

Effect of Leasing-in Land on Agri-entrepreneurship in Mysuru District of Karnataka, India

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ABSTRACT

The present study has been carried out with the objective of studying the impact of lease-in land on agriculture and agribusiness in the Mysuru district of Karnataka. The proportion of farmers who lease land was the highest among semi-medium farmers. The Mysuru district was chosen due to the availability of a larger number of small and marginal farmers. The total cost of broiler production per bird and the cost of dairy units under the leased-in-land system is more than the cost of a privately held poultry and dairy operation. There is a significant gap between leased-in units and owned units due to the existence of fixed rent and varying operations. Ownership of pond units is substantially more expensive than leasing ponds. The surplus resources available on the farm, the non-viability of small farms, and the lack of opportunity that agriculture had positively and significantly influenced emerged as the major reasons for acquiring leased-in land. The major constraints faced by the respondents are: beneficiaries of the government are the actual owners, not tenant farmers; LEC (loan eligibility card) fails to serve the purpose of credit; indebtedness; and timely unavailability of the inputs. Leased-in enterprises have a lower B:C ratio than owned-land entrepreneurs due to high rental values and the possibility of reverse tenancy. By providing access to land and allowing for more efficient use of labour and resources, legalization of the land lease market could help improve agricultural efficiency.

Keywords : Leased-in-land, Agri-enterprise, B:C Ratio, Reverse tenancy

AGRICULTURE is the principal economic activity, contributing to the country's overall wealth. Indian agriculture was once thought to be a low-tech industry dominated by a large number of small and marginal farmers focused on doing things well rather than inventing new things, which led to an increasing prevalence of tenancy, landlessness and a high degree of fragmentation and dispersion of operated holdings, all of which have a direct impact on farm production and rural household income. However, due to economic liberalization and a rapidly changing society, this scenario has drastically transformed

during the last two decades. Microfinance, simplified government laws, access to high technology, mentoring and workshops on agro and related fields have transformed the viewpoints of highly skilled people, leading to an increase in agri-entrepreneurship opportunities in India. The rural poor would be able to increase their family's income by leasing land and having access to various farm, off-farm and non-farm jobs. Improved poor people's access to leased land would help them escape poverty and improve their economic and social standing. As a result, many farmers have expressed interest in becoming agri-entrepreneurs.

In an agricultural economy, labour and land are inextricably linked (Bardhan, 1984) and the decision between these two fundamental choices has been widely debated in the economic literature on agrarian economies in order to make better use of resources and increase production (Basu, 1986). The matrix of agricultural production in India has drastically altered and become more dynamic with the introduction of new farm technologies and the start of the green revolution in the nation. Because of the strong production increases, farmers were enticed to expand their farms by acquiring or leasing more land. Small farmers have rented land in order to increase their revenue. These farmers were not earning enough money from their own property to support their families, so they leased in additional acreage to expand their operations (Kaur and Singh, 2011). Land rents and prices have risen as a result of the increased demand for land. Second, due to the rapid rate of urbanisation and industrialization in the latter part of the century, land demand has surged. As a result, the current study was conducted in the Mysore district of Karnataka state to determine relative productivity/profitability and to examine the influence of land leasing on agri-entrepreneurism in farming under various tenure circumstances. This study sheds some light on growing proportion of landless tenants who are affected by various risks and problems associated with agriculture in the Mysore district of Karnataka. The results will provide the right-hand information for policymakers to support agri-entrepreneurs and pave the way for better understanding and implementation of policies.

METHODOLOGY

Mysore district was selected purposively based on the highest number of tenant farmers and the existence of small and marginal farmers and landless labour in Karnataka and the scope for increasing agri-entrepreneurship. Administrators of Mysore Raita Samparka Kendra (Karnataka state department of agriculture) of Mysore has been chosen for the

collection of information about farmers and land leasing agri-entrepreneurs. Considering the nature and scope of the study, the purposive random sampling technique was employed to collect the information of farmers and land leasing agri-entrepreneurs. The primary data was collected in the period of October-December 2021.

Selection of Respondents

The sample composition constitutes 120 farmers who were practicing poultry, dairy and fishing enterprises. These farmers are post-categorized as pure tenants and landowners.

