Short Communication

Indian Management Studies Journal 22 (2018) 225-232

Indian Management Studies Journal

Rural Dairy Women Entrepreneurs in Search of Alternatives in Making Dairying a Profitable Venture

T. Frank Sunil Justus* and Balaji Ramakrishnan**

** Department of Business Admn., Annamalai University, Annamalai Nagar (T.N.)*

** Department of Business Admn., Annamalai University, Annamalai Nagar (T.N.)*

Abstract

Poor illiterate dairy farmers are devoid of the latest happenings in terms of hybrid cattle and better feed management and hence, resort to traditional approaches that often provide them with a lower profit. The rising cost of feed and the non-availability or poor availability of green fodder and the disadvantages of moving bovines to green fodder areas have always kept the women cattle owners on a disadvantage. The scenario becomes worst when the cost of animal is out of borrowed money which is real in most of the cases. Poor dairy entrepreneurs like Thilagajothi are always left with little options and knowledge levels especially on feed management. The case study tries to find out how she worked through the possibilities and ultimately, how she is able to find a suitable alternative that provides her the maximum returns even after paying the loans.

Key Words

Women Entrepreneur, Capacity Building, Identification of Alternatives, Training, Value Chain

INTRODUCTION

Dairying is an important source of subsidiary income to small/marginal farmers and agricultural labourers. The manure from animals provides a good source of organic matter for improving soil fertility and crop yields. The gobar gas from the dung is used as fuel for domestic purposes as also for running engines for drawing water from the well. The surplus fodder and agricultural by-products are

gainfully utilised for feeding the animals. Since agriculture is mostly seasonal, there is a possibility of finding employment throughout the year for many persons through dairy farming. Thus, dairy also provides employment throughout the year. The main beneficiaries of dairy programmes are small/marginal farmers and landless labourers. The total milk production in the country for the year 2008-09 was estimated at 108.5 million metric tonnes and the demand is expected to be 180 million tonnes by 2020. To achieve this demand annual growth rate in milk production has to be increased from the present 2.5 % to 5%. Thus, there are tremendous opportunities for farmers to thrive through profitable dairy farming.

With rising purchasing power, population pressure, rapid urbanisation and changing food habits, demand for dairy and poultry products has been on an upward trajectory and is expected to remain so in the foreseeable future. Animal husbandry contributes significantly in supplementing the income of small, marginal farmers and landless labourers and in generating gainful entrepreneurship opportunities to a substantial number of rural and urban population, many of whom are women who play a major role in the care and management of livestock. The livestock economy penetrates more equitably than agriculture in the Indian economy. Livestock rearing is central to the livelihood and survival of millions of small and marginal farmers, and landless agricultural labourers across the country, particularly in the dry land regions of India, which amounts to approximately 85 million hectare, that is, 60% of total net cultivated area of India.

The underlying cause of poverty in India is the fact that communities are unable to realize benefits from markets. Traditional livelihoods, in particular, suffer from lack of adequate market access and benefits available through markets. Access to financial services is important to ensure good returns from livelihoods. But it has been observed that although access to financial services is a necessary condition for livelihood support to the poor, it is not often by itself a sufficient condition. The poor who depend upon livelihoods like Dairy often require support along the entire value chain in which they are engaged – much of the support being non-financial. However, often such members are not able to realize the full potential of dairy due to the prevailing constraints in the sub-sector, especially high cost of concentrate feed, lack of good green fodder, lack of low cost green fodder, dependence on traditional open grazing practices and lack of awareness on importance of cheap fodder sources like Tree fodder/Azolla. And about 65% of the economics goes for the fodder cost alone in rearing the animal.

Nevertheless, livestock rearing is considered as an occupation and source of income for the majority of resource-poor farmers in Tamil Nadu. Sustainable production of livestock usually involves efficient utilisation of available feed

resources. However, the low quality and quantity of available forages during the dry season are major constraints for improved livestock production in most rain-fed areas of Tamil Nadu. In many rural areas, the available grazing is not generally sufficient to meet the maintenance requirements of grazing animals during dry periods.

REVIEW OF LITERATURE

Green fodder is considered the single most important factor influencing the productivity of livestock. Babayemi and Bamikole, (2006) opined that fodders are important components of ruminant diet and they have been found to play an important role in the nutrition of grazing animals in areas where few or no alternatives are available (Van *et al.*, 2005). Ogunbosoye and Babayemi (2010) maintained that inadequate feed supply is a major constraint to ruminant production during the dry season in the tropics and this has been the basic reason for poor performance of livestock. In Tamil Nadu, home to 190 million heads of cattle and buffaloes (as per Livestock census 2012) there exists a huge gap between the demand and supply of green fodder. The area for fodder cultivation in Tamil Nadu is approximately 1.72 lakhs ha (as per State Fodder Development Scheme Circular, 2014-15). Out of this 1.3 lakhs ha (76%) is present in just 3 districts of Tamil Nadu-Erode, Namakkal, Thiruppur, thus, showing a great amount of deficit production across other districts of the state. The grazing land present is only 1.09 lakhs ha (as per a leading paper on Fodder by TNAU). There is no substantial increase in the fodder cultivation observed. According to the Document on Agriculture and Allied Sectors-12th Five Year Plan-Animal Husbandry (published by Planning Commission of India in year 2012-2017), the total requirement of green fodder in Tamil Nadu is approx. 444.55 lakh metric tonnes (LMT) but the availability is limited to 326. 70 LMT leaving a deficit of 117.85 LMT (26.5%). This green fodder demand gap is set to widen, with the introduction of free milch cows and goats by the state government of Tamil Nadu. The state is, thus, currently, in need of over 100 lakh tonnes of green fodder to become self-sufficient in fodder availability.

