Analysis of the traditional Nepali dairy farming (khutti) practice in Naukillo, Lower Dibang Valley, Arunachal Pradesh, India.

Puspa Komor and Jayasree Borah
Department of Geography, Cotton College, Guwahati, India.

Abstract

The Eastern Himalayan foothill region of Lower Dibang Valley in Arunachal Pradesh is dotted with dairy farming units of the Nepali community, locally known as ‘Khutti’. Though the dairy units are located in Lower Dibang Valley, the households of the dairy farmers are located in Sadiya, sub-division of the Tinsukia district of Assam. The present study was conducted to assess the nature and functioning of this traditional form of dairying and to understand the socio-economic condition of the dairy unit owners in the study area. The study was conducted during 2012-2013. Responses from 22 milk producing Nepali traditional farmers were randomly collected and analysed using Microsoft excel program. Income from draught animals, especially buffaloes were much higher (41%) than the cow farm types. Though dairying is the main source of income, the respondents were equally engaged in agricultural activities. Apart from economic benefits, dairying for this community is a symbol of status, pride and prosperity.

Keywords: Dairy farming, khutti, Lower Dibang Valley, socio-economics, traditional practices.

1. Introduction

Geographers are primarily concerned with the antiquity of dairying (Simoons, 1971). As a matter of fact, encompassing a wide geographical area and reflecting different political systems, levels of economic development, social systems and change in tastes, preferences and traditions, the approach to dairying has varied widely from region to region (Shah, 1997). Dairying is considered a “treasure” of the Indian economy, particularly for rural systems. It provides nutrition, draft animal power, organic manure, supplementary employment, cash and income (Patel, 1993). Apart from generating these, dairying provides the idea of religious belief as a projection of the social structure and practice of a society (Heston, 1971). In case of India, which supports the largest cattle and buffalo population in the world (Chakravarti, 1985) it is this religious belief, traditions and cultural patterns and the social organizations which influence the cattle population.

Dairy farming has traditionally been associated with the Nepali community. The Nepali dairy farmers are the later group of migrants who began to migrate in the last part of the nineteenth century from Nepal. They followed the ‘beaten paths’ laid down by the Gurkha soldiers recruited by the British to defend the Eastern frontier. This migration has continued in the post colonial period, with most migrants finding an easy source of survival in the business of dairy farming, as addition or alternative to other work (Nath, 2006) in northeast India.

It is a marked tendency of every cultural linguistic group to retain their tradition and occupation and maintain their traditional identity. The traditional dairy farming practice of the Nepali community plays significant role in sustaining their livelihoods. It forms a substantial source of economy and is a means of securing the necessities of life. This source of livelihood to the Nepali community has been embedded in their culture and has become a way of life.

2. The study area

The present study was carried out in Naukillo, a far-flung region of the eastern Himalayas in the Koronu circle of the Lower Dibang Valley district of Arunachal Pradesh (Figure 1). Though the dairy units are located in Naukillo, the households of the dairy
farm units are located in 6 different villages of Sadiya, sub-division of the Tinsukia district of Assam. This presents a unique pattern of livelihood of the dairy farming community. With their home in Sadiya, Assam and herds in Lower Dibang Valley, Arunachal Pradesh their community surprisingly puts forward a very interesting semi pastoral sort of phenomena.

3. Objectives

The following are the objectives of the study —

a. To assess the nature of the functioning of the dairy farming units in Naukillo.

b. To study the socio-economic condition of the Nepali dairy farming community in the study area.

4. Methodology

Both qualitative and quantitative data were collected from 22 dairy farm units of Naukillo, Lower Dibang Valley, Arunachal Pradesh. Data from the respective households of the dairy farm owners in the 6 different villages of Sadiya, namely Chunpura, Ghurmura, Nagaon, Ambhikapur, Daragaon and Kathalkhutti were collected. For Primary data collection questionnaire and field observation method were applied. Participant observation method (Mukherjee 1993) has been adopted to understand the nature and culture of the traditional dairy farming. The study was conducted within the period of 2012 to 2013. The data collected were analysed using Microsoft excel program.

