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The Maharashtra Journal of Extension Education has been renamed (since 2004) as ***Asian Journal of Extension Education*** *and the volume numbers of the Journal are continued...*

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Editorial

Maharashtra Society of Extension Education (MSEE) registered in 1982, has the foremost objective to publish the research journal. Accordingly, the society was publishing the journal entitled Maharashtra Journal of Extension Education. Since the year 2004 this journal has been renamed as Asian Journal of Extension Education.

The journal includes research articles form the researchers and extension workers in the field of extension education from various faculties of various institutes in the country. Extension education plays an important role not only in transfer of innovative technologies but also in developing appropriate methodology in the field of extension more suited for field application. The innovative research methods can be very well communicated for its application and use in further research by the extension fraternity. This can be achieved by publishing research articles.

Asian Journal of Extension Education is a very humble attempt to provide platform towards this goal of networking with the all extension professionals who could kindle the minds of their peers and young scientists through their research articles.

I have immense pleasure to present this 30th issue of Asian Journal of Extension Education for the year 2012. The Journal has received an encouraging response from all corners of the country. We have made an effort to encompass the best articles for the issue. Thanks are due to all the authors who have contributed for this issue.

I extend sincere thanks to Dr. A. G. Sawant, Hon'ble President, Maharashtra Society of Extension Education, Dr. K.D. Kokate, Hon'ble DDG (Agril. Extn.) ICAR, New Delhi and Dr. R. R. Sinha, Vice President, MSEE for their constant inspiration, valuable guidance and concrete suggestions to maintain the quality of the journal.

I appreciate the tireless contribution of my colleagues and Co-editors Dr. V. J. Tarde and Dr. H. P. Sonawane for their endless efforts in publishing this issue.

I am confident that this issue of the Journal will be appreciated by the extension scientists, researchers, students and readers for its usefulness and contents. I solicit their suggestions for further enhancement of quality of the Journal.

V. S. Shirke
Editor

College of Agriculture, Pune
Date: December 2012

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CONTENTS

Retail Marketing of Vegetables: An Approach to Socio-economic Empowerment of Tribal Women of Sirohi (Rajasthan)

Urvashi Nandal[1] and R.L.Bhardwaj[2]

India is basically an agrarian country. Majority of its population (62%) lives in rural area and engaged in agricultural based activities. India is second largest producer of fruits and vegetables in the world and produces about 129.0 million ton from 7.98 million hectare area (Kumar *et. al*., 2010). Vegetables occupy an important place in diversification of agriculture and have played a pivotal role in food and nutritional security of ever growing population. Vegetables are very valuable for adding quality component to the food, as they are rich sources of vitamins, minerals and other nutrients so called protective foods. Vegetable farming is an important farm activity for the small tribal farmers owing to short duration and provides regular income to meet the daily requirements of a family. Women in general play significant role in vegetable production compared to cereals and vegetables scored among the most widely grown crop in developing countries (AVRDC, 2003). The tribal (women and children) belonging to weaker section of the society collects fruits and useful plant parts from the widely scattered trees and bushes in the region during the season. A part of their collection is retained for their own consumption as raw or in dried form and surplus is sold to the local traders and at road side small outlets (Jain, 2003 and Anonymous, 2011).

The market of underutilized fruits and vegetables in turn is influenced by a number of factors like consumer preference, processability, value addition, export, domestic consumption, foreign demand which again is based on our knowledge about the health promoting qualities and nutritional value of the crops (Chundawat, 2003). The tribal women farmers are facing different field level as well as marketing problems. So, Krishi Vigyan Kendra-Sirohi, provided quality trainings based on the package of practices of fruit and vegetable cultivation and synchronized with the needs and requirements of farmers like selection of seeds, methods of nursery raising and bed preparation, seed rate, transplanting, irrigation, manuring and fertilization, plant protection measures for meeting out the gap between traditional and advance technologies for increasing quality production.

Methodology

The study was conducted in the working area of Krishi Vigyan Kendra-Sirohi during

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2010-11. Main target group was farm tribal women engaged in farming, vegetable production and retail marketing in nearby areas. The tribal farmers groups were divided in four categories on the basis of their main occupation i.e. field crop grower, vegetable grower, vegetable retail marketer and vegetable growers cum retail marketers. The present study was conducted in five Krishi Vigyan Kendra adopted villages (Moongthala, Jhamer, Chandela, Chanar and Dhamsara) to know the impact of vegetable growing and retail marketing on socio-economic development of tribal women. From each village 40 farm women (10 from each group) and total 200 women were selected through equal allocation using purposive sampling technique with the hope of representing the whole area.

For this study a well designed questionnaire was developed and pre-tested. Primary data was collected with the help of a questionnaire. Two hundred farm women respondents of the selected five villages were interviewed in the year of 2010-11. After collection of data, a tally sheet was prepared which facilitated the enumeration of answer of each question. By using descriptive statistics the data was analyzed by calculating simple percentages. The data was arranged in tables in very simple manner for clarity and personal characteristic data was allotted ranking pattern.

Findings

Effect of personal characteristics of tribal farm women

Age of respondents play an important role in adoption or rejection of refined technology. The data collected in the survey (Table 1) indicated that higher age group was rejecting the advance technology and maximum respondents (70%) were growing field crops. While, the mature generation (20-40 years) was most responsive in adopting advance technology and replaced field crops by more economic activities like vegetable growing (65%), vegetable retail marketing (50%) and vegetable growing cum retail marketing (72%). Similar results were observed by Ahmad *et al.* (2007) and Jamali (2009) who reported that the rural women were directly involved in socio economic and agricultural activities. Family composition constituted number of males, females and children in the study. In the survey it was observed that those families having more number of children, their working women are chiefly doing field crop production, due to their more occupation in household chores and upbringing of children. Adult females (more than 40 years) were more in number in families than their male counterparts. The adult female dominated families were more involved in vegetable production, retail marketing and vegetable growing cum retail marketing for financial support of household and economic stability of their families. Similar results were also observed by the earlier researchers (Paul and Saadullah, 1991; Ahmad, 1999; Ahmad *et.al*. 2007; Jamali, 2009). Education is one of the most important factors in acceptance, rejection, adoption and dissemination of useful information to other fellows for their benefits. The data in table-1 indicated that the maximum illiterate respondents were highly interested in field crop production where as the literate women were more involved in vegetable growing

and their retail marketing. In vegetable growers cum retail marketers group, 40 per cent women were illiterate, while 60 per cent were literate. Out of the literate women, 47 per cent were educated upto primary level, 10 per cent upto middle level, 2 per cent upto secondary level and 1 per cent was above secondary level. Earlier studies have shown that education has a significant effect on farmer's behavior towards adoption of improved agricultural practices (Tarar, 1983; Chaudhary, 2004; Asfow and Admassie, 2004). The occupational distribution of the tribal families of sample respondents is given in the table -1, which showed that the field crop growers mostly generate income through agriculture (70%) and other allied sources (30%). Vegetable growers cum retail marketers group generated income from different sources like agriculture (43%), agri-business (45%), labour (2%), livestock (6%) and miscellaneous occupations (4%). It was observed that the respondent groups involved in out side activities like retail marketing were more creative and earned more money from different sources than traditional agriculture. Similarly, Karim and Wee (1996) and Sanyang *et.al.* (2009) has pointed out the vital role played by rural women in meeting the food requirements and generate self employment through retail marketing of agricultural products and supplement the family income. The land holding in the study area was very small, majority of the field crop growers (40%) and vegetable growers (42%) were marginal farmers, vegetable retail marketers (40%) were landless and vegetable growers cum retail marketers (40%) were small land holders (Table 1). The majority of the vegetable growers cum retail marketers (95%) adopted horticultural based farming system, where as field crop growers adopted agricultural based farming system (98%). It is also reported that the vegetable growers with retail marketer adopted semi-traditional farming method (43%) and maximum farm women (83%) earn more than 1.0 lac per annum in this group. The majority of the vegetable retail marketers (72%) and vegetable growers with retail marketing were located at road side (Table 1). Similarly Farouque and Anwar (1998) reported that correlation analysis revealed about female education and knowledge of homestead farming, hobby, extension contact and attitude toward technology has positive significant relationship with their selected self employment activities. Similar results were also reported by Jamali (2007) and Sanyang *et al.* (2007).

Effect on awareness and adoption of improved agriculture practices of tribal farm women

It was found that the women who were vegetable growers cum retail marketers were more involved in agricultural practices; they have more awareness and adoption power of improved agricultural practices than other groups. Table-2 showed that among vegetable growers cum retail marketers group about 82 per cent of the respondents were aware about field preparation, 90 per cent about time of seed sowing, 83 per cent about sowing technology, 87 per cent about raise bed nursery, 92 per cent about transplanting, 45 per cent about geometry of crop, 75 per cent about irrigation, 25 per cent about soil

testing, 21 per cent about fertilizer dose, 32 per cent about pesticides, 35 per cent about insect pest management, 72 per cent about weeding and hoeing, 42 per cent about harvesting and picking, 60 per cent about grading of produce, 50 per cent about storage, 41 per cent about packing, 42 per cent about transportation of produce. Whereas the field crop growers have little knowledge about above mentioned activities. Possible causes of gaining good degree of knowledge of retail marketers may be due to interaction with each other about improved production technology; hybrid seeds and crop management during free time from vegetable marketing in mandi. They also have direct contact with agricultural input dealers and extension workers. Similar results were also reported by Ahmad *et al* 2007. According to Bhardwaj *et. al.* 2010 tribal women learn more about recommended practices and advance technology of vegetable production at the time of retail marketing by problems discussion to other vegetable growers, input dealers and extension workers in mandi during spare time from marketing (Learning by problems discussion methods).

Effect on socio-economic status of tribal farm women

The results in Table -3, depicted that the vegetable growers earn 103 per cent more than field crop growers, where as retail marketers earn 43 per cent more and vegetable growers cum retail marketers earn 323 per cent more than the field crop growers. Similarly an increase in working hours per hectare has been noticed- 30 per cent for vegetable grower, 45 per cent for retail marketers and 62 per cent for vegetable growers cum retail marketers. Socio–economic status of tribal women farmers was directly affected by vegetable growing, retail marketing and vegetable growing cum retail marketing. Vegetable growers cum retail marketers made pucca houses (35%) , purchased utility facilities like radio, T. V., C. D. player, bed, storage bin etc. (42%), maintained bank account with more then Rs. 10,000 balance (15%), gave good eduction to children (15%), purchased improved agricultural implements (36%), participation and interaction with extension workers (72%), have transportation facilities (53%), telephone or mobile facilities (47%), adoption of new technology (35%), understanding about urban society (40%), awareness about health and hygiene (20%), participation in social works (29%), change in behavior and thought (22%).Women participation in decision making was also increased by retail marketing and vegetable growing cum retail marketing (32%) as compared to 7 per cent in field crop growers. But adverse effect of earning high income through vegetable marketing was the high increase in use of liquor/ drinking by men than field crop growers observed as 45 per cent in vegetable growers, 47 per cent in retail marketers and 38 per cent in vegetable grower cum retail marketers probably due to regular money flow. Sanyane *et al* (2009) reported that the production of fruits and vegetables by women groups plays significant role in the socio-economic development of the country as provider of food, foreign exchange earner, employer and income generator.

Effects of various constraints identified in popularizing retail marketing in tribal areas

The results in Table- 4 showed that there were different problems faced by the respondents of the study area. The field crop growers face more problems than the other groups. The vegetable growers cum retail marketers face minimum problems, that is capital problem (25%), adoption of technology (37%), availability of technology (27%), marketing problems (30%), credit availability (32%), restriction of society (15%), transportation (17%), distance from market (20%), education facilities (30%), water scarcity (20%), vegetable glut (50%), lack of regulated market (25%), lack of storage facilities (37%) and exploitation by commission agent (15%) was reported. Similar results were also reported by Ahmad *et al* 2007; Paul and saadullah 1991; Bhardwaj *et al* 2010. According to Ozkan *et al* (2000) women farmers provided the majority of labour, with serious constrains in carrying out vegetable production activities.

As the respondents were also involved in house hold activities so they have time constraints for the fieldwork. In tribal rural areas poverty is also a major problem due to lack of capital. Farmers face difficulties in obtaining credit which is generally due to the lengthy and time consuming procedure, illegal demands of revenue staff and bank functionaries. Market plays a dual role i. e. supply of inputs and demands farmer's surplus produce. There was no proper formal market available in the study area that would enable the farmers to the sell their products in time. Lack of transportation facilities was the main hurdle in marketing. Availability of input supply like seedling, pesticides, fertilizer, and advance technology like hi-tech horticulture facilities was greatly affected due to the distance from market. Lack of irrigation facility and good quality water was a big constraint in raising vegetables. Cultural and social barriers also restricted female community from farm and marketing activities but increasing awareness, knowledge, education level in retail marketer and vegetable grower cum retail marketer overcome all these problems very easily and women got empowered in tribal areas.

Conclusion

Tribal women are major contributors in agriculture and its allied fields. Her work ranges from crop production to vegetable production to retail marketing. From household chores and family maintenance activities, to transporting water, fuel and fodder. Women vegetable growers in the Sirohi district need support from the government and donor agencies like credit facilities, access to markets, storage facilities, appropriate technology and small farm machineries. The intervention of Krishi Vigyan Kendra –Sirohi in the production and retail marketing, supply of farm inputs, training opportunities and field demonstration contributed immensely to socio-economic development of the women vegetable growers with retail marketing in the Sirohi. Based on the findings of this research work, it was concluded that tribal women involved in vegetable growing cum retail marketing are the key persons for development of their socio-economic status.

It was also found that increasing level of education of women influenced positively the technology adoption status.

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Mainstreaming Gender in Animal Husbandry in West Garo Hills, Meghalaya

Puspita Das[1] and A.P. Upadhyay[2]

The development of animal husbandry depends on the development of human resources. In all societies, men and women are assigned tasks, activities and responsibilities that are socially determined rather than natural. Gender is recognized as the social characteristic that cuts across caste, class, occupation, age and ethnicity. It is the gender that differentiates the roles, responsibilities, resources, constraints and opportunities of women and men in animal husbandry. Animal husbandry in India is by and large an enterprise, which engages women and men in different activities with varying degrees of their participation. Meghalaya is not an exception to it. Partnership is reflected in all the farming activities in India perhaps because animal husbandry is a family endeavor.

Prosperity and growth of any nation depend on the status and development of its women because they are the foundation stone of the family in particular and society at large. Including marketing, women participate in most of the animal husbandry activities in Meghalaya, as animal husbandry is considered as a family enterprise. Rearing of pigs and poultry is a common practice in Garo families and most of the activities come under job domain of the female in the family.

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Pig-husbandry is the most important activity in the animal husbandry sector in the northeastern region inherited by tribal people. The region also has a substantial pig population which constitutes around 25 percent of the country's pig population.

Training is the process of acquiring specific skills to perform a job better. The assessment of target group's needs often called need assessment; represents one of the first steps in planning and developing extension programmes. No training programme would bring changes in the knowledge, attitude and action unless it is need based. In fact the success of training efforts, ultimately depend upon the extent to which training needs are truthfully assessed.

In view of above, the present study was under taken to explore the work participation, training needs and most preferred training programme of Garo people of West Garo Hills of Meghalaya in animal husbandry sector.

Objectives of the study

I) To study the Socio-Economic Profile of the Respondents.

ii) To study the extent of involvement of Garo women and men in different activities in animal husbandry.

iii) To assess the training needs of the respondents in animal husbandry – piggery and poultry.

Methodology

Locale of the study – Out of seven districts in Meghalaya, Garo Hills is constituted of three districts namely, West Garo Hills, East Garo Hills and South Garo Hills. As this study is particularly on Garo tribe, the district West Garo Hills has been selected from three districts due to easy accessibility to researcher.

Selection of blocks and villages – Out of eight blocks from West Garo Hills, four blocks were selected by simple random sampling. Two villages from each block were selected by simple random sampling methods. The selected Blocks were Selsella, Gambegre, Rongram and Betasing. Under each block the selected villages were Shyamnagar and Bansidua from Selsella block, Amindagre and Gambegre from Gambegre block, Jendagre and Ganol Apal from Rongram block and Rerapara and Damalgre from Betasing block.

Selection of respondents -Total list of farm families (couples) from these eight villages were prepared and out of which two hundred couples were selected randomly.

Method for data collection - Data has been collected through interview method.

Tools used for data collection - For this study a structured interview schedule, was prepared on the basis of objectives of the study.

Findings and Discussion

Age

Age of the respondents is a significant factor in inducing individual to go for different occupations. In the present study, the respondents were divided into five groups such as 20 to 30, 31 to 40, 41 to 50, 51 to 60, 61 to 70 years and the results are given in table 1.