- 40 respondents were selected from poultry enterprise (20 farmers pure tenants + 20 farmers landowners)
- 40 respondents were selected from dairy enterprise (20 farmers pure tenants + 20 farmers landowners)
- 40 respondents were selected from fisheries (20 farmers pure tenants + 20 farmers landowners)

Benefit Cost Ratio (BCR)

It is the ratio of value of all discounted cash inflows to the value of discounted cost outflows during life of project.

$$B : C \text{ Ratio} = \frac{\text{Total cash inflows}}{\text{Total cash outflows}}$$

Where,

Bt = Benefits or returns from the project

Ct = Costs involved in the project

r = Interest rate

If BCR is greater than one, the investment is considered economically feasible.

Garrett's Ranking Technique

Prioritization of the constraints was performed using Garrett's ranking technique and the order of merit assigned by the respondents was converted into scores using the following formula given by Garrett and Woodworth (1969).

Per cent position = $100 * (R_{ij} - 0.5) / N_j$

R_{ij} = Rank given for the i^{th} item by the j^{th} , respondent and

N_j = Number of items ranked by the j^{th} , respondent

The per cent position Garrett value for corresponding ranks were found out using garret table. Further to obtain scores for each factor, garret value is multiplied with corresponding frequencies of that particular rank. By adding each row, the total garret score were obtained and the mean value of garret score can be used to determine the most important constraint.

RESULTS AND DISCUSSION

Costs and Returns of Different Agri Entrepreneurship Economics of Poultry Enterprise

The results of the study revealed that the cost of leased-in-land poultry units was significantly higher than that of owned units. The entire cost of broiler production per bird under leased-in-land was determined to be Rs.170.68, which is more than the cost of a privately operated poultry business *i.e.*, for each bird, the total cost was Rs.164.11. Because of the existence of rent paid for leased-in-land, which is a fixed cost and the differing operations. Because leased-in-land farmers practise commercial poultry farming, they must have high nutritional requirements, high litter management costs, high vaccination and health management costs, medication and debeaking schedules and so on. Leased-inland poultry farmers have insufficient financial and policy assistance and the circumstances of leased-in units compared to owned poultry farms show a significant disparity.

The gross returns on leased-in and owned poultry units, according to the present study, were Rs.206.02 and Rs.204.49 per bird, respectively. The leased-in and owned poultry units yielded net returns of Rs.35.34 and Rs.40.38, respectively. The owned poultry unit had a total benefit cost ratio of 1.24, which was greater than the leased-in-land poultry unit (1.20) Also noted in the previous study was the

superior performance of the own units. (Manoharan, 2014)

Economics of Dairy Enterprise

According to our study, the cost of leased-in-land dairy units was shown to be substantially greater than the cost of owned units. Under leased-in-land, the total cost of dairy farming per animal per day was calculated to be Rs.198.62 (crossbred) and Rs.90.18 (local cow), which is more than the cost of a privately owned dairy firm *i.e.*, Rs.183.80 (crossbred) and Rs.83.99 (purebred) (local cow). There was a significant gap between leased-in units and owned units due to the existence of leased-in-land rent, which is a fixed cost and the dissimilar operations and conditions of leased-in units compared to owned dairy farms (Kadli and Chinnappareddy, 2018). Because leased-in-land farmers practise commercial dairy farming, they must have proper animal health management, feed and fodder management, breeding and health care management, milking, hygiene, nutrition (feed and water), animal welfare, environmental management, socioeconomic management, management and utilisation of dairy farm waste, vaccine and vaccination practices, calf rearing systems, litter management, electrical supply, and so on. Leased-inland dairy farmers receive insufficient financial and policy support and the circumstances of leased-in units differ significantly from those of owned dairy farms.

The results are in line with the findings of Sharif and Dixit (2015) which showed that the gross returns on leased-in and owned dairy units were Rs.249.37 (crossbred), Rs.88.92 (local cow) and Rs.252.99 (crossbred), Rs.94.14 (local cow) per animal, respectively. The net returns per animal for the leased-in and owned dairy facilities were Rs.50.75 (crossbred), Rs.1.26 (local cow) and Rs.69.19 (crossbred), Rs.10.15 (local cow), respectively. The overall benefit cost ratio of the owned dairy unit was around 1.38 (crossbred) and 1.12 (local cow), which was higher than the 1.26 (crossbred) and 0.99 (local cow) of the leased-in-land dairy unit. This type of dairy enterprise results was previously reported (Jadav, 2016).