4. Results and discussions

The results as derived on the basis of the data collection and subsequent analysis of the same are discussed under the different sub-headings below —

4.1 Nature of functioning of the dairy farming units in Naukillo -

The Eastern Himalayan foothill region of Lower Dibang Valley in Arunachal Pradesh is dotted with dairy farming units of the Nepali community, locally known as ‘Khutti’. But the term ‘Khutti’ is an Assamese word which the Nepali Community has adopted to mean the shed in which they keep their cattle during the night time. In the literary sense, the word means a ‘Stick’;

Fig. 1: Locational map of the study area
The dairy units or the \textit{khuttis} are located in the far off places in Naukillo where the influence of the settlement is very less and there is an abundant supply of water, and green grass as fodder. Naukillo provided the prerequisite for the Nepali dairy farming community to move their herds and set up their dairy units. The nearby Dinjan River provided the water for both the cattle and the dairy farmers. The khutties in this region are connected to the nearest town by some beaten pathways, which the Guwalas built by clearing the forest.

A local trader from the neighbouring town, Chapakhowa in Sadiya buys the raw milk from these dairy farmers. A milk collector is employed by the trader to collect the milk from these producers. The milk collector collects the milk at a particular time of the day. If the producers happen to be late, then the entire milk is wasted. Cow’s milk fetches Rs 10 for the dairy owner and Rs 15 for buffalo milk per litre.

The milk procured by the local trader finds its way to the local sweetshops and restaurants, in form of milk cakes and confectionaries. But the major portion of the milk is transported from this north bank region of the Brahmaputra to Dholla in south bank. The traders in ‘Dholla’, the commercial milk town in the district of Tinsukia, receive the milk. And from here the milk is sold in the restaurants in Tinsukia. The milk is also stored here as there is a cold storage facility. The milk here is then churned and transformed to curd and cream and is made ready for the local markets of Upper Assam districts of Tinsukia and Dibrugarh.

But when the whole region of Naukillo is under the influence of the monsoons, the area downhill is flooded and the small pathways of the \textit{khutti} dwellers are submerged underneath floodwaters. The \textit{Khuttis} are then cut off from civilization and the fodder availability too decreases leading to the decrease of per day production of milk. The milk then generally finds its way to the households of friends and relatives of the diary farmers.

\subsection*{4.2 Socio-economics of the Nepali dairy-farming community -}

\subsubsection{4.2.1 Villages of the dairy owners in Sadiya}

The household of the dairy farm owners are located in 6 villages of the Sadiya sub-division of the Tinsukia district of Assam. These villages are Chunpura, Ghurmura, Nagaon, Ambhikapur, Daragaon, and Kathalkutti. The table below gives an overview of the key features of these villages.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline
Features of the sampled Household  & Chunpura & Ghurmura & Nagaon & Ambhikapur & Daragaon & Kathalkutti \\
\hline
Distance from the khuttis (Km) & 49 & 68 & 30 & 24 & 28 & 18 \\
Distance from the nearest town & 25 & 39 & 20 & 22 & 27 & 30 \\
PHC Available & Available & Available & Available & Available & Available & Available \\
Electricity Yes & No & No & No & No & No \\
Fuels used LPG, Kerosene & LPG, Kerosene & LPG, Kerosene & LPG, Kerosene & LPG, Kerosene & LPG, Kerosene & Firewood & Firewood & Firewood & Firewood \\
Drinking Water Tube well & Tube well/ River & Tube well & Tube well & Tube well & Tube well \\
School* Primary, Middle & Primary, Middle & Primary & Primary & Primary & Primary \\
& High & High & & & & \\
\hline
\end{tabular}
\caption{Key features of Sample Villages of the Khutti People.}
\end{table}

*Primary School (up to 4th Class), Middle School (up to 7th Class) & High School (up to 10th Class).

\textbf{Source:} Field work & Authors’ computation
Daragaon and Katalkhutti.

The average distance of the dairy unit to their respective village is about 36 km and the average distance of the khutties to the nearest town is about 30 km. Electrification is available in only Chunpura village and PHC facility is available in all the six villages.