Table 1. Classification of the respondents based on the age:

n = 400

Age group	Wife		Husband	
	Frequency	Percentage	Frequency	Percentage
20 – 30	26	13	22	11
31 – 40	67	33.5	69	34.5
41 – 50	51	25.5	55	27.5
51 – 60	39	19.5	39	19.5
61 - 70	17	8.5	15	7.5

It was revealed from the table that 13 percent of the respondents (women) were in the age group of between 20 to 30 years, 33.5 percent were in the age group of 31 to 40 years, 25.5 percent were in the age group of 41 to 50 years, 19.5 percent were in the age group of 51 to 60 years and 8.5 percent were in the age group of 61 to 70 years. The highest percentage of respondents (women) were in the age group of 31-41 years and the least percentage of respondents were in the age group of 61 – 70 years. Among their counter parts, 11 percent were in the age group of 20 – 30 years, 34.5 percent in the age group of 31 – 40 years, 27.5 percent in the age group of 41 – 50 years, 19.5 percent in the age group of 51 – 60 years and only 7.5 percent in the age group of 61 – 70 years.

Education :

The levels of education of the respondents are an important factor in the decision – making process of the individual. Educational level of the respondents may influence the extents of involvement of an individual in any specific livelihood. The distribution of the respondents according to their level of education is presented in the table below.

Table 2. Classification of the respondents according to their level of education:

n = 400

Level of Education	Wife		Husband	
	Frequency	Percentage	Frequency	Percentage
Illiterate	66	33	63	31.5
Upto Primary	62	31	65	32.5
High school and above	72	36	72	36

Above table reveals that highest percentage of respondents was with High School Education in both the cases but percentage varies in other level of education. Lowest percentage of respondents in women were in up to primary level where as the same was found for their male counterpart as illiterate. From the table it is also found that 33 percent of women were illiterate, 31 percent of women were upto primary and 36 percent women were in high school and above.

Training

Table 3.Distribution of the respondents according to their participation in training programme:

n=400

Topic	Wife		Husband	
	Frequency	Percentage	Frequency	Percentage
Rubber plantation	9	4.5	20	10
Animal husbandry(General)	1	0.5	0	0
Paddy cultivation	6	3	0	0
Weaving	1	0.5	0	0
Value of land	1	0.5	0	0
Vegetable cultivation	4	2	0	0
Early marriage	1	0.5	0	0
Farmer training	0	0	2	1
Piggery	0	0	1	0.5
Agricultural Demonstration	1	0.5	0	0

Above table depicts that respondents are least exposed to training in animal husbandry sector irrespective of their sex. Out of 200 women respondents only one respondent have attended training programme in animal husbandry in general and one male respondent have attended piggery training. Maximum number of respondents have attended the training programme on rubber plantation.

Mass media Exposure:

Mass media exposure is essential for quick dissemination of the information and innovation regarding farming and other activities. Tribal women who are illiterate can get the message by seeing the visuals. So an attempt was made to find out the distribution of respondents according to sources of the information they use and frequency of the use, which is presented in the following table.

Table 4. Distribution of the respondents according to their mass media exposure:

n = 400

Source	Wife						Husband					
	Daily	Occasion -ally	Rarely	Never	weight -ed score	Rank	Daily	Occasion -ally	Rarely	Never	weight -ed score	Rank
News paper	14 (7)	31 (15.5)	68 (34)	87 (43.5)	372	iii	37 (18.5)	28 (14)	68 (34)	67 (33.5)	435	ii
Farm magazine	0	0	22 (11)	178 (89)	222	v	0	0	23 (11.5)	177 (88.5)	223	v
Folder/ leaflets	0	0	32 (16)	168 (84)	232	iv	0	0	32 (16)	168 (84)	232	iv
Radio	28 (14)	38 (19)	78 (55)	56 (28)	438	ii	48 (24)	22 (11)	69 (34.5)	61 (30.5)	457	i

Source	Wife						Husband					
	Daily	Occasion -ally	Rarely	Never	weight -ed score	Rank	Daily	Occasion -ally	Rarely	Never	weight -ed score	Rank
Television	40 (20)	29 (14.5)	98 (49)	33 (16.5)	476	i	19 (9.5)	22 (11)	103 (51.5)	56 (28)	404	iii
Educational film	0	1 (0)	12 (6)	187 (93.5)	214	vi	0	0	13 (6.5)	187 (93.5)	213	vi

(Figures in parenthesis indicates percentage)

It was observed that women and men are exposed to different mass media to different extent. It was revealed from the table no. 4 that maximum no. of women respondents were watching television 16.5, 49, 14.5, 20 as never, rarely than occasionally and daily respectively thus watching television among all other mass media secured the first rank, followed by listening of radio. Among different mass media respondents were least exposed to educational film followed by exposed to instructional devices like folder and leaflets. In case of husbands the picture is different. They are highly exposed to radio followed by newspaper. This may happen due to their contact with outside world. Television secured the third rank and educational film is the lowest rank in terms of exposure to different media for male members.

Involvement in animal husbandry

As pork is the favourite dish of the Garos, piggery is a common practice in most of the Garo families. Observations regarding their involvement are presented below.

Table No. 5: Involvement in Animal Husbandry (Piggery)

n=400

Activities	Wife					Husband				
	No	occasional	always	Weighted score	Rank	No	Occasional	always	Weighted score	Rank
Construction of improved style.	148 (74)	29 (15.5)	23 (11.5)	275	vi	29 (14.5)	7 (3.5)	164 (82)	535	i
Maintenance of style.	40 (20)	57 (28.5)	103 (51.5)	463	v	30 (15)	9 (4.5)	161 (80.5)	531	ii
Making of feed mixture.	26 (13)	79 (39.5)	105 (52.5)	499	iv	124 (62)	42 (21)	34 (17)	310	vi
Care against diseases	21 (10.5)	11 (5.5)	168 (84)	547	iii	91 (45.5)	58 (28)	51 (25.5)	360	iv
Care of pregnant pigs	13 (6.5)	8 (4)	179 (89.5)	566	i	86 (43)	76 (38)	38 (19)	352	v
Care of piglets	15 (7.5)	10 (5)	175 (87.5)	560	ii	71 (35.5)	80 (40)	49 (24.5)	378	iii

(Figures in parenthesis indicates percentage)

It is observed from above table that highest involvement of women was there in taking care of pregnant pigs followed by care of piglets, care against diseases, making feed

mixture, maintenance of style respectively whereas least involvement is there in construction of style. Weighted score for taking care of pregnant pig was 566 followed by care of piglets' score was 560, care against diseases was 547 and for maintenance of style was 463. For construction of style weighted score was lowest that is 275. It can be concluded that care of pregnant pigs ranked first and construction of improved style ranked last as far as involvement of Garo women in piggery is concerned. For the counter parts of women respondents different observations were observed. They are more involved in construction of improved style followed by maintenance of style, care of piglets, care against diseases, care of pregnant pigs and making of feed mixture respectively. From the table, it is clear that involvement of husbands and wives in piggery are entirely different. Women have maximum involvement in taking care of pregnant pigs where as husbands have maximum involvement in construction of improved style. Husbands have maximum involvement in construction of improved style where as wives have least involvement. There are variations also in other activities of piggery as far as involvement of husbands and wives are concerned.

Table No. 6: Involvement in Poultry

n=200

Activities	Wife					Husband				
	No	Occasional	Always	Weighted score	Rank	No	Occasional	Always	Weighted score	Rank
Construction of improved poultry shed	176 (88)	8 (4)	16 (8)	240	v	14 (7)	19 (9.5)	167 (83.5)	553	ii
Maintenance of poultry shed	152 (76)	23 (11.5)	25 (12.5)	273	iv	13 (6.3)	17 (8.5)	170 (85)	557	i
Making of poultry feed.	34 (17)	36 (18)	130 (65)	496	ii	100 (50)	41 (20.5)	59 (29.5)	359	iv
Care against diseases	28 (14)	51 (25.5)	121 (60.5)	493	iii	88 (44)	57 (28.5)	55 (27.5)	367	iii
Rearing of chicks.	23 (11.5)	41 (20.5)	136 (68)	513	i	69 (34.5)	95 (47.5)	36 (18)	367	iii

(Figures in parenthesis indicates percentage)

In case of male respondents (husbands of women respondents) maintenance of poultry shed ranked first followed by construction of improved poultry shed, care against diseases along with rearing of baby chicks and making of poultry feed respectively. The extent of involvement varies in both the gender, men have maximum involvement in maintenance of poultry shed where as in case of wives it ranked fourth, similarly construction of improved poultry shed is the area where the wives are least involved but in case of involvement of their counter parts it

obtained second position. For male respondents both care against diseases and rearing of baby chicks ranked third position with equal weighted score that is 367 where as female respondents have maximum involvement in rearing baby chicks. Similarly maintenance of poultry shed is the activity in which male respondents have maximum involvement but women are less involved in this activities as it ranked fourth place.

Table No. 7: Training need on Animal Husbandry (Piggery)

n=400

Activities	Wife					Husband				
	No	Moderate	Most	Weighted score	Rank	No	Moderate	Most	Weighted score	Rank
Construction of improved style	116 (58)	14 (7)	70 (35)	354	v	50 (25)	6 (3)	144 (72)	494	i
Maintenance of style.	147 (73.5)	31 (15.5)	22 (11)	275	vi	108 (54)	12 (6)	80 (40)	372	v
Making of feed mixture	52 (26)	71 (35.5)	77 (38.5)	425	iv	112 (56)	36 (18)	52 (26)	340	vi
Care against diseases	65 (32.5)	35 (17.5)	100 (50)	435	iii	95 (47.5)	34 (17)	71 (35.5)	376	iv
Care of pregnant pigs	37 (18.5)	12 (6)	151 (75.5)	514	i	71 (35.5)	40 (20)	89 (44.5)	418	iii
Care of piglets	44 (22)	15 (7.5)	141 (70.5)	497	ii	34 (17)	107 (53.5)	59 (29.5)	425	ii

(Figures in parenthesis indicates percentage)

It is observed from the above table that care of pregnant pigs is the area in which women are highly interested to be trained and in maintenance of style least interested. Care of piglets, care against diseases, making of feed mixture, construction of improved style were the areas which obtained 2nd , 3rd, 4th and 5th rank respectively in terms of training need in piggery. Above table depicts that concerned weighted score for different activities such as construction of improved style, maintenance of style, making of feed mixture, care against diseases, care of pregnant pigs and care of piglets are 354, 275, 425, 435, 514 and 497 respectively.

In piggery, preferred training areas were different for both counter parts, husbands preferred to be trained in construction of improved style as most needed where as wives preferred care of pregnant pigs as most preferred training area. Care of piglets ranked second position for both the cases. Construction of improved style is the least preferred area for women respondents where as maintenance of style is the least preferred area for their husbands.

Table No.8: Training need in poultry

n=400

Activities	Wife					Husband				
	No	Moderate	Most	Weighte dscore	Rank	No	Moderate	Most	Weighted score	Rank
Construction of mproved style	78 (39)	145 (72.5)	67 (33.5)	569	i	80 (40)	24 (12)	96 (48)	416	iii
Maintenance of poultry shed	101 (50.5)	24 (12)	75 (37.5)	374	v	135 (67.5)	24 (12)	41 (20.5)	306	v
Making of poultry feed	57 (28.5)	23 (11.5)	120 (60)	463	iv	84 (42)	22 (11)	94 (47)	410	iv
Care against diseases	15 (7.5)	20 (10)	165 (82.5)	550	iii	17 (8.5)	20 (10)	163 (81.5)	546	i
Rearing of chicks	9 (4.5)	18 (9)	173 (86.5)	564	ii	19 (9.5)	24 (12)	157 (78.5)	538	ii

(Figures in parenthesis indicates percentage)

Above table depicted that construction of improved poultry shed is the area in which women respondents are more interested to be trained followed by rearing of baby chicks, care against diseases, making of poultry feed and maintenance of poultry shed respectively. Their concerned weighted scores are 569, 564, 550, 463 and 374 respectively. For their counter parts preferred training areas are care against diseases, rearing of baby chicks, construction of improved style, making of poultry feed, maintenance of poultry shed respectively along with weighted scores as 546, 538, 416, 410 and 306 respectively.

It is observed that rearing of chicks ranked second position for both counter parts. For male respondents most preferred training area is care against diseases where as maintenance of poultry shed is the least preferred area while their counter parts preferred construction of improved style as most preferred training need and maintenance of poultry shed as least preferred training need.

It can be concluded that as men and women are playing different roles in animal husbandry and allied sector and they have different needs also, extension functionaries and development professional should be trained on gender roles and gender needs in animal husbandry and allied sector to harness their potentialities. As the study shows that Garo people are less exposed to training in animal husbandry sector extension functionaries should give more importance to expose them to recent trends and technologies in animal husbandry and impart training to enhance their skills.

Constraints Faced by Farm Women in Adoption of Improved Cattle Management Practices in Arid Rajasthan

Meenakshi Chaudhary[1], P. Singh[2]

Scientific research in the field of animal husbandry is moving very fast. In these days there is no dearth of advanced technical know-how. But the most complex and significant problem of our age is dissemination of new technology and its utilization by the farmers. As in the field of animal husbandry and specially in cattle rearing there is a tremendous gap between knowledge production and knowledge utilization. Adoption of improved cattle management technologies is governed by several communicational characteristics of dairy members. Hence an attempt had been made to identify the constraints hindering the farm women to adopt the recommended scientific cattle management practices in major areas of breeding, feeding, health care, management and miscellaneous aspects. Keeping this in view the present investigation was carried out on farm women of Bikaner district of Rajasthan state with the following specific objectives:

(1) To assess the adoption of farm women regarding dairy farming practices.

(2) To identify the constraints faced by women in adoption of modern cattle management practices.

(3) To find out the association of adoption with selected independent variables

Methodology

The present study was conducted in Bikaner district of zone Ic (Hyper Arid Partially Irrigated Western Plain) during the year 2011, which was selected purposively for the research study as it is rich in livestock population. Three tehsils: Kolayat, Lunkaransar and Nokha having maximum cattle population were selected for the research. From each of the selected tehsils, three villages having highest cattle population were selected. Hence nine villages in all were taken up for the study. Twenty five farm women from each village were randomly selected for the sample. Hence in all 225 respondents, rearing cattle from last 5 years were selected. Further, on the basis of number of cattle possessed by them the respondents were divided into three categories of small, medium and large cattle owners.

The data were collected with the help of structured interview schedule. The responses of farm women were obtained regarding cattle management practices on a three point continuum i.e. always, some times and never use the practice and scores of 2, 1 and 0 were allotted respectively. On the basis of adoption score, the respondents

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were categorized into three categories i.e. low, medium and high adopters using mean and standard deviation formula. The statistical analysis used in this study included percentage mean, standard deviation and correlation coefficient analysis.

Findings

1. Adoption of respondents towards cattle management practices

Breeding: Data presented in table-1 reveals that about breeding, half of the cattle owners were in medium adoption category (50.23%) closely followed by high adoption category (41.77%). Only 8 per cent of the respondents were in low adoption category. Similar findings were also reported by Podikunju *et al.* (2000), Maity and Sidhu (2001), Soni and Mathur (2011) and Alakhetal (2012).

Table-1: Distribution of respondents according to their level of adoption (N=225)

S. No.	Category	Frequency	Percentage
1.	**Breeding**		
	Low (Less than 8)	18	8.00
	Medium (8 – 12)	113	50.23
	High (More than 12)	94	41.77
2.	**Feeding**		
	Low (Less than 9)	23	10.22
	Medium (9 – 14)	138	61.33
	High (More than 14)	64	28.45
3.	**Management**		
	Low (Less than 9)	12	5.33
	Medium (9 – 13)	160	71.12
	High (More than 13)	53	23.55
4.	**Health Care**		
	Low (Less than 8)	14	6.22
	Medium (8 – 14)	182	80.89
	High (More than 14)	29	12.89

Feeding: Table-1 indicated that more than sixty per cent of the farm women were in medium adoption category (61.33%) followed by high adoption category (28.45%). Only 10.22 per cent of the respondents fell in low adoption category. Findings are also in line with findings of Singh and Chauhan (2009) and Soni and Mathur (2011).

Management: Regarding management practices the majority of the respondents were in medium adoption category (71.12%) followed by high (23.55%) and low level (5.33%) of adoption category respectively. The finding are in conformity with the findings of Ashish *et al.* (2011) and Soni and Mathur (2011).

Health Care: Data in the table exhibited that high majority of farm women fell in medium category (80.89%) followed by high adoption category (12.89%). Only 6.22 per cent respondents were in low adoption category. It may be concluded from the above narration that majority of the respondents were in medium adoption level of the cattle management practices. The findings are supported by Chandramoulil (2007), Lunagariya *et al.* (2011) and Soni and Mathur (2011).

