

A Study on Socio - Economic and Other Conditions of Farmers in East Godavari Dist Andhra Pradesh. in India”

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Abstract: To analyze the Socio –Economic characterize of sample respondent selected for the study. As already mentioned in methodology part of the study a total of 300 Coconut growers are selected for the study. Which 100 belongs to Ainavilli mandal, 100 to Ambjipeta mandal and 100 to Amalapuram mandal. In this study simple percentages Chi square Tests have been applied to find out association if any between different variables taken into considered for the study. Gender an obvious basis production and marketing decision in various areas which are dominated by gender. In present life time is very variable factor and all family members must share and coconut domestic work. Agriculture is a labour intensive sector activity and all the members in the family should work to fulfill the requirements. Most of the Coconut growers who are producing coconuts in this mandals come under the marginal, small and large category and both male and female have to work to minimize the labour expenditure.

Key Words: Growers, Deva vrikshas, Kalpa vriksha, Green Revolution

INTRODUCTION

Agriculture has been playing a vital role in the process of economic development of developing countries including India. Ever since India’s independence agriculture in India has taken long strides owing to many agronomic interventions of agricultural research and the resourcefulness of the farming community. Indian economy, it has been used as an instrument of income and creator of employment particularly in the rural areas. The share of agriculture which was around 53.1 per cent in 1950-51, gradually declined on account of development of secondary and tertiary sectors of the economy and reached a level of 13.9 per cent in 2013-14¹. Agriculture has been a major source of economic activity providing livelihood to large

segments of the population of the country. About 48.9 percent of the working population (this was more than 70 per cent during 1950) is engaged in agriculture and allied activities, providing employment to 43 percent of male workers and 60 percent of female workers².

In India Green Revolution ushered in rapid increases in food crop production such as wheat, rice and other cereals. Efforts were also taken to achieve similar increases in non- food crop production viz., coconut, groundnut, sugarcane, cotton etc. The Coconut Palm (*Cocos nucifera* Linn.) is supposed to be one of the five legendary Deva vrikshas and is eulogised as Kalpa vriksha - the all giving tree - in Indian classics. All parts of the palm are used in some way or another in the daily life of the people of the west coast, the traditional coconut growing area.

Coconut is grown in more than 93 countries worldwide, with a total production of 54 billion nuts per annum. India occupies the premier position in the world with an annual production of 13 billion nuts, overtaking Indonesia and the Philippines, the other two prominent coconut-growing countries in the world.

1. Importance of Coconut in Andhra Pradesh

Coconut is an important plantation crop in Andhra Pradesh grown along the coastal belt and adjoining districts. Andhra Pradesh occupies fourth place in area and production of coconut, recently Tamil Nadu and Orissa has emerged as a competitors to state in the coconut sector, which is having the monopoly of desiccated coconut industry in the country. Andhra Pradesh is one of the major coconut growing state which accounts for 5.7 per cent in area and 8.4 per cent in production of coconut in the country. It is grown in an area of 121.92 thousand hectares with annual

¹ Puri. V.K, & Misra, S.K (2015), Indian Economy, Its Development Experience, Himalya Publication, Edi. 33rd, p.229

² Ibid.

production of 1,828.46 million nuts and productivity of 14,997 nuts per hectare, which is significantly high when compared with other major coconut producing states in the country³. East Godavari, West Godavari and Srikakulam district alone contribute for 80 per cent of coconut production in the state.

1.5 Objectives of the Study

- To analyse the trend, growth and magnitude of variability of coconut cultivation area, Socio Economic and other conditions.
- To analyse the cost and returns of coconut cultivation in East Godavari district.

3. Scope of the Study

Coconut is a major crop cultivated in East Godavari District of Andhra Pradesh. It contributes to the district's economic, social and other development in various ways. Coconut is also a primary source of food and income generation to the people of the study area. Coconut provides the basic raw materials to the coir and oil industries. The present study mainly focused on production and marketing of coconuts and does not cover the industrial activities involving coconuts. The study has been carried out from the point of view of the farmers, and marketing activities in the study area.

