the growth is significant in the initial period, it has decelerated at a fast rate over a period of one and half decades. The reason may be attributed to increase urbanization. The land put to non-agricultural uses showed a significant growth in the initial period and it has decelerated at a fast rate over a period. The permanent pastures, misc. tree crops and groves and cultural waste though initially there was no growth but over a period their growth has been accelerated at a faster rate The area under current fallows showed a significant positive growth over a period On the other hand the net area sown showed a negative growth over a period and showed neither acceleration nor deceleration in the growth.

Table 2
A: Growth Rates and Co-efficient of Log-quadratic Function (2008-09 to 2022-23)

	Exponential growth Rate (%)	't'	't²'
Gross Irrigated area	-0.176332	-0.019452	0.001106
Net irrigated Area	-0.076160	-0.012795	0.000752
Intensity of Irrigation	-0.100026	-0.006653	0.000353

* Significant at 1% level, ** Significant at 5% level, *** Significant at 10% level

Irrigated Area and Intensity:

The details of Gross net irrigated area and Intensity of irrigation in the state are presented in Table 2: Glancing over the irrigated area, the fluctuations are found in the net area irrigated and ultimately showed a constant trend in the area over a period of 15 years. On the other hand the gross irrigated area showed a decreasing trend in the total period of study. With a little difference from year to year the percentage of intensity of irrigation also showed a decreasing trend. Presents the growth rates and coefficients log quadratic function in the state. It can be observed from the table that the gross and net area irrigated showed negative but not significant growth rates and over a period the growth has turned to be positive showing neither acceleration nor deceleration. Similar situation is found in case of intensity of irrigation also.

Area under Food and Non - Food crops

The details of area under food and non-food crops in Andhra Pradesh for the period 2008-09 to 2022-23 are presented in Tablc-3.

Table -3: Area under Food and Non-Food Crops in A.P (Area in Lakh hectares)

Sl. No.	Year	Food Crops	Non-Food Crops	Total
1	2008-09	54.77	29.58	84.35
2	2009-10	51.94	24.67	76.62
3	2010-11	58.13	28.31	86.44
4	2011-12	54.74	25.84	80.58
5	2012-13	53.68	25.92	79.60
6	2013-14	54.92	26.36	81.28
7	2014-15	52.02	24.88	76.90
8	2015-16	53.55	21.77	75.32
9	2016-17	51.95	22.23	74.18
10	2017-18	53.28	21.17	74.45
11	2018-19	51.84	21.12	72.97
12	2019-20	52.50	20.37	72.97
13	2020-21	53.15	20.92	74.07
14	2021-22	53.47	10.81	73.28
15	2022-23	53.31	20.37	73.68

Source: Statistical Abstract Andhra Pradesh 2021, Directorate of economics & Statistics, GoAP.

Cost of cultivation

Glancing over the per hectare cost of cultivation of major crops in A.P., it can be observed that all crops showed a high percentage of increase in per hectare cost of cultivation from 2019-20 to 2021-22 except in case of paddy and maize crops. This inferences that the farmers are interested to grow high value crops, expecting commercial benefit. On the other hand arhar crop showed a decrease in 2021-22 than 2019-20. The reason for decrease in per hectare cost of cultivation may be attributed to allocation of comparatively less land due to fear of pest attacks.

Table-4
The details of per hectage cost of cultivation of major crops in Andhra Pradesh
(in Rs.)

Sl.No.	Name of the Crop	2019-20	2021-22	Per cent age increase/ decrease
1	Paddy	62,790.24	64,496.17	2.72
2	Jowar	35,792.38	53,110.86	48.39
3	Maize	56,420.54	57,100.97	1.21
4	Arhar	29,071.16	25,774.00	-11.34
5	Moong	21,651.38	29,664.95	37.01
6	Urad	25,027.81	30,510.21	21.19
7	Gram	36,711.77	-	13.15
8	Ground Nut	42,372.63	59,017.61	36.07
9	Sesamum	13,427.25	21,091.73	57.08
10	Sunflower	13,240.88	34,487.64	160.46
11	Potato	68,101.91	-	-
12	Cotton	-	68,128.70	-
13	Coconut	-	-	112.51
14	Onion	-	83,015.65	7.76

Source: Directorate of and Economics and Statistics Division, DA and FW, **Conclusions:**

The foregoing analysis concludes that the area under cropped area has been decreased over a period of time. Secondly the irrigated area showed a constant trend resulting a decreasing trend in intensity of irrigation. And the growth rates of irrigated area showed a negative but not significant growth over a period, showing neither acceleration nor deceleration.

The data on source wise irrigated area showed a decreasing trend in area under tanks over a period. The reason for decreasing trend may be attributed to failure of major tanks and unauthorized encroachment of tank beds for constructing dwelling houses. As such the farmers are dependent on minor irrigation wells for irrigating their crops. The source wise growth rates of irrigated area presents the significantly declining trend in area under tanks over a period of one and half decades. On the other hand the area under wells showed a significant positive growth in the initial period but has decelerated at a significant rate over a period.

The area under food crops showed neither accelerated nor decelerated growth over a period. On the other the area under non- food crops showed negative significant growth, but recorded neither acceleration nor deceleration. This inferences that much concentration was not given to cither food crops or non-food crops but inclined to grow high value crops for commercial benefit.

Keeping the foregoing discussion in view, the following policy measures must be implemented to improve the growth pattern of agriculture.
1. The cropped area can be increased by bringing seasonal/current fallows into cultivation.
2. The sources of irrigation must be developed by repairing major tanks and minor irrigation wells .
3. The main draw back in A. P. is that many tanks are rain fed tanks. So, the channels fed tanks must be improved.
4. The incentives for agriculture inputs must be provided and
5. The area under food crops must also be given importance along with high value crops.

REFERENCES
1. Srinivasa Rao. Ch, et.al.,(2017) "Farm ponds for climate-resilient rainfed Agriculture". *Current Science*, 112(3): 471-477
2. Swarna Pragathi.M and M. Anitha (2019) "Coping Strategies during drought situation: a case of dry land farmers in Rayalaseema Region of Andhra Pradesh, India"**.** *Indian Journal of Economics and Development*, 7 (9): 1-14
3. Challa Bhargavi Naidu1, Sanjay Kumar, A.K .Rai (2019) "An Economic Analysis of Production of Groundnut in Anantapur District of Andhra Pradesh". *International Journal of Innovative Science and Research Technology*, 4(5): 482-487
4. Reddy P.V.R.M, Reddy B.Janardha , Ramana Kumar B.V. , Vidyapogu Pullanna and Jhansi Rani R. (2020) "Impact and effectiveness of watershed development: An economic analysis of rainfed farmers, *Green Farming*, 11 (6): 494-498.