Correlation of adoption with selected independentvariables of cattle owners

The 'r' value of selected traits and adoption have been presented in Table-2. Data depicted in Table-2 that independent variables namely age, education, monthly income, caste, land holding, size of herd, mass media exposure, extension contact, social participation and urban contact were highly significant with the adoption of cattle owner dairy farming practices.

Table-2: Relationship between personal attributes and extent of adoption of management practices by the farm women

S. No.	Attributes	'r' value
1.	Age	0.5727**
2.	Education	0.3058*
3.	Land holding	0.2470*
4.	Monthly income	0.2174*
5.	Caste	0.3306*
6.	Size of herd	0.2721**
7.	Mass media exposure	0.3058*
8.	Extension contact	0.3126**
9.	Social participation	0.2516**
10.	Urban contact	0.2313**

** Significant of 0.01per cent level of probability* Significant at 0.05 per cent level of probability

3. Constraints faced by the farm women in modern cattle management practices

The schedule covered possible constraints which can hinder the adoption of modern cattle rearing practices by the respondents. For this, with the help of experts and literature, constraints relating to the breeding, feeding, health care, other management practices and miscellanous practices were separately enlisted. These were analysed and discussed under the following sub-heads: breeding, feeding, health care, management and miscellaneous constraints.

(I) Breeding Constraints

Table-3: Constraints faced by farm women in adoption of breeding practices

S. No.	Constraints	Frequency	%	Rank
1.	Inadequate knowledge of breeding practices	102	45.33	I
2.	High cost of cross bred cattle & superior quality bulls	101	44.88	II
3.	Perceptionof A.I. as unnatural method	85	37.77	III
4.	Cross bred calf is of neuse	68	30.22	IV
5.	Distant location of A.I. Centres	46	20.44	V
6.	Poor conception rate in dairy animals	24	10.66	VI
7.	Not aware about examiningfor pregnancy after service	23	9.78	VII

Table-3 reveals that inadequate knowledge of breeding practices was realised as the most important problem (45.33%) followed by high cost of cross-bred cattle and superior quality bulls, perception of A.I. as an unnatural method were realised as secondary constraints. Poor conception rate in dairy animals and ignorance of examining of pregnancy after service were the least hindrance for cattle owners.

The realization of these problems might be because the population in the study area were mostly illiterate, houses being scattled here and there, they had less social and personal contacts, lack of mass media contacts due to which they were left aloof of sufficient knowledge about improved breeds, breeding practices and methods.

(ii) Feeding Constraints

Table- 4: Constraints faced by farm women in adoption of feeding practices (N=225)

S. No.	Constraints	Frequency	%	Rank
1.	Limited irrigation facilities for raising green fodder	115	51.12	I
2.	High cost of concentrate	98	43.55	II
3.	Reluctance of feeding balanced feed	84	37.33	III
4.	High transportation cost of feed and fodder	80	35.56	IV
5.	Lack of retail price fodder shop	70	31.12	V
6.	Non-availability of improved fodder seed	50	22.23	VI
7.	Lack of motivation from training institutes	49	21.77	VII
8.	High cost involved in chalf cutter	38	16.89	VIII
9.	Not aware about dry and green fodder ratio combination	31	13.78	IX

Table-4 shows that limited irrigation facilities for growing green fodder (51.12%) was perceived on top priority by the farm women mainly living in non-irrigated lands, as rainfall in Bikaner district in very scanty and erratic. Hence availability of green grass and green fodder was a major problem raised by the farm women.

The problems of high cost of concentrate and high transportation costs of feed and fodder and also lack of credit supply for purchase of cattle feed and mineral mixture may be due to poor economic conditions of the farmers and lack of transportation media in the region. Problems of lack of knowledge for preparing balanced feed, lack of retail price fodder shop and non-availability of improved fodder seeds were given less importance due to the reason that balanced feed and green fodder was given by farmers acquiring irrigated lands. Farmers of irrigated areas were much prosperous and hence had higher purchasing power, good mass media contacts being in touch with the city.

(iii) Management Constraints

Table 5: Constraints faced by farm women in adoption of management practices

S. No.	Constraints	Frequency	%	Rank
1.	Lack of knowledge regarding full hand milking	220	97.77	I
2.	Allow milch animals for grazzing	84	37.33	IV
3.	High cost involve in construction cattle shed	87	38.66	III
4.	Lack of knowledge in weaning new born calves	217	96.45	II
5.	Disinterest in straining milk after milking	50	22.23	V
6.	Height and space of the cattle shed	48	21.33	VI
7.	Time of interval between milking (crossbred)	45	20.00	VII
8.	High cost involve in milking churning machine	37	16.45	VIII

The data in Table-5 reveals that a large number of respondents 220 (97.78%) and 217 (96.45%) were experiencing serious constraints regarding lack of knowledge for full-hand milking followed by weaning new born calves. A considerable percentage of the respondents (38.66 and 37.33%) were having the problems of high cost involve in house construction and preference to allow milch animals for grazzing respectively. The problem of lack of knowledge regarding full hand milking and weaning new born calves may be due to the reason that since ages they have had the habit of milking in such a manner. As said, "Habits die hard" therefore even if they have the knowledge they have a serious constraint in adoption for the right method of milking.

(iv) Constraints Pertaining to Health Care

The data presented in Table-6 are evident that more than one third of the chunk of respondents (37.77%) reported lack of knowledge about cattle diseases and their control as one of the serious constraints and accorded ranked first, followed by lack of veterinary hospitals and health centres in the

village and surrounding areas whereas high cost of medicines was considered to be the least problem and the constraint reported by only 23.0 per cent respondents and awarded third rank.

The realization of the problem of lack of knowledge about cattle diseases and their control was due to the reason that as the area has a scattered population, lack of veterinary health centres and trained persons in the area due to illiteracy regarding people are ignorant about proper and adequate knowledge regarding scientific practices in the field of health care.

Table 6: Constraints faced by farm women in adoption of health care management practices

S. No.	Constraints	Frequency	%	Rank
1.	Lack of knowledge about cattle diseases and theircontrol	85	37.77	I
2.	Lack of veterinary hospitals and health care centres	66	29.33	II
3.	High cost of veterinary medicines	56	24.88	III

The findings are in accordance with the findings of Verma (1993), Singh (1994) and Sohal (1998) highlighted that high cost of treatment, non-availability of veterinary aid at the door-step and inadequate knowledge of diseases of cattle and their control were the constraint and perceived by cattle owners of upper gangetic plains of Haryana ICDP farmers.

(v) Miscellaneous Constraints

Table 7: Miscellaneous constraints perceived by the cattle owners

S. No.	Constraints	Frequency	%	Rank
1.	Lack of educational programmes of dairying	48	21.33	I
2.	Lack of trained rural youth in villages	45	20.00	II
3.	Lack of knowledge regarding improved dairy practices	39	17.33	III
4.	Lack of information about Govt. programmes and facilities provided for cattle owners (Gopal Yojana and Others)	30	13.33	IV
5.	Lack of live demonstration units of modern cattle rearing practices in the area	21	9.33	V

The Table-7 revealed that lack of educational programmes on dairying was expressed as the most important constraint with 21.33 per cent and ranked first followed by lack of trained rural youth in villages (20.00%) and lack of knowledge regarding improved dairy practices (17.33%) respectively. More than ten per cent of the respondents were not aware about information pertaining to Government programme and facilities provided for cattle owners. The problem of lack of live demonstration units of improved cattle rearing practices in the areas (9.33%) was perceived least constraint by the respondents.

(vi) Overall Constraint faced by Farm Women

Table - 8: Overall constraints faced by farm women

S. No.	Area	%	Mean Score	Rank
1.	Management	43.78	0.50	I
2.	Feeding	30. 37	0.35	III
3.	Breeding	28.44	0.31	IV
4.	Health Care	30.6 6	0.29	II
5.	Miscellaneous	16.26	0.15	V

As evident from Table 8, half of the respondents were facing major problems in adoption of management practices (0.50) followed by 30.66 per cent and 30.37 per cent of the respondents in health care and breeding practices respectively. Whereas least constraint were faced in the miscellaneous section (16.26%) after breeding were having Vth rank in order.

Conclusion

The study concludes that the farm women had medium level of adoption of recommended management practices. The extension functionaries showed the dairy farmers about the importance of pregnancy diagnosis and importance of artificial insemination (A.I.) as they had low adoption level about these practices. The study also concluded that farmers having high education belonged to general category (caste) those having large land holding and younger in age also had higher adoption of recommended cattle management practices. All the ten variables were included in the study were having significant and positive relationship with adoption of cattle owners. It can be further concluded that lack of skills in full hand milking, knowledge of weaning new-born calves, limited irrigation facilities for raising green fodder, high cost of concentrate, transportation of feed and fodder and non-availability of improved fodder seeds was realized as the major serious constraints.

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Adoption Behaviour of Farmers Towards Pulses Production Technology

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By assessing the requirement of pulses, it was felt to increase the production of pulse crops to fulfill the demand. In light of this, it was decided to conduct the technology mission on pulses at National level. Emphasis was given to transfer pulse production technology to the farmers by demonstrating through front line demonstrations on farmers field.

Production of pulses is determine by the adoption behaviour of farmers towards recommended technology, predominance of desired attributes from the farmers point of view to ensure wide acceptance of innovations within a short period of time. The intrinsic qualities or attributes of agriculture innovation influence the farmers adoption behaviour. To analyse the intrinsic qualities of technology on farmers field, front line demonstrations on pulses were organized by Krishi Vigyan Kendra, Wardha on farmers field. Different components of technology of pigeon pea in kharif and chickpea in rabi were demonstrated in different villages from last five years. System of technology transfer must therefore conceptualize an effective mechanism and capacity to implement the transfer of results and measure farmers perception of these technologies. There need to be develop a new way of making these technologies acceptable to farmers so as to increase farmers perception and invariably their adoption levels (Kamla Raj et.al. 2007). Therefore, the present study was undertaken to identify the adoption behaviour of farmers towards pulse production technology.

Methodology

Present study was conducted in eight villages of Wardha District where Front Line Demonstration on pulses were organized by Krishi Vigyan Kendra, Wardha. Pulse crops selected for the demonstrations were pigeon pea in kharif and chick pea in rabi. Ex-post facto research design was used for the study. The data was collected from the eighty respondents. 40 respondents were selected randomly from each crop. Extensive study wasconducted by selecting twelve independent variables, two intervening variables and three dependant variables were studied. In the intervening variables client understanding was measured by preparing schedule and client satisfaction level was measured on the basis of various dimensions used by Kumaran and Vijayaragavan (2005). Adoption behaviour was the dependant variable under which

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knowledge, attitude and adoption pulses production technology were studied. On the basis of obtained score and obtainable score knowledge, attitude and adoption index were calculated.

Findings

Personal, socio-economic, situational and psychological profile of FLD farmers.

It is observed that majority of respondents (53.75 %) belonged to 36 to 50 years age group followed by 26.25 per cent respondents in the age of above 50 years. It means majority of respondents studied were belonged to middle to old age group. In the educational category only 2.50 per cent were illiterate and remaining 97.50 per cent were literate. From the literate group, majority of respondents (36.25 %) were having middle school education followed by 31.25 per cent in high school education and 21.25 per cent were having college and above education. Among all respondents 50.00 per cent were having medium land holding while remaining were small (33.75 %) and large (16.25 %) farmers. From the respondents of the project, 47.50 per cent were having medium farm experience i.e. 11-20 years, followed by 31.25 per cent respondents were in high farming experience group i.e. above 20 years of farm experience.

In the economic profile, majority of respondents (45.00 %) were found in the medium category of annual income which is followed by 37.50 per cent respondents in the category of high annual income. Similarly, socio-economic status of majority FLD farmers i.e. 47.50 per cent was having medium socio-economic status in the society whereas, 31.25 per cent were found in high SES. 65.00 per cent respondents among the FLD farmers were always attended most of the extension programmes organized specially for the FLD farmers hence found in the category of high extension participation which is followed by medium and low extension participation of the respondents.

Innovativeness referred to an individual is a relatively earlier in adopting improved technology than other members of his social system. In this study it was observed that, 41.25 per cent respondents were early adopters the category that next to innovators. 26.25 per cent and 21.25 per cent were found in early majority and late majority, respectively. No one was found innovators, but 11.25 per cent respondents were found laggards that means they were last to adopt the improved technology. Majority i.e. 47.50 per cent respondent were found to be medium scientific orientation towards use of production technology of pigeon pea and chick pea followed by 28.75 and 23.75 per cent in low and high level of scientific orientation, respectively. Similarly in the profile of economic motivation majority of respondents were found in medium category (45.00 %) followed by low and high category. In case of risk preference medium (43.75 %) to high (31.25 %) level of were oriented towards risk and uncertainty and have courage to face the problems in use of production technology of pulse crops.

Intervening Variables :

Krishi Vigyan Kendra, Wardha had provided extension service to the farmers selected for the front line demonstration. KVK has organized various activities to give the knowledge and familiarity with the production technology of pulse crops and also tried to improve their skill in dealing with or handling the technique or procedure with the help of extension activities. It was hypothesized that farmers understanding level about particular technology plays very important role in adoption of improved technology. Hence, client understanding and client satisfaction were studied in the project as intervening variables and its findings are given in Table 1.

Table 1: Distribution of respondents according to technology understanding level and farmers satisfaction of extension services rendered.

Sr. No.	Variables	Index Level	N=80	Percentage
1	Client Understanding	Low	15	18.75
		Medium	40	50.00
		High	25	31.25
2	Client Satisfaction	Low	16	20.00
		Medium	36	45.00
		High	28	35.00

It is observed from Table 1 that half of the total respondents were understand the demonstrated technology at medium level category due to the extension activities conducted for FLDs. It is followed by high understanding level (31.25 %) of farmers about the production technology of pulse crop. Similarly, majority of farmers (45.00 %) were found medium level of satisfaction about the performance of technology and extension services provided by the KVK, followed by 35.00 per cent respondents expressed high level of satisfaction. It indicates that KVK was successful at some extent to make farmers to understand the technology and made them satisfied by fulfilling their expectations.

Table 2 : Distribution of respondents according to knowledge, attitude and adoption

Sr. No.	Variables	Index Level	Before FLD		After FLD	
			Frequency (N=80)	%	Frequency (N=80)	%
1	Knowledge	Low (< 38)	55	68.75	18	22.50
		Medium (39-70)	22	27.50	38	47.50
		High (> 70)	03	03.75	24	30.00

Sr. No.	Variables	Index Level	Before FLD		After FLD	
			Frequency (N=80)	%	Frequency (N=80)	%
2	Attitude	Unfavourable (< 44)	43	53.75	10	12.50
		Favourable (45- 80)	28	35.00	52	65.00
		Most Favourable (>80)	09	11.25	18	22.50
3	Adoption	Low (< 32)	58	72.50	37	46.25
		Medium (33 - 60)	19	23.75	28	35.00
		High (> 60)	03	03.75	15	18.75

Table 2 shows that before implementation of front line demonstrations knowledge of farmers was low (68.75%) to medium (27.50%) which was shifted after implementation of FLD from medium (47.50%) to high (30.00%) level of knowledge. Attitude of majority FLD farmers (53.75 %) towards the production technology of pulse crop was unfavourable before the demonstrations, followed by 35.00 per cent respondents were favourable. The attitude was then changed after the FLDs, and majority respondents (65.00%) were found favourable towards the technology followed by 22.50 per cent were most favourable. The most favourable respondents were almost double after implementation of FLD. It indicates that favourable performance of front line demonstrations and extension activities conducted were helpful to make attitude of farmers favourable towards the technology. Adoption of improved cultivation practices of pulses before FLD was very low as 72.50 per cent respondents were found in the category of low level of adoption index. Implementation of front line demonstrations and efforts of KVK through extension activities helped at some extent to improve the adoption of technology. The data indicates that percentage of respondents having low level of adoption before FLD was declined upto 46.25 per cent after FLD and increased adoption were contributed in medium (35.00%) and even high level (18.75%) of adoption of improved technology of pulse crop. Hence, it is revealed from Table 3 that implementation of front line demonstrations and extension services rendered by KVK Wardha were helped to increase the adoption behavior of farmers. These findings corroborate with the findings of Kumawat *et.al.* (2010), Meena and Singh (2011).