4. Limitations of the Study

The study is confined to three mandals viz., Ainavilli, Amalapuram and Ambajepeta mandals in East Godavari District of Andhra Pradesh. The study has been dependent on the information and primary data provided by the coconut farmers, who did not maintain proper records about cost and returns i.e., cost of manures,

5. Methodology

a) Mean:

Arithmetic average is also called as mean. It is the most common type and widely used measure of central tendency or an average. Mean is defined as the quantity (figure) obtained by the number of observations Kothari, C. R. (2004)⁴. Formula of Mean:

$$\text{Mean (or } \bar{X}) = \frac{\sum X_i}{n} = \frac{X_1 + X_2 + \dots + X_n}{n}$$

³ District Hand Book, East Godavari District-2014-15.

⁴Kothari, C. R. (2004), *Research methodology: Methods and techniques*. New Age International, New Delhi.

⁵Singh, Y. K. (2006), *Fundamental of research methodology and statistics*. New Age International. New Delhi.

Where,

X = value of the variable

n = total number of items

Σ = sum of the observations of the variable

b) Standard deviation:

Standard Deviation of a set of scores is defined as the square root of the average of the squares of the deviation of each from the mean. Symbolically we can say that (Singh, 2006)⁵.

$$SD = \sqrt{\frac{\sum (X - M)^2}{N}} = \sqrt{\frac{\sum x^2}{N}}$$

SOCIO - ECONOMIC AND OTHER CONDITIONS OF FARMERS

The present Study has attempted to analyze the Socio-Economic characters of the sample respondents selected for the study. As already mentioned in methodology part of the study a total of 300 Coconut growers are selected for the study. Out of which 100 belongs to Ainavilli mandal, 100 to Ambajipeta mandal and 100 to Amalapuram mandal. In this study simple percentages Chi square Tests have been applied to find out association if any between different variables taken into consideration for the study.

2. Review of Literature

Aravindakshan. M (1977)⁶ in his study emphasized that India occupies the premier position in the world production of coconut. More than 90 per cent of the production is contributed by the four Southern States namely, Kerala, Tamil Nadu, Karnataka and Andhra Pradesh. The world production of coconut at 5,400 crore nuts of which more than 25 per cent is the contribution of India. Srinivasan N (2002)⁷ emphasized the productivity of the coconut crop is constrained by various stresses. Among them, the root (wilt) disease is the major problem in southern districts of Kerala, Tamil Nadu and in Goa. The study also emphasized the root (wilt) affected palms are also affected by leaf rot. Incidence of leaf rot increases the incidence of root disease (wilt).

⁶ Aravindakshan. M, (1977), "India Ahains the premier position in coconut production" Indian coconut journal, Vol. 28 (3), pp.2-3.

⁷ Srinivasan N, (2002), "Coconut Leaf Rot Complex and Perspectives for the Disease Control", *Indian Coconut Journal*, 32 (9), p.2

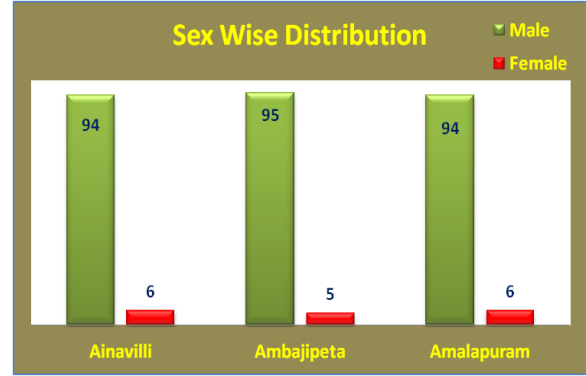
Bavappa K.A (2005)⁸in his study analysed the factors contributing to the high yield in coconut production. Starting with the very choice of variety and operations such as mother palm selection, nursery raising, seedling selection, Nagaraja.G (2010)⁹ in his study mainly focused on Health benefit of coconut water, and said coconut water should be taken daily and preferably on an empty stomach. It helps to clear the toxins from the body. It is an ideal drink and gives a feeling of fullness especially for a person on a weight loss diet. Karunakaran N (2015)¹⁰ study highlighted significance of coconut cultivation in Kerala. One important feature of Kerala’s agriculture is the change in cropping pattern in favour of commercial crops. In this change, plantation crops increased considerably. Reddy, V. K., Kumar, P., and Rao, R.S.V. (2017)¹¹ in their study analyzed the feasibility of investment in coconut orchards and to find out the profitability of coconut crop.

