5. SUMMARY AND CONCLUSIONS

Agriculture and Animal Husbandry form the backbone of the Indian economy. In India, agriculture is the primary occupation of 70 percent of its population, while dairying is their secondary occupation. Despite the high involvement of human force, most of the persons involved in farm activities are illiterate and poor, and they live in remote areas. This segment of population, which generates most of the national income, requires to be revamped by providing critical knowledge through training programmes, in order to improve their efficiency and output. Visualizing the importance of this segment of human resource, Mohan Singh Mehta Committee (1974) recommended the establishment of Krishi Vigyan Kendra (KVK) with the principle of accelerating knowledge and skill among the farming community vis-à-vis agriculture and allied products through the training programmes conducted at such KVK. It was also emphasized, here, that the training efforts should be targeted on poor ones, in order to raise their socio-economic status. The basic idea of KVK training is to improve the income of poor farmers and farmwomen through imparting scientific knowledge and skills.

The contribution of farmwomen in the fields of agriculture, dairying, household economical activities and allied occupation is well-established. Rural women are the main responsible persons for domestic and household works, which also include child care and nutrition, conservation and preservation of milk, processing of milk, fruits and vegetables preservation, and stitching. Moreover, their prime responsibilities also include: to maintain dairy animals, and to perform activities, like, feeding, milking, health care of animals, etc.

Based on these facts, Krishi Vigyan Kendra at NDRI, Karnal, in the state of Haryana has been imparting trainings in the field of dairy farming and home science related activities to the rural farmwomen, since 1979. Although
informal methods have been used for gathering information on the effectiveness of KVK’s training programmes imparted at NDRI, Karnal, but no systematic study was, however, conducted for assessing the same. Therefore, the present study was conducted to find out that whether such training programmes had significant impact in updating knowledge, developing relevant skill and inculcating appropriate behaviour and attitude towards dairy farming and home science activities, and also to enhance their level of adoption of recommended practices. As the study was conducted to find out the impact of these training programmes on farmwomen, the results of the study shall be of great help to planners, in general, and KVKs, in particular, in formulating more appropriate and effective training programmes for the farmwomen, in future. It was also felt important to know the perception of farmwomen trainees regarding these training programmes. Keeping these things in view, the present study “Multi-Dimensional Impact Analysis of Gender Specific Dairy and Home Science Training Programmes Organized by Krishi Vigyan Kendra, National Dairy Research Institute, Karnal : A Comparative Study of Trainees and Non-Trainees” was conducted with the following objectives:

1) To determine the knowledge level of farmwomen trainees and non-trainees in the selected area.

2) To measure the level of adoption of various gender specific dairy and home science practices by the trainees.

3) To ascertain the reasons behind non-adoption or discontinuance, if any, of dairy and home science practices, and to identify constraints perceived by them in adoption process.

4) To ascertain training needs as perceived by the respondents regarding dairy and home science activities.

The study was carried out in Karnal district. The Karnal district comprises of six blocks. All the six blocks, i.e., Karnal, Nissing, Indri, Gharunda, Assandh and Nilokheri are covered by KVK, NDRI, Karnal for the purpose of the study. Out of these six blocks, three blocks, i.e., Karnal,
Nissing and Indri were covered by KVK, NDRI, Karnal, for conducting the specified trainings. Therefore, these blocks were selected to take a random sample of trainee farmwomen (TFW) respondents. To further refine the sample of the respondents, three villages from each block were selected randomly. The villages selected from Karnal, Nissing and Indri blocks were: Kailash, Kulwahri and Pundrak (from Karnal block); Charao, Jarifabad and Birchpur (from Nissing block); and Gorgarh, Sheikhpura and Gumto (from Indri block). From each randomly selected village, a sample of 22 trainee respondents (albeit from two villages 23 respondents were selected) was taken. This total sample consisted of 200 TFW in dairy farming and home science activities (milk products preparation, fruits and vegetables preservation, child care and nutrition, and clothing and textiles). The randomly selected trainee respondents were trained in specified training programmes during the period 2000 - 2001.

