2. REVIEW OF LITERATURE

Review of literature is of paramount importance to any research endeavour. It helps the researcher in studying the research works done and the results obtained by other researchers, earlier, in the similar field of investigation.

A very limited number of published research works relating to the present study, i.e., the impact of scientific dairy farming training and home science activities on farmwomen, were available. Moreover, the reviews relating to impact of scientific dairy farming were found to be mainly confined to male trainees. However, keeping in view the above facts and the objectives of the study, efforts have been made to collect all the available and relevant information, and the same are presented here under different sub-heads :

2.1 Concept of training
2.2 Studies related to trainings in general
2.3 Role of farmwomen in dairying and home science activities
2.4 Independent variables
2.5 Dependent variables

2.1 CONCEPT OF TRAINING

Singh (1980) defined training as a kind of learning process in which an individual undergoes learning experience to internalize desired knowledge, skill and attitude resulting in increased ability to perform a specific job in a better way.

Khemmani (1983) defined training as a planned communication process, which results in changes in attitude, skill and / or knowledge in accordance with the specific objectives relating to the desired pattern of behaviour.
The International Labour Organization (ILO, 1986) defines training as activities, which essentially aim at providing the skills, knowledge and attitude required for employment in a particular occupation, group of relation or for exercising a function in any field of activity.

2.2 STUDIES RELATED TO TRAININGS IN GENERAL

Thombre et al. (1987) suggested that extension efforts needed to be directed towards educating farmwomen in the importance of consuming wheat, rice and vegetable on daily basis as well as towards popularizing the recommended methods of cooking different meals.

Singh (1989) suggested that there was a need to organize the training programmes for the farmers and conduct demonstration on dairy practices.

Shurpall and Hirevenkanagoudar (1992) revealed about the feedback obtained from the respondents, in order of preference that: practical-oriented training programmes (62%), field demonstrations (50%) and audio-visual aids (43%), respectively.

Kaushik and Singhal (1993) reported that majority of respondents had no training in dairy farming.

Sharma (1994) reported about the training of rural women in home science and revealed the subjects applicable to the land and home were: agricultural and animal sciences, post-harvest technology, dairy, poultry, fishery production, food and nutrition, human and child development, clothing and textiles, and family resources management.

Chandargi and Hunshal (1995) revealed that majority of rural women (90.93%) preferred short training programme having a duration of one week, to be conducted in villages.

Pujar et al. (1996) reported that a large majority of farmwomen attended training to get more technical information about home science, dairy, and rabbit farming, and majority of trainees were satisfied about the presentation of subject matter, and the facilities provided at the training centre.
Dahiya et al. (1997) revealed that a combination of media with lecture was helpful in retaining and sustaining interest, knowledge and clarity of message by the farmwomen after attending the training in the field of grain storage.

Darbha et al. (1999) reported that age, education, occupation and family cooperation were non-significantly correlated to adoption; whereas education, land holding and annual income have positive and significant relation with knowledge.

Jondhale et al. (2000) indicated that age, education, land holding, extension contact, socio-economic status and mass media exposure had significant and positive relationship with the adoption of improved practices of summer groundnut.

Badigar et al. (2001) reported in their studies that home visit, demonstration, film show and exhibition methods were preferred by majority of farmwomen.

Devdas (2002) revealed that massive training efforts in the areas of nutrition for vulnerable groups have formed the basis for regional and nationwide nutritive intervention strategies.

2.3 ROLE OF FARMWOMEN IN DAIRYING AND HOME SCIENCE ACTIVITIES

Thakare et al. (1991) reported that 73.34 percent farmwomen were found to be working on others’ farms, while contributing to agriculture production.

There is considerable evidence to show that dairy still continues to be predominantly the responsibility of rural women (Puri, 1974; Verma and Malik, 1984; Patel, 1987; Agrawal, 1988; Malik, 1990; Tripathi and Kunzru, 1993; Meena, 1994).