Economics of Fisheries

The results showed that the cost of owning pond units was significantly greater than the cost of leasing pond is due to the dissimilar operations and conditions of leased-in units compared to owned pond

(Basavaraju *et al.*, 2017). Due to the higher initial pond construction costs, the overall cost of the owned land is Rs.297090 per hectare of pond, which is more expensive than the total cost of the rented land, which is Rs.186800 per hectare of pond. According to the

TABLE 1
Cost and returns of broiler production (Rs./bird)

Particular	Owened-land poultry enterprise (Rs.)	Leased-in- land poultry enterprise (Rs.)
Costs		
<i>Variable cost</i>		
Cost of one day old chicks	40.28 (24.54)	39.09 (22.90)
Cost of feed	86.57 (52.75)	87.12 (51.04)
Wages of Labour		
Male	3.25 (2.00)	4.13 (2.59)
Female	2.14 (1.32)	2.06 (1.20)
Total	5.49 (3.35)	6.19 (3.62)
Electricity charges	0.57 (0.35)	0.58 (0.33)
Medical/Vaccine expenses	6.20 (3.78)	6.80 (3.98)
Transportation cost	4.28 (2.61)	4.34 (2.54)
Miscellaneous item charges (Expenses on sanitation, stationary expenses, water charges, insurance fee, etc.,)	4.66 (2.83)	5.02 (2.94)
Interest on working capital (r=7%)	1.90 (1.15)	2.34 (1.37)
Total variable cost (A)	149.95 (91.37)	151.48 (88.75)
<i>Fixed costs</i>		
Rental value of leased-in land	-	6.98 (4.08)
Repairs and Maintenance	3.24 (1.99)	3.24 (1.89)
Depreciation on fixed assets	3.62 (1.59)	3.10 (1.81)
Interest on fixed capital (r=12%)	7.30 (4.44)	5.88 (3.44)
Total Fixed Cost(B)	14.16 (8.62)	19.20 (11.24)
Total Cost (A+B)	164.11 (100.00)	170.68 (100.00)
<i>Returns</i>		
Sale of Manure (kg.)	5.73 (2.80)	4.91 (2.38)
Sale of Gunny bags (no.)	0.14 (0.06)	0.19 (0.10)
Sale of broiler poultry bird (kg)	198.62 (97.12)	200.92 (97.52)
Gross Return (1+2+3)	204.49 (100.00)	206.02 (100.00)
Total Cost (A+B)	164.11	170.68
Net Return (4-5)	40.38	35.3
B:C Ratio	1.25	1.21

(Figures in parentheses shows the percentage to gross Costs and Returns)

present analysis, the gross returns on leased-in and owned ponds were Rs.278293 and Rs.360107, respectively. As shown in the table, the leased pond had a maximum net revenue of Rs.91493/ha/year and the owned pond had a minimum net income of

Rs.63017/ha/year. The owned pond's total benefit cost ratio was roughly 1.21, which was lower than the rented pond's 1.49. This type of results from fisheries were also reported earlier (Upadhyay & Mishra, 2020) and (Waghmare, 2020)

TABLE 2
Cost and returns of local and cross bred milch cow (Rs./day/animal)

Particulars	Crossbred cow		Local cow	
	Leased	Owned	Leased	Owned
Costs				
<i>Variable cost</i>				
Green fodder	40.5 (20.39)	38.20 (20.78)	27.58 (30.58)	27.81 (33.11)
Dry fodder	29.34 (14.77)	26.90 (14.63)	12.87 (14.27)	14.34 (17.07)
Concentrate	78.67 (39.60)	76.96 (41.47)	13.85 (15.35)	14.15 (10.83)
Total feed cost (1+2+3)	148.51 (74.77)	142.06 (77.29)	54.30 (60.21)	56.30 (67.03)
Labour	25.62 (12.89)	24.64 (13.40)	20.51 (22.12)	19.86 (23.64)
Veterinary cost	3.85 (1.93)	3.28 (1.78)	1.92 (2.12)	1.22 (1.45)
Miscellaneous	2.97 (1.49)	2.20 (1.19)	1.35 (1.49)	1.08 (1.28)
Total variable cost (4+5+6+7)(A)	180.95 (91.10)	172.18 (93.67)	78.08 (86.58)	78.46 (93.41)
<i>Fixed costs</i>				
Depreciation on fixed capital	5.19 (2.613)	5.22 (2.84)	2.34 (2.59)	2.49 (2.96)
Rental value of leased-in land	5.68 (2.85)		6.12 (6.78)	
Interest on fixed capital	6.80 (3.42)	6.4 (3.48)	3.64 (4.03)	3.04 (3.62)
Total fixed cost (B)	17.67 (8.89)	11.92 (6.322)	12.10 (13.41)	5.53 (6.58)
Total cost (A+B)	198.62 (100.00)	183.80 (100.00)	90.18 (100.00)	83.99 (100.00)
<i>Returns</i>				
Milk yield (litres/day/animal)	7.19	7.74	2.25	2.45
Sale price of milk (Rs.)	33.64	31.78	37.75	36.79
Returns from milk (1*2)	241.83	246.01	84.94	90.13
Byproduct value	7.54	6.98	3.98	4.01
Gross return (3+4)	249.37	252.99	88.92	94.14
Total cost(A+B)	198.62	183.80	90.18	83.99
Cost per litre (6/1)	27.62	23.74	40.08	34.28
Net return (5-6)	50.75	69.19	-1.26	10.15
Net return per litre (8/1)	7.059	8.93	-0.56	4.14
Returns per rupee (5/6) of expenditure	1.26	1.38	0.99	1.12

