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RESEARCH ARTICLE

IMPACT OF TECHNOLOGY DISSEMINATED THROUGH DAIRY COOPERATIVE SOCIETIES ON ADOPTION LEVEL OF MILK PRODUCERS OF VISAKHAPATNAM.DT, A.P

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ABSTRACT

The study reveals that the adoption of concentrate feeding practice is 100% in members and 32.5% in non-members. This was most probably due to supply of concentrate cattle feed to the members of Dairy cooperatives by Sri Visakha dairy at subsidized rates. In case non-members low adoption is due to non availability of concentrate feed and due to its high cost of concentrate feed. Since paddy being main crop grown in the area of study, 100% of milk producers are adopting straw feeding practices to their animals. More adoption of urea treated straw was observed among the member milk producers due to demonstrations and trainings conducted by the dairy staff compared to non members. A large chunk of non-members (62.5%) were allowing their animals to graze less than 5 hours without dry fodder and concentrates, this shows improper maintenance of dairy animals by non-members. To study the balanced feeding practices adopted by the milk producers reveals that 91.66 percent of the members were adopting balanced feeding practices, (i e green fodder + dry roughages + concentrates). and 8.33 percent of members were adopting dry roughages + concentrate for their animals. In case of non-members 10% of farmers adopting dry roughages + concentrates for their animals and 90% of the farmers are not adopting any balanced feeding practice to their animals. The reason may be inadequate land holding to grow sufficient green fodder for their animals and apart from these reasons there is lack of good knowledge about balanced feeding practices for dairy animals among non members compared to member milk producers. The study infers that 93.33 percent of members were adopting a feeding practices compared to 52.4 percent among non members for growing female calves. Out of which 63.33 percent adopting balanced feeding in recommended quantity to 7.5 percent among non members and 20 percent adopt balanced feeding in less quantity among both members and non members, where as adopt balanced feeding occasionally is 10 percent among members and 25 percent among non members. The study infers that 100 percent of members and non-members were adopting disease treatment practices. But the mode of disease treatment varies from members to non-members. Among the members 100 percent of milk producers receive suggestions from veterinary surgeons, Whereas 40 percent of non-members adopt prescribed medicines and among non members 52.5 percent adopt local medicine for disease treatment and 7.5 percent left to natural cure. The table.7 reveals that all the members and non-members of the society were adoption Precautionary measures against contagious diseases. But the practices they are adopting were varies from members to non-members. Among the members 100 percent were adopting prescribed vaccination against contagious diseases. Apart from this 28.33 percent adopt regular testing of animals for diseases by veterinary surgeon and 21.66 percent adopt sanitary measures. But among non-members 45 percent were adopting prescribed vaccination, 35 percent adopt culling of diseased animals, 15 percent adopt sanitary measures and 5 percent adopt regular testing of animals for diseases. The study infers that 13.3 percent of members were adoption Dairy records for cross bred animals and 100 percent of non-members are not adopting any dairy records for their Dairy animals. The study Reveals that 41.66 percent of members adoption folded palm milking with fore finger surrounding the teat and 58.33 percent of members adopt index finger thumb milking method where as 15 percent of non-members adoption folded palm milking with force fingers surrounding the teat 85 percent adoption index finger thumb milking method. The study on hosing method reveals that 33.33 percent of members adoption cow house system, 58.33 percent adoption milking house system and 8.33 percent of members adoption open air system for their cattle, Where as 55 percent of non-members adopted cow house system , 27.5 percent adopted milk house system , and 17.5 percent adoption open air system for their cattle.

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INTRODUCTION

India is the largest milk producer in the world. Surprisingly this production comes from a highly distributed and diversified population of producers. About 94% of country's milk is produced by the small, marginal farmers & agricultural laborers who contribute 70-75% of the total cattle keepers of the country. Dairying has contributed remarkably to the process of poverty alleviation due to its potential to generate employment and income for the rural poor.

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MATERIALS AND METHODS

The study was conducted on 8 dairy co-operative societies of the Sri Visakha Dairy (SVD) located in eight villages of two mandals (Munagapaka and Chodavaram) of Visakha district of Andhra Pradesh. The study is carried out to understand the impact technology disseminated through dairy cooperatives on Adoption level of member milk producers in comparison to nonmembers. The sample study consisted of 60 member milk producers and 40 non-members. Ex-post facto research design developed by Snedecor and Cochran (1986) was adapted for the analysis of data.