Relational Analysis

It is observed that extension participation, innovativeness, client understanding and client satisfaction were highly significant with the knowledge of FLD farmers, whereas education, irrigation availability, annual income, socio-economic status and scientific orientation of respondents were significantly correlated with knowledge at 0.05 level of probability. It means increase in the level of those variables help to gain the knowledge of production technology of pulse crops. Similar finding was reported by

Suman (2012) regarding relationship of socio-economic status with knowledge of farmers about bio-fertilizers. Tripathi *et.al.* (2006) found significant relationship of education, annual income and scientific orientation with knowledge of chickpea production technology.

Incase of attitude of farmers the variables namely irrigation availability, extension participation, innovativeness, scientific orientation and client understanding about the technology were found to be significant at 1 per cent level of probability. And, annual income, socio-economic status and client satisfaction were significant at 5 per cent level of probability. It clearly indicates that these positively correlated variables helped the farmers to make their attitude favourable towards the adoption of improved technology demonstrated on farmers' field. On the same line, findings of Trivedi *et.ai.* (2008) show significant correlation of irrigation availability and scientific orientation with attitude of farmers.

It is again revealed that irrigation availability, annual income, innovativeness and scientific orientation were established positively and highly significant relationship with the adoption of demonstrated technology. While, extension participation, risk preference, client understanding and client satisfaction were estimated positive significant correlation with the adoption of demonstrated pulse production technology. It inferences from the results that some of the variables like irrigation availability, extension participation, innovativeness, scientific orientation and client understanding level are found to be very important variables that creates effect on the adoption behavior of the farmers about production technology of pulse crop.

Conclusion

It was observed that extension activities rendered by KVK helped to understand the technology and performance of FLD fulfill the desires of farmers and makes their attitude favourable towards the technology of pulses, favourable attitude was highly significant with the adoption of technology. Hence, it is concluded that front line demonstrations has positive impact on adoption behaviour of farmers.

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Multiple Regressional Analysis between Personal, Socio-Economic, Psychological and Communicational Variables and Total Adoption of Scientific Dairy Management Practices of Tribal and Non-Tribal Diary Farmers.

U.R. Tamuli[1] and P. Hazarika[2]

The role of dairy enterprise in Indian Agriculture is now changing from substance level to a commercialized one so as to combat the increased demand of milk and its products of the burgeoning urban population. This has necessitated to change completely the outlook of dairy farmers in the country towards dairying as a source of income and income generating activity for their family members. The recent advances in dairy technology have amply demonstrated that the adoption of scientific / improved animal husbandry management practices contributed significantly towards boosting up milk production and improve the health of milch animals.

Hence, the study was concentrated with an objective to find out the total variation explained (R^2) by personal, socio- economic, psychological and communicational variables on the total adoption of scientific dairy management practices of the tribal and non- tribal dairy farmers.

The study was conducted to find out the total variations explained by (R^2) by personal, socio-economic, psychological and communicational variables on the total adoption of scientific dairy management practices of tribal and non-tribal dairy farmers. The respondents were dairy farmers of tribal and non-tribal villages of Sonitpur, Lakhimpur and Dhemaji district of Assam. The sample size was two hundred forty (one hundred twenty from tribal and one hundred twenty from non-tribal villages). It was found that family education status, income from livestock enterprise, attitude towards dairy farming and economic motivation were identified as crucial in their contribution to total adoption and explained about 71 percent variations in the total adoption in case of tribal dairy farmers. On the other hand, in case of non-tribal dairy farmers , variables like family size, family education status, land size, experience in dairy farming, income from livestock enterprise, extension contact, knowledge and attitude towards dairy farming were found to be crucial in their contribution towards total adoption, which explained about 67 percent variation in total adoption.

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Methodology

The study was conducted in three districts purposively selected viz. Sonitpur, Lakhimpur and Dhemaji, selecting one sub-division from each district, two blocks from each sub-division and two villages from each block (one each of tribal & non-tribal) selected randomly. Twenty respondents from each village were selected at random to include a total of 120 respondents (120 each of tribal & non-tribal respondents). Data were collected by personally interviewing the selected respondents with the help a specially constructed schedule.

The selection of personal, socio-economic, psychological and communicational variables was made after exhaustive review of available relevant literature, intensive discussion with experts and also valuable information collected through a pilot study. The variables like age, family size, respondents' education, family education status, herd size, experience in dairy farming, social participation, annual family income, livestock income, extension contact, mass media exposure, knowledge, attitude towards dairy farming, value orientation, economic motivation and aspiration level were treated as independent variables for the study.

The extent of adoption in the study was treated as dependent variables, it was operationalised as the degree or extents of actual use of improve dairy innovation by the respondents. The dairy innovations adoption index was calculated and measured by the scale developed by Mahipal (1983) as indicated below.

Adoption index:

The score obtained by individual respondent for the adoption of dairy farming innovations on the afore stated scale were summed up and was divided by maximum expected score. The resulting value was finally multiplied by hundred and the value obtained was taken to be the adoption index on the respondent. This indicated the percent extent of adoption was worked out in each of the four areas, namely breeding, feeding, management and health care. The formula for working out of adoption index is –

$$\text{Adoption index} = \frac{\text{Score obtained}}{\text{Expected maximum score}} \times 100$$

Findings

In order to find out the degree of relationship between the personal, socio-economic, psychological and communicational variables and the extent of adoption towards scientific dairy management practices of tribal and non-tribal dairy farmers. The regression analysis was, therefore employed to determine the estimates of predictive abilities of the independent variable to dependent variable i.e. total adoption of the tribal and non-tribal dairy farmers were presented below in table-1.

A glance in the Table 1 clearly showed that out of 16 independent variables, three variables namely livestock income, attitude towards dairy farming and economic

motivation could contribute positively and significantly (P < 0.01), while only the variable family education status was found to contribute positively and significantly (P < 0.05) to the total adoption in case of tribal dairy farmers. Rest of the variables like age, family size, herd size, land size, experience in dairy farming, social participation, annual family income, extension contact, mass media exposure, knowledge, value orientation, economic motivation and aspiration level did not contribute significantly to the total adoption. The co-efficient of multiple determinations (R^2) with all the 16 independent variables could explain 71.00 per cent variation in total adoption.

The 'F' value for R (13.735, P < 0.01) was found to be highly significant.

In case of non-tribal dairy farmers, out of total 16 independent variables, five variables *viz.*, family education status, experience in dairy farming, extension contact, knowledge and attitude towards dairy farming were found to be positive contributors to the total adoption (P < 0.01). Similarly, family size, land size and livestock income were also found to be positive contributors to the total adoption (P < 0.05). The remaining variables *viz.*, age, herd size, social participation, annual family income, mass media exposure, value orientation, economic motivation and aspiration level could not come up to the statistical level of significance in their contribution towards total adoption. The coefficient of multiple determination (R^2) with 16 independent variables explained 67.20 percent variation to the total adoption. The 'F' value for R (12.319, P < 0.01) was found to be significant.

This finding was supported by the findings of Kakoty (1980), Hazarika (1990) and Shinde et al. (1999).

Table 1. Multiple Regression Analysis between Independent Variables and Total Adoption of Tribal and Non-Tribal Dairy Farmers

Sl. No.	Variable	Variable Nos.	Tribal		Non-tribal	
			Regression coefficient	't' value	Regression coefficient	't' value
1.	Age	X_1	0.029	0.414	0.021	0.267
2.	Family size	X_2	0.108	0.757	0.241	2.051*
3.	Family education status	X_4	0.311	2.165*	0.320	2.932**
4.	Herd size	X_6	- 0.287	1.907	0.019	0.215
5.	Land size	X_7	0.056	0.895	0.155	1.927*
6.	Experience in dairy farming	X_8	0.061	0.679	0.159	2.382**

Sl. No.	Variable	Variable Nos.	Tribal		Non-tribal	
			Regression coefficient	't' value	Regression coefficient	't' value
7.	Social participation	X_9	- 0.064	0.917	0.031	0.436
8.	Annual family income	X_{10}	- 0.115	1.735	- 0.041	0.624
9.	Livestock income	X_{11}	0.562	3.623**	0.244	1.984*
10.	Extension contact	X_{12}	- 0.009	0.100	0.249	3.632**
11.	Mass media exposure	X_{13}	0.201	1.896	0.127	1.699
12.	Knowledge	X_{14}	0.108	1.025	0.283	4.030**
13.	Dairy farming attitude	X_{15}	0.398	3.865**	- 0.341	4.709**
14.	Value orientation	X_{16}	- 0.122	1.851	- 0.017	0.231
15.	Economic motivation	X_{17}	0.155	2.446**	- 0.072	0.750
16.	Aspiration level	X_{18}	0.015	0.230	0.039	0.529
			$R = 0.843^2$, $R^2 = 0.710$ 'F' value for R = 13.735**		$R = 0.820^2$, $R^2 = 0.672$ 'F' value for R = 12.319**	

* Significant at 5% level,
** Significant at 1% level.

Conclusion

From the multiple regression of total adoption with 16 independent variables of tribal and non-tribal dairy farmers were studied, where family education status, income from livestock enterprise, attitude towards dairy farming and economic motivation were identified as crucial in their contribution to total adoption and explained about 71 per cent variation in the total adoption in case of tribal dairy farmers.

But in case of non-tribal dairy farmers, variables family size, family education status, land size, experience in dairy farming, income from livestock enterprise, extension contact, knowledge and attitude towards dairy farming were found to be crucial in their contribution towards total adoption, which explained about 67 per cent variation in total adoption.

It can be concluded that effective change could be produced only through proper

adoption of scientific dairy management practices by the tribal and non-tribal dairy farmers.

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Occupational Health Hazards in Field Veterinarians in North Maharashtra Region

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Vets are at risk of physical trauma, chemical hazards and biological threat adversely affecting on the health of professionals by reduced productivity and even loose 8.5 working days during carrier and lifespan (Landercasper et. al., 1988). Drobatz and Smith, (2003) reported 93 % of Vets estimated to be victims of dog and cat bite. A variety of non parasitic Zoonotic diseases may be encountered in small animal vets practitioners including cat scratch disease (Bartonellosis) cat bite abscesses, Rabies, Listoriosis, Leptospirosis, Methicillin-resistant Staphylococcus aureus, Clostridium difficile associated diarrhea, salmonellosis, avian chlamydiosis campylobacteriosis, dermatophytosis and blastomycosis (Weese et. al., 2002) Veterinarian and animal husbandry plays a crucial role and accounts about ten per cent of the national income. The livestock development officers are serving mostly in the rural areas in difficult situation with meager availability of infrastructure facilities. LDOs are engaged in private practice with limited economic gain and

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socio-economic status is also not improved much, hence the present problem is selected for to know the health hazard produced in field veterinarians by undertaking private practice in large or small animals.

Disease diagnostic laboratory facilities with equipment and trained man power at taluka level is essential for early and proper diagnosis, treatment and prevention of diseases. Strict implementation of VCI rules and prohibition of private practice in the field by paravets, provision of residential facilities in the premises of dispensaries to working staff as per their status so that they can extend 24 hours service to the profession. LDO's undertaking private practice, traveling for a long distance without due precautions for infection suffered from contagious zoonotic diseases including brucellosis (1-2 %), more than 50 % vets from backache, neck pain spondilitis and arthritis, 18 % allergic rhinitis and bronchitis and 5 % dermatitis. Particulars of Service and type of work were negatively correlated with the level of jobs satisfactory because educational qualification was not counted in posting the veterinarians in urban and rural areas. Persons in rural areas were constantly working in the same jurisdiction and hence senior persons with sufficient service experience were disappointed discontented and had expressed their views as no jobs satisfaction. Veterinarians with moderate mental satisfaction with piece (65 %), discontented (32 %) and (3 % vets) not responded to the questionnaire.

Methodology

The data was collected over 5 district of north Maharashtra viz. Nasik, Ahmednagar, Jalgaon, Dhule and Nandurbar from LDO's assembled for surgery workshop of Nasik chapter. The questionnaire was prepared, distributed and answers given by respondents were analysed to draw conclusions.

The data consist of 85 Livestock Development Officers belonging to age group 36 % (32-40 years), 38% (40-50 years) and 11% (50-60 years). The data also was collected having individual family (consisting 1 to 5 persons) and joint family (consisting 5 to 12 persons).

a. Educational Qualification, socio-economic status and family background

About 43 % of the vets bear M.V.Sc. qualification, while rest have B.V.Sc. & A.H. qualification. Some doctors posses DBM, MHCET, CCC, DIT and LLB degrees as additional qualification. When we consider the family back ground of parents 42 % were engaged in service, 36 % were undertaking farming, 3 % business and 1% are landless laborers working in the field of other owners. The 34 % parents have irrigated land and 37 % self owned dry land.

b. Particulars of service and type of work

Most of the vets about 95 % were serving as LDO's in Govt. service in rural areas, while 5 % include the persons working in the rank of Asst. /Deputy Commissioner, Asst./ Asso. Professor in universities, Veterinary Officers in non Government organization (NGO)

/dairy Co-Operatives or private field practitioners. 75 % vets regularly performing the jobs of treatment of sick animals, artificial insemination (AI), pregnancy diagnosis (PD), vaccination, diagnosis of infertility in animals, 15 % vets sometimes perform the duties as disease diagnosis and laboratory testings, extension activities like arranging animal health treatment camps, farmers rallies, Animal Exhibitions and Fairs 10 % Vets rarely participated in activities like organization of farmers tours, Anti and Post mortem examinations etc. The placement of most of the vets (about 90 %) were in rural areas.

c. Awareness for adoption of modern technologies

They were not aware regarding membership of scientific societies/ organizations and subscribing of the Journals of the Veterinary sciences. 2 – 3 % vets are subscribers of the profession IJVS, IVJ, Pashudhan and attended the seminars, Symposium, Conference rarely.

Findings

Nienhaus Albert (2002) reported the incidence rate for accidents at the work place was about 66 % caused due to scratches from cat and dog bites or kicks from large animals but in present studies only 0.5 % cases were reported by kicks from large animals. Van Soest and Fritschi (2004), Shirangi et.al, (2007) assessed the prevalence of exposure to X-radiation 97%, anesthetics 96 %, disinfectants 96 %, vaccines 85 % and exposure to formaldehyde 76 % but in present studies no case was found suffering from factors mentioned above because most of the veterinarians included in the data are resident in villages or a rural surrounding. It is observed that Vets undertaking large animal practice usually are high risk for brucellosis infection Agasthya et al., (2007) reported disease prevalence of brucellosis was 41.23 % in veterinarian inspector, 30.92% in Veterinary Assistant 12.37 % in Veterinary Officers 6.18 % in Veterinary Supervisors and Workers because while handling the cases of dystokia and retained placenta without taking due precautions or due to consumption raw milk by in bodybuilders community. 2.06 % in shepherds coming in contact with positive cases, 1.03 % in butchers while handling meat at slaughter house but in present studies 1 % vets found suffering from brucellosis. Approximately 46 % of the South Africans still live in rural areas, regularly coming in close contact with farm animals had contracted with Zoonotic diseases particularly brucellosis (Gummow Bruce, 2003). He also reported incidence density rate for contracting Zoonotic disease was 0.06 per person per year of exposure and most common mode of transmission was by direct contact. The finding of the present investigation indicated that out of 85 vets, 60 % vets were undertaking the private practice and travel a distance less than 50 kms/ day by two wheelers, while 10 % travel a distance more than 50 kms /day either by two wheeler or by four wheeler and 30 % vets not undertake private practice at all. Due to exhaustive practice and travelling for a long distance continuously for a long

period lead to health problems. More than 50 % vets suffered from backache, 32 % neck pain, 25 % spondilitis and arthritis, about 18 % from allergic rhinitis and bronchitis, 5 % dermatitis and 1-2 % have contagious /Zoonotic diseases including brucellosis, while Nienhaus Albert (2002) reported 39.00 % occupational diseases concerned to skin, followed by 30.5 % due to allergic respiratory diseases and 19.1 % due to infectious diseases. Van Soest and Fritschi (2004) reported 39 % cases due to back/ neck pain 39 % due to allergy and hay fever and 11% of cat scratch fever. According to the present studies economic status of veterinarians concluded that 65 % people gain income of Rs. 5,000/- per month, 10 % gain Rs. 5,000 – 10,000/- and meager number of vets 4 % gain may reach up to Rs 20,000/- per month. Particulars of Service and type of work were negatively correlated with the level of jobs satisfactory because educational qualification was not counted in posting the veterinarians in urban and rural areas. Persons in rural areas were constantly working in the same jurisdiction and hence senior persons with sufficient service experience were disappointed discontented and had expressed their views as no jobs satisfaction. Veterinarians with moderate mental satisfaction with piece (65 %), discontented (32 %) and (3 % vets) not responded to the questionnaire hence not included in the studies. Similar findings were recorded by Rathore (1972) and Muthayya (1973). According to Landercasper et. al., (1988), 67 % vets had reported need for improvement in work pattern and environment / ergonomics of the working place hence it can be suggested that the surroundings of the working place should be pleasant to increase the working capacity of the veterinarians to lessen the stress and strain.