In order to have an exact assessment of the impact of the selected training programmes on TFW, an equal number of “non-trainee farmwomen (NTFW)” were also selected as the respondents of this study. These 200 NTFW were selected from the three remaining blocks of Karnal district, namely, Gharaunda, Assandh, and Nilokheri, which were, incidentally not covered by the KVK, NDRI, Karnal apropos such training programmes. From each specified block, equal number of villages were selected randomly. The villages selected from Gharaunda, Assandh and Nilokheri blocks were: Amritpur, Kairwali and Mubarkabad (from Gharaunda block); Pucca Khera, Sheikhpura and Manchuri (from Assandh block); and Bhutana, Raipur and Arjahari (from Nilokheri block), respectively. From each village, a sample of 22 non-trainee respondents (albeit from two villages 23 respondents were selected) was taken randomly. The total sample consisted of 200 non-trainee respondents.

The present study was conducted to determine the knowledge level, level of adoption, reasons for non-adoption or discontinuance and perceived training needs of trainee and non-trainee farmwomen respondents.
The two groups, i.e., trainees and non-trainees of specified programme were compared for above-mentioned dependent variables. A randomized sample of trainee respondents was interviewed by using a structured interview-schedule. A copy of interview-schedule has been appended as Appendix-I.

All randomly selected trainee farmwomen (TFW) had undergone training with respect to several activities, namely, scientific dairy farming (SDF), milk products preparation (MPP), fruits and vegetables preservation (FVP), and child care and nutrition (CCN) and clothing and textiles (CT). The respondents were interviewed by using a well-structured interview-schedule. The respondents were interviewed to obtain information on knowledge level gained and level of adoption, reasons for non-adoption or discontinuation and perceived training needs vis-à-vis various type of above-mentioned training activities, i.e., SDF, MPP, FVP, CCN and CT.

The similar information was obtained through the same questionnaire from those respondents, who had not undergone any of the above trainings. Thus, the second group was called as “non-trainee farmwomen (NTFW)”. The collected data were, thus, tabulated and analyzed by using appropriate statistical tools.

### 5.1 **SALIENT FINDINGS**

- Majority of trained farmwomen (TFW), i.e., 62.50 percent were in the middle-age category; whereas in case of NTFW also, majority of them, i.e., 57.50 percent, were middle-aged.
- About one-third of TFW, i.e., 31.00 percent could read and write; whereas, 26.00 percent of TFW were illiterate. In the case of NTFW, 37.50 percent were illiterate. Whereas, 20.50 percent NTFW could read and write.
- Majority of TFW (63.50%) belonged to nuclear type families; whereas, in the case of NTFW, majority (51.50%) belonged to joint type families.
A large segment of TFW (43.50%) belonged to small-sized (less than 5) families; whereas, 35.00 and 21.50 percent belonged to medium (6 to 8 members) and large (more than 8 members) sized families, respectively. In the case of non-trainee farmwomen (NTFW), majority (36.00%) belonged to medium sized families, whereas 32 percent belonged to each, small and large sized families.

Around one-third of TFW belonged to marginal farmer category (up to 1 ha), while 25.00 percent belonged to small farmer category (1 to 2 ha) and 20.50 percent belonged to landless category. Whereas, in case of non-trainee farmwomen (NTFW), 44.00 percent belonged to landless category and 22.00 percent belonged to marginal farmer category (up to 1 ha).

As many as 42.00 percent of TFW possessed a medium herd-size (6 to 10 animals), whereas 41.00 percent of TFW possessed small herd-size (less than 5 animals). In case of NTFW, majority of them (52.00%) possessed small herd-size (less than 5 animals).

Majority of TFW (64.00%) reported that their dairy animals were producing 8 to 14 litres of milk per day; whereas in case of NTFW, majority of them reported that their dairy animals were producing 1 to 7 litres of milk per day.

As far as social participation was concerned, majority of TFW (65.50%) were found to be non-participant; whereas in the case of NTFW also, majority of them (80.60%) reported non-participation in formal social organization.

Majority of TFW (63.50%) had high extension contacts; whereas in case of NTFW, majority (87%) had medium extension contacts.

Majority of TFW (55.50%) had a medium level of mass media exposure; whereas majority of NTFW, i.e., 73 percent had low level of mass media exposure.
As a result of attending training programme in scientific dairy farming (SDF), the knowledge score was observed substantially higher (203.64%) by TFW when compared with NTFW.

