

Economics of Pig Production in Organized and Unorganized Sectors

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ABSTRACT

Economics of production is one of the important factors for pig farmers. Keeping in this view the study was conducted in Kamrup District of Assam. Majority of the respondents belonged to middle age group ranging from 28-40 years. Most of the respondents of organized and unorganized farmers were married and belonged to Schedule tribe category. 37.50 percent of the respondents of organized farmers had education level up to higher secondary and 52.50 percent of unorganized farmers' education was up to primary level. About 55.00 per cent and 67.50 per cent organized and unorganized respondents had medium family size (5 members). About 72.50 per cent and 67.50 per cent of the respondents of organized and unorganized farmers were socially active. Majority (60.00%) of organized and unorganized (70.00%) farmers had medium level of extension contact. Most of the respondents of organized and unorganized farmers' primary occupation was agriculture. All the respondents of organized farmers had undergone for formal training on piggery. Majority (47.50%) of organized farmers had 10-12 numbers of pigs and in case of unorganized sector majority (40.00%) of farmers had only 3-4 numbers of pigs. Majority of the respondents of both organized and unorganized farmers managed their pig farming through family labour. The gross annual income and income from piggery of organized farmers is higher than unorganized farmers. The study also revealed that economic gain in organized farming was more as compare to unorganized pig farmers.

Key words: Organized; Unorganized; Economics; Herd;

Assam is mainly an Agricultural state and majority of the people in the state are engaged in different types of agricultural farming, as their primary source of income. As majority of the people of North Eastern region belongs to tribal community, so they use to rear livestock for fulfill their day to day need, Assam is also not exceptional. More over the pig farming is practiced among the tribal masses traditionally since immemorial. But the piggery industry of Assam is not well developed, so there is an urgent and immediate need to introduce scientific method of livestock rearing, particularly a commercial rearing of pig. Scientific processing and preservation of piggery and other meat product is lacking in the state. Therefore, there is potential for setting up modern abattoir and other meat processing units in the state. Although the study was carried out only in Kamrup district of Assam, still it is felt that its finding may be applicable to the entire state and other

neighboring state of North-east, as the prevailing condition are almost the same in entire area.

METHODOLOGY

Four blocks namely Chayani-Barduar, Rampur, Goreswar and Kamalpur were selected out of seventeen (17) block of the district for the investigation. The selection of blocks was on the basis of pig domination, in terms of rearing. The blocks were selected after consultation with officials of Director of Panchayat and Rural Development and District Veterinary Officer, Kamrup. The farmers were categorized as organized and unorganized farmer according to their pig rearing patterns. The organized pig farmer for this study has been considered to be those pig farmers who adopted two or more of the following criteria i.e. rearing more than 5 no. of adult pigs or have an scientific housing system or have undergone training on pig farming or have taken financial assistance from financial institution

or are keeping the records of the farms in a systemic manner. From each selected block a list of pig farmers were prepared in consultation of the block development functionaries and the local veterinary officer containing names of organized and unorganized pig rearers irrespective of their villages. A total of 10 organized and 10 unorganized pig rearers were randomly selected from each such selected blocks for the study. Thus making the total sample size to be 80 for this study having equal proportion of organized and unorganized pig rearers.

RESULTS AND DISCUSSION

From Table 1 it was found that majority (71.25%) of the respondents of pooled value belongs to middle age group (28-40 years). It may be due to increase demand of pork for which middle age group are interested in pig rearing for upliftment of their economy. This finding was similar to the findings of *Gour (2002)* who reported that majority of the dairy farmers 76.74 per cent belonged to middle age group of respondents in his study of factor influencing adoption of some improved animal husbandry practices of dairying in Anand and Vadodra district of Gujarat. Similarly finding of *Malik (1997)*, *Nyodo (2000)*, *Chucha (2004)*, *Saikia (2006)* and *Akand and Borgohain (2010)* supported these findings. Majority of respondent of organized (75.00%) and unorganized (65.00) sector were married. This may be because after marriage the tendency to earn more to meet the both ends, farmers might have taken up pig farming as extra source of earning. This finding of the study was supported by the findings of *Choudhury (2000)* which revealed that 56.00 per cent respondents in her study were married who stated broiler farming as enterprise in greater Guwahati area. Majority (62.50%) of the respondents belonged to schedule tribe category. The probable reasons for majority of the respondents belonging to Schedule tribe category is that pig farming is mainly practiced by tribal population of the region as a subsidiary source of income generation. The findings of the present study is contradictory to the findings of *Choudhary (2000)* where majority of the respondents 56.00 per cent belonged to General category and only 12.00 per cent belonged to S.T. category in her study of entrepreneurial behaviour of commercial broiler farmers of greater Guwahati. The study depicted that the education level of organized farmers were higher than unorganized farmers. Education is crucial for better

