

Socio-cultural Status of Dairy Farmers of Nepalese Community of Guwahati Metropolitan area of Assam, India

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ABSTRACT

Commercial dairy farming in Assam had begun during the British period. After establishing a bond with Nepal through signing the treaty of Segowali in 1816, the British Government encouraged the migration of Gorkhas from Nepal with their families permanently to Assam, and some other parts of India. After the Yandaboo treaty in 1826 the Gorkha army men along with the British reached Burma and the kinsman of the gorkha soldiers accompanied them were offered to rear buffaloes there as sundry activities (Upadhaya, 2017). The Nepalese thereafter have been continuing the said activities as prime business in different parts of Assam. To perform any activity, profit is a major economic factor which is directly linked with the social transformation and economic change. The profit of the dairy farmers is directly linked with some factors such as investment pattern, supply of milk, engagement of labour and cost of feeds, etc. Like the other dairy farmers, the dairy farmers basically the Gorkhas or the Nepalese of the Guwahati Metropolitan Area are also mainly dependent for their livelihood on the profitability of milk production and this profitability directly influences the economic and social status of the dairy farmers living in this area.

Key words : Socio-cultural, Dairy farmer, Nepalese, Assam and Guwahati metropolitan area

Introduction

Cattle farming are known to be the primary and culturally inherited business of the Gorkhas of Assam. There for it is obvious that this community contributed a lot in development of the dairy sector in the state. Gorkhas are the primary dairy farmers, prior to British regime (Upadhaya, 2017). Historically, the terms 'Gurkha' and 'Gurkhali' were synonymous with Nepali, which originates from the hill principally by Gorkha kingdom, from which the kingdom of Nepal expanded. In Assam dairy farming in so-

cial preview was cultural in nature and not attached with the motive of profit or livelihood until the last part of 18th century. With the advent of British rule in Assam, the demand of milk for supply to the soldiers generated the concept of professional dairy farming and thus the professional cattle rearing had began in Assam. "It was only in the colonial context, 1817 to be precise, that migrations of the Gorkhas to Assam had begun as graziers as well as soldiers in the wake of the Treaty of Segauli (1815-16). These soldiers after their retirement from service were encouraged to settle in the foothills, forest fringe, as

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well as other in strategic points, creating certain compact pockets of Gorkha settlements (Sinha, 1990). This has encouraged the rapid professionalization of dairy cattle farming in Assam. "The greater number of numerous Gorkha graziers are Jaisis and Upadhyay Brahmins or Chettries of non-marital classes' (Sinha, 1990). " In the nineteenth and twentieth centuries' religious as well as economic reasons forced the Brahmins and Chettries to be more dependent on livestock and dairy farming than on other possible income sources. The Upadhyaya Bahuns in particular received gifts of cows in funerary rituals, as the Gorkhas believed that if they gift a cow to a priest the dead person could cross the Baitarani (a river) by holding its tail and reach heaven. The Gurungs and Magars, who belong to marital category, were mostly recruited in the army, but took up dairy farming in Northeast India after retirement (Nath, 2006).

In the context, the then government encouraged Gorkhas in and out of the state for professional grazing besides their job as soldiers, so as revenue collection could be raised and soldiers could be facilitated with the supply of milk. As per 2011 census Nepali speaking people in Assam is 596210 constituting 1.9% of the total population of Assam of which 526,716 (88.34%) and 69,494 (11.66%) are located in rural and urban areas respectively. Guwahati being the only metropolitan city in Assam has a major concentration of the said community. In

this regard, Jugal Saikia found 92.3% of the farmer migrated from Meghalaya since 1971-72 in his study 'Economics of Informal Milk Producing Units in Guwahati City' (Saikia, 2009). "Nepalese are culturally hill people who prefer to settle in calm and quiet natural environment. The foot-hills areas of Greater Guwahati Region are dominated by well educated Nepalese Dairy House Holds, who earns high income by managing more number of milch cattle in herd size. They maximize their income by using natural resources and cattle-food through free collection of grasses available in those areas of grass – favorable–ecology. Cheap dry rice-straw is used during dry winters, which connects economic links of these areas with close-by rural areas" (Deka, 2011). Keeping this perspective in view the present study an attempt to analyses the Socio-cultural status of dairy farmers of Nepalese community of Guwahati Metropolitan area of Assam.