The mean adoption score of scientific dairy farming practices was reported higher, i.e., 161.66 percent by TFW when compared with NTFW.

As far as perceived training needs of SDF training was concerned, NTFW had significantly 18.28 percent higher perceived training needs as compared to TFW.

The majority of TFW (70.50%) reported "lack of skill" as a major reason behind non-adoption of scientific dairy farming.

A significant higher knowledge score (771.89%) was observed in the case of TFW after attending training regarding milk products preparation (MPP), when compared with the knowledge score of NTFW.

The 'mean adoption score' of TFW was found to be substantially higher (1634.95%) vis-à-vis adoption of MPP technologies, when compared with NTFW.

The perceived training needs of non-trainee farmwomen (NTFW) was observed to be 21.99 percent higher (apropos learning of MPP technologies) when compared with TFW.

The major reason behind non-adoption or discontinuation of MPP technologies was found to be "lack of skill", as reported by 82.00 percent of TFW.

After attending training programme on fruits and vegetables preservation (FVP), the mean knowledge score of TFW was observed to be higher (639.28%) when compared with NTFW.

The adoption score of FVP technologies by the TFW was recorded significantly higher (630.42%) when compared with NTFW.
• The perceived training needs of NTFW regarding FVP technologies was significantly higher (10.42%) when compared with TFW.

• Regarding non-adoption of FVP technologies, majority of TFW (93%) reported “lack of skill” as the major reason behind it.

• After attending training on child care and nutrition (CCN) practices, the TFW reported higher mean knowledge score (87.86%) when compared with NTFW.

• The mean adoption score of TFW regarding adoption of CCN practices was observed to be higher (41.84%) when compared with non-trainee farmwomen (NTFW).

• Regarding perceived training needs, the mean score of NTFW was found to be 23.94 percent higher for CCN training programme, when compared with TFW.

• Majority of TFW (81.50%) reported “lack of skill” as a major reason behind non-adoption or discontinuation of CCN practices.

• Majority of TFW, after attending training programme in clothing and textiles technologies, reported higher knowledge score (345.69%) when compared with NTFW.

• Regarding CT technologies, high adoption score (267.15%) was reported by TFW, when compared with NTFW.

• Non-trainee farmwomen (NTFW) reported high (40.06%) perceived training needs for clothing and textiles technologies, as compared to TFW.

• More than three-fourth of TFW (77.00%) reported “lack of skill” as the main reason behind non-adoption of clothing and textiles technologies.

• Age of the trainee farmwomen (TFW) showed a positive and significant association with gain in knowledge regarding scientific dairy farming (SDF) practices.
• Education of the trainees was found to be negatively and significantly related to gain in knowledge regarding SDF practices.

• Land-holding, herd-strength, milk production, family size, social participation and extension contact had positive and significant correlation with gain in knowledge by TFW regarding SDF practices.

• Family type and mass media exposure were found to be positively but not significantly related to gain in knowledge of SDF practices by TFW.

• Age of TFW was found to have positive and significant association with the extent of adoption regarding SDF practices.

• Education of TFW was negatively and significantly related to the extent of adoption regarding SDF practices.

• Land-holding, milk production, social participation and extension contacts were positively and significantly associated with the extent of adoption of SDF practices by TFW.

• Family size, family type, herd-strength were positively and non-significantly related to the extent of adoption of SDF practices by TFW.

• Mass media exposure was negatively, but non-significantly associated with extent of adoption of SDF practices by TFW.

• Out of ten traits selected for the present study, only milk production was found to have a positive and significant association with the perceived training need of TFW regarding SDF practices.

• The perceived training need of TFW was found to be negatively, but non-significantly related to age, family size, family type and extension contacts.

• Education, herd-strength, social participation and mass media exposure of TFW were positively but non-significantly associated with perceived training needs of SDF practices.

• A negative and significant association was found between family type and gain in knowledge of MPP (milk products preparation) technologies by TFW.
• Age, education, family size and mass media exposure were found to be positively but non-significantly related to gain in knowledge of MPP technologies by TFW.

• Herd-strength, milk production and social participation were found to be negatively and non-significantly associated with gain in knowledge of MPP technologies by TFW.