4.2.2 Occupation to the respondent families

The respondent’s families are mainly engaged in dairying but dairying as a means for livelihood in the study area is basically seasonal. They depend on other sources during the dry season. It was found that a dairy owner’s household is also engaged in agriculture service and so on, as reflected in Table-2.

Table 2: Different occupation of Respondent families (5 year and above)

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Occupation</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dairying</td>
<td>26</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>2</td>
<td>Agriculture</td>
<td>20</td>
<td>39</td>
<td>59</td>
</tr>
<tr>
<td>3</td>
<td>Service</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Student</td>
<td>37</td>
<td>18</td>
<td>55</td>
</tr>
<tr>
<td>5</td>
<td>Labour</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Occupation</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dairying</td>
<td>29.4</td>
<td>13.2</td>
<td>22.2</td>
</tr>
<tr>
<td>2</td>
<td>Agriculture</td>
<td>22.4</td>
<td>57.3</td>
<td>37.6</td>
</tr>
<tr>
<td>3</td>
<td>Service</td>
<td>4.4</td>
<td>3</td>
<td>3.9</td>
</tr>
<tr>
<td>4</td>
<td>Student</td>
<td>41.5</td>
<td>26.5</td>
<td>35</td>
</tr>
<tr>
<td>5</td>
<td>Labour</td>
<td>2.3</td>
<td>0</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Source: Field work & Authors’ computation

Most of the male members (29.4%) of the respondent’s families are engaged in dairying whereas the female counterparts are engaged in agricultural activities (57.3%). However, the least percent of the people are engaged in labour work (2.3%). Regarding agriculture, the female percentage was more because they mostly stay back at home for maintaining their household as the male members are generally engaged in dairying. Likewise, male students (41.5%) constitute higher percentage to those of the females (26.5%). When enquired, the reason behind the disparity shows that the girls preferred marriage to education.

4.2.3 Type and size of dairy units in the study area

Distribution of the type and size of the dairy farming units in the study area is given in Table 3. Classification of the size of the dairy units is based on the number of cattle present in the dairy units of the respondent.

Table 3: Distribution of the different type and size of the dairy farm units

<table>
<thead>
<tr>
<th>Farm Type**</th>
<th>No of Big Farm*</th>
<th>%</th>
<th>No of Medium Farms*</th>
<th>%</th>
<th>No of Small Farms*</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT-C</td>
<td>2</td>
<td>40</td>
<td>6</td>
<td>55</td>
<td>3</td>
<td>50</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>FT-B</td>
<td>1</td>
<td>20</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>33</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>FT-CB</td>
<td>2</td>
<td>40</td>
<td>4</td>
<td>36</td>
<td>1</td>
<td>17</td>
<td>7</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>23</td>
<td>11</td>
<td>50</td>
<td>6</td>
<td>27</td>
<td>22</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field work & Authors’ computation

*Big Farm= More than 80 cattle; Medium Farm= 40-80; Small Farm= Less than 40 **FT-C= Farm type- Cow, FT-B= Farm type- Buffalo, FT-C= Farm type- Both Cow & Buffalo
About 50% of the dairy units in the study area are of medium size. Of this 55% comprises of the cow type dairy units. 27% of the dairy units are of small size. And the lowest share of 17% belongs to the both cow-buffalo type. Only 20% of the total big size farm belongs to the buffalo type.

### 4.2.4 Income sources

The income from the dairy units is basically generated by selling the milk. But draught animals also accounts for a major source of income in the dairy units. These draught animals are sold to the traders once every year. Income generated by selling milk and the draught animals is included in Table 4 and Table 5 respectively. As the income from milk is seasonal, the milk production in the dry months (non lactating period) is negligible. The lactation period for the cows in this region is near about 170-180 days and for the buffaloes it is around 180-190 days of a year. The milk is usually used for self consumption in these seasons. In order to assess the income generated from the dairy units, the inclusion of the other occupation of the household has been avoided.