Objectives

The prime objectives of the study are -

1. To study about Socio-Cultural status of dairy farmers in the study area
2. To find out the factors effecting milk production in the study area.

Study area

The Guwahati Metropolitan Area is located in Kamrup Metro and Kamrup district of Assam. The

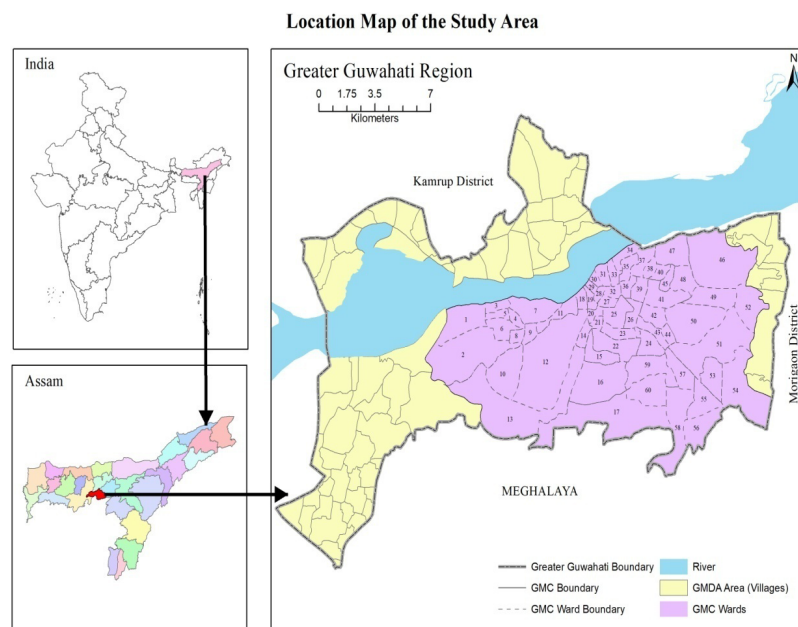


Fig. 1. location of the study area

extension of the study area 26°06'33'' North to 26°12'00'' North Latitude and 91°39'20'' East to 91°51'00'' East longitude.

Methodology

The relevant primary data for the present study have been collected through a household survey. To find out the surveyed dairy household a random sampling technique is used. Household samples have been selected both from the municipal wards of Guwahati Municipal Corporation area and the extended boundary of Guwahati Metropolitan Development Authority. Within Guwahati Municipal Corporation area 204 number of household have been chosen randomly as sample dairy households and 200 dairy household from the extended area of Guwahati Metropolitan Development Authority. Total 404 number of dairy household have been selected for the survey.

Discussion

Socio-Cultural status is indicated in terms of religion, community, cast, education of the sampled household. With respect to religion it is observed in the table (Table 1) that 99.0% of the total sample dairy households are Hindu. Only 1% belongs to Sikh religion. Other religions are not seen households of surveying dairy farming.

Caste wise distribution of sample has reflected that 88.6 percent is General, 7.4 percent SC, 0.5 percent ST and 3.5 percent OBC. In the study of Kakaty and Das (2017) in selected districts of Assam, it is found that majority of the milk producer is general category (55.07%) followed by OBC (40.83%) and ST (4.17%). This shows that in the survey region general cast milk producing households are much more than other selected districts of Assam whereas OBC

occupies relatively much lower rate which is 3.5% as compared to rest of the selected district of Assam with 40.83% and in case of ST it is also very low in the present study.

With respect to community structure it is revealed that in the Table 1 majority of the dairy households belongs to Nepali community constitutently 73.8% followed by Bihari, Assamese, Bengali, Punjabi and others constituting 12.4%, 7.9%, 3.0%, 0.5% and 2.5% respectively. As the Nepali community constitutes as major chunk of dairy farmers of Guwahati Metropolitan Area (73.8%), the study although takes into account rest of others communities, the result put forwarded as representative outcome for the Nepali community only.

As seen in table (Table 2) the head of the families is mostly male (97.5% dairy households) and only 2.5% families are headed by female. Such male dominance in dairy farming household was also observed by Saikia (2009) and Deka (2011).

Type of family with family members in the dairy household is a major factor for driving a dairy farm. From the Table 2 it is seen that 69.1% are nuclear family and 30.9% are joint family of the dairy households (Table 2).