Objective: To study the Extent of adoption of improved animal husbandry practices by the milk producers

The adoption of improved animal husbandry practices shows that the members are having an edge over nonmembers in adoption of improved animal husbandry practices..It shows their entrepreneurship qualities, innovativeness and risk bearing ability of the farmers. After implementation of operation flood, the dairy enterprise was very much revolutionarised, that the rate of adoption of different dairy management practices is increasing rapidly. The adoption of these modern dairy technologies depend upon people's knowledge aptitude, interest and attitude to rear cross bred milch animal and practicing new dairy management practices. Now a days the milk producers are adopting modern dairying technologies by keeping more crossbred animals to increase their income and social status. In this study an attempt was made to know the adoption of different animal husbandry practices by the members and non-members of dairy cooperative societies. Broadly feeding, disease treatment and record maintenance were taken as parameters to phrame out scale for adoption of improved animal husbandry practices. The different animal husbandry practices selected were feeding of straw, feeding of concentrates, feeding practices for female calves, grazing practices, feeding of balanced diet, precaution against contagious diseases, diseases treatment, adoption of dairy records, adoption of making practice and housing systems for cattle. The findings were presented in the following tables.

Concentrate feeding practices

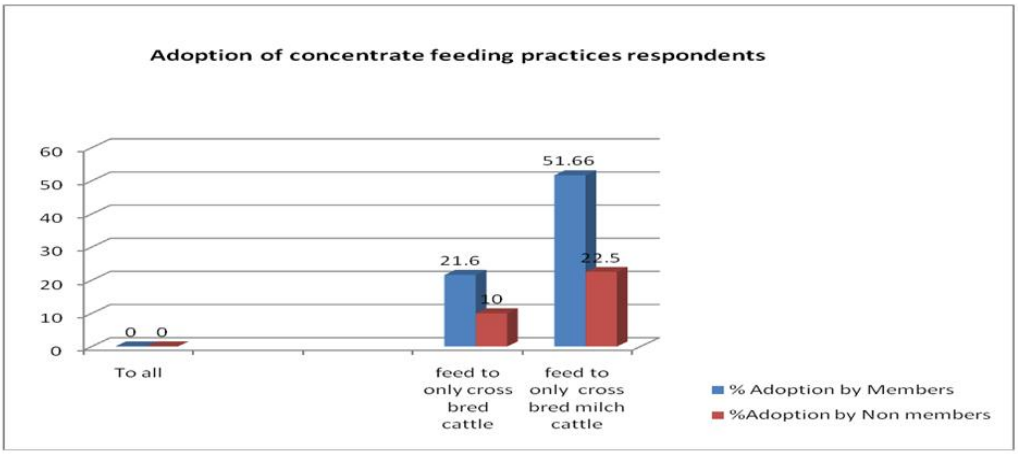
In concentrate feed more than 60 percent of total digestible nutrients are available. So it acts as good energy supplement within a shorter period of time. Adoption of concentrate feeding practices is one of the modern animal milk production and in improving health condition and nutrition status of the Dairy animals. In the Table 1. an attempt was made to study the adoption of concentrate feeding practices by the milk producers.

The Table 1. depicted that 100 percent of members of dairy cooperative societies were adopting concentrate feeding practices, out of which 26.6 percent of members were adopting concrete feeding practice to all categories of animals, 21.6 percent of members fed to only cross bred cattle and 51.66 percent fed to only cross bred milch cattle. Where as only 32.5 percent of non-members were adoption concentrate feeding practices out of which 10 percent fed to only cross bred cattle and 22.5 percent fed to only cross bred milch cattle. When we analyze the adoption of concentrate feeding practices, the members were having highest (100%) in adoption than non-members (32.5). This was most probably due to supply of concentrate cattle feed to the members of Dairy cooperatives by Sri Visakha dairy at subsidized rates. In case non-members low adoption is due to non availability of concentrate feed and due to its high cost of concentrate feed.The findings are in line with Hirevenkata Gounder et al (1985).

Table 1. Adoption of concentrate feeding practice by the milk producers

S. No		Members(60)				Non Members(40)			
	Adoption practice	No. of Adoptors	% of Adoption	No. of Non-Adoptors	% of Non-Adoption	No. of Adoptors	% of Adoption	No. of Non-Adoptors	% of Non-Adoption
	Concentrate Feeding	60	100.00	-	-	13	32.5	27	67.5
1	To all Categories Of animals.	16	26			0	-		
2	feed to only cross bred cattle	13	21.60			4	10.00		
3	feed to only cross bred milch cattle	31	51.66			9	22.50		