**Table 4: Income from milk/ day from the dairy units in the study area (in Rs)**

<table>
<thead>
<tr>
<th>Farm Type**</th>
<th>Total no of farms</th>
<th>%</th>
<th>Total no of cattle</th>
<th>%</th>
<th>No of Milching animals</th>
<th>%</th>
<th>Milk produced/day (in litres)</th>
<th>%</th>
<th>Income from milk/day (@Rs 10/lit for cow &amp; @ Rs 15 for buffalo)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT-C</td>
<td>11</td>
<td>50</td>
<td>641</td>
<td>55</td>
<td>396</td>
<td>60</td>
<td>594</td>
<td>49</td>
<td>5940</td>
<td>43</td>
</tr>
<tr>
<td>FT-B</td>
<td>4</td>
<td>18</td>
<td>163</td>
<td>14</td>
<td>102</td>
<td>15</td>
<td>255</td>
<td>21</td>
<td>3825</td>
<td>28</td>
</tr>
<tr>
<td>FT-CB</td>
<td>7</td>
<td>39</td>
<td>362</td>
<td>31</td>
<td>Cow- 108</td>
<td>25</td>
<td>Cow- 162</td>
<td>30</td>
<td>1620</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Buffalo-63</td>
<td></td>
<td>Buffalo-158</td>
<td></td>
<td>2370</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
<td>1166</td>
<td>100</td>
<td>669</td>
<td>100</td>
<td>1214</td>
<td>100</td>
<td>13755</td>
<td>100</td>
</tr>
</tbody>
</table>

**Source:** Field work & Authors’ computation

**FT-C= Farm type- Cow, FT- B= Farm type- Buffalo, FT-C= Farm type- Both Cow & Buffalo**

The production of milk depends upon the number of milchable cows and buffaloes. The *khuttis* have more female buffalo than the male ones. Table 4 provides a detailed account of the income generated from milk from both cows and buffaloes in the study area per day. Although the income generated from cow milk is higher (43%) than that of the buffalo (28%), the number of milchable cow is much higher to that of the buffaloes. A careful observation reveals that the best farm type out of the three is the FT-B type. With only 15% of the milchable animals, it generates about 28% of the total income. The price of the cow milk is less than that of the buffalo. This is because of the low fat content in the cow milk.

Apart from the milk, the Nepali dairy farmers also supply draught animals for plough in the field and for pulling the cart. They sell the draught animals to the local traders; these traders again sell the cattle to the middleman who supplies the cattle to the various slaughterhouses in the different districts (Nagaon, Morigaan etc) of Assam. Table 5 provides a detailed study on the income generated from draught animals. The present rate of a buffalo is Rs 10,000 whereas a cow is sold off at Rs 3000.
Table 5 : Income from selling of draught animals/ day in the study area (in Rs)

<table>
<thead>
<tr>
<th>Farm Type**</th>
<th>Total no of farms</th>
<th>Total no of cattle</th>
<th>%</th>
<th>No of cattle for draught purpose</th>
<th>%</th>
<th>Income from draught/yr (@Rs 3000/cow &amp; @ Rs 10000/ buffalo)</th>
<th>%</th>
<th>Income from draught/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT-C</td>
<td>11</td>
<td>641</td>
<td>55</td>
<td>136</td>
<td>56</td>
<td>168,000</td>
<td>19</td>
<td>460</td>
</tr>
<tr>
<td>FT-B</td>
<td>4</td>
<td>163</td>
<td>14</td>
<td>36</td>
<td>15</td>
<td>360,000</td>
<td>41</td>
<td>986</td>
</tr>
<tr>
<td>FT-CB</td>
<td>7</td>
<td>362</td>
<td>31</td>
<td>Cow- 51</td>
<td>29</td>
<td>153,000</td>
<td>40</td>
<td>967</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Buffalo-20</td>
<td></td>
<td>200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>1166</td>
<td>100</td>
<td>243</td>
<td>100</td>
<td>881,000</td>
<td>100</td>
<td>2413</td>
</tr>
</tbody>
</table>

Source: Field work & Authors’ computation

**FT-C= Farm type- Cow, FT- B= Farm type- Buffalo, FT-C= Farm type- Both Cow & Buffalo

Table 5 again reveals that FT-B contributes to the highest percentage of income obtained from selling the draught animals. Though it has the lowest percent (14%) in the number of animals sold for draught its income is highest (41%) as compared to the other farm types. With 56% of draught animal sold only 19% income was accounted for farm type cow. Thus, we can say that the buffalo type farms are most profitable in terms of draught animals.