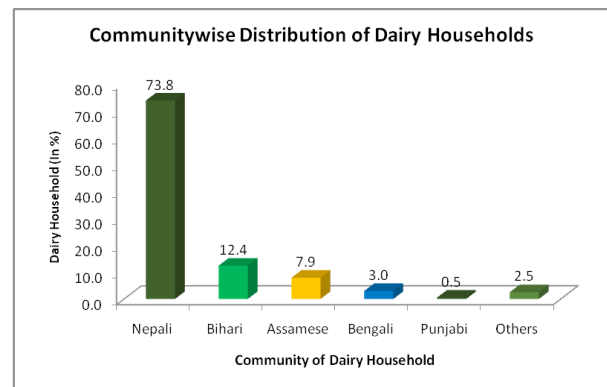


Fig. 2. Community Wise Distribution of Dairy Household

Table 1. Social Status of the Dairy Households

	Social Status of the Dairy Households														
	Religion			Caste					Community						
	Hindu	Sikh	Total	General	SC	ST	OBC	Total	Nepali	Bihari	Assamese	Bangali	Punjabi	Others	Total
No of Dairy Household	400	4	404	358	30	2	14	404	298	50	32	12	2	10	404
% Share	99.0	1.0	100	88.6	7.4	0.5	3.5	100	73.8	12.4	7.9	3.0	0.5	2.5	100

Source: Study carried out by the author, 2019-20

The family size of the dairy households reveals that 44.8% households has 1 – 4 members, while 34.7% households has 5–6 members in the family and 20.5% per cent of respondents reported that they have 7 – 9 members in their family (Table 2). While summing up family size is seen as big size as 55.2% dairy household has 5-9 members against the national average of 4.4 members per households (www.arcgis.com,2020). It is seen in the present study that the small size family members of the dairy farmer have no other alternatives for their occupation. Therefore they are engaged with their age-old experience in dairy farming and manage the labour requirement through hired labour. Incurring the average cost Rs 10928 at labour cost per month per household

Age group of the family members of the dairy households shows that 16.1 per cent are upto 14 years. 78.7 per cent of family members belong to 15–59 years of age and 5.4 per cent of household members belong in the age group of 60 and above. Majority of the family members fall in to productive age group.

In the present study educational level of the

head of the dairy household shows that they are either illiterate 27.7 percent or acquiring education up to middle standard (32.9 per cent primary level, 12.1 percent Middle School), followed by HSLC, HS, Graduate and PG constituting 13.6%, 8.7%, 3.5% and 1.5% respectively. From the above Table 3 it is to be observed that 72.7 per cent of the sample has been reported below HSLC including illiterate. Only 22.3 per cent of sample has achieved the higher education of HSLC and above. While comparing the result with another study in 2011 carried out in Greater Guwahati Region (Deka, 2011) it is observed that educational level is relatively better in earlier study with 72.2% illiterate and middle standard level of education.

From the Table 3 it is seen that education level of the dairy household 51 per cent of the family members of the dairy household are below HSLC, where 15.2 per cent were illiterate. HSLC and HS level of education is obtained as 16.9 and 14.4 per cent family members respectively. Only 11.1 per cent of family members achieved higher education that is Graduate and PG.

Table 2. Social Status of the Dairy Households

	Family Type			Household Size				Gender			Age Group (Years)					
	Nuclear	Joint	Total	1 – 4	5 – 6	7 – 9	Total	Male	Female	Total	0 – 14	15 – 29	30 – 44	45 – 59	60 and above	Total
No of Dairy Household / Family Members	279	125	404	181	140	83	404	394	10	404	277	369	446	320	92	1724
% Share	69.1	30.9	100	44.8	34.7	20.5	100	97.5	2.5	100	16.1	34.3	25.9	18.5	5.4	100

Source: Study carried out by the author, 2019-20

Table 3. Educational Status of the Dairy Households

	Educational Status of the Dairy Households																			
	Educational Status of Head of the Household								Educational Status of the Family Members											
	Illiterate	Primary	ME	HSLC	HS	Graduate	PG	Total	Illiterate	Primary	ME	HSLC	HS	Graduate	PG	Technical	Management	Others	Child	Total
Number of Dairy Household / Family Members	112	133	49	55	35	14	6	404	262	385	232	290	249	146	44	06	08	04	98	1724
% Share	27.7	32.9	12.1	13.6	8.7	3.5	1.5	100	15.2	22.3	13.5	16.9	14.4	8.5	2.6	0.3	0.5	0.2	5.7	100