Adoption of concentrate feeding practices



STRAW FEEDING PRACTICES

In the modern concept of balanced feeding, feeding of proteins & facts apart from other carbohydrates nutrients & vitamins is of importance . To increase the protein supply to the animal urea treatment of straw is adopted. It increases the supply of amino acids which are useful in increased production of milk in the dairy animals. Some times feeding dry straw as such is injurious to the animal. In the Table 2 An attempt was made to study the adoption of straw feeding practices by the milk producers. Table 2 reveals that 100 percent of the members and non-members of dairy cooperatives were adopting straw feeding practices to their animals out of 100 percent of members adopting straw feeding practices, 50 percent feed dry straw as such , 15 percent feed water soaked paddy straw & 35 percent fed urea treated straw to their animals . In case of non-members 100 percent feed dry straw as such to their animals. Since paddy being main crop grown in the area of study, all milk producers are adopting straw feeding practices to their animals, the adoption of urea treated straw was observed among the members milk producers due to demonstrations conducted by the dairy staff & due to training imparted to member milk producers, as this practice of treating straw with urea helps in increasing milk production in dairy cattle. Incase of non-members due to lack of training and knowhow about urea treatment of straw 100 percent milk producers feeding dry straw as such.

Grazing practices

Controlled grazing is one of modern concept of animal husbandry. Due to uncontrolled grazing on pastures there is a great threat to the existence of pastures. Uncontrolled grazing prevents auto reseeding of grass lands which results in rapid decrease in grass land areas. By mixing different feeding practices like grazing, dry fodder and concentrate feeding practices balance can be maintained and milk production can be improved. In Table 3 an attempt was made to study the adoption of grazing practices by the milk producers. Table 3. reveals that 83.3 percent members and 100 percent of non-members allow their animals to graze for less than 5 hours with dry fodder and concentrates 3.33 percent members allow their animals to graze more than 5 hours without dry fodder and concentrates, 40 percent of members allow their concentrates among the non-members 62.5 percent allowed their animals to graze less than 5 hours without dry fodder and concentrates, 15 percent allowed their animals to graze less than 5 hours with dry fodder and concentrates, 15 percent allowed their animals to graze more than 5 hours with dry fodder and concentrates, and another 7.5 percent allowed their animals to graze more than 5 hours without dry fodder and concentrates. A large chunk of non-members (62.5%) were allowing their animals to graze less than 5 hours without dry fodder and concentrates, this shows improper maintenance of dairy animals by non-members.

Table 2. Adoption of straw feeding practice by the milk producers

S. No		Members(60)				Non Members(40)			
	Adoption practice	No. of Adoptors	% of Adoption	No. of Non-Adoptors	% of Non-Adoption	No. of Adoptors	% of Adoption	No. of Non-Adaptors	% of Non-Adoption
	Feeding of paddy straw	60	100.00	-	-	40	100	27	67.5
1	Feed dry straw as such	30	50			40	100		
2	Feed water soaked straw	9	15						
3	Feed urea treated straw	21	35						

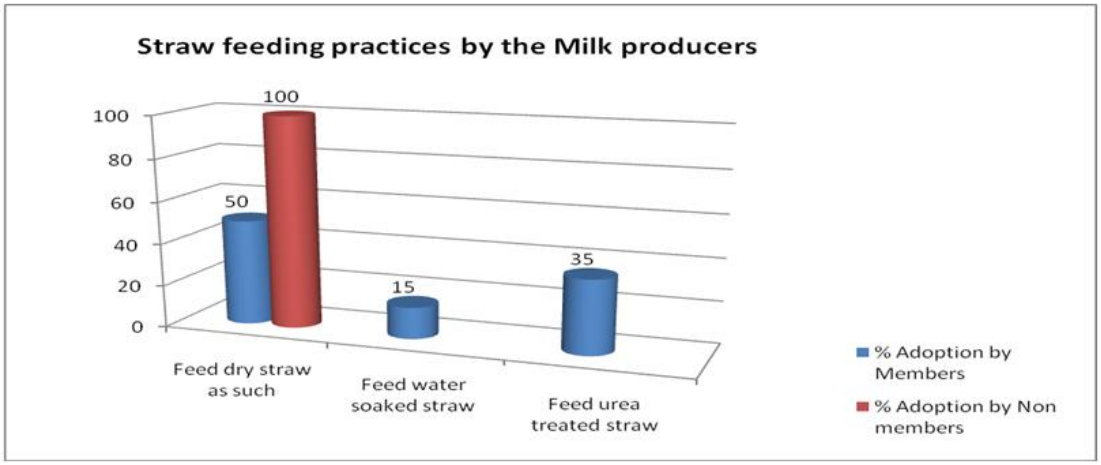
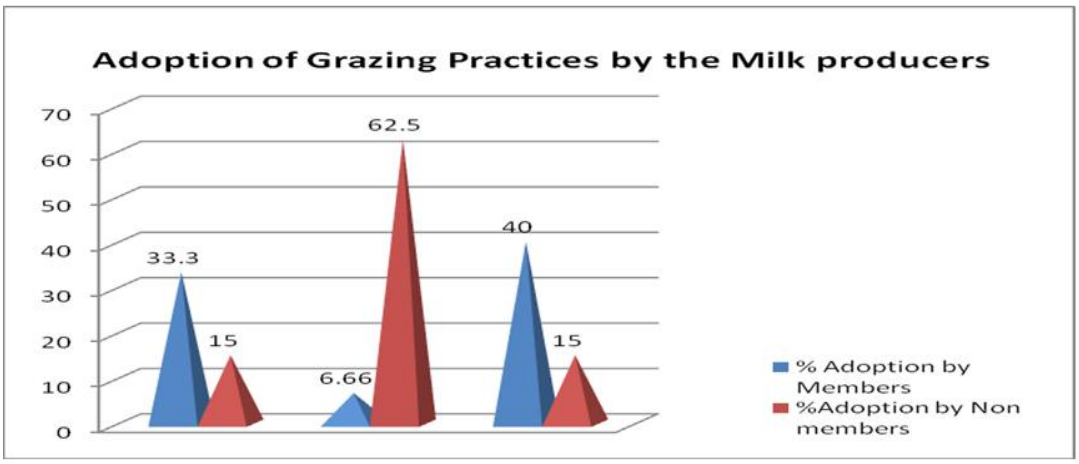