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Tomato Growers Marketing Strategies from Western Maharashtra

Viresh Andhari and Hrishikesh Sonawane

In the year 2008-09 the total area under tomato crop in India was 5 lakh hectares and the production was 84 lakh million tones with the average yield of 168 ql/ha. In the same year in Maharashtra, total area under tomato crops was 30,620 ha and production was 487565 tonnes with the average yield of 159 ql/ha. This indicates that, there is a yield gap between national and state tomato yield per unit area. For this the reasons may be many. Among them the use of local material, improper time of planting, shortage of fertilizer, inadequate irrigation facilities etc. Introduction of high yielding varieties and other technologies in tomato is a significant landmark in the agricultural development. The efforts are also being made for transfer of scientific information to potential users as quickly as possible. Nevertheless, there exist a gap between the scientific information evolved and its utilization by ultimate users. Hence, to find out the factors responsible for this are must. With this view in mind, the present study was undertaken with following objectives.

1. To study the personal, social, economic, situational, communication and psychological characteristics of the tomato growers.
2. To study the marketing behaviour of the tomato growers.

Methodology:

This study was carried out in Nashik and Pune districts of Western Maharashtra, where maximum area under tomato cultivation observed. From each district two tahsil were selected on the basis of maximum area under tomato cultivation. Accordingly, Niphad and Dindori tahsils from Nashik district and Junner and Ambegaon tahsils from Pune district were selected for the study. Fifteen villages from each tahsil were selected as maximum area under tomato cultivation. From each village 5 respondent tomato growers were selected randomly, so there were in all 2 districts, 4 tahsils, 60 villages and 300 respondent tomato growers for the study purpose.

Findings

The half (51.67 per cent) of the respondent tomato growers were in the middle age group followed by 33.67 per cent of them were in young age group. More than one third (37.00 per cent) of the respondent tomato growers were educated up secondary level followed by higher secondary (24.00 per cent) The 55.00 per cent

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of the respondent tomato growers had family size between 5 to 7 members followed by 37.33 per cent of the respondent tomato growers had up to 4 members family size. Majority of the respondents (59.33 per cent) found to have 3 to 5 years of farming experience. The 37.33 per cent of the respondent tomato growers had medium social participation level, followed by 33.00 per cent and 29.67 per cent had high and low levels of social participation respectively. 53.00 per cent of the respondent tomato growers were having medium socio-economic status.

The 41.66 per cent of the respondent tomato growers had small land holding (1.01 to 2.00 ha), followed by 32.67per cent of them had marginal (up to 1.00 ha.) land holding. A majority (55.33 per cent) of the respondents had medium (0.81 to 1.20 ha) size of area under tomato. However, 37.34 per cent and 7.33 per cent of them had small and large size of land under tomato cultivation respectively.

More than half (56.33 per cent) of the respondent tomato growers had medium cosmopoliteness, followed by 22.34 per cent of them had low cosmopoliteness and 21.33 per cent had high cosmopoliteness. More than half (51.00 per cent) of the respondent tomato growers had medium level of sources of information. The remaining two categories were 26.33 and 22.67 per cent of them had the high and low use of sources of information respectively.

Majority (68.33 per cent) of the respondent tomato growers attend more than two training programme for the past three years. Two training was attended by 18.67 per cent of the respondent tomato growers. Only one training was attended by the 13.00 per cent of the respondent tomato growers. There was not a single respondent tomato grower found that, who had not attended training programme. More than half (55.67 per cent) of the respondent tomato growers had medium knowledge about the recommended tomato cultivation practices, followed by 25.00 per cent and 19.33 per cent of the respondent tomato growers had low and high knowledge respectively.

Marketing Behaviour of tomato growers from Nasik and Pune districts of Western Maharashtra.

In the present investigation the marketing behaviour of the respondent tomato growers was accessed according to various specific marketing activities and data presented in THE following Table. 2.

It is observed that, in case of planning of marketing activities, 42.33 per cent of the respondent tomato growers sometime decided the marketing channels that give maximum profit to tomato growers, followed by 41.00 per cent of them sometime collected required information about market and 40.67 per cent never studied available resources and facilities in the area before cultivation of crops. However, the respondent tomato growers sometime received marketing information through sources like television (55.67 per cent), farmers in village (51.34 per cent), and radio (51.33 per cent). In decision making behaviour it was noticed that the respondent tomato growers sometime

decides management of market source (48.33 per cent), followed by 45.00 per cent never make advance decision regarding area allocation of crops and 41.33 per cent sometime make advance decision of which crop and variety to be grown. Further, 48.33 per cent of the respondent tomato growers always took decision by self-intuition, whereas 47.67 per cent consulted family member while taking decision.

Table -2. Distribution of the respondent tomato growers according to various specific marketing activities

Sr. No.	Marketing activities	Frequency					
		Always	per cent	Some time	per cent	Never	per cent
1.	**Planning**						
1.1	Study available resources and facilities in the area before cultivation of crops	88	29.33	90	30.00	122	40.67
1.2	Understand the consumer's needs before cultivation of crops	89	29.00	111	37.00	100	33.33
1.3	Understand distribution system of farm produce	78	26.00	119	39.67	103	34.33
1.4	Collect information about institution/persons engaged in marketing of farm produce	69	23.00	123	41.00	108	36.00
1.5	Decide the marketing channel that will give maximum profit	113	37.67	127	42.33	60	20.00
1.6	Use various sources for collecting market information						
a.	Newspaper	79	26.33	143	47.67	78	26.00
b.	Radio	86	28.67	154	51.33	60	20.00
c.	Television	86	28.67	167	55.67	47	15.67
d.	APMCs	75	25.00	134	44.67	91	30.33
e.	Farmers in the village	76	25.33	154	51.34	70	23.33
f.	Internet	85	28.33	97	32.34	118	39.33
2.	**Decision making/Action plan**						
2.1	Issues decided after planning						
a.	Crops and varieties to be grown	69	23.00	124	41.33	107	35.67
b.	Management of markets source	65	21.67	145	48.33	90	30.00
c.	Area allocation for crops	87	29.00	78	26.00	135	45.00

Sr. No.	Marketing activities	Frequency					
		Always	per cent	Some time	per cent	Never	per cent
d.	Cultivation technology to be followed	74	24.67	81	27.00	145	48.33
e.	Sources and methods of procuring inputs	84	28.00	102	34.00	114	38.00
2.2	Sources consulted while taking decisions						
a.	Progressive farmers	103	34.33	88	29.34	109	36.33
b.	Self intuition	145	48.33	74	24.67	81	27.00
c.	Successful marketers	92	30.66	86	28.67	122	40.66
d.	Family members	69	23.00	143	47.67	88	29.33
e.	Extension Persons	78	26.00	89	29.67	133	44.33
f.	APMC Personnel	98	32.67	85	28.33	117	39.00
3.	**Marketing activities performed**						
3.1	Type of market used for selling farm produce						
a.	Regulated market	112	37.33	110	36.67	78	26.00
b.	Wholesale market	78	26.00	116	38.67	106	35.33
c.	Distant market	89	29.67	132	44.00	79	26.33
d.	Local market	121	40.33	102	34.00	77	25.67
e.	Retail market	110	36.66	101	33.66	89	29.67
3.2	Place of market						
a.	Within taluka	127	42.33	87	29.00	86	28.67
b.	Within district	143	47.66	83	27.66	74	24.67
c.	Within village	70	23.33	104	34.67	126	42.00
d.	Within state	79	26.33	132	44.00	89	29.67
e.	Outside state	82	27.33	108	36.00	110	36.67
3.3	Packing of farm produce by improved methods	68	22.67	154	51.33	78	26.00
3.4	**Mode of transport of farm produce**						
a.	Own vehicle	105	35.00	123	41.00	72	24.00
b.	Private vehicle	116	38.67	132	44.00	52	17.33
c.	Public vehicle	87	29.00	95	31.67	118	39.33
3.5	**Agency for sale of produce**						
a.	Self	142	47.33	92	30.67	66	22.00
b.	Through co-operative	84	28.00	114	38.00	102	34.00
c.	Through commission agent	81	27.00	116	38.67	103	34.33

Under the aspect of marketing activities performed, it was observed that 44.00 per cent of the respondent tomato growers sometime sale their farm produce in distant market, whereas, 40.33 per cent sale their produce in local market and 37.33 per cent always sale their produce in regulated markets. Further, 47.66 per cent of the respondent tomato growers always sold their produce within district, 44.00 per cent sometime sold their produce within state and 42.33 per cent always sold their produce within tahsil. Followed by 51.33 per cent of the respondent tomato growers sometime followed packing of farm produce by improved method.

However, 44.00 per cent of the respondent tomato growers sometime carried their farm produce by private vehicle, 41.00 per cent sometime used own vehicle as a mode of transport of farm produce. Followed by, 39.33 per cent of the respondent tomato growers never used public vehicles as a mode of transport of farm produce. While, 47.33 per cent of the respondent tomato growers always sold their farm produce by themselves, whereas 38.67 per cent and 38.00 per cent of the respondent tomato growers sometime sold their farm produce through commission agents and co-operative agencies respectively.

Conclusions:

A majority of respondents had medium level of knowledge about recommended cultivation practices; this requires remarkable efforts from state extension agencies and NGO's involved in process of transfer of technology through trainings, field days, Agricultural exhibition, mass media and other similar location specific extension strategies. A majority of the respondents had medium level of marketing behaviour, this calls for special efforts from government agencies, to establish separate markets for tomato crop at tahsil and district level in tomato cultivating pocket.

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Socioeconomic Characteristic of Rural Dairy Farmers in Maharashtra - Knowledge, Adoption and Constraints

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The India is largest milk producers in the world as of the date. Its annual growth potential is modest 4 per cent in India. Co-operative dairies exists 245 producing 35930 thousand Lit, private dairies 495 producing 44682 thousand lit., others 51 producing 17628 thousand lit., total units being 791, producing 98320 thousand liters of milk per year. The principal milch animals are cattle and buffalo. Most of the milk (98%) is produced by rural households (70 million) engaged in dairy sector. It is the primary source of livelihood for land less farmers, while it is an adjunct to agriculture for the rural farming community. The success of dairy farming depends on adoption of scientific dairy cattle management practices by the farmer, which is influenced by various Dependent variables viz. knowledge, adoption and constraints, which have been analyzed in the present study.

Socio-economic characteristic of Dairy cattle farmers of Rajarambapu Patil Sahakari Dudh Sangh Ltd. Islampur pertaining to dependent variables like knowledge, adoption and constraints faced by farmers are studied. Constraints were categorized into reproductive, nutritional, managemental, health, economic, and milk distribution. It can be concluded that the dairy cattle farmers in villages face large number of difficulties which can be overcome by brain storming session, upgradation of knowledge by imparting training to the farmers by expert technical veterinarian.

Methodology

The data for the present study was collected by LPM and Extension department of this college, from co-operative members and milk producers of Rajarambapu Patil Sahakari Dudh Sangh Ltd, Islampur in Sangli district of Maharashtra State. Ex-post facto research design was selected for the purpose. Ten different villages around Islampur each having twenty dairy farmers were randomly sampled and in all two hundred respondents formed a data base for the study. The data was collected by personal interview in local language (Marathi) at homes and at farms by giving complete comfort and avoiding outside influences to arrive at unbiased inferences from farmers and milk producers. Questions were brief, self explanatory and

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easy to understand and capable of eliciting accurate responses, and were related to problem oriented and personal socio-economic characteristic of the respondents pertaining to dependent variables like knowledge, adoption and constraints faced by farmers. Tailor made knowledge test was applied knowledge level of respondents was categorized as low medium high and very high. Adoption is mental process through which an individual passes by hearing about feeding breeding management and health care practices and response of the farmer by adopting them. Constraints mean confinement, restriction of liberty, compulsion of circumstances, problems encountered or perceived by the farmers. The data was collected coded classified and analyzed by following standard statistical procedure (Snedecor and Cochran, 1967).

Findings

i. Knowledge: Distribution of dairy cattle farmers of Rajarambapu Patil Sahakari Dudh Sangh Ltd. Islampur, according to their knowledge level about improved dairy cattle management practicesindicated that majority of the dairy cattle farmers (55.00 per cent) were possessing very high knowledge level about improved dairy cattle management practices followed by 44.50 per cent from high knowledge group and only 0.50 per cent and 0.00 per cent from medium and low knowledge groups, respectively. The very astonishing results obtained in present study of dairy cattle farmers having very high knowledge level about improved dairy cattle managemental practices to high level may be attributed to the fact that majority member producers belonged to medium age (61.00 per cent), moderately educated (high school 28 per cent and graduate 23 per cent), marginal land holding (47 per cent), medium family size (63 per cent), medium annual income (52 per cent), medium use of sources of information and medium risk orientation (63.50 per cent) must have contributed combinedly and collectively in the improved high to very high level of knowledge. The present findings are in contrast with Sankhala *et al.* (2000) and Singh and Godara (2002). The reason for low knowledge level of dairy farm management practices may be due to non-organizational and non-co-operative dairy cattle farmers.

ii. Adoption: Adoption of management practices by dairy cattle farmers were from high adoption category, 28.50 per cent were from medium adoption category, 3.50 and 2.00 per cent of the dairy farmers were from low and very high categories, respectively. It may be observed that majority of dairy cattle farmers possesses the high, medium and very high level of adoption of dairy cattle managemental practices due to improved knowledge and adoptability. These findings were in agreement with findings reported by Dube *et al.* (1989) and Marwale (1992) whereas the above findings were not in agreement with findings of Jagdale *et al.* (2000), Malik and Nagpal (2000) and Saha and Ramchand (2002).

iii. Constraints: The Constraints faced by the dairy cattle farmers as regards the dairy cattle management practices were

categorized into constraints in reproduction, nutritional, managemental, health, economic, and milk distribution.

a) Reproductive constraints- Majority of (85.50 per cent) dairy cattle farmers were reported the constraint as lack of developed breeds of cattle in local market. Similarly 72.50, 39.00, 9.50 dairy farmers reported lack of breeding bull and A.I. facility at local level, long calving interval and poor conception rate of AI, respectively. Only 4.00 percent dairy cattle farmers had reported unable to detect heat in animals as constraints.

b) Nutritional constraints- 91.00 per cent expressed cost of concentrate is high, 61.50 per cent dairy cattle require more feed, 56.00 per cent deficiency of balanced diet, 40.50 per cent deficiency of green fodder round the year, 23.00 per cent non-availability of grazing land and only 13.00 of dairy cattle farmers reported non-availability of animals feed regularly due to high cost.

c) Managemental constraints- Majority (41.50 per cent) of the dairy cattle farmers explored that negligence of care and management of pregnant and new born calf due to lack of time, while 37.50, 26.50 and 21.00 per cent dairy respondents reported no knowledge of correct method of milking, mortality rate of calf is more/high and non-availability of drinking water, respectively due to negligence of care and management of pregnant and newborn calf.

d) Health constraints- Faced by dairy cattle farmers reported that 72.00, 59.50 and 49.50 per cent as crossbred animals are more prone to diseases, ticks and other ectoparasites. Vaccination is essential as per scheduled programme Only 16 per cent dairy cattle farmers reported non-availability of veterinary services and medicines in the near by area.

e) Economic constraints- 94.50 percent dairy cattle farmers reported that developed breeds of animals are costly, 90.50 per cent as cost of fodder and animal feed is more, 85.00 per cent, non availability of capital and loan at proper time, 76.50 per cent interest rate on loans are very high, 69.00 per cent milk does not fetch good price in local market, 67.50 per cent cost of veterinary treatment is found more.

f) Milk distribution constraints- 91.00, 31.00 and 29.50 per cent dairy cattle farmers explored that milk production of local breeds is very low, non-availability of labours for milking and inadequate milk storage facility at village level. Only 9.50 and 9.00 per cent dairy cattle farmers reported milk co-operatives do not collect milk in time and milk co-operatives collect milk once daily as constraints. The constraints expressed by the dairy cattle farmers can be overcome by brain storming session of stalwarts of co-operative office bearers, technical staff and member producers.

Table 1. Distribution of dairy cattle farmers according to their knowledge level.

Sr. No.	Category	Frequency	Per cent
1.	Low (score upto 20)	00	0.00
2.	Medium (score 21 to 30)	01	0.50
3.	High (score 31 to 40)	89	44.50
4.	Very high (41 and above)	110	55.00
	Total	**200**	**100.00**

Table 2. Distribution of dairy cattle farmers according to overall adoption.