and organized farming. Education has direct impact on the farmers to be better for adopting pig rearing in organized farming. *Chucha (2004)* observed that 46.00 per cent of the pig farmers were graduate in his study in Nagaland. Similar findings were reported by *Saikia (2006)* and *Goswami (2010)*. In case of pooled value, majority (61.25%) of the respondents belonged to medium (5 members) family size which indicate that the present study was conducted in an area, where most of the farmers are educated resulting awareness about family planning and also may be due to the fact that majority of the respondents land holding was less. These findings are contradictory to the findings of *Wadear et. al., (2003)* where small dairy farmers had large family size (7 members), followed by medium farmers (6 members) and large farmers (5 members) in their study on human labour absorption in dairy farming in Karnataka State. *Chucha (2004)* supported this finding where in his study on systems of household rearing of pigs and their marketing Active participation of the respondents in organization such as co-operative society, local youth club, political organization, self help group was considered in this study. It was found that majority (72.50%) of organized and unorganized (67.50%) had high social participation. This may helped even lowly educated unorganized pig farmers to go for additional income to meet up their day to day requirement through additional income. This finding was supported by the finding of *Hasib (2004)* who found in his study on knowledge and adoption of improved animal husbandry practices by farmers of Hajo development block of Assam that most of the respondents (42.00%) had high social participation. Similarly, *Choudhury (2000)* in her study reported that most of the respondent (61%) in her studies at greater Guwahati were active. Similar findings were reported by *Saikia (2006)* and *Goswami (2010)*. It is interestingly to note that both organized and unorganized pig farmers had moderate level of extension contact. Extension contact helped in better adoption of improved practices and may be that is why the farmers were not advance in pig farming. *Malik (1997)* reported that extension contact of farm women was low to moderate. *Saikia (2006)* reported that 89.17 per cent of pig farmers had no extension contact. The majority of farmers practicing agriculture may be attributed to the continuation of agricultural tradition and also due to limited scope of employment in the non-agricultural sector. *Nagesh (2005)* who in his study on entrepreneurial behaviour of vegetable seed producing

Table 1. Socio-economic profile of respondents

Criteria	Organized	Unorganized	Pooled	t' value
<i>Age (years)</i>				0.658 ^{NS}
Young	8 (20%) (28 ≤)	8 (20.00%) (25 ≤)	12 (15.00%) (27 ≤)	
Middle	27 (67.50%) (29-39)	27 (67.50%)(26-40)	57 (71.25%) (28-40)	
Elder	5 (12.50%) (40 ≥)	5 (12.50%) (41 ≥)	11 (13.75%) (41 ≥)	
Mean	34.10	33.10	33.61	
S.D.	±5.89	±7.90	±6.95	
Range	25-50	25-65	25-65	
<i>Marital status</i>				
Married	30 (75.00%)	26 (65.00%)	56 (70.00%)	
Unmarried	10 (25.00%)	14 (35.00%)	24 (30.00%)	
<i>Caste</i>				
General	7 (17.50%)	2 (5.00%)	9 (11.25%)	
OBC	10 (25.00%)	7 (17.50%)	17 (21.25%)	
ST	19 (47.50%)	31 (77.50%)	50 (62.5%)	
SC	4 (10.00%)	0 (0%)	4 (5.00%)	
<i>Education qualification</i>				
Illiterate	2 (5.00%)	2 (5.00%)	4 (5.00%)	
Can read & write	2 (5.00%)	2 (5.00%)	4 (5.00%)	
Primary	9 (22.50%)	21 (52.50%)	30 (37.50%)	
HSLC	6 (15.00%)	9 (22.50%)	15 (18.75%)	
HSSLC	15 (37.50%)	5 (12.50%)	20 (25.00%)	
Graduate & above	6 (15.00%)	1 (2.50%)	7 (8.75%)	
<i>Family size</i>				0.095 ^{NS}
Small	15 (37.50%) (4 ≤)	10 (25.00%) (4 ≤)	25 (31.25%) (4 ≤)	
Medium (5 members)	22 (55.00%)	27 (67.50%)	49 (61.25%)	
Large	3 (7.50%) (6 ≥)	3 (7.50%) (6 ≥)	6 (7.50%) (6 ≥)	
Mean	5.08	5.05	5.06	
S.D.	±1.29	±1.06	±1.17	
Range	3-9	3-8	3-9	
<i>Social participation</i>				
Yes	29 (72.50%)	27 (67.50%)	56 (70.00%)	
No	11 (27.50%)	13 (32.50%)	24 (30.00%)	
<i>Extension contact</i>				0.288 ^{NS}
Small	13 (32.50%) (5 ≤)	12 (30.00%) (5 ≤)	25 (31.25%) (5 ≤)	
Medium	24 (60.00%) (6)	28 (70.00%) (6)	54 (67.50%) (6)	
Large	3 (7.50%) (7 ≥)	0 (0.00%) (7 ≥)	1 (1.25%) (7 ≥)	
Mean	5.93	5.88	5.90	
S.D.	±0.72	±0.83	±0.77	
Range	5-8	4-7	4-8	
<i>Occupation</i>				
Agriculture	31 (77.50%)	38 (95.00%)	69 (86.25%)	
Trade & commerce	7 (17.50%)	2 (5.00%)	9 (11.25%)	
Service	2 (5.00%)	0 (0.00%)	2 (2.50%)	
Daily wage earner	0 (0.00%)	0 (0.00%)	0 (0.00%)	
Training taken				4.58 ^{NS}
Yes	-	12 (30.00%)	52 (65.00%)	
No	0 (0%)	28 (70.00%)	28 (35.00%)	
<i>Herd size (numbers)</i>				19.373 ^{**}
Small	15 (37.50%) (9 ≤)	17 (42.50%) (3 ≤)	17 (21.25%) (3 ≤)	
Medium	19 (47.50%) (10-12)	16 (40.00%) (4)	56 (70.00%) (4-10)	
Large	6 (15.00%) (13 ≥)	7 (17.50%) (5 ≥)	7 (8.75%) (11 ≥)	
Mean	10.90	3.50	7.20	

