

*Full Length Research Paper*

## **Agricultural knowledge management through women's collective action: A case of women dairy co-operatives in Rajasthan, India**

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The present study was undertaken to analyze the capacity building needs of members of Women Dairy Cooperative Societies (WDCS), to harness the potential of women's collective action in knowledge management for improving their livelihoods. A survey of fifteen randomly selected WDCS operational in Jodhpur district was undertaken to analyze the facilities, inputs and services of veterinary doctor and other dairy officials being availed by members of women dairy cooperative societies. It was observed that the training component was almost non-existent. The capacity building needs perceived in dairy related aspects were for breeding activities, the members did not perceive a need as the WDCS was providing the breeding services for dairy animals. However, the non-members felt a need for this activity. Both members and non-members felt the need for capacity building in feeding and health management of dairy animals. The need for technical guidance in entrepreneurship development was perceived by both members and non - members, the probable reason being their desire to provide additional income to the family. It is imperative to assess the needs and priorities of women to bring the communities of extension experts and farmers together in all the knowledge management phases - from knowledge creation to utilization.

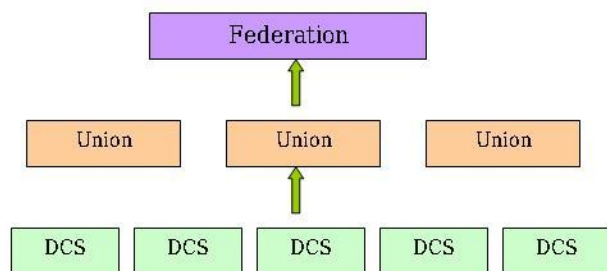
**Key words:** Knowledge management, women's collective action, dairy co-operatives.

### **INTRODUCTION**

Dairy industry is one of the prime industries of Rajasthan. The state's rural economy is dependent to quite a major extent on the dairy industry. The participation of rural women in selected villages of Jodhpur District of Rajasthan was found to be up-to 90% (Pratibha et al., 1996). There are several milk co-operatives in Rajasthan engaged in producing milk and milk products. The

Rajasthan Co-operative Dairy Federation (RCDF) is the main authority for carrying out the developmental programmes in the dairy sector in the state.

Unlike income generated from crop production, which is seasonal in Rajasthan, dairying is a source of a stable income bringing in cash on a daily basis and providing livelihoods security. This gives small farmers an



**Figure 1.** Three-tier structure of Dairy Cooperative Societies in Rajasthan, India.

important economic incentive to adopt dairying for their livelihoods (Ghosh et al., 2009). Besides being a source of liquidity and insurance against crop failure, milk is the only product where the farmers realize 60 to 70% of the consumer price (Anonymous, 2007).

### RAJASTHAN WOMEN DAIRY PROJECT

The Rajasthan Women Dairy Project is implemented through its unit District milk producer's cooperative unions (Figure 1). The milk co-operatives in Rajasthan follow a three-tier structure. The farmer members, at the level one, own Dairy Co-operative Societies (DCS). DCSs own district milk producer's union. At the top level, is the Rajasthan Co-operative Dairy Federation Limited (RCDF), collectively owned by the unions. The RCDF and the implementing district milk producer's cooperative union provide raw materials, ensure proper marketing and tie ups for marketing of the products and help women in formulating a group to manage these activities even after the project is over. The members reported the following reasons for joining the cooperatives, ease in milk disposal, assured market and price, supply of inputs, veterinary services and exposure to outer world.

Women's Collective Action in the form of co-operatives, producer or micro-finance groups, is recognized as a powerful medium and also enables women to access directly markets and services to improve their livelihoods. The present study therefore envisaged to analyze the extent to which the services are being provided to the members of the WDCS, their capacity building needs related to dairy activities and the communication networks utilized by both members and non-members for meeting their information needs and to harness the potential of women's collective action in knowledge management for improving their livelihoods.

### METHODOLOGY

A survey of 15 randomly selected Women Dairy Co-operative Societies (WDCS) operational in Jodhpur district of Rajasthan was

undertaken to analyze the facilities, inputs and services of veterinary doctor and other dairy officials being availed by members of women dairy cooperative societies. The number of WDCS (15) was chosen to represent the population from the total fully operational WDCs existing in the study area. Since it was a short term study a small sample of 60 members and non-members each were selected for the study. The term capacity building in the present study was used to mean the need identification of the members and non - members in the effective management of dairy animals and the enhancement of the existing knowledge and skills through the provision of knowledge and input components of the dairy Co-operatives. The capacity building needs of the members (60) of selected WDCS and non-members (60) were assessed through a structured schedule on a three point continuum of greatly needed, somewhat needed and less needed with a score of 3, 2 and 1 respectively. The communication networks utilized by both members and non-members for seeking information, were also analyzed on a three point continuum of 'frequently used', 'some times used' and 'rarely used' with a score of 3, 2 and 1, respectively.