Source: Study carried out by the author, 2019-20

Income and Expenditure Status of the Dairy Households

The socio – economic status of the dairy farming household is also determined by their income which is directly related with the milk production for raising their income. The productivity of the dairy animals depends upon many factors such as health, feeds & fodder, breed types etc. “The income from dairy cattle farming is depended firstly on the milk production and secondly on the business of milk and cattle. The use of milk and cattle is depended upon the conventionalities and socio cultural behavior of the society. Further, the level of living standard and employment depends upon income” (Upadhaya, 2018)

The occupational status of the dairy households as seen in table-4, depicts majority of the dairy households has milk production as primary occupation with 57.7 per cent of total dairy households followed by Govt. service, business, private job, and agriculture with 2.6 %, 2.5%, 7.0 %, 6% dairy households respectively. 18.8 percent of family members belong to non productive age group (Table 4).

The gender wise involvement in dairy farming shows in table 5 that out of total family members getting involved in the dairy farming 58.3% are male and 41.7% are female. Among the family members

who are fully involved in dairy farming, 89.7% are male and 10.3% are female. Contrary to this partial involvement in dairy farming is prominent among the female members is constituting 60.7% followed by male participants of 39.3% in the dairy households. It may be due to the fact that female members have to carry out household chores like cooking, cleaning, looking after children etc. and there for get themselves engaged in dairy farming partially.

It is observed that the income of dairy farm can be calculated in three parts. First, the regular income from milk production, secondly the income from animal production and other by products like dung etc. and thirdly income from the other sources. Monthly net income of the dairy households is calculated after deducting the overall expenditure (total expenditure on dairy farms such as animals food, medicine of animals, veterinary personal, cowshed repairing, labour cost (Hired), transport cost, breeding cost, insurance +other expenditure+ total households expenditure) from total gross income (income from dairy farm +income from selling cow+ income from selling cow dung + income from other sources). While analyzing the income expenditure scenario it is seen that the mean gross income is Rs 109951 with S.D of 78771 and CV. of 71.64 reflecting a wide variation among the dairy households. Mean of total dairy farm expenditure is Rs 72904 with SD

Table 4. Occupational Structure of the Dairy Households

	Occupational Status								Involvement in Dairy Farming				
	Milk	Govt. Service	Business	Private Job	Agricultural	Student	Student	Not Any	Total	Fully Involved (A)	Partly Involved (B)	Not Involved at all(C)	Total A + B + C
Members of Dairy Household	994	45	43	121	10	324	86	101	1724	457	755	512	1724
% Share	57.7	2.6	2.5	7.0	0.6	18.8	5.0	5.9	100	26.5	43.8	29.7	100

Source: Study carried out by the author, 2019-20

Table 5. Gender wise Participation Level in Dairy Households

	Participation Level in Dairy Households								
	Gender	Fully			Partially			Total	
		Male	Female	Total	Male	Female	Total	Male	Female
Total									
Members of Dairy Household	410	47	457	297	458	755	707	505	1212
% Share	89.7	10.3	100	39.3	60.7	100	58.3	41.7	100

Source: Study carried out by the author, 2019-20

of 51122 and CV is 70.12. Household expenditure other than dairy farms selected at a mean of 12456, SD is 9148 and CV is 73.44. Again the mean value of net income is 35851 with SD 37457 and the CV have been calculated 104.48 showing wide variation (Table 6).

From the above Table 6 it is depicted that 74.41 percent of dairy farm's expenditure made on food of animal like green fodder and dry fodder followed by medicine, veterinary personal, repairing of cowsheds, hired or contract labour, transport, breeding of animals, insurance of animals, family labour and other expenditure constituting 4.63%, 1.42%, 0.75%, 1.18%, 1.01%, 0.51%, 0.32%, 15.44% and 0.28% respectively. The dairy households have not made any expenditure on local tax.

It is seen that out of total 7344 cattle 3803 are milking cattle against 404 no of dairy households.