Sr. No.	Level of adoption	Frequency	Percentage
1.	Low adoption (score up to 60)	07	3.50
2.	Medium adoption (score 61 to 75)	56	28.00
3.	High adoption (score 76 to 90)	133	66.50
4.	Very high adoption (score 91 and above)	04	2.00
	Total	**200**	**100.00**

Table 3. Constraints faced by livestock farmers

Sr. No.	Constraints	Percentage
1.	Constraints in Reproduction	42.1
2.	Nutritional Constraints	47.50
3.	Managemental Constraints	31.62
4.	Health Constraints	49.25
5.	Economic Constraints	61.87
6.	Constraints in Milk Distribution	34.00

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Constraints Involved In Postharvest Management, Marketing, and Export of Pomegranates

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Pomegranate occupies an area of 63,000 Hectares with a production of 5.00 lakh tons/annum. The Indian average is 7044 kg/ha. India's exports of fresh pomegranates amounted to US$ 12.8 m in 2005-06, up from US$ 3.0 m in 2002-03, thereby registering an impressive compound annual growth rate of 62.8percent. The major export destination for India's pomegranates is UAE, the Netherlands, UK, Belgium and Saudi Arabia. India's share in global exports of pomegranates is about 6.4%, although the country is the largest producer of pomegranates. This clearly calls for making the product more export oriented, particularly in light of the fact that per unit realization in international markets is far higher than the domestic market. Total world trade of pomegranate is 1,00,000 - 1,12,000 tonnes. Spain is biggest exporter to European Union and to some extent to Gulf countries, trading 60-70% of the total world exports. In India, Pomegranate's peak production is during December-March and continues up to April-June. Thus, India can export pomegranates from February to June months when there will be no competition from Spain. To enhance exports, increasing production of exportable quality fruits and providing post-harvest handling facilities, are required to be taken up. Then only India's share in exports of pomegranates can increase to 20 percent in next 7-10 years (CMIE, 2007).

This study attempts to investigate the constraints faced by the respondents who are pomegranate growers. There are several constraints under categories like post harvest management, marketing constraints, export constraints, In direction to facilitate post harvest management, marketing and export of pomegranate in this study an attempt has been made to document and prioritize major constraints in post harvest management, marketing and export of pomegranate and guide policies.

Methodology

The state Karnataka was selected purposively for the study, because it was one of the states of India which contributes significantly in pomegranate production. Koppal district was purposively selected as it is a major pomegranate producing district in India. Koppal district comprises of four talukas, however, largest area under pomegranate is in two talukas namely

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Kustagi and Yelaburga. Considering the area and production of pomegranate in the two talukas, they were purposively selected for the study. From each taluk four villages were selected by random sampling technique making a total of six villages. From each village ten respondents (farmers who were growing pomegranate) were drawn using simple random sampling technique, i.e. forty respondents were selected from each taluk. Thus total eighty respondents were selected. An ex-post facto research design was used for data collection. For the analysis of collected data Garrett's ranking technique was used to identify and rank the constraints.

Findings

Constraints faced by the pomegranate growers in postharvest management, marketing, and export of pomegranates

A. Constrains in harvesting

Among different Constrains in harvesting faced by farmers, 'Lack of storage facilities' was ranked first with Garrett's ranking score of 77.6; this constraint was also ranked first in overall constraints ranking by respondents. Because of Lack of storage facilities farmers were unable to store the produce for future sale and are unable to utilize the demand in market for their advantage. Hence sometimes they are getting lesser prices. Constraints of 'Adverse weather conditions' was given second rank with 65.6 score. 'Lack of skilled labours' ranked third by the farmers followed by 'high labour cost'.

B. Constraints in marketing

'Lack of cold storage chains' was the major marketing constraint faced by the respondents; and this constraint was also ranked first in overall constraints ranking by respondents. 'Far off markets' and 'High cost of transportation' were ranked at second and third position respectively. Interestingly 'Far off markets' was ranked fifth in overall ranking with score 69.6. Among the other marketing constraints 'Lack of market information and regulation' as well as 'Lack of good transportation' with 'Lack of market information and regulation' were the prominent ones.

C. Constraints in export

In the constraints related to the export, 'Complex procedure for export' was number one constraint reported by the farmers with score of 71.2. Other important constraints related to the export were 'Lack of adequate information about international market' and 'Poor quality produce' which were ranked at second and third position respectively. 'Complex procedure for export' was ranked fourth in overall ranking with score 71.2. Among the other marketing constraints Competition from other countries, Unfavorable government policies, Lack of Euro gap standards in produce were the prominent ones.

D. Constraints in post harvest management

'Lack of cold storage units' was ranked highest in post harvest management constraints by the respondents with Garrets

ranking score of 77.6. 'Lack of expertise' and 'Non availability of package material' were ranked at second and third position. Interestingly 'Lack of cold storage units' and 'Lack of expertise' were ranked at second and third position in overall ranking with score of 77.6 and 72. This indicates the gravity of the problem of post harvest management.

Table 1. Major top ten constraints faced by the pomegranate farmers

Sr. No.	Constraints	Score	Ranking
1.	Lack of cold storage chains	77.6	I
2.	Lack of cold storage units	77.6	II
3.	Lack of expertise	72	III
4.	Complex procedure for export	71.2	IV
5.	Far off markets	69.6	V
6.	Lack of adequate information about international market	68	VI
7.	Poor quality produce	65.6	VII
8.	Adverse weather conditions	65.6	VIII
9.	High cost of transportation	64	IX
10.	Lack of good transportation	60	X

The major top ten constraints indicate the serious obstacles faced by the farmers in harvesting, postharvest management, marketing and export of pomegranates. Lack of cold storage chains, Lack of expertise, and Complex procedure for export calls for immediate government action. Other top constraints ranked by the respondents were 'Far off markets' followed by, 'Lack of adequate information about international market' Poor quality produce' and Lack of good transportation.

Conclusion

The study revealed that 'Lack of cold storage chains'was major technical constraint with score of 77.6, followed by 'Lack of cold storage units' to those who are interested to start processing activities in pomegranate. 'Lack of expertise' needed for postharvest management, of the fruit was ranked as third major impediment. Getting licence for export of pomegranates and many related paper procedures which are time consuming and requires good knowledge of market. 'Complex procedure for export' is hence again considered as major constraint by the potential exporters on fourth position. In fact, 'skilled labour shortage' was pointed out by respondents especially during harvesting season as a major constraint. Even the high cost of labour is considered as deterrent for pomegranate production and postharvest management.

Marketing and export requires quality produce. The specifications of the countries vary from one another. European exports need high quality produce compared to the Middle East and so the price offered by the company to the farmer for the two qualities varies. Hence poor quality of the produce was sighted seventh major deterrent in pomegranate marketing and export.

The above mentioned situation calls for organizational and Government support in terms of technical knowledge, trained manpower along with support in terms of credit and infrastructural facilities including assured marketing linkages and reducing the complexity in export procedures to help the farmers to take up postharvest management and to increase the marketing and export of the pomegranate. KVKs in research area must be vested with the responsibility of imparting training to potential interested pomegranate growers specially in the areas of postharvest management and quality management.

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Study of Leadership Styles in the field of Agriculture Education

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Globalisation has made agriculture education very challenging. In India, agriculture universities are spread over the entire country to cater to the human resources development in agriculture and allied fields in different agro-climatic regions. Several agricultural universities were established in India in the early 1960s to produce desirable technical manpower through education, development and dissemination of useful technologies in agriculture to the clientele. These universities adopted the tripartite function of U.S. land-grant system (Hansra, 2001). Challa et. al. (2011) have reported that agricultural education and research and development in India have grown overwhelmingly over the years but funding levels have not kept pace with growth in the number of programmes, institutions, colleges and universities. They have also reported that restricted funding and vacant faculty positions are not allowing

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institutions to modernise the programmes and infrastructure to catch up with the changing needs of agriculture and agro-processing. On the other side, it is also felt that the funding agencies are progressive and scientific community is leaving no stone unturned for bringing about paradigm changes in agriculture education in the country with strong leadership. Government of India has many programmes to facilitate better education in agriculture sector. Tamboli and Nene (2011) have reported about revitalizing higher agricultural education and Doddahanumaiah and Murthy (2001) have appreciated the role played by agricultural universities. Radhakrishna and Veerabhadraiah (2002) have mentioned that as we identify strategies in response to the initiative to strengthen higher education degree programs in Indian agricultural colleges and universities, we must encourage faculty to pursue curriculum revisions, which enable graduates to meet employment needs. Importance of good leadership in taking agriculture education ahead cannot be ignored. In literature, there are studies about leadership but there are few studies on leadership in agriculture education. With this background, a study was undertaken to analyse leadership styles of heads of Agriculture, Fisheries, and Veterinary sciences in State Agricultural Universities (SAUs) of Maharashtra.

Methodology

Maharashtra state has five SAUs. These are Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli; Marathwada Krishi Vidhyapeeth, Parbhani; Maharashtra Animal & Fishery Sciences University, Nagpur; Mahatma Phule Krishi Vidyapeeth, Rahuri and Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. Data was collected from nine colleges of these SAUs which included three Fisheries colleges located at Ratnagiri; Latur; and Nagpur; three Agriculture colleges at Nagpur; Latur; and Ratnagiri; and three Veterinary colleges at Mumbai, Nagpur, and Latur. These nine colleges of Maharashtra were taken as sample in present study. Respondents were Deans and Heads of Divisions of colleges mentioned above. Total of 9 Deans and 68 Heads of Divisions i.e., total 77 respondents formed the sample size.

Before using the Fileder LPC scale its reliability was tested by test-re-test method and found the value to be 0.7. Corroborating this, Ayman et al. (1998) measured the internal consistency of the scale and reported it to be high along with the average Cronbach alpha value as 0.89. Some studies like (Ayman, 1993) have reported that LPC score varies across cultures and scores show some variability cross-culturally. Accordingly, in our study we tested whether there was variability in scores of the respondents belonging to disciplines of Agriculture, Fisheries, and Veterinary education even though they were from similar cultural background. In addition to percentage analysis, one-way analysis of variance (ANOVA) was done using SPSS (16.0 version). Following hypothesis was tested.

H_0: There is no significant difference among leadership styles of heads of Agriculture, Fisheries, and Veterinary sciences in SAUs of Maharashtra.

H_1: There is a significant difference among leadership styles of heads of Agriculture, Fisheries, and Veterinary sciences in SAUs of Maharashtra.

Findings

Out of all respondents (N=77) it was found that 64% have relationship oriented leadership style and 36% have task oriented leadership style. This is presented in table 1.

Table 1: Leadership styles of respondents

S. No.	Leadership Style	% (N)
1.	Relationship Oriented	64% (49)
2.	Task Oriented	36% (28)
	Total (N)	**77**

In agriculture field; 68% (N=17) respondents have relationship oriented leadership style whereas 32% (N=8) have task oriented leadership style. Average LPC score of respondents of Agriculture field is 81.3 suggesting relationship oriented leadership style.

Leadership styles of respondents in fisheries field revealed that among the total; 63% (N=12) respondents have relationship oriented leadership style as their scores are above 57 whereas 37% (N=7) have task oriented leadership style. Average LPC score of respondents of fisheries field is, 86.3 suggesting relationship oriented style.

Leadership styles of respondents in veterinary field showed that 61% (N=20) respondents have relationship oriented leadership style whereas 39 % (N=13) have task oriented leadership style. average LPC score of respondents of Agriculture field is 75.3 suggesting relationship oriented leadership style.

In addition to this, one-way analysis of variance (ANOVA) is also done. Statistical software, SPSS (16.0 version) is used for this purpose. Fiedler's LPC scale scores are tested by using One-Way ANOVA under the assumption of homogeneity of variance and the result is presented in table 2.

Table 2: ANOVA table for Fiedler's LPC scale scores

Source of Variation	df	Sum of squares	Mean square	Variance Ratio "F"
Between Groups	2	169.569	84.785	6.494*
Within Groups (SSE)	6	78.339	13.057	
Total	**8**	**247.909**		

Here the variance ratio i.e., cal F (6.494) > tab $F_{(2,6)\ df}$ (0.05) = 5.14 & Tab $F_{(2,6)\ df}$ (0.10) =3.46, therefore, H_0 is rejected, resulting that there is a significant difference at 5% and 10% level of significance among the average scores of leadership styles of leaders in Agriculture, Fisheries, and Veterinary education in Maharashtra obtained by Fiedler's LPC scale. But at same time this difference is not significant at 1% level of significance as cal F (6.494) <Tab $F_{(2,6)\ df}$ (0.01)=10.92.

Even though, respondents were from similar

cultural background result of One-Way ANOVA showed that there is a significant difference among the average scores of leadership styles of leaders in Agriculture, Fisheries, and Veterinary education in Maharashtra obtained by Fiedler's LPC scale. Ayman (1993) have reported that LPC score varies across cultures and scores show some variability cross-culturally. But in the present study even with similar cultural background variability existed. Thus, it can be concluded that the variability in the LPC scores may be affected even with similar cultural background and similar occupation. Now, as One-Way ANOVA has shown that there is a significant difference among the average scores of leadership styles of leaders in Agriculture, Fisheries, and Veterinary education in Maharashtra obtained by Fiedler's LPC scale questionnaire, so to check this difference multiple comparison was performed by using post hoc test through SPSS 16.0. Results of multiple comparisons are mentioned below in table 3.

Table 3: Multiple Comparisons for Fiedler's LPC Scale Questionnaire

Fields of study		Mean Difference	Standard Error	Significant difference
Agriculture vs	Fisheries	-4.76	2.95	0.158
	Veterinary	5.86	2.95	.094
Fisheries vs	Agriculture	4.76	2.95	.158
	Veterinary	10.61*	2.95	.011
Veterinary vs	Agriculture	-5.86	2.95	.094
	Fisheries	-10.61*	2.95	.011

Table 3 reveals that the mean difference is significant at 5% level of significance for veterinary field as compared to fisheries and agriculture whereas there was not much significant difference between agriculture and fisheries fields. Field-wise variability is almost same among all the three fields. Fisheries field is significantly different at 1% level of significance than veterinary field whereas it is not different than agriculture field.

Conclusion

Relationship oriented style was found to be more common (64%). A statistically significant difference at 5% and 10% level of significance was found as regards to leadership styles using ANOVA. Multiple comparisons by using post hoc test through SPSS 16.0 also confirmed this. The multiple comparisons also revealed that mean difference is significant at 5% level of significance for veterinary field as compared to fisheries and agriculture fields whereas there was not much significant difference between agriculture and fisheries fields. This study proposes that leadership issues in the field of agriculture education need to be studied in detail. Moreover, the study also uncovers that leaders in agriculture, fisheries and veterinary education are not a homogeneous group as regards to leadership styles and significant differences exist within this group. The results of this study can be used in connecting leadership theories and leadership training and development. Ayman (2000) and Day (2000) have reported that this aspect is not well researched. But, it is expected that there will be positive effects on the organisations if

training programmes are designed and matched with the leadership styles. Moreover, the study offers a module that improves leaders' self-awareness.

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Study on Radio Listening Behavior of Women in Belgaum District of Karnataka State

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Radio is one of the most important and cheapest mass media through which the messages can be conveyed quickly to large group of audience, irrespective of distance and literacy level. It is very useful in rural development programmes. It covers great distance and all kind of natural barriers. Radio communication can be received even where there is no electricity. It is usually effective for literates and illiterates. It has a great variety of content related to farm, home, community, and entertainment.

Radio broadcast was first started in India in 1927 with two privately owned transmitters at Bombay and Calcutta. Radio broadcasting was taken over by the government in 1930 which started operating under the name of "India Broadcasting Service". When India achieved freedom in 1947 there were only six radio stations with 2.5 lakh radio sets and it worked out as one set for every 12,500 population. In 1957 " All India Radio" name of the service was changed to Akashvani which was given by **"Professor Gopalswamy of Mysore".** Today, radio broadcasting covers 97.5 percent of the population and 91 percent of the area. The great potentiality of radio as a mass media can effectively be harnessed for not only informing and educating the people but also for providing them healthy environment.

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Women in Indian society are amongst the least developed, illiterate and exploited lot, even though they constitute almost half of the population (48%), They still suffer from the drudgery of household task with hardly any time or no opportunity for recreation. An Indian woman is a key figure in a home or family. Hence, radio can be used to help women in understanding their role and their contribution.

In view of the above facts the present study was designed to analyze the listening behavior of rural women with the following specific objectives.

1. To delineate the progrmmes of radio preferred by rural women and to study their credibility.
2. To find out the extent of usage of radio information
3. To identify the preferences of rural women with reference to radio.