Women beneficiaries under the WDCS program are to be provided training on various aspects like, improved animal husbandry practices, fodder production, skill up-gradation, management of dairy cooperatives, entrepreneurship skills, awareness of their rights and gender concerns, so as to enable them to resolve their economic and social problems at their own level (Figure 2). General awareness, co-operative education, motivation and literacy programs also form a part of the program along with the creation of infrastructure for different ancillary activities for generation of additional income and acquisition of cross-breed heifers and milch animals. The present study therefore envisaged to analyze the extent to which all of these services are being provided to the members of the WDC'S, their capacity building needs related to dairy activities and the communication networks utilized by both members and non - members for meeting their information needs.

### RESULTS AND DISCUSSION

The survey of the selected WDCS to analyze the extent and quality of services being availed by members of the cooperatives revealed that the training component is almost non-existent (Table 1). The members reported the following reasons for joining the co-operatives, ease in milk disposal, assured market and price, supply of inputs, veterinary services and exposure to outer world.

Majority of the members reported that training programmes were not organized in the past one year. However, trainings were organized as and when funds were provided by other developmental agencies like Agricultural Technology Management agency (ATMA). The visit and advice provided by veterinary doctor was found to be inadequate in some WDCS. Infrequent visits of veterinary staff were reported by majority of the members, similar finding was reported by Chaudhry and Panwar (2004).

As per the norms of the Rajasthan Cooperative Dairy federation, the inputs were being provided to the members on payment basis and there was no provision for free inputs. The advice received from dairy officials was mostly related to motivating members to be regular milk pourers and sustain their WDCS and not much on

