Research Article

ANALYSIS OF FACTORS INFLUENCING THE TENANCY IN ANDHRA PRADESH

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Abstract: This study has attempted to examine the factors influencing the tenancy in Andhra Pradesh. The socio-economic conditions like age, family size, educational status of farmer, non farm income, income from livestock and owned land were the factors considered for the present study taken up in Srikakulam, West Godavari and Kurnool districts of Andhra Pradesh. Binary logistic regression analysis was used to identify the factors influencing tenancy. It is revealed that absence of owned land or small portion of land and lack of other income sources were the main influencing factors to the tenancy and further to sustain their livelihoods. Findings from the study suggested that government should be enhance financial support to other income generating activities and skill development activities.

Keywords: *Tenancy, Income, Livelihoods, Binary logistic regression*

Introduction

After independence two tenancy acts were enacted by the Government in Andhra Pradesh state separately for Andhra region and Telangana region. They made restrictions on resumption of the land with time period. The impact of these Acts was clearly observed in the decade of seventies, during this period the share of tenant holdings in operated holdings was decreased. Leased in area under semi medium and medium farmers was raised and later it was changed to small holdings and subsequently the magnitude of tenancy increased in 1990s due to relaxed tenancy laws and migration of the households from rural to urban areas for employment. Hence landless and poor farmers emerged as tenant farmers in the state [1]. Among the land less households, only few members of the households were having income sources like wages from agriculture and non-agriculture, income from other occupations like job, business etc. Due to absence or lesser income sources, they entered into leased farming. In another scenario, small and marginal farmers may take leased lands due to insufficient area of their own, for subsistence and also due to lack of employment opportunities for sustainability of livelihoods [2]. In this context this study has been focused on analyzing the factors influencing the tenancy in Andhra Pradesh.

Materials and Methods

Multi stage sampling method was adopted for selecting sample respondents from three districts in Andhra Pradesh based on criteria of maximum number of tenant farmers by taking the consideration of Loan Eligibility Cards (LECs) and Certificate of Cultivation (CoC) from three regions namely North Coastal, South Coastal and Rayalaseema. Four mandals in each district comprising of 12 mandals and two villages from each mandal comprising of 24 villages were selected. Finally, in each village 15 farmers were selected at random making a total sample of 360

farmers, comprising of 137 tenants, 133 owners cum tenants and 90 owners. Primary data pertaining to the socio-economic factors like age, family size, educational status, income from different sources *etc.*, of tenant farmers, owner cum tenants and owners were collected with the help of pretested questionnaire for the agricultural year 2017-18.

Analytical tools

General tabular analysis was used for calculating mean of age, family size and owned land and binary logistic regression analysis was used to examine the factors influencing the tenancy.

The use of Binary Logistic Regression Model, which gives the maximum likelihood estimates, overcomes most of the problems associated with linear probability models and provides estimators that are asymptotically consistent and efficient. The Binary Logistic Model based on the cumulative logistic probability function is computationally easier than the Probit models which was used in this study [3]. The cumulative logistic probability model is specified as:

$$P_i = F(Z_i) = 1 + \frac{1}{1+e^{-(\alpha+\Sigma\beta_i x_i)}} \qquad (1)$$

Where i = 1, 2, 3,......, n

Where P_i is the probability that an individual is leasing the land, given X_i (the explanatory variables); and are parameters to be estimated. The log odds of the probability of an individual for leasing of land is given by:

$$\log\left(\frac{P_i}{1-P_i}\right) = Z_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots + \beta_k X_k \qquad (2)$$

The dependent variable was a binary variable representing the leasing of land (1) and otherwise (0). Independent variables included were farmer socio-economic characteristics of farmers. For this study, the equation (2) is expressed implicitly as-