Constraints Faced by the Respondents in Central Zone of Mysore, 2021-22

The identification of constraints of leased-in-land agri-entrepreneurs plays a vital role in finding lacunae and suggesting policy measures. During interviews with respondents through semi structured schedules,

a wide range of constraints was identified. (Table 4) The Garrett score shows the strength of constraints, the higher the score, severe the constraint the agri-entrepreneurs are facing. The opinions of the 120 sample farmers were rated by Garrett's and the findings indicated that the respondents believed that the government's beneficiaries are the true owners, not

TABLE 3
Cost and returns of fish production (Rs. /ha/year)

Particular	Owned-pond (Rs.)	Leased-pond (Rs.)
<i>Variable costs</i>		
Cost of fish seed (fry/fingerlings)	16629.52 (5.59)	14952.74 (8.00)
Cost of fish feed	36800.43 (12.38)	28280.09 (15.13)
Cost of lime	2752.10 (0.92)	2460.435 (1.31)
Cost of cow dung	3340.93 (1.12)	2825.74 (1.51)
Cost of inorganic fertilize (Rs.)	5011.41 (1.68)	4208.836
Cost of medicines	1307.14 (1.43)	1342.056 (0.71)
Water charge (electricity/diesel)	34729.04 (11.68)	28265.18 (15.13)
Labour charge	31496.69 (10.60)	25029.34 (13.39)
Miscellaneous charge	1657.94 (0.55)	2348.60 (1.25)
Interest on working capital	597.19 (0.20)	615.11 (0.32)
Total variable cost (A)	134322.40 (45.21)	110328.20 (59.06)
<i>Fixed Costs</i>		
Rental value of leased-in land	-	27707.31 (14.83)
Repairing/maintenance cost	28585.90 (9.62)	13730.39 (7.35)
Depreciation on fixed assets	53508.04 (18.01)	14013.63 (7.50)
Interest on fixed assets	80672.78 (27.15)	21020.47 (11.25)
Total Fixed Cost(B)	162766.70 (54.78)	76471.8 (40.93)
Total Cost (A+B)	297089.10 (100.00)	186800 (100.00)
<i>Returns</i>		
Yield (kg. /ha /year)	4578.61	3463.08
Average price (Rs.)	78.65	80.36
Gross Return (Rs. /ha) (1*2)	360107	278293
Total Cost (Rs. /ha) (A+B)	297090	186800
Cost of fish production (Rs. / ha) (4/1)	64.88	53.94
Net Return (Rs. /ha) (3-4)	63017	91493
B:C RATIO	1.21	1.49

(Figures in parentheses shows the percentage to gross cost)

TABLE 4
Constraints faced by the respondents' central zone of Mysuru

Particulars	Garettmeanscore	Rank
Beneficiaries of the government are the actual owners and not tenant farmers	79.18	I
LEC failed to serve the purpose of credit	69.39	II
Indebtedness	66.43	III
Small size of the holding	56.32	IV
Timely unavailability of inputs	53.08	V
Fluctuating market prices	47.58	VI
Red tapism in institutional agencies	39.71	VII
Level of literacy	38.54	VIII
High rates of interest	26.42	IX
Unforeseen expenditure	21.35	X

tenant farmers and that this was placed at first by the respondents, making it a major limitation. The failure of LEC to serve the objective of credit was placed second. Indebtedness is the major problem prevailing, as LEC cards are not accepted to provide the credit to the tenant farmers, the suitability of LEC cards for credit is only up to reports, but not in official gazette manner, which has to be amended by the Government. The fourth place was taken by the small holding's size. The fifth-place was the absence of inputs on time. Fluctuating market prices, red tapism in institutional agencies, level of literacy, high interest rates and unforeseen expenditure were the remaining constraints, with average mean scores ranging from 47.58 to 21.35. Previous studies also reported results of this nature. (Vasu & Rao, 2018)