S.D.	±2.27	±0.82	±4.09	21.165**
Range	8-18	2-6	2-18	
Annual income (Rs.000)				
Low	10 (25.00%) (78 ≤)	6 (15.00%) (49 ≤)	14 (17.50 %) (54 ≤)	
Medium	24 (60.00%) (79-91)	31 (77.50%)(50-60)	47 (58.75 %) (55-86)	
High	6 (15.00%) (92 ≥)	3 (7.50%) (61 ≥)	19 (23.75 %) (87 ≥)	
Mean	85.78	54.95	70.36	
S.D.	±7.02	±5.96	±16.81	
Range	70-95	45-70	45-95	
Income from piggery (Rs.000)				
Low	9 (22.50%) (46 ≤)	8 (20.00%) (19 ≤)	9 (11.25%) (23 ≤)	
Medium	24 (60.00%) (47-63)	30 (75.00%)(20-31)	52 (65.00%) (24-56)	
High	7 (17.50%) (64 ≥)	2 (5.00%) (32 ≥)	19 (23.75%)(57 ≥)	
Mean	54.65	25.45	40.06	
S.D.	±8.98	±6.40	±16.61	
Range	35-70	15-40	15-70	
Income from other source(Rs.000)			0.958 ^{NS}	
Low	3 (7.50%) (21 ≤)	13 (32.50%)(25 ≤)	26 (32.50%)(24 ≤)	
Medium	36 (90.00%)(22-40)	25 (62.50%)(26-33)	46 (57.50%) (25-35)	
High	1 (2.50%) (41 ≥)	2 (5.00%) (34 ≥)	8 (10.00%)(36 ≥)	
Mean	31.08	29.50	30.36	
S.D.	±9.61	±4.93	±5.83	
Range	20-50	35-55	20-55	

farmers in Haveri district of Karnataka reported that majority (55%) respondents were agriculturist. *Karpagam (2000)* also reported that 71.66 per cent of his respondents were agriculturist in a study on adoption behaviour of farmers in Tamilnadu.

All the respondents of organized sector were found to have undergone training on pig farming. In case of unorganized sector only 30.00 per cent respondents had formal training on pig farming. It is evident that a trained farmer will be practicing better farming than a non trained farmers. This finding supported by the findings of *Choudhury (2000)* who reported that 78.89 per cent of the broiler farmers in her study were found to have formal training for their enterprise. *Subrahmanyeswari et al. (2007)* reported that training received in dairying contributes towards the development of entrepreneurial behaviour in farm women in dairying. The study revealed the trained farmers were better adopter and make more profit than the untrained farmers. It could be seen from the Table1 that in case of organized farmers majority (47.50%) of the respondents had medium pig herd (10-12) whereas majority of the unorganized pig farmers (42.50%) had small herd size of 3 numbers. This may be argued that the organized pig farmers in the study area were educated, trained and were therefore more