Mehta and Malaviya (1997) found that women in Haryana spent 8.27, 7.61 and 7.04 hours per day on agricultural activities in Bhiwani, Hisar and Kurukshetra, respectively, during the peak period.
Ahuja et al. (1999) reported that majority of farmwomen spent hours together in agricultural activities; and the need was felt for educating women on importance of nutritious diet for their health, besides helping them to develop time and labour saving devices for their own well-being.

Patki and Nikhade (1999) revealed that half of the respondents take decision of dairying in the field of feeding, health care, milking and milk processing.

Patki et al. (2000) reported about the role performance of rural women in animal husbandry practices, i.e., feeding, management, fodder production, milk production and milk processing. They also reported that dairy business is still under dominance of less educated and less income group people, while there was negative and significant correlation between caste, education, social participation, annual income and numbers of milch animals, and role of women in dairy husbandry practices.

Dairying in India is a female dominated profession. The fact has been supported by the studies of Venketachalam (1983), Jyotsana (1988), Natraju and Lovely (1983), Meena (1994) and Fulzele (1995).

Saraswathi and Sumangala (2001) revealed that farmwomen participation was the highest in indoor activities, i.e., sericulture; whereas hired women labourers spent more time in agricultural activities.

2.4 INDEPENDENT VARIABLES

2.4.1 Age

Patel et al. (1973) reported that the majority of women trainees were found to be below 45 years of age.

It was revealed from the studies of many researchers that the majority of the trainees belonged to the middle-age category (Babu and Singh, 1986; Fulzele, 1986; Mishra, 1994; Fulzele et al., 1995; Kanaujia et al., 2003).

Age was found to have a significant correlation with gain in knowledge through training as observed by Singh and Kouri (1966), Sindhu and Patel (1968) and Katary and Singh (1987).
Choudhary et al. (1988) and Singh and Singh (1990) found age to be significantly associated with adoption and symbolic adoption level of trained farmers, respectively.

Buttar and Goyal (1989) reported that 62.00 percent trainees of nutritional education were aged between 25 to 31 years, and had significant relation with nutritional knowledge.

Yadav et al. (1989) reported that 51.60 percent trainees were aged between 30 to 40 years.

Mahale et al. (1991) found that most of the trainees were aged 22 years and above; and also reported that there was no association between age and knowledge of respondents regarding tailoring technologies.

Contrary to the above findings, Fulzele et al. (1995) and Raji et al. (1995-96) found no significant association between age of the trainees and their level of adoption.

Darbha et al. (1999) reported that age had no significant relation with knowledge and adoption of scientific grain storage by farmwomen.

Deshmukh and Mane (1999) reported that age of rural women was significantly associated with training needs in various areas of home science, agriculture and allied improved practices.

Roodkar et al. (1999) revealed that age of the farmwomen trainee had no significant association with knowledge of personal hygiene.

Saxena and Gour (1999) reported that 50.00 percent respondents were aged between 18 to 22 years, while studying the utility of Krishi Vigyan Kendra’s training programmes.

2.4.2 Education

The studies of Singh and Kouri (1966) and Pal (1970) indicated that education was significantly and positively correlated with the change in knowledge of trainees related to package of practices of wheat and bajra crops. Similarly, Katarya and Singh (1987) also observed that education was significantly associated with gain in knowledge of trainees through training.
Patel et al. (1973) reported that the majority of women trainees, i.e., 55.78 percent had primary level of education. Mishra (1994) also found that education was significantly associated with gain in knowledge of trainees through training and majority of trained farmers had primary level of education.

In another study, Kokate (1980) found that the maximum number of trained farmers, i.e., 40 percent were having education up to middle level, followed by 36 percent up to matric level. Fulzele et al. (1995) reported that more than 30 percent of the trained farmers had education up to higher secondary.

The majority of trainees (64%) were found to have a medium level of educational status as reported by Fulzele (1986) in a separate study.

Devdas (1987) reported that most of the women participants in "lab to land" and "food for milk programme-I" were illiterate.

Buttar and Goyal (1989) indicated that 47 percent of the trainees of nutrition education were educated up to high school; and their education was not significant with their knowledge level about nutritional aspects.

Kulkarni et al. (1990) reported that education was significantly correlated with caste, age and land-holding.