Table 3. Adoption of grazing practices by the milk producers

S. No		Members(60)				Non Members(40)			
	Adoption practice	No. of Adaptors	% of Adoption	No. of Non-Adaptors	% of Non-Adoption	No. of Adaptors	% of Adoption	No. of Non-Adaptors	% of Non-Adoption
	Grazing of Animals	50	83.30	10	16.6	40	100	0	
1.	Grazing less than 5 hours with dry fodder and concentrates	20	33.3			6	15		
2.	Grazing less than 5 hours with dry fodder and concentrates	4	6.66			25	62.5		
3.	Grazing less than 5 hours with dry fodder and concentrates	24	40.00			6	15.0		
4.	Grazing less than 5 hours with dry fodder and concentrates	2	3.33			3	7.5		



Balanced feeding practices by the Milk producers

Balanced feeding was one of the modern animal husbandry practices to be followed to feed their animals which intern increases their milk production. Balanced feeding is gaining momentum after implementation of operation flood. Dairy organization are giving stress to this aspect by supplying improved fodder seeds, concentrate feeds to their members at subsidized rates & in proper time. It is also conducting training classes & demonstration to their members. In Table 4. an attempt was made to study the balanced feeding practices adopted by the milk producers. Table 4 reveals that 91.66 percent of the members were adopting balanced feeding practices, (i e green fodder + dry roughages + concentrates). and 8.33 percent of members were adopting dry roughages + concentrate for their animals. In case of non-members 10% of farmers adopting dry roughages + concentrates for their animals and 90% of the farmers are not adopting any balanced feeding practice to their animals. The reason may be inadequate land holding to grow sufficient green fodder seed varieties for raising fodder crops for their animals and apart from these reasons there is lack of good knowledge about balanced feeding practices for dairy animals.

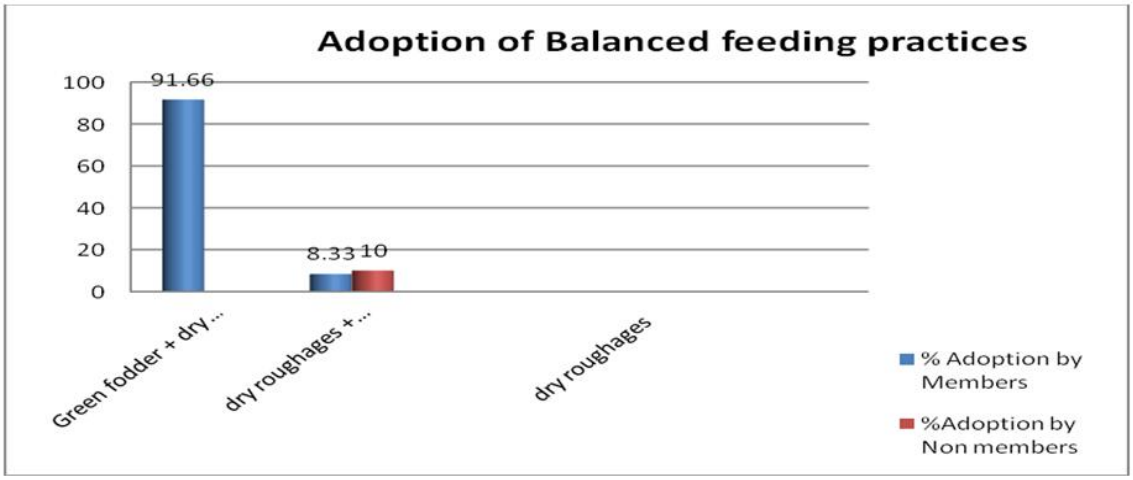
Adoption of feeding practices for growing of female calves by milk producers