Table: 1 Sex Wise Distribution of Coconut Grower

Sl. No.	Sex	Mandals			Total
		Ainavilli	Ambajipeta	Amalapuram	
1	Male	94 (33.56)	95 (33.57)	94 (33.56)	283 (100.0)[98]
2	Female	6 (35.29)	5 (29.41)	6 (35.30)	17 (100)[2]
Total		100	100	100	300[100]

Source: Primary Data

Fig-1 Sex Wise Distribution



2. Marital Status

The marital status of coconut growers in the study area is presented in table4.2.

Table: 2 Marital status of Respondents

Sl. No.	Marital Status	Mandals			Total
		Ainavilli	Ambajipeta	Amalapuram	
1	Unmarried	8 (29.62)	13 (48.14)	6 (22.22)	27 (100.0)[9.00]
2	Married	90 (33.58)	86 (32.08)	92 (34.32)	268 (100.0)[89.33]
3	Divorced	2 (40.00)	1 (20.00)	2 (40.00)	5 (100.0)[1.66]
Total		100	100	100	300[100.0]

Source: Primary Data.

Table 2 shows that 89.33 per cent of respondent coconut growers are married and about 9 per cent are unmarried among the total respondents of the study area. The mandal- wise analysis also shows that over 34.32 per cent of respondents in Amalapuram, 33.58 percent of coconut growers in Ainavilli mandal and 32.04 percent of coconut growers are married, while in this case, one-fifth of the respondents are unmarried.

⁸ Bavappa, K. A. (2005), “Quality improvement in coconut production”, *Indian coconut journal*, 36 (7), 14-16.

⁹ Nagaraja.G (2010), Health Benefits of Coconut Water, *Kisan world*, , SVUPG Centre, Kavali, AP. November: 2010-Vol-37 (11), p.43.

¹⁰ Karunakaran, N. (2015), “Profitability of Coconut Cultivation in Kerala”, *J. Adv. Res. Eco.Busi.Mgmt*, 2(2), 1-5.

¹¹ Reddy, V. K., Kumar, P., and Rao, R.S.V. (2017),“Economic Analysis of Coconut in West Godavari District of Andhra Pradesh”,*IOSR Journal of Business and Management*, 19(6), 68–72.

Those belong to divorced category are very few and negligible

3. Religious Status of Respondents

The religious distributions of respondents are presented in table 3.

Table: 3 Religion Wise Distribution of Coconut Grower

Sl.No.	Religion	Mandals			Total
		Ainavilli	Ambajipeta	Amalapuram	
1	Hindu	92 (33.69) [92.00]	90 (33.33) [90.00]	88 (32.23) [88.00]	270 (100.0) [90.00]
2	Muslim	3 (75.00) [3.00]	3 (75.00) [3.00]	1 (25) [1.00]	7 (100.0) [1.33]
3	Christian	5 (21.73) [5.00]	7 (30.43) [7.00]	11 (47.82) [11.00]	23 (100.0) [7.67]
Total		100	100	100	300 [100.0]

Source: Primary Data

It can be seen from the table 3. 90 per cent of farmers in aggregate belongs to Hindu religion and this is more or less true in all the mandals except in Amalapuram where this per cent is little lower. The participation of Christian farmers is more in Amalapuram accounting for 11.00 per cent. Only 1.33 percent Muslim farmers were found in each mandal engaging in coconut cultivation.