inclined towards commercial rearing of pig leading to larger pig herd size. Similar findings were reported by *Akand and Borgohain (2010)* reported a herd size of only 1-2 numbers of pigs. The mean of the number of pig in organized and unorganized farmers were different and so 't' value were calculated on which it was found highly significant ('t'=19.373**, p=0.01). The mean of the number of pig in organized and unorganized farmers were different and so 't' value were calculated on which it was found highly significant ('t'=19.373**, p=0.01). It was found that majority (60.00%) of the respondents of organized farmers were medium income group (79-91 thousand) and in case of unorganized farmers majority (77.50%) of the respondents had medium income group (50-60 thousand). In both organized and unorganized sector when total annual income is considered it was found that majority of them were in medium income group, however when amount is considered there is markable difference between organized and unorganized pig farmers. Similar findings were also reported by *Manjula (1995)* in her study on entrepreneurial behaviour of rural women in Andhra Pradesh reported that majority (65.00%) of respondents belonged to medium income group followed by high (21.67%) and low (13.33%) income group,

Vijaykumar (2001) in his study on the entrepreneurial behaviour of floriculture farmers in Ranga Reddy district of Andhra Pradesh reported that 45.84 per cent of entrepreneurs were under medium income group, followed by 27.50 per cent and 26.66 per cent of them who were under low and high income group, respectively, Suresh (2004) in his study on the entrepreneurial behaviour of milk producers in chittoor district of Andhra Pradesh reported that majority of milk producers were in medium income group (80.33 %), followed by high and low income groups i.e. 15.00 per cent and 4.17 per cent, respectively. Chucha (2004) in his study on a study on systems of household rearing of pigs and their marketing in Kohima district of Nagaland revealed that 78.67 per cent of the respondent's family income ranged between Rs 69,223.00 and Rs 1, The 't' value also found to be significantly different ('t'=21.165**, p=0.01) This may be due to the reason that most of the organized farmers have higher education, had training in pig farming and were more exposed to the society making them aware for better live and so better income through different means. From Table 1 it was found that the mean income from piggery in organized farming is higher than unorganized farming. It may be due to more number of pig reared by organized farmers and proper management practices. When 't' value was calculated significant difference was found between organized and unorganized framings. ('t'=16.743 at P=0.01). It is interesting to note that the average earning from per pig in case of organized farming is much higher than unorganized farmers although feeding cost, management cost in case of unorganized farming is less. However, the mortality and diseases take the toll of profit of unorganized piggery farming lesser. This study focuses the importance of organized farming over traditional pig rearing system adoption of improved animal husbandry practices. The income from other sources was almost similar in both organized and unorganized farming. This finding was supported by finding of Chucha (2004).

It was found that cost of production was more in unorganized than organized farming (Table 2). This was due to more cost involved in treatment, transportation and more miscellaneous cost. It is found that sale price in organized farming is higher than unorganized farming. It may be due to the fact that the organized farmers had taken proper care to their pig, proper feeding, proper healthcare and vaccination. Moreover organized

Table 2. Comparison of various economic parameters

Cost involve in production	Organized	Unorganized
Cost of per piglet (Rs)	1450.00	1450.00
Cost of feed/pig/year (Rs)	998.00	275.00
Labour cost/pig/year (Rs)	325.00	273.00
Treatment cost/pig/year (Rs)	75.00	350.00
Transportation cost/ pig/year (Rs)	50.00	250.00
Miscellaneous/pig/year (Rs)	100.00	350.00
Total cost of production /pig/year (Rs)	2898.00	2948.00
Sale price/pig (Rs)	7800.00	5940.00
Economic benefit/pig (Rs)	4902.00	2992.00
Dressing percentage	75	75
Cost per kilogram pork (Rs)	45.46	60.47
Average Mortality (%)	10.00	30.00
Average economic benefit (Rs)	49,020.00	8976.00

farmers managed their pig in scientific management practice, i.e. semi intensive. The average economic benefit is more in organized farming. It may be due to the fact that mortality percentage in organized farming is lees than unorganized farming and proper healthcare, management and feeding practices are maintained in organized farming.

CONCLUSION

The study raveled that the organized farmers had more knowledge about pig farming than unorganized farmers. Not only in pig farming but also organized farmers had better education qualification than unorganized farmers. The economic gain in organized farming was more as compare to unorganized pig farmers. This was due to more cost involved in treatment, transportation and more miscellaneous cost among unorganized farmers. It was found that sale price in organized farming is higher than unorganized farming. It may be due to the fact that average weight gain of pig in organized farming is higher than unorganized farming and economic benefit per pig was also higher in organized than unorganized farming. Morality is less in organized farming as compare to unorganized farming due to proper management practice in organized farming. Moreover organized farmers managed their pig in scientific method. i.e. Semi- intensive. Considering all economic factors the study revealed that economic benefit is more in organized farming as compare to unorganized farming.

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