Methodolgy:-

1. Research methodology is the blue print of the research architect. The study was conducted during the year 2011-12 in Belgaum district of Karnataka state. The main focus of this investigation was to study the radio listening behavior of rural women
2. The study was conducted in Athani taluk of Belgaum district. Belgaum district is situated in northern part of Karnataka state. The climatic condition in the district is characterized by general dryness, except during the monsoon season. The normal rainfall of the district is 808 mm with temperature ranging from 14°C to 39°C. The rivers flowing in the district are Ghataprabha and Malaprabha.
3. The Village of Athani taluk were selected randomly. There are 108 villages in Athani Taluka. Out of which four villages were selected randomly, namely Katgeri, Nandgaon, Badachi, Aigali because of the convenience and limited resources like time, money and energy.

Table 1. Radio programmes delineated and preferred by rural women

N =100

Sl. No.	Radio Programmes delinated		Preferences by rural women (%)
	Category	Programmes broadcasted	
I.	Farm programmes	Raitarige Salahegalu	63.00
		Krishiranga	48.00
		Meet the specialist	32.00
		Agricultural Marketing	10.00
II.	Home Programmes	Radio Doctors	65.00
		Kelu galati	55.00
		Grahalaxmi	52.00
		Balbutti	52.00
		Mahila ranga	52.00
		Makaranda	47.00
		SDM Doctor	43.00

Sl. No.	Radio Programmes delinated		Preferences by rural women (%)
	Category	Programmes broadcasted	
		Mavu Mallige	41.00
		Gilivindu	40.00
		Yelayar balag	33.00
III.	Community programmes	Talk in Kannada	34.00
		Baan dani	24.00
		Karmikarigagi	--
		Samudaya geete	--
IV.	Any other programmes		
A.	Philosophical Programmes	Keertana	56.00
		Gandhi Smruti	23.00
		Chintana	15.00
B.	News	FD News	68.00
		Local News	51.00
		Pradesh Samachar	43.00
		Hindi News	--
		Sanskrit News	--
C.	Music Programmes	Nandana	75.00
		Rasagange	71.00
		Chitra Geete	68.00
		Inchara	60.00
		Patra sanchaya	60.00
		Hello Aakashwani	56.00
		Hindi Songs	48.00
		Folk Music	40.00
		Subrabhat	35.00
		Sugam Sangeet	18.00
D.	Other information programmes	Railway Announcement	9.00
E.	Educational Programmes	Hindi Path	--
		Sc. Magazine Programme	--
F.	Serials	Matu Kati	36.00

Table 2. Extent of usage of radio information by the rural women

Sl. No.	Uses	Respondents			Index
		Maximum Extent (%)	Some Extent (%)	Never (%)	
1.	Awareness of new technologies	32.00	41.00	17.00	68.30

Sl. No.	Uses	Respondents			Index
		Maximum Extent (%)	Some Extent (%)	Never (%)	
2.	Increased Knowledge	20.00	52.00	18.00	64.00
3.	Information Exposure	16.00	47.00	27.00	59.60
4.	Helpful for decision making	14.00	45.00	31.00	55.00
5.	Useful for adoption	10.00	45.00	35.00	53.03
				Overall Index of Usage	59.22

Findings

Radio programmes delineated and preferred by rural women.

Table 1 reveals that with reference to farm progammes, significant percentage (62.00%) of the respondents listened "Raitarige Salahegalu".It includes various information related to agriculture which is their main occupation, so they are more interested to listen to this programmer.

Regarding home programmes 62.00% of the respondents listened "Radio Doctor' programme. This programme gives basic information and precautionary measures on different diseases like Blood Pressure (BP) diabetes, cancer, fever,typhoid,malaria etc.

With respect to community programmes 34 per cent of the respondents listened. 'Talk in Kannada'. This programme helps personality development like positive thinking, develops self confidence, and builds personality and knowledge.

Extent of usage of radio information by the rural women.

Extent of usage of radio information is measured as maximum extent, some what extent, never, change in knowledge, attitude and adoption levels among radio listeners is a clear cut identification of successful media communication. As it could be seen from the results 32% of the respondents indicated that they are aware of new technologies to the maximum extent as they listened radio programmes regularly. 51% of the respondents expressed that their knowledge has been increased to some extent. Listening of programme is helpful for creating awareness and increasing information about new technologies programmes and policies.

Radio programmes preferred by rural women

Rural women preferred programmes on entertainment, agricultural, social evil, women and children welfare programmes, food and nutrition, income generating programmes, home related programmes,health progrmmes, youth programmes on entertainment. Most of the time during the day rural women were busy in their activities and they were always involved in heavy chores. Hence they want relaxation and relief to mind and body.

Suggestions for improvement of radio programmes:

The suggestions offered by the respondents are having remarkable percentage (41.00) of the rural women have suggested to increase the duration of informative and important programmes. They felt that existing duration allotted to programmes were insufficient and wide coverage on relevant topic was not possible in short duration. The result of the study was in line with the report by Pillia et al..(1997).

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Association between Socio-economic Profile Characteristics of Tibetan Rehabilitants and their Problems

Marbaniang, E. K., Manjunath, L.

Socio-economic profile is of paramount importance as it regulates the decision making and adoption behavior of an individual. Poor participation of the people in the social organization and simultaneously average exposure to different communication sources and education level contributes a lot to the welfare of the living standard of the people. A livelihood comprises the capabilities, assets (stores, resources, claims and access) and recovers from stress and shocks maintain or enhance its capabilities and assets and provide sustainable livelihood opportunities for the next generation and which contributes net benefits to other livelihoods at the local and global levels and in the long and short run (Chambers and Conway, 1992). The Tibetans had been migrated to India in the wake of the takeover of Tibet in 1959 by the China. They brought their culture and implanted here and became integral part of India. The Tibetans had been adjusted to host society for over the years-adaptation to the local environment and social conditions facing problems in one way or the other. Keeping this in view, the present study was under taken with

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following objective: To find out the association between socio-economic characteristics and livelihood activities undertaken by the Tibetan rehabilitants. Keeping this in view, the present investigation was designed with the following specific objectives:

1. To find out the association between socio-economic characteristics and livelihood activities undertaken by the Tibetan rehabilitants
2. To identify the problems and suggest improvement in their livelihood activities

Methodology

The investigation was carried out in Tibetan refugee colony, Mundgod taluk of Karnataka state during the 2009-10. A list of nine villages was selected from Tibetan refugee colony by adopting simple random sampling method with 135 respondents as the total sample. Thus, 15 respondents was taken from each village. The socio-economic profile was probed with the help of an interview schedule developed for the study. For quantitative analysis, percentages, mean, standard deviation was used for the study. Chi-square test was calculated to find out the association between the socio-economic characteristics and livelihood activities undertaken by the Tibetan rehabilitants.

Findings

A. Association between socio-economic characteristics and livelihood activities undertaken by the Tibetan rehabilitants

Education

It can be seen from the data presented in Table 1 that the chi-square value (51.26) between education and livelihood activities was found to be highly significant associated. In terms of education, 17.78 percent of the Tibetan rehabilitants with agriculture + dairy had education up to primary school, whereas 0.74 percent of them with non-farm had education up to middle school. The findings were in line with the research results of Sarma (2004). Education is not merely a process of imparting or acquiring knowledge and habits through instruction or study but its main aim is to prepare an individual for life and all-round development of human in his/her society.

Family size

A perusal of Table 2 expressed that family size was significant associated with the livelihood activities. Less percentage of 18.52 with agriculture + non-farm and agriculture + dairy (17.78%) had medium family size and 2.97 percent each with non-farm and agriculture had large size family. As majority (51.85%) of the Tibetan rehabilitants belonged to big family, more number of the family members participated in the livelihood activities. The findings were in line with the research results of Dolli (2006).

Annual family income

Chi-square value (65.23) between annual family income and livelihood activities was

found to be highly significant associated. Considerable percent of 19.26 with agriculture had low medium income level, followed by agriculture + dairy (17.78%) who had semi-medium income level. More the income generating activities more will be the opportunities for generating more annual income. The findings were in line with the research results of Tranthi *et al*. (2001).

Extension contact

Table 4 signifies that extension contact had no significant difference with the livelihood activities. Data revealed that 20.74 percent of the Tibetan rehabilitants with agriculture + non-farm and agriculture + dairy (19.26%) had medium level of extension contact, whereas 0.74 percent of them with agriculture had low level of extension contact. Majority of the respondents had extension contact with the Tibetan cooperative service bank limited officials, only whenever problem arises. Extension contact will not be of immense help to the respondents unless an individual really aware enough of the farm technology around, as well as participate in any farm technology.

Economic motivation

A glance at the data given in the Table 5 reveals that economic motivation was highly significant associated with the livelihood activities. About 18.52 percent of the Tibetan rehabilitants with agriculture + dairy had high level of economic motivation, followed by agriculture + non-farm (17.04%) who had medium level of economic motivation. This shows that there was a significant difference between the selection of livelihood activities and economic motivation among the Tibetan rehabilitants. With 39.25 per cent of the respondents had semi-medium level of annual income, and 18.51 per cent of the respondents had undergone medium training level, the respondents were encouraged to take new and challenging employment opportunities. The findings were in line with the research results of Biradar (2008).

Risk orientation

Risk orientation was highly significant associated with the livelihood activities. About 19.26 percent of the respondents with agriculture + dairy had high level of risk orientation, followed by agriculture + non-farm (17.78%) who had medium risk orientation. As nearly half of the respondents (47.40%) were educated up to primary school, the respondents really had capacity to take decision under uncertainty and can also withstand the uncertainties in their activity. Thus, an individual can progress in his/her day-to-day livelihood activities. The findings were in line with the research results of Sushma (2007).

Social participation

From Table 7, it was very clear that social participation was significant associated with the livelihood activities. Here, 17.78 percent of the respondents with agriculture + dairy and agriculture + non-farm (15.56%) had

high level of social participation, whereas only 1.48 of them with non-farm had medium level of social participation. Majority of the respondents used to participate in any activities conducted by the Tibetan cooperative service bank limited viz., training, fairs and festivals. Through their participation they used to share the problems and suggestions faced in their livelihood activities among them which brought more support and strength to face any uncertainty in their activities. The findings were in line with the research results of Kumawat and Sharma (1997).

B. Problems and suggestions of the Tibetan rehabilitants

Problems

It is clear from Table 8 that majority (63.70%) had lack of labour force problem because the labourers were mainly the Indian daily wage earners from the nearest villages of Koppa, Gangarathi, Sindoor, Hunugund and Bommigatta. They were few in numbers and were more technically experienced than the Tibetans. Also, the family labours among the Tibetans were very few. Lack of irrigation facilities and uncertainty of rainfall (62.96%) because the farmers were mainly depend their crops only on monsoon. About 29.63 percent expressed lack of veterinary facilities in the settlement because more susceptibility of cows and buffaloes to disease and pests it may cause to lose their animals frequently. Again 11.12 percent of the rehabilitants revealed that lack of remunerative price for farm produce and high price fluctuation. It may due to the fact that, majority of the Tibetan rehabilitants were facing the constraints like failure and erratic rain, high cost of inputs, labour problem. The findings were in line with the research results of Manjunath (2007).

Suggestions

An analysis from Table 9 revealed that majority of the Tibetan rehabilitants (59.25%) suggested creating water facilities by sinking open wells, tube wells or by constructing small tanks for crop cultivation as well as for their animals sufficiently as most of the farmers were depending on monsoon for agriculture. A considerable percent of 44.45 suggested training on skill development in the enterprises, followed by 29.62 and 25.92 percent suggested better milk price for the producer and veterinary hospital facilities because majority of the respondents had undertaken cow and buffalo dairy activities in which the livestock were more susceptible to pest and diseases so, they need regular vaccination and other treatments. The findings were in line with the research results of Deepak (2003).

Other suggestions offered by Tibetan rehabilitants were educating them on improvement of dairy management practices especially on feeding of milch animals, pregnant animals, care of pregnant animals (31.12%) and 7.40 percent of them suggested to increase the salary among the service personnel to improve their daily livelihood. The findings were in line with the research results of Singh *et al.* (2004).

Table 1: Chi-square value of levels of education and livelihood activities (n=135)

Education Level	Livelihood activities										Chi-square value
	Agriculture		Agri + Dairy		Agri+Non-farm		Non -farm		Total		
	F	%	F	%	F	%	F	%	F	%	
Illiterate	14	10.37	14	10.37	6	4.45	6	4.45	40	29.63	
Primary school	15	11.11	24	17.78	16	11.85	9	6.67	64	47.41	
Middle school	-	-	3	2.23	6	4.45	1	0.74	10	7.41	
High school	-	-	1	0.74	8	5.92	6	4.45	15	11.11	51.26**
College	-	-	-	-	-	-	3	2.22	3	2.22	
Graduate	-	-	-	-	-	-	3	2.22	3	2.22	
Total	29	21.48	42	31.12	36	26.67	28	20.76	135	100	

Note: F = Frequency; % = Percentage,*- Significant at 5%, ** -Significant at 1%

Table 2: Chi-square value of family size and the livelihood activities (n=135)

Family size	Livelihood activities										Chi-square value
	Agriculture		Agri+Dairy		Agri+Non-farm		Non -farm		Total		
	F	%	F	%	F	%	F	%	F	%	
Low	14	10.38	6	4.45	5	3.70	8	5.93	33	24.45	
Medium	11	8.14	24	17.78	25	18.52	16	11.86	76	56.30	
High	4	2.97	12	8.89	6	4.45	4	2.97	26	19.25	16.03*
Total	29	21.48	42	31.12	36	26.67	28	20.76	135	100	

Note: F = Frequency; % = Percentage,*- Significant at 5%, ** -Significant at

Table 3: Chi-square value of annual family income and the livelihood activities (n=135)

Annual family income	Livelihood activities										Chi-square value
	Agriculture		Agri+Dairy		Agri+Non-farm		Non -farm		Total		
	F	%	F	%	F	%	F	%	F	%	
Low income	26	19.26	10	7.40	5	3.71	2	1.48	43	31.86	

Annual family income	Livelihood activities										Chi-square value
	Agriculture		Agri+Dairy		Agri+Non-farm		Non -farm		Total		
	F	%	F	%	F	%	F	%	F	%	
Semi-medium income	2	1.48	24	17.78	16	11.85	13	9.63	55	40.73	65.23**
Medium income	1	0.74	5	3.70	10	7.40	9	6.67	25	18.51	
High income	-	-	3	2.23	5	3.71	4	2.97	12	8.90	
Total	29	21.48	42	31.12	36	26.67	28	20.76	135	100	

Note: F = Frequency; % = Percentage,*- Significant at 5%, ** -Significant at 1%

Table 4: Chi-square value of extension contact and the livelihood activities (n=135)

Extension contact	Livelihood activities										Chi-square value
	Agriculture		Agri+Dairy		Agri+Non-farm		Non -farm		Total		
	F	%	F	%	F	%	F	%	F	%	
High	10	7.40	14	10.38	7	5.19	5	3.71	36	26.67	10.56 NS
Medium	18	13.34	26	19.26	28	20.74	18	13.34	90	66.67	
Low	1	0.74	2	1.48	1	0.74	5	3.71	9	6.67	
Total	29	21.48	42	31.12	36	26.67	28	20.76	135	100	

Note: F = Frequency; % = Percentage,*- Significant at 5%, ** -Significant at 1%

Table 5: Chi-square value of economic motivation and the livelihood activities (n=135)

Economic motivation	Livelihood activities										Chi-square value
	Agriculture		Agri+Dairy		Agri+Non-farm		Non -farm		Total		
	F	%	F	%	F	%	F	%	F	%	
High	4	2.96	25	18.52	10	7.40	2	1.49	41	30.37	41.91**
Medium	18	13.34	15	11.12	23	17.04	13	9.63	69	51.11	
Low	7	5.18	2	1.48	3	2.23	13	9.63	25	18.52	
Total	29	21.48	42	31.12	36	26.67	28	20.75	135	100	

Note: F = Frequency; % = Percentage,*- Significant at 5%, ** -Significant at 1%

Table 6: Chi-square value of risk orientation and the livelihood activities (n=135)

Risk orientation	Livelihood activities										Chi-square value
	Agriculture		Agri+Dairy		Agri+Non-farm		Non -farm		Total		
	F	%	F	%	F	%	F	%	F	%	
High	6	4.45	26	19.26	8	5.92	6	4.45	46	34.08	34.37**
Medium	22	16.29	14	10.38	24	17.78	13	9.63	73	54.06	
Low	1	0.74	2	1.48	4	2.97	9	6.67	16	11.86	
Total	29	21.48	42	31.12	36	26.67	28	20.75	135	100	

Note: F = Frequency; % = Percentage,*- Significant at 5%, ** -Significant at 1%

Table 7: Chi-square value of social participation and the livelihood activities (n=135)

Social participation	Livelihood activities										Chi-square value
	Agriculture		Agri+Dairy		Agri+Non-farm		Non -farm activities		Total		
	F	%	F	%	F	%	F	%	F	%	
High	20	14.81	24	17.78	21	15.56	22	16.30	87	64.44	15.28*
Medium	3	2.22	5	3.71	3	2.22	2	1.48	13	9.62	
Low	6	4.45	13	9.63	12	8.89	4	2.97	35	25.94	
Total	29	21.48	42	31.12	36	26.67	28	20.75	135	100	

Note: F = Frequency; % = Percentage,*- Significant at 5%, ** -Significant at 1%

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Constraints in Adoption of Export Oriented Cultivation Practices of Mango

Shivakrishna Kota[1], V.J. Tarde[2] and V.S. Shirke[3]

Andhra Pradesh is the leading mango producing state in the country in terms of area and production. The state is having different agro-climatic zones, supporting a wide range of agricultural and horticultural crops. Among the fruit crops, the mango exporting has drawn greater attention of Andhra Pradesh farmer majorly of the Krishna and Chittoor districts in the state. There is wide scope in the state to increase the mango production in terms of area as well as production. This is possible through untapped natural resources and by use of technology with inputs and services. The study analyses constraints faced and suggestions made by mango growers in adoption of export oriented mango cultivation practices. Exploratory research design was adopted for the study. A large majority of the mango growers stated that due to involvement of middlemen mango produce fetch low price, mango produce fetches less price due to late maturity of mangoes, continuous fluctuations in market prices and high commission charges. Nearly three fourth of farmers stated lack of disinfection technology and vapour heat treatment for the export of fresh mangoes, malpractices in weighing, storage of mangoes is economically unfeasible, losses during transportation due to unavailability of reefer vans as their constraints. Majority of mango growers were suggested to provide transporting system for promotion of export followed by complete elimination of mediators, Horticultural officers should conduct training programmes to bring awareness on mango package of practices, educating mango growers towards exporting quality production of mangoes and provide crop insurance/ assurance facilities at the time of calamities.