4. Education

Education and knowledge are a must if one is to succeed in life. Education modifies the behavior and imparts skills in the occupations. It is considered as an important asset to the people. Unfortunately in the villages people give priority to work and neglect education of their children. It is the main reason for the mass illiteracy in the Agricultural families.

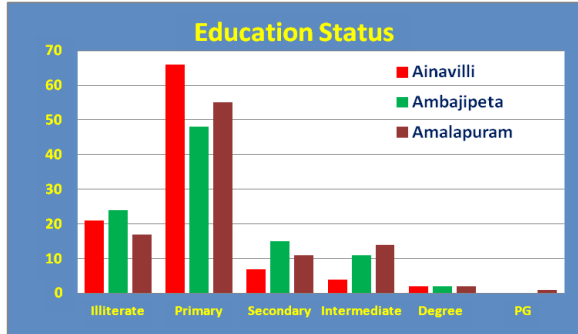
Table: 4 Education Status of the Respondents

Sl. No.	Education level	Mandals			Total
		Ainavilli	Ambajipeta	Amalapuram	
1	Illiterate	21 (33.87) [21.00]	24 (38.70) [24.00]	17 (27.41) [17.00]	62 (100.0) [20.66]
2	Primary level	66 (39.05) [66.00]	48 (28.40) [48.00]	55 (32.54) [55.00]	169 (100.0) [56.33]
3	Secondary level	7 (21.21) [7.00]	15 (45.45) [15.00]	11 (33.33) [11.00]	33 (100.0) [11]
4	Intermediate level	4 (13.79) [4.00]	11 (37.93) [11.00]	14 (48.27) [14.00]	29 (100.0) [9.67]
5	Degree level	2 (33.33) [2.00]	2 (33.33) [2.00]	2 (33.33) [2.00]	6 (100.0) [2.00]
6	PG level	-	-	1 (100) [1.00]	1 (100.0) [0.34]
Total		100 [100.00]	100 [100.00]	100 [100.00]	300 [100.0]
Chi-square test -X ² =11.266		df=6	X ² /df=1.87	P(X ² >11.266)=0.081	

Source: Primary Data

per cent in Amalapuram and 21.21 per cent in Ainavilli mandals.

Fig-2 Education Status



It is observed from the table 4 that out of the total 300 respondents, more than 20 percent of coconut growers are illiterates and more than half of the respondents are fall in category of having education less than primary level and only 11 per cent possess SSC qualification. Themandal wise analysis shows that the illiterates are more in Ambajipeta mandal (38.70 per cent) followed by Ainavilli mandal (34 per cent) and Amalapuram mandal (27.41per cent). More number of farmers in Ambajipeta mandal (45.45 per cent) possesses qualifications less than that of SSC, while, it is 33.33

5.Age wise Distribution of Respondents

Table 5 shows that distribution of age group of the respondents. The highest, 42 percent of the respondents were in the age group between 40 -50 years, followed by 21 percent in the age group of 50-60 years, about 17 percent in the age group of above 60 years, 15.66 percent were in the age group 31- 40 years, 4.33 percent of the respondents were in the age group of below 30 years.

The analysis shows that in Amalapuram mandal about 52 percent of coconut growers were in the age group between 40-50 years followed by Ambajipeta (40 percent), Ainavilli (34 percent). More number of coconut growers in Ainavilli mandal (8 percent) are in the age group of below 30 years. In Ambajipeta mandal 20 percent of respondents were in the age group of above 60 years followed by Ainavilli (18 percent), Amalapuram (13 percent). The revealed chi-square value 22.05 found to be significant because the calculated value is more than the table value (T=15.5, significant at 5 per cent level) at 5 percent level. This shows that there is no significant relation between age levels of the sample respondents.