The average no of cattle per household is found at 18 numbers and the average milking cattle per dairy household is 9. in terms of percentage, of total cattle 51.8% are found to be milking cattle. As such the farmers have to keep and look after the rest 48.2% cattle for no productivity. This hampers their income from dairy farms.

Overall 7344 number of cattle has been reared in the surveyed sample dairy farms. The maximum number cattle reared are Jersey breed, i.e. 5474, followed by crossed, local, of dairy household 1722, 120, 28 respectively (Table 7). The average cattle reared in a farm is 18.2. No other animals are reared by the sample households. With mean value of 18.2 the SD has been found at 12.95 and CV is 71.15. The t-value is calculated at 28.17 which is within the range of 't' value at 95% confidence level. Hence it is concluded that there exist significant variations.

Table 6. Income- Expenditure Statement of the dairy households

Head of Dairy Household Income/Expenditure	No of Dairy Household	Total Rs.	Mean	Std. Deviation	C.V
A. Income from dairy farm	404	37083760	91791	73840	80.44
B. Income from selling cow	404	2803591	6940	7779	
C. Income from selling cow dung	404	1256500	3110	2099	
D. Income from other sources	141	3276200	23235	19849	
E. Total Gross Income (A+B+C+D)	404	44420051	109951	78771	71.64
Expenditure on Dairy Farm					
Animal Food	404	21917662 (74.41)	54252	40243	
Medicine For Animal	123	1365000 (4.63)	11098	5708	
Veterinary Personal	49	421000 (1.42)	8592	4111	
Cowshed Repairing	112	221000 (0.75)	1973	3672	
Labour Cost (Hired)	32	349700 (1.18)	10928	4481	
Transport Cost	404	300000 (1.01)	743	862	
Breeding Cost	404	150540 (0.51)	373	403	
Insurance Cost	42	96000 (0.32)	2286	2593	
Family Labour Cost	404	4549050 (15.44)	11260	8075	
Other Expenditure	404	83200 (0.28)	206	192	
F. Total Expenditure on Dairy Farm	404	29453152 (100)	72904	51122	70.12
Expenditure on Household					
G. Household Expenditure	404	5032209	12456	9148	
H. Overall Expenditure (Excluding Family Labour)	404	29936311	74100	54501	
Household Net Income(E-H)	404	14483740	35851	37457	104.48

Source: Study carried out by the author, 2019-20

Table 7. Number of Cattle in the Dairy Households

	Local	Crossed	Jersey	Others	Total	Average	S.D.	C.V	t-value
No of Cattle	120	1722	5474	28	7344	18.2	12.95	71.15	28.22
% Share	1.63	23.45	74.53	0.38	100				

Source: Study carried out by the author, 2019-20

Table 8. Socio-Economic Variables Predictors

Sl. No	Variables	Frequency	Percentage	Sl. No	Variables	Frequency	Percentage				
X ₁	Education of the family head	Illiterate	112	27.7	X ₆	Family Type	Nuclear	297	69.1		
		Primary	49	12.7			Joint	125	30.9		
		ME	113	32.9			Total	404	100		
		X ₂	Household size	HSLC	55	13.6	X ₇	Monthly Total Expenditure	Up to 20,000	115	28.5
				HS	35	8.7			20,001 to 40,000	115	28.5
				Graduate	14	3.5			40,001 to 60,000	46	14.4
				P.G.	6	1.5			60,001 to 80,000	28	6.9
Total	404			100	80,001 to 1,00,000	23			5.7		
1-4	181			44.8	Above 1,00,000	77			19.1		
5-6	140			34.7	total	404			100		
X ₃	Community	7-9	83	20.5	X ₈	Herd Size (in Number)	1 -10	142	35.1		
		Total	404	100			11 -20	130	32.2		
		Nepali	298	73.8			21 -30	72	17.8		
		Bihari	50	12.4			31 -40	32	7.9		
		Assamese	32	7.9	Above 40	28	6.9				
		Bangali	12	3.0	Total	404	100				
		Punjabi	2	0.5	X ₉	Age Group (Years)	Below 30	30	7.4		
Others	10	2.5	30 -44	124			30.7				
Total	404	100	45 -59	178			44.1				
X ₄	Experience in Dairy Farming	Up to 10	31	7.7			60 and Above	72	17.8		
		11-20	82	20.3	Total	404	100				
		21-30	197	48.8	X ₁₀	Fully Involvement male member		410	89.7		
		Above 30	94	23.3			X ₁₁	Fully Involvement Female Member		47	10.3
		Total	404	100					X ₁₂	Partly involvement male member	297
X ₅	Monthly Gross Income	Up to 50,000	118	29.2	X ₁₃	Partly involvement female member	458	60.7			
		50,001 to 1,00,000	136	33.7							
		1,00,001 to 1,50000	62	15.3							
		1,50001 to 2,00,000	32	7.9							
		Above 2,00,000	56	13.9							
Total	404	100									