Singh and Singh (1990) found that education was significantly associated with symbolic adoption of agricultural practices.

Mahale et al. (1991) reported that most of the participants of tailoring training were having primary level of education. Education has positive and significant relation with gain in knowledge of participants regarding tailoring techniques.

Deshmukh and Mane (1999) revealed that education had highly significant association with the level of training needs.

Roodkar et al. (1999) indicated that education had significant association with knowledge of personal hygiene.
Saxena (1999) reported that 53.00 percent respondents of utility of KVKs training programme had higher education.

Goyal and Singh (2003) studied that education played the most important role in affecting knowledge and practices of rural women regarding health programmes.

2.4.3 Family Size

Family size was found to be significantly associated with the gain in knowledge (Katarya and Singh, 1987) and adoption level (Choudhary et al., 1988), while it was found to be significantly associated with the knowledge and adoption level of trainees relating to dairy farming practices as reported by Fulzele et al. (1995).

Yadav et al. (1989) reported majority of working trainees (53.30%) and non-working trainees (56.60%) belonged to the family size comprising of 5 members.

2.4.4 Family Type

Babu and Singh (1986) reported that 63 percent of the trainees belonged to joint families, while remaining 37 percent to nuclear families.

Family type was reported to have a significant association with the gain in knowledge of the farmer as a result of the training programme (Katarya and Singh, 1987).

According to Choudhary et al. (1988), family type was significantly associated with the adoption level of the trained farmers.

Yadav et al. (1989) reported that majority of trainees (50.00%) and non-trainees (56.60%) of income generating activities had joint type of family.

2.4.5 Social Participation

Social participation was found to be significantly associated with the gain in knowledge, as observed by Katarya and Singh (1987).

Majority of the trainees were found to have a medium level of social participation, as indicated by Fulzele (1986) and Mishra (1994).
Kulkarni et al. (1990) revealed that majority of respondents were having low social participation.

Mahale et al. (1991) reported that social participation were high for the young age group; and had significant role in changing the knowledge of participants about tailoring practices.

A positive and highly significant correlation between social participation and symbolic adoption of farmers of ICDP and non-ICDP villages was reported by Omprakash (1991).

Fulzele et al. (1995) and Raji et al. (1995-96) indicated a positive and significant relation between social participation and the adoption level of trained farmers.

2.4.6 Operational Land-Holding

Pal (1970) found that the farm size of the trained farmers was not significantly correlated with the change in their knowledge, attitude and adoption behaviour.

Kokate (1980) and Mishra (1994) reported that the majority of the trained farmers had small land-holding in their study.

Fulzele (1986) reported that 56 percent of the trainees were in the medium category (having up to 6 hectares of land) and 31 percent of the trainees fell in the small category (having less than 1 hectare of land).

Land size was found to be non-significantly associated with the gain in knowledge (Katarya and Singh, 1987) and the adoption level of trained farmers (Choudhary et al., 1988).

In contrast, Omprakash (1991) reported positive and highly significant correlation between land-holding and symbolic adoption of ICDP areas.

2.4.7 Herd-Size

Kokate (1980) revealed that 40 percent of the trained farmers possessed a small herd-size. In contrast, Fulzele (1986) and Mishra (1994) reported a medium herd-size for majority of the respondents (trained farmers) in their studies.
Omprakash (1991) found herd-size and symbolic adoption to be positively and highly significantly associated.

Similarly, herd-size was found to be positively and significantly correlated with the knowledge and the adoption level of dairy farming practices of the trained farmers, as reported by Fulzele et al. (1995).

2.4.8 Milk Production

Kokate (1980) found that the majority of the trained farmers, i.e., 56 percent were medium milk producers and 46 percent were low milk producers.

2.4.9 Extension Contact

Fulzele (1986) and Mishra (1994) reported that the majority of respondents, i.e., 72 and 65 percent, respectively, were having a medium level of extension contact.

Trained farmers belonging to the high extension contact category had a high adoption level, as found by Reddy (1989).

Mahale et al. (1991) revealed that young age group was having high extension contacts, which resulted in increasing the knowledge of trainees about tailoring.