Table: 5 Age Wise Distribution of Respondents

Sl. No.	Age Group	Mandals			Total
		Ainavilli	Ambajipeta	Amalapuram	
1	Less than 30 years	8 (61.53) [8.00]	3 (23.07) [3.00]	2 (15.38) [2.00]	13 (100.0) [4.33]
2	30-40 years	19 (40.42) [19.00]	8 (17.02)	20 (42.55) [20.00]	47 (100.0) [15.67]
3	40-50 years	34 (26.98) [34.00]	40 (31.74) [40.00]	52 (41.26) [52.00]	126 (100.0) [42]
4	50-60 years	21 (33.33) [21.00]	29 (46.03) [29.00]	13 (20.63) [13.00]	63 (100.0) [21]
5	Above60 years	18 (35.29) [18.00]	20 (39.21) [20.00]	13 (25.49) [13.00]	51 (100.0) [17]
Total		100	100	100	300 [100.0]
Chi-square test -X ² =22.053		df=8	X ² /df=2.76	P(X ² >22.053)=0.0048	

Source: Primary Data

Fig-3 Age Wise Distribution

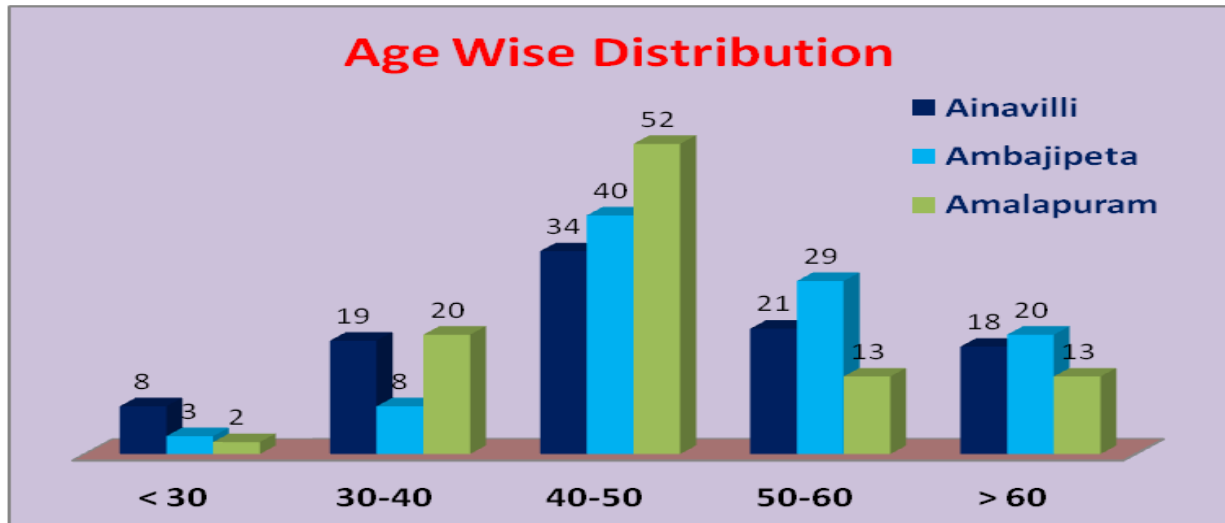


Table: 6 Income level of Coconut Products per annum of the Respondents

Sl. No.	Income level	Mandals			Total
		Ainavilli	Ambajipeta	Amalapuram	
1	Less than Rs.3000	8 (40)	7 (35)	5 (25)	20 (100.0) [6.66]
2	Rs.3001 to 6000	12 (34.28)	8 (22.85)	15 (42.85)	35 (100.0) [11.66]
3	Rs. 6001 to 10000	25 (27.77)	30 (33.33)	35 (38.90)	90 (100.0) [30]
4	Rs.10001 to 12000	42 (37.5)	45 (40.17)	25 (22.32)	112 (100.0) [37.33]
5	Above 12001	13 (30.23)	12 (27.90)	18 (41.86)	43 (100.0) [14.33]
6	Total	100	100	100	300 [100.0]
Chi-square test - $X^2=14.474$		df=10	$X^2/df=1.44$	$P(X^2>14.474)=0.0152$	

Source: Primary Data.