It can be inferred from the study that the total cost of leased-in-land agri-enterprise was substantially greater than the cost of owned units. The respondents considered the government's beneficiaries the genuine proprietors, not tenant farmers and this was ranked top by the respondents, making it a significant constraint. Even the central government excludes tenant farmers from its most prominent monetary support program. However, some governments, such as those in Odisha and Andhra Pradesh, have lists of tenant farmers and have provided assistance through state programs. The results can help the government

formulate policies for providing DBT facilities to tenant farmers under various financial support programs. The failure of LEC to meet the credit aim came in second, with indebtedness coming in third. The remaining obstacles were fluctuating market prices, level of literacy, high rates of interest, unforeseen expenditure. For ensuring viability of tenant farmers, creation of job opportunities in rural areas along with suitable policy support for development of livestock sector and other allied activities especially dairy, goat and sheep farming are to be encouraged. So, if the government is prepared to look at non-farm job options in order to help small farmers in Karnataka maintain their livelihoods, the average rental value of leased-in land is quite high, according to the report. Taking into consideration the current rate of rental value, the state government may control the land lease market by establishing reasonable land rents, imposing limitations on the amount of land that may be leased and other measures that will assist renters and landowners feel secure. The study discovered that in the tested communities, oral agreements were a typical element of the land lease market. As a result, regulatory limits on land leasing markets may be seen as a way to give renters security. This obstacle can be removed with a policy on legally binding written agreements and a dispute resolution process.

REFERENCES

- BARDHAN, P. K., 1984, Land, labor and rural poverty: *Essays in development economics*. Columbia University Press.
- BASU, K., 1986, The market for land : An analysis of interim transactions. *Journal of development Economics*, **20** (1) : 163 - 177.
- BASAVARAJU, Y., MANJAPPA, N., PATIL RAVINDRAGOUDA, GOWDA MANJUNATHA, K. S., SWETHA, C. AND GOWDA PRIYANAKA, M. (2017), Evaluation of fish production in fish-cum-poultry integrated aquaculture system. *Mysore J. Agric. Sci.*, **51** (2) : 436 - 439.
- DEVA RAO, V. K. V., 2018, A study on efficiency of tenant farming in Chittoor district of Andhra Pradesh. *M.Sc. Thesis*, Acharya N.G. Ranga Agricultural University, Hyderabad, India.
- GARETT, H. E. AND WOODWORTH, R. S., 1969, Statistics in psychology and education. Bombay: Vakils, Feffer and Simons Pvt. Ltd., pp. : 329.
- JADAV, S. J., DURGGA, R. V., TYAGI, K. K. AND SINGH, R. R. , 2016, Economic performance of rural and periurban dairy farmers. *Journal of Livestock Science*, **7** : 215 - 219.
- KADLI, V. AND CHINNAPPAREDDY, B. V. (2018), Economic efficiency of dairy farms in Bengaluru rural area : A stochastic frontier production approach. *Mysore J. Agric. Sci.*, **52** (4) : 663 - 668.
- KAUR, M. AND SINGH, S., 2011, Agricultural land lease market in Gurdaspur district of Punjab. *Journal of Agricultural Development and Policy*, **21** (2) : 51 - 60.
- MANOHARAN, M. AND BALAMURUGAN, V., 2014, Cost and benefit of investment in integrated broiler farming A case study. *International journal of current Research and Academic Review*, **2** (4) : 114 - 123.
- PANDEY, R. K. AND KIRESUR, V. R., 1991, Economic study of land markets in Karnataka. *Indian Journal of Agricultural Economics*, **46** : 388.
- SHARIF, M. AND DIXIT, P., 2015, Dairy farming in southern Karnataka : An economic analysis under varying groundwater regimes. *Indian Journal of Dairy Science*, **68** (1) : 65 - 72.
- UPADHYAY, S. K. AND MISHRA, J., 2020, A socio-economic analysis of fish farming in Gonda and Basti districts, Uttar Pradesh. *Journal of Experimental Zoology, India*, **23** (2) : 1117 - 1121.
- WAGHMARE, S. D., 2020, Economic analysis of reservoir fisheries in marathwada region. *M.F.Sc. Thesis*. ICAR-Central Institute of Fisheries Education, Mumbai.