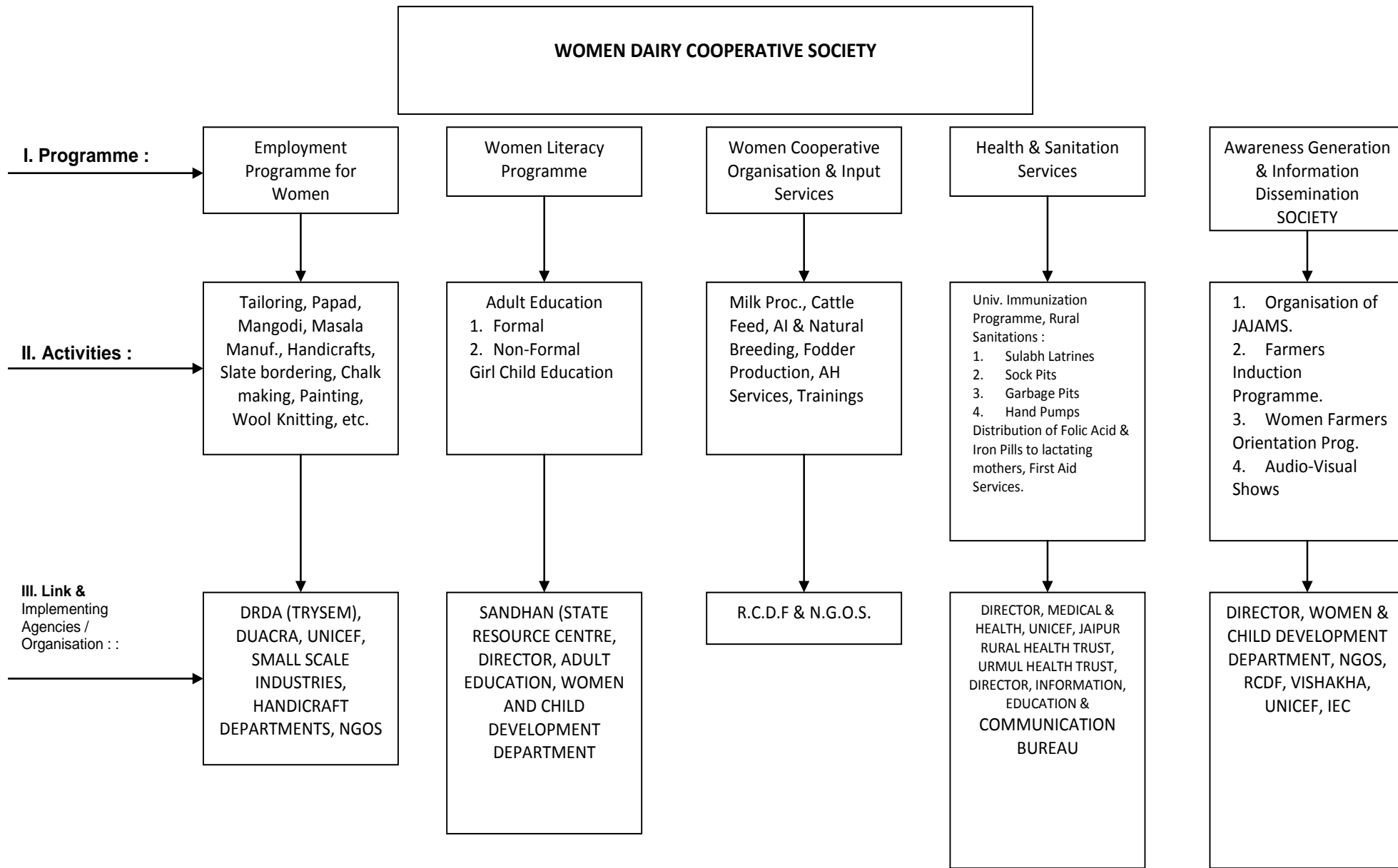


Figure 2. A model women dairy co-operative society.

**Table 1.** Facilities, inputs and guidance availed by members of WDCS.

Aspects	Frequency					
	Fortnightly	Monthly	Once in 2 months	Once in 6 months	Once a year	More than a year back
Visit of dairy extension officials(route supervisor)	8	3	4			
Visit of veterinary doctor			2	4	4	5
Visit of other dairy officials			1	5	9	
Training organized				1	5	9
Meetings organized				1	12	2
Advice received from dairy officials			1	4	10	
Advice received from veterinary doctor			2	4	4	5
Inputs received(free)	-	-	-	-	-	-
Inputs received(payment)		15				

**Table 2.** Capacity building needs of Members and Non-Members of WDCS.

Area	Greatly needed		Some what needed		Less needed	
	Members	Non - members	Members	Non - members	Members	Non - members
Breeding	20.00	50.33	55 .00	30.00	25 .00	19.17
Feeding	51.00	60.83	38 .00	34.17	15 .00	13.33
Health management	63.34	72.50	24.16	17.50	12.50	14.16
Clean milk production	15.83	24.16	35.84	58.33	48.33	17.50
Forage production	27.50	20.83	47.50	40.83	21.66	07.50
good quality seeds/improved varieties	68.30	74.16	24.20	14.16	7.50	10.83
Entrepreneurship development	24.16	29.16	25.00	22.50	50.83	48.33

technical issues of dairy management for enhancing the milk yield.

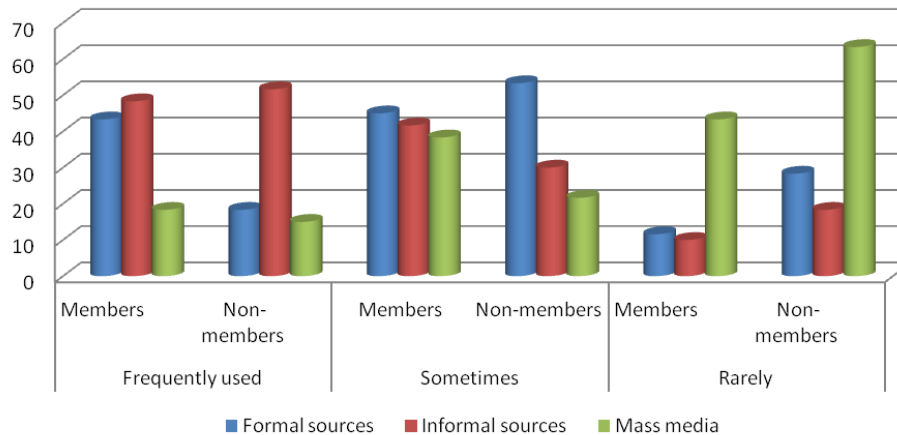
**Capacity Building Needs**

The capacity building needs in dairy related aspects were identified from members and non-members by conducting focused group discussions in fifteen WDCS. The members of

WDCS did not perceive a need for capacity building in breeding related activities as the WDCS was providing Artificial Insemination(AI) and other breeding services for dairy animals (Table 2). However, the non-members felt a need for capacity building in this activity. Both members and non-members felt the need for capacity building in feeding and health management of dairy animals. The need for training in clean milk production was perceived by

non-members, while it was not reported by members due to the close monitoring of clean milk production practices by route supervisor of the dairy federation. The need for improved varieties and supply of quality seeds of dual purpose crops to meet the food and fodder needs was expressed by both members and non-members.