Predictors: Milk production (in liter/per month)

Source: Study carried out by the author, 2019-20

Linear Regression Analysis

Dependent Variable: Milk Production

Sl. No	Independent Variable	R ²	F	P	B	t	Sig.
1	Education of Family Head	-.002	.010	.992	-.005	-.098	.922
2	Household Size	.182	89.503	.000	.429	9.416	.000
3	Community	.144	69.000	.000	-.383	-8.307	.000
4	Experience in dairy Farming	.103	46.052	.000	.321	6.786	.000
5	Monthly Gross Income	.839	2091.653	.000	.961	45.735	.000
6	Family Type	.006	3.522	.061	.093	1.877	.061
7	Monthly Total Expendature	.616	644.159	.000	.785	25.380	.000
8	Herd Size	.616	644.760	.000	.785	25.392	.000
9	Age Group	.017	6.770	.010	.129	2.602	.010
10	Fully Involve Male Member	.042	17.680	.000	.205	4.205	.000
11	Fully Involve female member	.013	5.500	.019	-.116	-2.345	.019
12	Partly Involve male member	.005	1.935	.165	-.069	-1.391	.165
13	Partly Involve female member	.038	16.095	.000	.196	4.012	.000

Factors influencing in milk production in the study area

Keeping the above aspects in mind the factors that influence in milk production and income of the dairy households in the Guwahati Metropolitan Area is classified into following categories such as the Socio-Cultural factors of the dairy households (education, household size, family type, community, experience in dairy farming, monthly gross income, monthly expenditure, herd size, fully involvement of male members, fully involved female members, partly involved male members, partly involved female members, etc). The cause effect relationship between the factors that influence in milk production gives the clues for forwarding the arguments in the present study and it is determined with the help of Linear Regression Analysis.

Linear Regression Analysis

Predictors: Milk production (in liter/per month)

X1 – Education of Family Head

X2 – Household Size

X3 – Family size

X4 – Community

X5 – Experience in Dairy Farming

X6 – Monthly Gross Income from all sources

X7 – Monthly Total Expenditure

X8 – Heard Size

X9 – Fully involvement of Male members

X10 – Fully involvement of Female members

X11 – Partly involvement of Male members

X12 – Partly involvement of Female members

X13-Age Group of the Head of the Household

From the above study it is seen that the Household Size, Community, Experience in Dairy farming, Monthly Gross Income, Monthly Total Expenditure, Herd Size, Fully Involved male members, partly involved female members are significant at 1% level and these variables has positive influence in milk production and family type, Age group, fully involvement of female members are significant at 5% level. The other predicators such as Education of the family head and Partly involvement of male members have an impact on monthly milk production with less than 5% significance level and has less influence in milk production in the surveyed dairy households.

Conclusion

Keeping in view the positive relationship between

socio- cultural factors and production of milk, incentive may be oriented towards more scientific dairy farming to enable the dairy households to attain better milk productivity and the situation in turn will help developing the socio-cultural status of dairy farmers. This study concludes that the domiciled Gorkhas while maintaining their cultural traits in place, have been contributing towards implementation of various Government schemes for overall development of dairy farming in the state. The more liberal and practical policies of the Government in future would accelerate the progress of the community and the dairy sector in the state as well. Fortunately in recent years the Govt. of Assam has taken a number of positive incentives like “Gorukhuti Prakalpa” to encourage dairy farming in the state at large. We can hope to see such kind of Government incentives in the outskirts of Guwahati Metropolitan area. In the present situation where there is a huge unemployment rate in the state, the educated unemployed, if trained and motivated significantly may be attracted towards a scientific dairy farming occupation, thereby opening avenues through entrepreneurship.

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