Even thought India has large Bovine population of 275 millions (1988). Much of the population was sub standard Bovine population is weak. So lot of care has to be taken in growing these calves especially the female calves. So feeding of these female calves is recommended with calf starter to ensure its proper growth. Because a well nourished calf will result into a healthy Dairy animal for future production. An attempt was made to study the feeding practices adoption by the milk producers for growing of female calves in the following Table 5.

The Table.5 directed that 93.33 percent of members were adopting a feeding practices for growing female calves. Out of which 63.33 percent adoption balanced feeding in recommended quantity. 20 percent adopt balanced feeding in less quantity and 10 percent adopt balanced feeding occasionally. At the same time only 52.5 percent of non-members adoption balanced feeding practices to grow their female calves. Out of which 7.5 percent feed balanced feed in recommended quantity. 20 percent feed in less quantity,

Table 4. Adoption of balanced feeding practices by the milk producers

S.No		Members(60)				Non- Members(40)			
	Adoption practice	No. of Adopters	% of Adoption	No. of Non-Adaptors	% of Non-Adoption	No. of Adaptors	% of Adoption	No. of Non-Adaptors	% of Non-Adoption
	Feeding balanced diet	60	100.00	-	-	4	10	36	90.0
1.	Green fodder + dry roughages + concentrates	55	91.66						
2.	dry roughages + concentrates	5	8.33			4	10		
3.	dry roughages								



25 percent adopt balanced feeding occasionally and 47.5 percent of non-members were not adopting balanced feeding for growing female calves.

Adoption disease treatment practices by the milk producers

An attempt was made to study the adoption of disease treatment practices by the milk producers, the result were presented in the Table 6.

Table 5. Adoption of feeding practices for the growing female calves by the milk producers

S. No.		Members(60)				Non- Members(40)			
	Adoption practice	No. of Adoption	% of Adoption	No. of Non-Adoption	% of Non-Adoption	No. of Adoption	% of Adoption	No. of Non-Adoption	% of Non-Adoption
	Balanced feeding growing female calves	56	93.33	4	6.66	21	52.5	19	47.5
a.	Balanced feeding in recommended quantity	38	63.33			3	7.5		
b.	Balanced feeding in less quantity	12	20			8	20		
c.	Occasional feeding	6	10			10	25		