SCOPE OF THE CASE

Thilagajothi was in the profession of rearing milch animals and selling the milk. She had an inkling that she was not making as much money as was possible in the profession. When she sought advice, she was able to find out that instead of the indigenous cattle that she had at present she can make it better if she changed them with hybrid breeds. She soon moved to own hybrid breeds with a mix of the money she got by selling the existing cattle and money borrowed from

development institutions. But soon she landed in a new problem. The feed that she used for indigenous cattle was entirely different from what she had to feed for cross-breeds. The input cost just managed to match whatever higher earnings she was able to make with the higher yield leaving her dry to pay the new loans she had accrued. She soon wanted to find out what were the alternatives that were possible and worked to understand the pros and cons of each feed mixture that was suitable. The case study tries to find out how she worked through the alternatives and ultimately, how she is able to find a suitable feed that provides her the maximum returns even after paying the loans.

Thilagajothi lived in a small hut along with her husband, children and aged parents. The entire family depended on cattle rearing and agriculture. Thilagajothi reared 4 milch animals at her home. She had bought all her milch animals on credit only which is the familiar situation in the sector. And because of this, she is very cautious about the economics of rearing a milch animal.

Thilagajothi has tried all the measures available with her to control the economics of milch animal rearing and, thus, to make profit out of it but in vain. She was originally following the method of open grazing the animals. Every morning she used to take the animals to the nearby fallow land and made them feed on the grass available in the fallow land. Along with this, she used to give locally available oil cakes. This was viable until only she was rearing the indigenous milch animals which gave her milk yield to the tune of two to three liters per day. After adapting this method of feed supplement (open grazing), Thilagajothi realized that by doing so she will not be able to generate more milk yield and hence, will have to be content with a less net profit. Less net profit meant that she will be left with less choice of repaying the credit she borrowed for milch animal purchase. For a small time women entrepreneurs in dairy business feed management constituted a key step in value chain analysis and it makes sense to look at the cost of each activity in the value chain if one had to keep the overall cost under control. Thilagajothi also had to contend with other problems of open grazing. With the development of four-way roads Thilagajothi had trouble crossing the road wherein the risk was palpable for the animal, grazer, vehicle and vehicle users. The other drawback was that the animals on the way when they enter somebody else, garden even for a small time often leaves a bad taste. The grazer was also unable to make use of cow dung either for gobar gas, fertilizer or for making cow dung cakes used as a fertilizer. Again cow dung on roads was not a pleasant sight. The grazer had to spend the entire day with the cow and had to forego the options like working in MGNREGA (100 days work) scheme of the government. This made the grazer motivated to look for options

of stable-fed feed options that lightened her burden and also increased the yield.

A local veterinary doctor advised Thilagajothi to rear cross-breed milch animals like HF or Jersey which would give higher milk yield. Giving an ear to his advice, Thilagajothi sold all her indigenous milch animals and bought cross-breed animals. Hearing that cross-breeds have high feed conversion ration she started purchasing the hybrid grasses sold in the local market and fed it to the animal along with increased amount of oil cakes which she was giving earlier. The milk yield increased but was not as expected.

Realizing that the feed supplement is not sufficient for such cross-breed cows, Thilagajothi increased the feed input to greater level. Now Thilagajothi was left with the only choice of giving higher concentrate feeds bought from local market and green fodder which ultimately shot up the input cost of the animal rearing. These cross-breed animals fetched more than 7 liters of milk per day and, thus, Thilagajothi was able to raise the cash flow but failed to get good net profit as the input cost had increased many times.

Now Thilagajothi was left in between deep sea and devil. In the earlier case of open grazing, the output was low as the input and in the second case, she shifted the animal breed from indigenous to cross-breed and fed them with hybrid grasses but there was no considerable increase in milk yield which made Thilagajothi to increase the feed input to greater extent. In the third case, she was able to increase the milk yield and able to realize the full conversion potential of the animal but failed miserably in cash flow as the net profit was not as much expected. In the third case, the input was high as the output.

After about six months, Thilagavathi attended an orientation course organized by a local NGO, connected to Thilagajothi's SHG, that trained them on best animal rearing practices and role of Azolla in reducing the cost of feed and thus, enabling good returns from rearing milch animals. Azolla is a highly productive plant. It doubles its biomass in 3–10 days, depending on conditions, and yield can reach 8-10 tonnes fresh matter/ha in Asian rice fields. Azolla floats on the surface of water by means of numerous, small, closely overlapping scale-like leaves, with their roots hanging in the water. They form a symbiotic relationship, giving the plant access to essential nutrients. Thilagajothi cultivated Azolla in a small tank in her house and started feeding it to the cattle. After sometime she realized that the quality and quantity of milk started increasing. The investment cost of Azolla was nil except the initial establishment cost.