Extension contact and adoption level of scientific dairy farming practices was found to be highly correlated as reported by Fulzele et al. (1995) in their study.

Similarly, Raji et al. (1995-96) also found a significant association between the extension contact and the adoption of irrigation management practices in paddy by the trained farmers.

Kanwar and Kherde (1997) observed that extension contact had a positive and significant relationship with the knowledge of female respondents.

Shinde et al. (1999) reported that extension contact, value orientation and socio-economic status influenced the adoption.
2.4.10 Mass Media Exposure

Kokate (1980) found low mass media exposure to be the cause of low adoption of dairy innovations by majority of the respondents.

Fulzele (1986), while studying the profile of the respondents of an on-campus training programme, found that: the majority (57%) of the respondents had a medium level of mass media exposure; whereas 25 and 18 percent of the respondents had low and high mass media exposure, respectively. Similarly, Mishra (1994) also found that 75 percent of the ex-trainees had a medium level of mass media exposure.

Kanwar and Kherde (1997) reported that mass media exposure had a positive and significant relationship with the knowledge of male respondents.

Chaudhri (1999) observed higher training needs in the cases of respondents having lower and medium level mass media contact, i.e., 52.80 and 46.93 percent, respectively, and also revealed positive and significant association between mass media contact and training needs.

Goyal and Singh (2003) concluded from the study that out of all media sources, television played the most important role in dissemination of information.

2.5 DEPENDENT VARIABLES

2.5.1 Gain in Knowledge through Trainings

A significant rise in the knowledge level of respondents as a result of attending the training programme was reported by Singh (1968), Renukaradhaya (1971), Gour and Shrivastava (1983), Babu and Singh (1986), Vashistha (1987), Roy and Goyal (1990-91), and Shah (1996).

Similarly, Kamalsen (1971) also reported that there was a significant increase in the knowledge level of trainees. He further reported that 83 percent of the trained farmers had gained more knowledge about high yielding varieties of paddy after attending the training.

Every trained farmer was found to possess some knowledge of improved agricultural practices as reported by Singh (1975).
Singh and Sagar (1977) reported a significant gain in knowledge of the respondents regarding cattle breeding, management and health care as a result of attending the training programme.

Babu and Singh (1986) reported that the average gain in knowledge of technology after attending the training programme was 20.28 percent, while Anantharam and Ramanathan (1990) reported it to be 62.77 percent. Similarly, knowledge gained as a result of attending the training programme was found to be 89.26 percent, as reported by Fulzcle (1986).

Buttar and Goyal (1989) reported the 48.50 percent respondents were having medium level and 43.50 percent respondents having low level of knowledge regarding nutrition.

Verma et al. (1989) revealed that training in clothing, nutrition, child care and family resource management showed significant change in knowledge and attitude.

Mahale (1991) reported about the high knowledge score (81.08) and low knowledge score (74.62) of trainees regarding “tailoring training”; and also observed that there was significant difference between low and high scores.

Verma et al. (1991) showed that 57 percent of farmwomen had assimilated scientific information and their attitude had changed after attending training in post-harvest technology (PHT).

Madhumathi et al. (1994) studied the knowledge level of mother before and after training with regard to child care and practices (nutrition, health and hygiene, and habit formation).

Dahiya et al. (1995) observed 50.81 percent gain in knowledge and change in attitude among the trainees after attending the training programme on post-harvest technological training.

Raji et al. (1995-96), while studying the relationship between the knowledge and the adoption behaviour of the trained and untrained farmers with their socio-personal characteristics found that knowledge had a positive and significant association with the adoption behaviour of the trained farmers.
Kanwar and Kherde (1997) reported the medium level of knowledge by the majority of respondents (both males and females) about improved paddy production practices.

Darbha (1999) revealed that 62.00 percent respondents had medium level of knowledge, whereas 21.33 percent and 16.67 percent respondents had low and high levels of knowledge, respectively.

More et al. (2000) reported that 62.14, 27.16 and 10.00 percent of the respondents had medium, high and low level of knowledge regarding cotton cultivation training of KVK, respectively.