4.2.5 Socio-economic Relation of a Nepali Dairy Farmer to Dairying

Dairying for the Nepali community is more of a cultural symbol. Ownership of a herd still symbolizes social acceptance and prestige. More the number of cattle in the dairy unit more is the prestige of the owner in the community. Religious considerations are also to the linked to the cattle. Cows are considered pious and are an integral part of most of the ceremonies performed by the community. Be it the Naming ceremony of a child ‘Naran’ or a Marriage ‘Biye’ or a Cremation Ceremony ‘Sarad’, cattle plays a significant role. A young cow is presented to the priest for the well being of the family or the concerned person in all the ceremonies. Further, the urine ‘Gayunt’ of a young calf is considered to be a purifying agent and is consumed after the cremation ceremony. The socio-economic relationship of the Nepali dairy farmer to dairying has been outlined in Figure 2.

Fig. 2: Relation of a Nepali Dairy Farmer to Dairying in Naukillo
4.2.6 Educational qualification of the members of the khutti households

Education forms one of the basic criteria to understand the socio-economic growth and development of a community. The survey of the Khutti households revealed a very poor picture of the educational status of the members of the household. Only 10% of the total male members and only 7% of the total females are educated up to the college level. The school dropout rate is also very high among the household members. The primary reason for opting out of school was to help in providing economic security to the family by delving into the family business. As for the females they preferred marriage to education (Fig. 3).

![Educational status of the members of the sample household](image)

**Source**: Field work & Authors’ computation

4.2.7 Health aspects

The survey revealed that the entire sampled households had health related problems. The most common medical problems in the study area are gastritis, skin problems, tuberculosis, appendix and malaria. Apart from visiting the local PHC, the respondents’ family also consulted private clinic. Local traditional healers were also consulted.

4.2.8 Physical capital

Physical capital comprises the basic infrastructure and the necessary goods required to support livelihoods. With dairying as a main source of livelihood, these household are able to own the basic assets in their home (Figure 4).

![Physical Capital of sampled dairy households](image)

**Source**: Field work & Authors’ computation

**Fig. 3**: Educational status of the members of the sample household

**Fig. 4**: Physical Capital of sampled dairy households
From the pentagon diagram, it can be deduced that Ghurmura village is more prosperous as compared to the other sampled villages. High inclination is towards Ghurmura in relation to the physical assets like brick houses with tin roof, television, cell phones and motor cycles. Daragaon and Nagaon have the highest percent of brick houses with thatched roof.

4.2.9 Agricultural activities of the Khutti households

The dairy farmers generally practice rice cultivation. Production of rice is basically for their own consumption. Ambhikapur has the highest share in pulses production and the village does not grow any sugarcane. On the other hand, out of the sampled household in Ghurmura, none of them cultivated ginger. They considered ginger cultivation is equal to gambling as the return from the crop is highly unpredictable (Figure 5).

Fig. 5: Agricultural activities of the Khutti households

Source : Field work & Authors’ computation

5. Conclusion

Though the dairy farming practice in the study area is very traditional, the income is good. The Nepali dairy owners are not solely depended on dairying for their livelihood. Agriculture substantially adds to their economy. From the study we can conclude that dairying is an integral part of their culture and the people have embedded themselves in this form of livelihood. But the question is will it continue to be so in the future?

The people of this community are not that educated and though economically sound, the standard of living is low. The younger members of the families showed their eagerness towards education but the girls gave preference to marriage rather than education. They are good agriculturists and the production too is good but the agricultural products were basically for self consumption. The process of dairying is very traditional and they still have a long way to go.

But in terms of social communication and social relation within the community, the dairy farmers seemed contended. They viewed dairying not only as a source of income but as a source of status, wealth, pride and prosperity.

References