The need for technical guidance in entrepreneurship development was perceived by both members and non - members the probable



**Figure 3.** Information Sources being used by women dairy farmers.

reason being their desire to provide additional income to the family. Therefore imparting skill and knowledge based training to the women dairy members would help them adopt improved dairy management practices. This would enable them to maintain a productive and remunerative herd to provide for their family income needs and also accrue some savings from the sale of milk.

The findings of the present study indicated that the training of members was a weak component and almost non-existent. It is imperative therefore to sensitize the dairy officials and other development personnel involved for strengthening this critical aspect of knowledge and skill enhancement of both members and non-members of dairy co-operatives. These observations, nevertheless, are supported by findings of Singhal et al. (1999). It was mentioned by these researchers that 'women dairy farmers of Jaipur, who underwent Women Dairy training program, fared significantly better than those who had undergone Community Development training program in six out of eight important dimensions.

### Communication networks utilized for seeking information

The communication networks utilized by both members and non-members of the Dairy Cooperatives were analyzed in terms of informal, formal and mass media sources used. The findings in Figure 3 indicate that informal sources of information were being utilized to a maximum extent by both members and non-members and moreover they exchanged information on dairy related activities among themselves at the milk pouring centre of the dairy co-operative. The members of WDCs also had the opportunity to interact with formal sources like dairy officials. Majority of both members and non-members reported low use of mass media sources for seeking information related to dairy activities. A strong

system of information exchange among the components of the Personal /informal information sources have been reported by Amtul (2004) and Demiryurek et al. (2008).

### Knowledge management through the group approach

The women's collective action has the potential benefit of utilizing the group based approach for efficient knowledge management based on the need identification. Polanyi (1967) identifies explicit and tacit forms of knowledge as the two forms of knowledge informing decision-making in almost all organizations. Tacit knowledge is action-oriented and has a personal quality that makes it difficult to communicate and accessing tacit knowledge is difficult. Explicit knowledge, however, can be communicated across time and space. Based on these two dimensions of knowledge, the dairy cooperatives have the advantage of benefitting from both tacit and explicit knowledge. The tacit knowledge could be easily imbibed by the members of the cooperative based on each others' experiences in animal care and management activities. The explicit knowledge on the other hand can be easily accessed from both formal and informal sources. The formal sources could be extension professionals like dairy officials, researchers and other development practitioners and the informal sources being neighbours, relatives and other members of the dairy co-operative. Boateng, (2006) recommended that agricultural extension experts adopt the circular knowledge management model as it reflects both tacit and explicit forms of knowledge.

### Conclusion

An effective extension strategy therefore could be the more sustained interaction between agricultural extension

experts and farmers, so that enhanced knowledge utilization will occur in agricultural practice. The dairy members being a part of the collective action could therefore be harnessed for agricultural knowledge management as, the group approach is being perceived to have the potential to reach women directly for dissemination of improved technologies. There have been ample evidences now that strong women's groups contribute substantially to the development and convergence of services and activities.

### Conflict of Interest

The authors have not declared any conflict of interests.

### RECOMMENDATIONS

- (i) The training component was found to be missing in majority of the Dairy Cooperatives; the dairy officials may therefore strengthen this component.
- (ii) Based on the needs expressed by both members and non-members, skill training in entrepreneurial activities may be provided to enable them to improve the family incomes.
- (iii) The dairy members being a part of the collective action could therefore be harnessed for agricultural knowledge management.
- (iv) Identify key communicators to serve as knowledge brokers.
- (v) Use social networks to spread information.
- (vi) Sensitize milk collection centre to act as dialog facilitators for knowledge sharing.
- (vii) Utilize milk collection centers for posting timely and critical messages(disease out breaks, vaccination schedules, government schemes/programs etc).

- (viii) Strengthening participation of women in formal groups

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