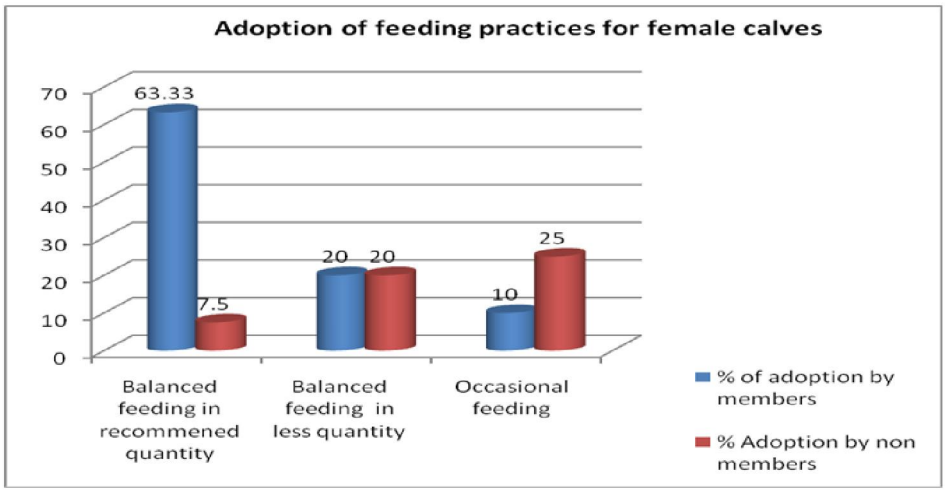
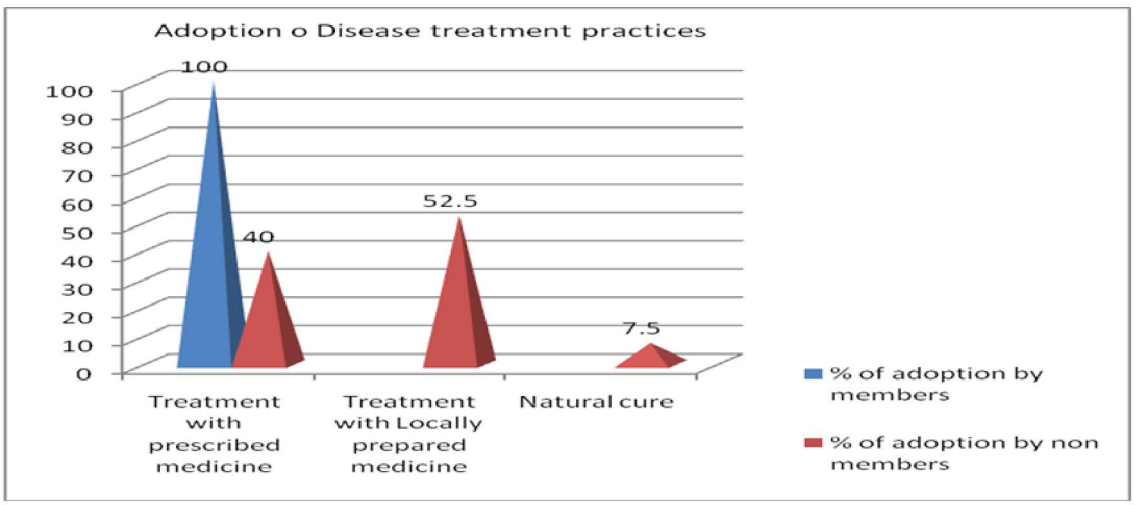


Table 6. Adoptions of disease treatment practices by the milk producers

S.No.		Members(60)				Non- Members(40)			
	Adoption practice	No. of Adaptors	% of Adoption	No. of Non-Adaptors	% of Non-Adoption	No. of Adaptors	% of Adoption	No. of Non-Adaptors	% of Non- Adoption
	Treatment of disease animals	60	100	0		40	100	0	
a.	Treatment with prescribed medicine	60	100			16	40		
b.	Treatment with Locally prepared medicine					21	52.5		
c.	Natural cure					3	7.5		



The Table 6. infers that 100 percent of members and non-members were adopting disease treatment practices. But the mode of disease treatment varies from members to non-members. Among the members 100 percent of milk producers receive suggestions from veterinary surgeons, Whereas 40 percent of non-members adoption of prescribed medicines, 52.5 percent adopt local medicine for disease treatment and 7.5 percent left to natural cure. Among the non-members 52.5 percent adoption local medicine due to easy availability of these medicines adoption natural cure. Proper and timely treatment of animals with prescribed medicine saves the cattle from premature and saves the former unexpected losses. This is in conformity with Omprakash Verma, K.C.Tyagi (1983).

Adoption of precautionary measures against contagious diseases

Precautionary measures against contagious diseases are one of modern dairy management practices. As prevention is better than cure. Several precautionary measures were recommended to milk producers for protecting their animals against contagious disease. An attempt was made to study the adoption of Precautionary measures against contagious diseases. The results obtained were presented in the Table 7.

The Table 7. reveals that all the members and non-members of the society were adoption Precautionary measures against contagious diseases. But the practices they are adoption were varies from members to non-members. Among the members 100 percent were adopting prescribed vaccination against contagious diseases. Apart from this 28.34 percent adopt regular testing of animals for diseases by veterinary surgeon and 21.66 percent adopt sanitary measures. But among non-members 45 percent were adopting prescribed vaccination, 35 percent adopt culling of diseased animals, 15 percent adopt sanitary measures and 5 percent adopt regular testing of animals for diseases. The results are in conformity with Singh *et al.* (1993).

Adoption of Dairy records by the milk producers

Adoption of dairy records is one of best Dairy management practice to be adoption by dairy entrepreneurs to prepare the net worth statement of the enterprise. It is very advantageous to know the economic viability of the enterprise. An attempt was mode to study the adoption Dairy records the milk producers, the result, were presented in the Table 8. Table 8 refers the 13.3 percent of members were adoption Dairy records for cross bred animals and 100 percent of non-members are not adopting any dairy records for their Dairy animals. The above table tells

Table 7. Adoption of Precautionary measures against contagious diseases by the milk producers