Methodology

The study was conducted in Vissannapet, Reddigudem, Nuzvid and Agiripalli tahsils of the Krishna district of Andhra Pradesh . From each selected tahsil, 30 mango growers were selected by following simple random sampling technique (Lottery method). Thus a total of 120 mango growers from 48 villages of four tahsils were selected for the study and were interviewed with the help of structured interview schedule personally

Findings

Constraints faced by mango growers in adoption of export oriented mango cultivation practices

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The objective of the study was to identify the pre and post harvest technologies / practices, marketing and exporting constraints in the export of mangoes as perceived by the mango growers presented in table. 1

Table: 1 Constraints faced by the mango growers regarding export oriented mango cultivation practices

Sl. No.	Constraints	Respondents (N=120)	
		Frequency	Percentage
1.	**Pre harvest**		
a.	Inadequate and untimely availability of loans for mango cultivation.	39	32.50
b.	Unavailability of information material in local language*Telugu*	35	29.17
c.	Low knowledge and skill in identification of pests and diseases.	32	26.67
d.	High cost of fertilizers, pesticides, fungicides and biopesticides.	31	25.83
e.	Unavailability of pest and disease resistant improved seedlings and grafts.	30	25.00
2.	**Post harvest**		
a.	Lack of disinfection technology and vapour heat treatment for the export of fresh mangoes.	89	74.17
b.	Malpractices in weighing	88	73.33
c.	Storage of mango is economically unfeasible	84	70.00
d.	Losses during transportation due to unavailability of reefer vans	76	63.33
e.	Loading and unloading of mango fruit is expensive.	67	55.83
3.	**Marketing and Exporting**		
a.	Due to middlemen it fetch less price	114	95.00
b.	Mango produce fetches low price due to late maturity	111	92.50
c.	Continuous fluctuations in market prices	109	90.83
d.	High commission charges.	101	84.17
e.	Lack of technical know-how on shipment export	68	56.67

1. Pre harvest constraints as perceived by mango growers

The data from table 1 revealed that inadequate and untimely availability of loans for mango cultivation (32.50 per cent) as their major constraint followed by unavailability of information material in local language (Telugu) (29.17 per cent), low knowledge and skill in identification of pests and diseases (26.67 per cent), high cost of fertilizers, pesticides, fungicides and biopesticides (25.83 per cent), unavailability of pest and disease resistant improved seedlings and grafts (25.00 per cent).

2. Post harvest constraints as perceived by mango growers

Regarding Post Harvest constraints lack of disinfection technology and vapour heat treatment for the export of fresh mangoes was expressed by (74.17 per cent) of the mango growers as their major constraint followed by malpractices in weighing (73.33 per cent), storage of mango is economically

unfeasible (70.00 per cent), losses during transportation due to unavailability of reefer vans (63.33 per cent) and scarcity of time and place for grading of fruits (56.67 per cent).

3. Marketing and Exporting constraints as perceived by mango growers

Due to involvement of middlemen mango produce fetch low price (95.00 per cent) of the mango growers as their major constraint followed by mango fetches less price due to late maturity of mango fruit (92.50 per cent), continuous fluctuations in market prices (90.83 per cent), high commission charges (84.17 per cent) and lack of technical know-how on shipment export (56.67 per cent).

Suggestions made by mango growers to overcome the constraints in adoption of export oriented mango cultivation practices

Considering the constraints experienced by mango growers in adoption of export oriented mango cultivation practices. They were requested to offer their valuable suggestions to overcome constraints. The suggestions made by the mango grower are presented in table. 2

Table:2 Suggestions made by the mango growers to overcome constraints in adoption of export oriented mango cultivation practices

Sl. No.	Suggestions	Respondents (N=120)	
		Frequency	Percentage
1	Transporting system should be well developed for promotion of export.	110	91.67
2	Complete elimination of mediators.	108	90.00
3	Horticultural officers should conduct training programmes to bring awareness on mango package of practices.	101	84.17
4	Educating farmers towards exporting quality production of mangoes.	98	81.67
5	Crop insurance/ assurance	96	80.00
6	Government should fix minimum support price to the mango produce.	89	74.17
7	Infrastructure facilities for storing /packing/pack house for farmer.	86	71.67
8	Training programmes should be conducted to reduce losses in Post Harvest Technologies.	81	67.50
9	Technical know-how for production of quality fruits.	58	48.33
10	Organic cultivation through Phosphobacter, Azospirllium etc.	48	40.00

It is revealed from table 2 that majority (91.67 per cent) of mango growers were suggested to develop transporting system for promotion of export followed by complete elimination of mediators (90.00 per cent), Horticultural officers should conduct training programmes to bring awareness on mango package of practices (84.17 per cent), educating mango growers towards exporting quality production of mangoes (81.67 per cent) and provide crop insurance/ assurance facilities at the time of calamities (80 per cent). Less than three fourth (74.17 per cent) of mango growers suggested that

Government should fix minimum support price on mango produce followed by Government should provide infrastructure facilities or pack house for progressive mango grower (71.67 per cent), Training programmes should be conducted to reduce losses in Post Harvest Technologies. Less than half (48.33 per cent) of mango growers suggested to provide technical know-how for production of quality fruits followed by organic cultivation through Phosphobacter, Azospirillium etc., (40.00 per cent).

Conclusion

From the above discussion, it can be concluded that the concentrated efforts should be taken by Agriculture Department and Agriculture University to educate and motivate the farmers for the successful adoption of improved practices in order to have better yield from mango growers. To increase the productivity it is necessary to organize method, result demonstrations, trainings and exposure visits to show the importance of practices namely seedling treatment, and mulching of the crop.

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Extent of Income Generation and Its Utilization by Women Beneficiaries of SGSY Programmme

Dr. Manju Gupta[1], Ms.ReetaYadav[2] and Ms. Vandana Joshi[3]

Women are being increasing seen as important index for the development of the nation; it is necessary to foster economic empowerment among women and encourage them to take up independent income generating activities so that the

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significant workforce of the country may be utilized more efficiently for the progress of the country. In order to improve their status and position at home and in society at large, it is necessary to achieve economic independence for women. Making women more productive –hence more effective income earners-will reduce their own lives and those of all Indian. Entrepreneurship development of women is essential to provide economic opportunities to them. A holistic programme covering all aspects of self-employment was introduced by the government of India in 1999, which is popularly known as Swarnjayanti Gram SwarozgarYojana (SGSY). SGSY is a single cell, self-employed programme for rural poor aimed at establishment of large number of micro enterprises. This is a credit –cum- subsidy programme. SGSY programme particularly focus on the most deprived groups among the rural poor, the SC/ST account for at least 50 per cent of the Swarozgaries, women for 40 per cent and disabled for 3 per cent.

SGSY programme can provide women with economic security, family and social status and individual dignity. It is therefore, necessary to take care of their aspirations by creating conducive environment and also by developing entrepreneurial ability which could really help in utilization of manpower resources effectively leading to self-reliance and improved productivity at different levels. The SGSY programme has helped much more in the economic development of rural women. Therefore present study aimed to find out income generation from the micro enterprise promoted under SGSY programme.

Methodology

The present study was conducted in 2 blocks namely Baskhari and Tands of Ambedker Nager district of U.P. State. Total 8 villages were selected from these 2 blocks.

For the selection of sample a comprehensive list of women beneficiaries was prepared in consultation with block official and SGSY functionaries. From this list a total sample of 100 women beneficiaries was selected purposively. The data were collected through personal interview and group discussion with the help of interview schedule developed for this purpose. The collected data were analyzed by using frequency and percentage.

Findings

Extent of Income Generation from different enterprises:

The data in table shows that out of 100 respondents 36 had adopted dairy enterprise. Dairy enterprise was paying more income in comparison to other enterprises. The average annual income from the enterprise was Rs. 83,520/- with an expenditure of Rs. 49,160/-. Hence, the net profit from the enterprise was Rs. 44,360/- per year. This enterprise may be more profitable if the beneficiaries will be assisted through proper marketing and health care facilities within their own village.

Table 1: Extent of Income Generation from different enterprises by SGSY Beneficiaries

S. No.	Name of enterprise	No. of respondent	Average products sold in a year	Average income earned in a year (Rs.)	Total expenditure per year (Rs.)	Net profit earned per annum (Rs.)
1.	Dairy	36	6960 liters/year	@ Rs. 12/ liter 83,520/-	49,160/-	44,360/-
2.	Goat rearing	30	24 goats	@ Rs. 1000/ goats	12,000/-	12,000/-
3.	Poultry	17	2880 no. of eggs & 32chicken	@ Rs. 2.5/- & @ Rs. 500/- 23,200/-	12,000/-	11,200/-
4.	Tailoring	8	667 numbers of dresses	@ Rs. 35-60/- 28,055/-	8,000/-	20,055/-

Table further indicates that goat rearing was the second enterprise adopted by one third of the respondents (30%) after dairy. The average annual income from the enterprise was Rs. 24,000/- with an expenditure of Rs. 12,000/-. Hence, the net profit from the enterprise was Rs. 12,000/- per year. The reason for low income from goat rearing enterprise might be poor technical know-how, poor management practices, lack of marketing facilities and extreme fluctuations in prices etc.

Income from poultry is based on number of birds/hens possessed, management practices, egg yield & their marketing facility. The annual income from the enterprise was Rs. 23,200/- per year with an expenditure of Rs. 12,000/- on the feeds, their management & health care facilities. Thus, the net profit from the enterprise was Rs.11,200/- per year. The reason for low income might be loss of chickens, lack of proper medical facilities for the birds & lack of management practices.

The income from goat rearing & poultry enterprise can be increased by providing proper technical knowledge & rearing & caring facilities to the entrepreneurs.

Income from tailoring can provide handsome return in comparison to other enterprises. The women were preparing stitched garments and utility items like begs, jackets etc. Table 1 clearly indicated that only 8 respondent were engaged in tailoring enterprise. In tailoring enterprise the women stitch the garments like ladies suits, petticoat, blouses, frocks and school dress of the children. Average dress preparation in year was 667 dresses. They were preparing it on customers demand. The annual income earned from this enterprise was Rs. 28,055/- with the an expenditure of Rs. 8,000/-. Hence, the net profit earned from the enterprise was Rs. 20,055/- per year. This enterprise can also be strengthen by providing more technical guidance and technological know-how to be entrepreneurs.

Utilization of income from different enterprises:

Findings of the study reveals that participation of the respondents in SGSY programme significantly contributed to the increase in income and thereby, their level of living.

Table 2: Distribution of respondents on the basis of utilization of income earned from different enterprises

N-100

S. No.	Use of earned money	f (%)
1.	Unit reinvestment	52
2.	Essential family requirements and maintenance of home	98
3.	Purchasing luxury items	2
4.	Savings	80
5.	Purchase of agriculture equipment and animals	21
6.	Education of childr en	22
7.	Other Social functions	62
8.	Marriage of their own children	32

Multiple responses

Table 2 indicates that majority of the respondents (98%) have utilized the money to fulfill their family requirement viz. food, clothing, health and maintenance of house etc., similarly 80 per cent respondents have utilized the income for saving purpose, 62 per cent to fulfill other social functions like recreation and festivals. The data further indicate that 32 per cent respondents utilize their income in marriage of their children & 21-22 per cent for purchase of agriculture equipment, animals & education of their children.

Conclusion

On the basis of the findings it could be concluded that all the four enterprises had helped rural women in generation of income. Through these enterprises running by rural women are viable for them but they can get good income by providing adequate technical, infrastructure & marketing support. The SGSY programme significantly contributed to the increase in income and thereby, their level of living.

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MAHARASHTRA SOCIETY OF EXTENSION EDUCATION
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Dr. V. S. Shirke
Secretary, MSEE

Report of the Secretary for the year 2012

Dear Members,

I take this opportunity with immense pleasure to present the progress report of Maharashtra Society of Extension Education before the distinguished members of the society.

The Maharashtra Society of Extension Education was formed in the year 1980 at the College of Agriculture, Nagpur and registered in the year 1982 with the strong and motivated initiative of the founder members Dr. R.R. Sinha, Dr. V.R. Kubde and Dr. D.M. Nikhade. The society was established with the following objectives.

1. To publish a scientific journal devoted to the research in the field of extension education
2. To organize National level seminars, workshops, conferences on various need based aspects in extension education to come out with valuable recommendations for national and state level policy makers
3. To institutionalize and award various prizes to encourage and improve professional competence of students, researchers and teachers

Ever since its inception, the society has made formidable progress and has come to the forefront with the inspiration and able guidance of Dr. A.G. Sawant, President, Dr. R.R. Sinha and Dr. K.D. Kokate, Vice-Presidents, all stalwarts and internationally acknowledged scientists in the field of extension education. The society has been regularly organizing events like national seminars and publishing its journal. The Maharashtra Journal of Extension Education has been renamed as Asian Journal of Extension Education and is being published with its new name since 2004 in continuation with its earlier volume numbers. During last year we have published Journal volume of the year 2010 and 2011and during this current year the volume for the year 2012 has been published.

During the Annual General Body meeting of the society held at Goa on September 26, 2008, it was decided to shift the office of the MSEE from the Directorate of Extension Education, MPKV, Rahuri to the Division of Extension Education at College of Agriculture, Pune.

NAAS Rating of the Journal :

I am very glad to inform that the proposal for NAAS Rating of the Journal was made to the ICAR. The sincere efforts were made to comply the formalities thereof. However, it is proud to know to all our dignitaries, officials and members of the Society that the Asian Journal of Extension Education has been NAAS Rated as 2.4 by the ICAR in the month of December 2010.

It also gives me immense pleasure to inform the members that the Society has started its website and was inaugurated at the hands of Dr. K.D. Kokate, Hon'ble DDG, ICAR during National Seminar held at DBSKKV, Dapoli on 5th March, 2010. In order to facilitate paperless fast and efficient submission of research articles for publishing in the journal and all other related correspondence, the **e-mail** address of the society **mseepune@gmail.com** has been started and being used for communication and correspondence.

On the financial scenario, presently the society has capital funds worth Rs. 4,00,000/- alongwith fixed deposits worth Rs. 1,54,000/- in all.

I am confident that with the farsighted leadership at the helm of this society, it shall continue to grow, progress and prosper at an accelerated pace.

I wish to appreciate the painstaking efforts made by my colleagues Dr. V.J. Tarde, Treasurer and Dr. H.P. Sonawane in bringing out this issue of the Asian Journal of Extension Education for the years 2012. I sincerely thank the members of the Executive Body of MSEE and Editorial Board of the Asian Journal of Extension Education and the distinguished members of MSEE for their whole hearted co-operation and encouragement towards the noble cause of the society.

Pune
Dec. 2012

V. S. Shirke

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