Fig-4 Income Level (per annum)



Irrigation

Coconut palms grow under various conditions provided; there are facilities for irrigation. The soil must maintain a certain amount of moisture. In the

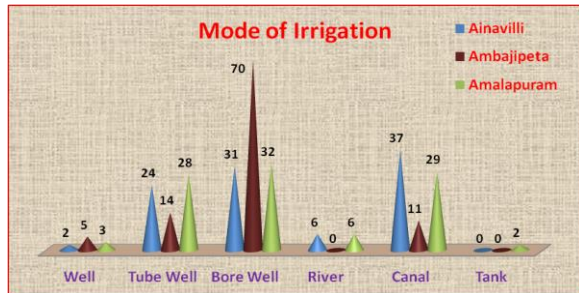
study area, the traditional bore well and canals are found to be predominant. The types of irrigation facilities used by the respondents are given below in table 7.

Table: 7 Mode of Irrigation Need in Coconut Cultivation

Sl. No.	Mode of Irrigation	Mandals			Total
		Ainavilli	Ambajipeta	Amalapuram	
1	Well	2 (20)	5 (50)	3 (30)	10 (100.0) [3.34]
2	Tube Well	24 (42.85)	14 (25)	28 (50)	56(100.0) [18.66]
3	Bore Well	31 (23.30)	70 (52.63)	32 (24.06)	133 (100.0) [44.33]
4	River	6 (5.0)	-	6 (5.0)	12 (100.0) [4]
5	Canal	37 (48.05)	11 (14.28)	29 (37.67)	77 (100.0) [25.67]
6	Tank	-	-	2(100)	2 (100.0) [067]
Total		100	100	100	300 [100.0]
Chi-square test $-X^2=52.246$		df=10	$X^2/df=5.22$	$P(X^2>52.246)=0.000$	

Source: Primary Data.

Fig-5 Mode of Irrigation



An interesting observation in Table 7 reveals that 44.34 per cent of farmers depend on bore wells as their major source of irrigation, they have fitted electric motors of varying capacity followed by canals (27per cent) and tube wells (17per cent). It is observed from the study in Ainavilli mandal about 37 per cent of farmers depend on canals as their major source of irrigation followed by 31 per cent farmers on bore wells. 24 percent respondents depend on tube wells. In Ambajipeta mandal 70 per cent of farmers depend on bore wells as their major source of irrigation. In Amalapurammandal 32 per cent of farmers depend on

bore wells as their major source of irrigation followed by 29 per cent on canal.28 percent respondents depend on tube well.Majority of farmers depend on bore wells as their major source of irrigation for coconut cultivation in the study area i.e., three mandals.

CONCLUSION

Agriculture has been playing a vital role in the process of economic development of developing countries including India. Ever since India’s independence agriculture in India has taken long strides owing to many agronomic interventions of agricultural research and the resourcefulness of the farming community. Indian economy, it has been used as an instrument of income and creator of employment particularly in the rural areas. The share of agriculture which was around 53.1 per cent in 1950-51, gradually declined on account of development of secondary and tertiary sectors of the economy and reached a level of 13.9 per cent in 2013-14¹². Agriculture has been a major source

¹² Puri. V.K, & Misra, S.K (2015), Indian Economy, Its Development Experience, Himalya Publication, Edi. 33rd, p.229

of economic activity providing livelihood to large segments of the population of the country. About 48.9 percent of the working population (this was more than 70 per cent during 1950) is engaged in agriculture and allied activities, providing employment to 43 percent of male workers and 60 percent of female workers¹³.

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¹³ Ibid.