S.No.		Members(60)				Non- Members(40)			
	Adoption practice	No. of Adoption	% of Adoption	No. of Non-Adoption	% of Non-Adoption	No. of Adoption	% of Adoption	No. of Non-Adoption	% of Non-Adoption
	Precaution against contagious diseases	60	100	0		40	100	0	
a.	Use prescribed vaccines	60	100			18	45.0		
b.	Regular testing of animals for diseases	17	28.34			2	5.0		
c.	Adoption of sanitary measures	13	21.66			6	15.0		
d.	Culling of diseased animals					14	35.0		

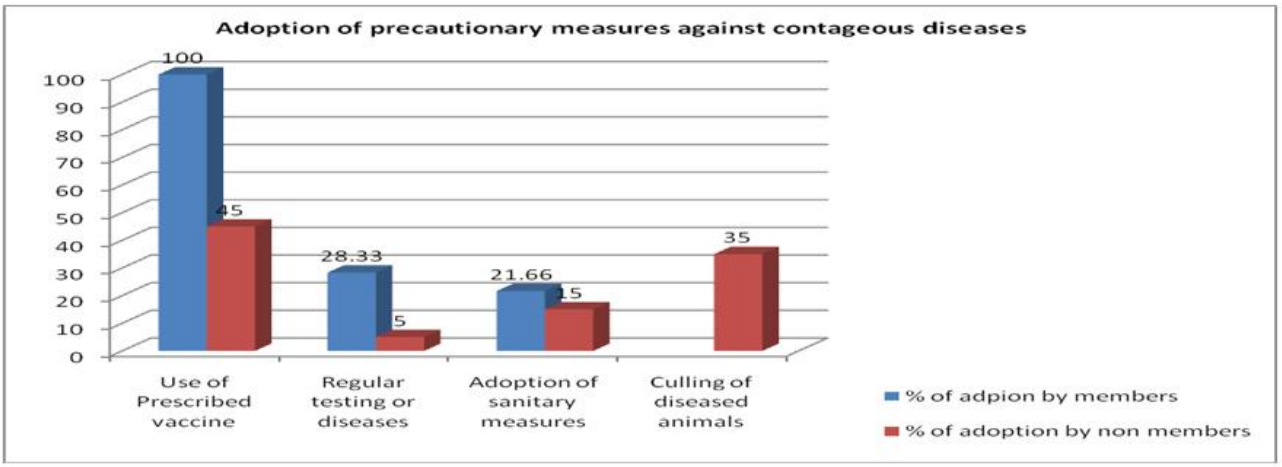


Table 8. Adoption of dairy records by the milk producers

S.No		Members(60)				Non- Members(40)			
	Adoption practice	No. of Adoption	% of Adoption	No. of Non-Adoption	% of Non-Adoption	No. of Adoption	% of Adoption	No. of Non-Adoption	% of Non-Adoption
	Maintenance of dairy records	8	13.3	52	86.6	0	0	40	100
a.	For all animals	-	-						
b.	For cross bred animals	8	13.3						
c.	For cross bred animals and calves	-	-						
d.	For calves								

the non adoption of dairy records by most of the members and all non members it due to lack of knowhow about the maintenance of records. They may feel it as time consuming and difficult task to take up. The findings are in conformity with Smith and Brake (1983).

Adoption of milking practices by the milk producers

An attempt was made to study the adoption of different milking practices by the milk producers. The results were presented in the Table 9.

The Table 9. Reveals that 41.66 percent of members adoption folded plam milking with fore finger surrounding the teat and 58.33 percent of members adopt index finger milking method where as 15 percent of non-members adoption folded palm milking with force fingers surrounding the teat 85 percent adoption index finger thumb milking method. Here 58.33 percent members adoption index finger thumb milking method where as 85 percent non-members adoption the same method. The index finger thumb method causes injury to the teat which serve as an entry point for different bacterial and microbes which are causing diseases to the cattle.

Table 9. Adoption of milking practices by the milk producers

S.No		Members(60)				Non- Members(40)			
	Adoption practice	No. of Adoption	% of Adoption	No. of Non-Adoption	% of Non-Adoption	No. of Adoption	% of Adoption	No. of Non-Adoption	% of Non- Adoption
1	Folded plam milking and fore fingers surrounding the teat	25	41.66			6	15		
2	Machine milking	0	-			0	-		
3	Index finger thumb milking	35	58.33			34	85		