Table-1 *Factors influencing the leasing of land in Andhra Pradesh*

Particulars	Srikakulam		West Godavari		Kurnool		Andhra Pradesh	
	Coefficients	Standard error	Coefficients	Standard error	Coefficients	Standard error	Coefficients	Standard error
Age (Years)	-0.021	0.027	-0.091***	0.029	-0.004	0.022	-0.036***	0.013
Family size (No.)	0.191	0.189	0.029	0.109	0.171	0.146	0.110*	0.067
Presence of educational status of owner (1= Yes, 0= No)	0.003	0.569	-0.047	0.549	0.442	0.531	0.278	0.287
Presence of non-farm income (1=Yes, 0=No)	-1.034	0.794	1.013	0.872	-0.944	0.799	-0.450	0.393
Presence of income from livestock (1=Yes, 0=No)	-1.041*	0.563	-0.773	0.591	0.073**	0.523	-0.587**	0.290
Own land (ha.)	-1.840**	0.457	-1.60***	0.394	-0.382	0.174	-0.818***	0.140
Pseudo R^2 Value	0.451		0.444		0.209		0.268	

*, **and *** denotes significant at 10 percent ,5 percent and 1 percent level of significance

$$Y_i = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + u_i \qquad (3)$$

Y_i = leasing of land (1 if yes, 0 if no)

X_1= Age (Years)

X_2=Family size (No.)

X_3=Presence of educational status of owner (1= Yes, 0= No)

X_4= Presence of non farm income (1= Yes, 0= No)

X_5= Presence of income from livestock (1= Yes, 0=No)

X_6= own land (ha.)

b_1,b_2,b_3,b_4,b_5,b_6 are parameters corresponding to estimated variable coefficients.

u_i is the error term and consists of unobservable random variables.

Results and Discussion

The socio-economic conditions like age, family size, educational status of farmer, non-farm income, income from livestock and owned land are the factors identified for analyzing the influence on tenancy.

Factors influencing the leasing of land

The [Table-1] reveals the factors influencing the leasing of land in the three districts of Andhra Pradesh. In Srikakulam district, own land (5 percent level) and presence of income from livestock (10 percent level) were most significant and negatively influencing factors, inferring that an addition of each unit of the own land and income from livestock diminishes the leasing of land by 1.84 and 1.04 units respectively. The non-farm income which was other income apart from farm and age negatively influencing the leasing of land but non-significant. However, family size and presence of education status were positively influencing and non-significant. In west Godavari district age and own land were significant at 1 percent level and negatively influencing factor. By adding each unit of age and own land, leasing of land will be decreased by 0.09 and 1.6 units respectively. Family size and presence of non-farm income were non-significant and positively influencing the leasing of land. Presence of educational status and income from livestock were also non-significant but negatively influencing the leasing of land.

In Kurnool district, presence of income from livestock was significant at 5 percent level and positively (0.07) influencing the leasing of land. Family size and presence of educational status were non-significant and positively influencing factors. Age, presence of non-farm income and own land were non-significant and negatively influencing factors to the leasing of land. In Andhra Pradesh age and own land were significant at 1 percent while presence of income from livestock was significant at 5 percent but were negatively influencing the leasing of land. Family size was significant at 10 percent and positively influenced the leasing of land. Presence of educational status and presence of non-farm income were both non-significant and influenced positively and negatively to the leasing of land respectively. The pseudo R$_2$ value ranged from 0.209 to 0.451 with respective districts and compiling of districts in the terms of Andhra Pradesh indicating that the same independent variables did not have particularly strong explaining power for leasing of land. Haque (2013) [4] and Kumar (2014) [5] reported the similar factors to influence leasing of land *viz*., landlessness, inadequate own land, lack of employment opportunities etc.

Conclusion

The findings from the study revealed that landlessness, inadequate own land, lack of employment opportunities *etc*., were the major influencing factors to the leasing of land. Results from the study suggested that owned land and other income sources would reduce the dependence of leasing of land. Government should also extend financial support to other income generating activities besides farm income and skill development activities. Meanwhile, farmers need to be well aware of these facilities to improve their livelihoods.

Application of research: Finding of factors influencing leasing of land and it's influence on tenancy

Research Category: Agricultural Economics, Tenant farming

Abbreviations: ha-Hectare, LEC-Loan Eligibility Card,
CoC-Certificate of Cultivation

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Cultivar / Variety / Breed name: Nil

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