Thilagajothi felt highly confident after having successfully implemented what she learnt in her orientation training. She had surplus cash flow that was facilitated by the reduction in the quantity of feed and the zero cost incurred by

Table 1
Estimated Cost for Rearing One Milch Animal

Per	Day Open Grazing Method - Indigenous Cow				Stall Fed Method - Cross Breed with Green Fodder				Stall Fed Method - Cross Breed with Concentrate Feed				Stall Fed Method with Azolla -Cross Breed			
	Input Cost per day		Output Cost per day		Input Cost per day		Output Cost per day		Input Cost per day		Output Cost per day		Input Cost per day		Output Cost per day	
	Quantity	Amount in Rs.	Quantity	Amount in Rs.	Quantity	Amount in Rs.	Quantity	Amount in Rs.	Quantity	Amount in Rs.	Quantity	Amount in Rs.	Quantity	Amount in Rs.	Quantity	Amount in Rs.
Oil Cakes#	1.5	30			2	40			0.5	10			0.5	10		
Concentrate Feed*						0			3	60			1	20		
Green Fodder**					10	20			10	20			8	16		
Dry Fodder***	1	2			1	2			3	6			1.5	3		
Azolla****													3	0		
Milk Yield*****			3	75			5	125			7	175			7	175
Cash Flow in Rs		32		75		62		125		96		175		49		175
Net Profit in Rs				43				63				79				126

- Cost of Concentrate Feed# is assumed as Rs 20 per kg
- Cost of Green Fodder **is assumed as Rs 2 per kg
- Cost of Dry Fodder*** is assumed as Rs 2 per kg
- Cost of Azolla**** is assumed as Rs 0 per kg
- Cost of one litre of milk *****is assumed as Rs 25 per litre.

the Azolla inputs. She now believed that rearing milch animals is possible even though there was less availability of green fodder. She soon made it a practice to add one milch animal every six months and through her SHG she herself started orienting other women involved in rearing milch animals the advantages of moving over to hybrid milch animals and also the method of maintaining feed management so as to get the possible yield-out from the animals and in turn, became a change agent for the women entrepreneurs. Azolla soon started playing a key role in making the milch animal economics as a more beneficial one compared to the traditional method of open grazing or blanket recommendation followed in stall-fed method.

To tackle non-availability of green fodder and ever-raising cost of concentrated feed and at the same time to make livelihood like dairy as a beneficial one, the fourth method of feeding milch animals with the combination of Azolla is identified as a better management method by small and medium-sized dairy entrepreneurs like Thilagajothi. Thilagajothi had rightly manipulated her value chain in order to bring down the input cost. This method of feed management, where there is a zero cost component, is highly beneficial to rural dairy entrepreneurs. The method has been earlier introduced by the government machineries, but with less success rate especially due to poor management practices.

The rural dairy farmers can be better informed on the zero cost input methods, like above, to a greater extent, thus resulting in more beneficial milch animal rearing methods. Thilagavathi soon found out that she made an impact among only a small percent of society while there was immense potential to reach

Table 2
Economics of Azolla Cultivation per Month

Cost Components	Input Cost per Day		Output Cost per Day	
	Quantity	Amount in Rs.	Quantity	Amount in Rs
Fixed Cost				
Cost of Tank	1	2000		
Recurring Cost				
Cost of Cow Dung		50		
Cost of Rock Phosphate		50		
Azolla Harvested			90	1350
Cash Flow		267		1350
Net Profit				**1083**

out to a far larger population which she reasoned out was possible only if :

a. The stakeholders of dairy like the Veterinary Universities, Krishi Vigyan Kendra, Cooperatives, and Private Milk Procuring agencies take initiatives to reach out to people the advantages of alternative feed management
b. The planning bodies and extension departments can take a note of these initiatives and, thus, provide a suitable platform to replicate such novel methods highly beneficial to rural dairy entrepreneurs.

CONCLUSION

In this case, the poor dairy entrepreneur was able to test four methods of feed management. Initially she adapted the traditional method of open grazing which required less input cost but gave less output , then when she bought the breeds she adapted an intensive feed management system involving high input cost and giving high output resulting in poor net cash flow though higher cash flow than the previous method. Azolla is readily available in local Farm schools and research institutes and Azolla seeds can be transported from the resource centres and can be grown in any standing water. The stakeholders of dairy need to identify such novel initiative and try to replicate the same through adequate knowledge building/capacity building exercises, motivating small innovative dairy entrepreneurs like Thilagajothi and also better informing other players in the sector.

References

Babayemi and Bamikole (2006), The Scope and Potentials of Fodder Trees and Shrubs, Agroforestry, *Journal of Agriculture and Veterinary Science,* 5(4) : p. 11.

Ogunbosoye and Babayemi (2010), The Scope and Potentials of Fodder Trees and Shrubs Agroforestry, *Journal of Agriculture and Veterinary Science,* 5(4) : p.11