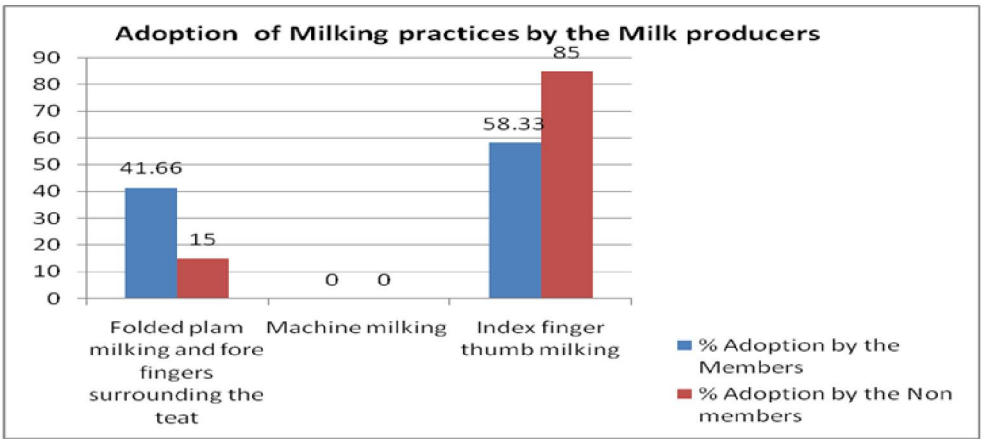
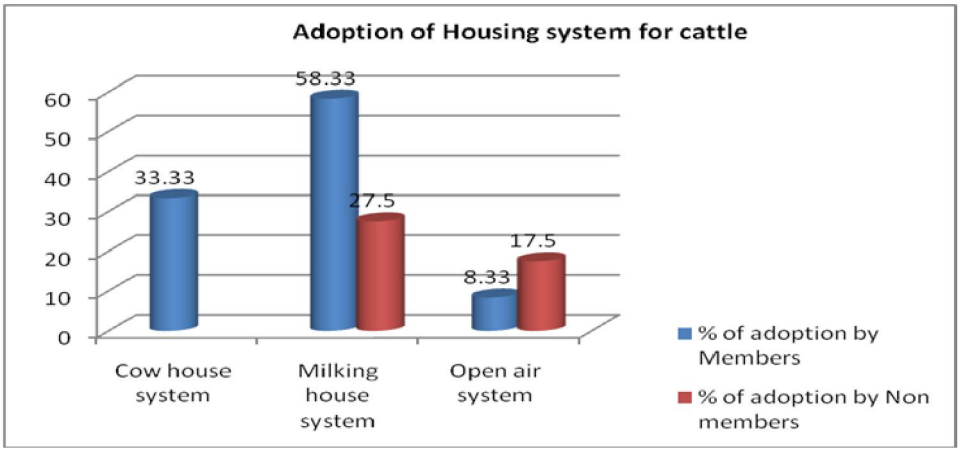


Table 10. Adoption of modern housing system for the cattle by the milk producers

S.No.		Members(60)				Non- Members(40)			
	Adoption practice	No. of Adaptors	% of Adoption	No. of non-Adoption	% of Non-Adaptors	No. of Adoption	% of Adoption	No. of Non-Adoptors	% of Non- Adoption
		60	100	-	-	40	100	-	-
1	Cow house system	20	33.33						
2	Milking house system	35	58.33			11	27.5		
3	Open air system	5	8.33			7	17.5		



Adoption of housing system to the cattle by the milk producers

The different housing systems are proposed in the dairy management practices for clean and sanitary conditions to the dairy cattle to prevent skin diseases and other contagious diseases and to provide better aeration and better environmental conditions for the cattle. In the present study an attempt was made to know the type of housing system adoption by the milk producers for their cattle. The results were depicted in the Table 10. The Table 10 reveals that 33.33 percent of members adoption cow house system, 58.33 percent adoption milking house system and 8.33 percent of members adoption open air system for their cattle. Whereas 55 percent of non-members adopted cow house system, 27.5 percent adopted milk house system, and 17.5 percent adoption open air system for their cattle. When we analyze the different animal husbandry practices and its adoption practices by the members and non-members in the above tables. In may be concluded that the adoption of different animal husbandry practices were found to be high among the members of the Dairy cooperatives than the non-members. This may be due to provision of veterinary services, supply of concentrate feed mixtures, improved fodder seeds at subsidized rates in proper time and also due to demonstration classes conducted to the members of societies by Sri Visakha Dairy.

Conclusion

The study reveals that the dairy cooperative societies have positive impact in improving the Adoption level of Dairy management practices among the milk producers. The members being directly associated with dairy cooperative societies are being exposed to trainings, Method demonstrations, Animal health care facilities, exposure visits dairy technology centers are having significant improvement in Adoption level compared to non members of dairy cooperative societies. The significant increase of Adoption level of Dairy cooperatives shows the clear impact of Dairy cooperative societies on members of Dairy cooperative societies compared to non-members.

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