Yadav and Sethi (2000) reported that respondents gained sufficient knowledge after exposure to video-cassettes on animal husbandry.

Badigar et al. (2001) reported that there was 65.72 percent increase in the knowledge level of farmwomen after attending training in home science activities.

Kanaujia et al. (2003) revealed that there was gain in knowledge in the field of interior decoration (96.50%), stitching (42.62%) and fruit and vegetable preservation (23.90%) through KVK training programmes.

2.5.2 Attitude of Trainees

Singh (1968), Babu and Singh (1986) and Anonymous (1990-91) in their studies reported that there was significant change in the attitude of respondents as a result of attending the training.

Training resulted in developing favourable attitude of participants towards agricultural innovation, as reported by Umamahesha and Channagowda (1988).

Buttar and Goyal (1989) revealed a large percentage of home makers (70.00%) had favourable attitude.

Chandargi and Hunshal (1997) revealed that majority of women (90.93%) preferred short training programmes of one week in their own village. It further revealed that there was a significant association of personnel characteristics with training needs.
Badigar and Parekh (1999) reported the favourable attitude of women leaders and beneficiaries towards ICDS and less favourable attitude towards DWCRA and WTYTEP.

Badigar (2001) found that the majority of farmwomen (89.83%) had a favourable attitude towards the programme of rural home science work.

2.5.3 Skill of Trainees

Hazarika (1999) studied the training programme assessment on craftworks in terms of skill acquired and confidence-built.

Kanaujia et al. (2003) observed highly significant differences in skill of the trainees, in the cases of fruits and vegetables preservation, stitching and embroidery, interior decoration between trainees and non-trainees, but in case of child care and nutrition, both have equal skill.

2.5.4 Adoption by Trainees

The studies of Patel et al. (1968), Singh (1968), Vashistha (1987) and Reddy (1989) reported a considerable impact of training on the adoption of improved farm practices by respondents.

A significant rise in adoption level of trainees after attending the training was reported by Jati and Mohapatra (1975), Gour and Shrivastava (1983), Fulzele (1986), Sohal and Fulzele (1986) and Fulzele et al. (1995).

Gill et al. (1989) revealed that 28.00 percent of the respondents adopted 'kitchen gardening' after training; and this increased to 89.00 percent after a gap of one year.

Naryan and Reddy (1992) reported that majority of dairy farmers had medium level of adoption of dairy technology, which was supported by Kulkarni et al. (1990).

Dahiya (1997) reported that impact assessment index of farmwomen was 48.80 percent after attending training on grain storage through media package.
Darbha et al. (1999) indicated the 80.00 percent farmwomen trainees were having medium adoption; and very few had adopted scientific grain storage practices.

Hazarika (1999) reported that the assessment of training was made by gaining the skill, confidence built, sale of products and profits made.

Shinde et al. (1999) reported that 71.62 percent respondents had medium level adoption of dairy farming practices.

Jondhale (2000) reported about the high (31.66%), medium (55.00%) and low (13.30%) levels of adoption by trainees in the training of summer groundnut organized by KVK.

More et al. (2000) reported about the medium (57.86%), high (22.86%) and low (19.28%) levels of adoption in KVK’s cotton cultivation programme.

Badigar et al. (2001) reported that there was high adoption for handicrafts (63.33%), embroidery (48.33%) and poshak (48.33%) in their studies of impact of rural home science work programme.

Hemalatha and Parkashi (2002) reported that the impact of nutrition education programme resulted in positive gain in knowledge.

Kunwar (2002) showed that rural women trainees adopted mushroom cultivation in a large number. The highest adoption index was obtained by graduate women (0.341) and the lowest by illiterate women (0.186).

2.5.5 Training Need

Yadav (1989) reported that majority of rural women were interested in learning new methods of knitting and dairi making through training.

Sheela and Sundraswamy (1993) revealed that majority of dairy women felt the need for training in different areas of dairying.

Rangnekar et al. (1994) concluded that many of women were keen to learn about high producing dairy animals. Many expressed their interest in learning about fodder crops, urea treatment and grass storage. It further
suggested that the training and extension programmes need to be better organized to ensure that women do not need to leave their homes for long periods.

Mehta (1995) revealed that majority of respondents were interested in animal science training in their own village, five days was preferred duration in January, February, June and December months from 12.00 Noon to 3.00 PM. Unsuitable timing, lack of resources and training programmes in the village were main constraints for non-participation in training programmes.

Jamal (1995) recommended that farm women should be equipped with knowledge and practical skills in feeding, management and processing of milk products in which they are fully involved. Skill-oriented practical training programmes specially for farmwomen should be developed and organized.

Nikam and Rajmane (1995) suggested that to make any training more meaningful and contributing, it is important on the part of organizers to identify the training needs of expected trainees.

Chandargi (1997) revealed that 43.63 percent of rural women expressed a need for kitchen gardening, followed by 35.90 percent on the preservation of seed; and also found significant association of personal characteristics with training needs.

Mehta and Malaviya (1997) reported that grain storage insect and disease control and mushroom cultivation were the most preferred training needs of the farmwomen of Haryana.

Shailaja and Reddy (1997) stated that special attention was required to be given to improve the existing skills of farmwomen through well-planned and need-based training programmes.

Chaudhari et al. (1999) reported about the training need preferences of peasant women, which were found in the fields of: kitchen gardening (100.00%), fruit processing (97%), milk products preparation (97.50%), and home science and child care (94.50%).
Deshmukh and Mane (1999) reported that majority of the rural women (92.00%) were in the category of medium to high training need in various areas of home science and agriculture. It brings to focus that majority of rural women were having high training needs in improved home and agricultural practices, followed by 47.33 percent training needs in hygiene, followed by home management and agriculture, and 35.33 percent reported high training needs in child care.

Ghuman and Randhawa (2000) reported that training need intensity (for skill competency in various subjects) was found to be the maximum / highest for crop production (hoeing and weeding), followed by grain storing practices and in cattle management (disease management).

Sinha and Sinha (2001) revealed that majority of farmwomen preferred clothing and textile, child care, handicrafts, and fruit and vegetable preservation topics for training.

2.5.6 Factors Associated with Training Need

Lakshmikantha Rao et al. (1986) found that training need of farmers was dependent on: education, social participation, caste, farm size, herd size, socio-economic status, scientific orientation, economic motivation, risk preference, extension contact, extension participation, mass media exposure, milk production and income; whereas it was found to be independent of age and family size.

Verma et al. (1992) observed that the message of post-harvest technology (PHT) can be transmitted effectively without consideration of age, caste, education or family type.

Antwal and Patil (1995) reported about the relationship and influence of personal environmental and socio-psychological characteristics of women living in rural areas on their training needs.

Mehta (1995) found that there was no relationship of caste, family size, social participation and material possession with the training need.
Mundhwa and Padheria (1998) investigated the relation of entrepreneurial behaviour of dairywomen with socio-economic variable. The results indicated that high level of education, large size of family, joint type of family, large farm size, high fodder crop area, high level of dairy farming experience, large herd size, high infrastructural experience, high dairy income, high social participation and high milk yield were significant factors.

Taley and Taley (2001) reported that education and land holding had positive and significant correlation with training needs of rural women regarding management of green houses. Whereas, age had a significantly negative correlation with training needs.

2.6 CONSTRAINTS FACED BY TRAINEE ADOPTERS

Gill et al. (1989) found that the most common reasons for not adopting kitchen gardens were: lack of space and problems of watering.

Yadav et al. (1989) reported the financial resources availability, lack of skill, place of work, time availability were found to be important factors, which influenced the participation of women in any income generating activities.

Antwal and Bharaswadkar (1990) found that constraints experienced by rural women were: non-availability of extension worker, lack of money, ignorance of new technology, non-availability of devices, and complexity of use.

Kulkarni et al. (1990) revealed the significant constraints in adoption of dairy technologies were: economic constraints, input supply constraints, milk marketing constraints and personal constraints.

Kanwar (2002) reported that marketing of mushroom produce was the biggest problem faced by the farmwomen trainees.