• A negative and significant correlation was found between family type and adoption of MPP technologies by TFW.

• A positive and significant association was exhibited between landholding and adoption of MPP technologies by TFW.

• Age, education, family size, social participation, extension contacts and mass media exposure were found to have positive, but non-significant relation with the extent of adoption of MPP technologies by TFW.

• Herd-strength and milk production had negatively, but non-significantly correlation with the extent of adoption of MPP technologies by TFW.

• Family size and land holding were found to have negative and significant association with perceived training needs of TFW regarding MPP technologies.

• Age, education, family type, herd-strength, milk production, and mass media exposure were found to be negatively and non-significantly associated with perceived training needs of TFW regarding MPP technologies.

• Social participation and extension contacts were found to have positive, but non-significant relation with perceived training needs of TFW regarding MPP technologies.

• Age, family size, family type, land-holding, herd-strength and social participation of TFW were found to be negatively and significantly associated with gain in knowledge of TFW regarding FVP technologies.
- Education of TFW was found to be positively and significantly associated with gain in knowledge of FVP technologies.
- Extension contacts and mass media exposure reported by TFW were found to have positive and non-significant association with gain in knowledge regarding FVP technologies.
- A negative and non-significant association was found between milk production and gain in knowledge of TFW regarding FVP technologies.
- Age, family size and family type of TFW were found to be negatively and significantly associated with the extent of adoption of FVP technologies.
- Education, social participation and mass media exposure of TFW were found to have positive and significant relation with adoption of FVP technologies.
- Milk production and extension contacts were found to have positive, but non-significant relation with adoption of FVP technologies by TFW.
- Land-holding and herd-strength were found to have negative, but non-significant association with adoption of FVP technologies by TFW.
- None of the ten variables selected for this study were found to be significantly associated with TFW's perceived training needs of FVP technologies.
- Age, land-holding, herd strength, extension contacts and mass media exposure exhibited positive, but non-significant association with TFW's perceived training needs of FVP technologies.
- Education, family size, family type, milk production and social participation were found to have a negative and non-significant association with perceived training needs of TFW regarding FVP technologies.
Social participation, extension contacts and mass media exposure reported by TFW were found to be positively and significantly associated with gain in knowledge regarding child care and nutrition (CCN) practices.

A negative and significant association was found between land-holding and gain in knowledge of TFW regarding CCN practices.

Age, family size and family type exhibited negative and non-significant relation with gain in knowledge among TFW regarding CCN practices.

Education, herd-strength and milk production were found to be positively and non-significantly associated with gain in knowledge among TFW regarding CCN practices.

Age, herd strength, social participation and extension contacts were found to have positive and significant association with extent of adoption of CCN practices by TFW.

Education was found to negative and significantly associated with the extent of adoption of CCN practices by TFW.

Family size and milk production exhibited positive and non-significant association with the extent of adoption of CCN practices by TFW.

Family type, land-holding and mass media exposure exhibited negative and non-significant association with extent of adoption of TFW regarding CCN practices.

Age, social participation and extension contact were found to be negatively and significantly association with perceived training needs of TFW regarding CCN practices.

Education was found to have positive and significant association with TFW's perceived training needs regarding CCN practices.

Family size, family type, land-holding, milk production and mass media exposure were found to have positive and non-significant association with TFW's perceived training needs regarding CCN practices.
• A negative and non-significant association was found between herd strength and perceived training needs of TFW regarding CCN practices.

• Education and mass media exposure exhibited positive and significant association with gain in knowledge of TFW regarding clothing and textile (CT) technologies.

• A negative and significant association was found between age and gain in knowledge of TFW regarding clothing and textiles technologies.

• Family size, family type, land-holding, milk production and extension contacts were found to be negatively and non-significantly associated with gain in knowledge by TFW regarding CT technologies.

• Herd-strength and social participation were found to have positive and non-significant association with gain in knowledge by TFW regarding CT technologies.

• Age and extension contacts of TFW were found to have negative and significant relation with adoption of CT technologies.

• A positive and significant association was found between education and adoption of CT technologies, in the case of TFW.

• Family size, family type, land-holding, herd-strength, milk production, and social participation were found to have negative and non-significant association with adoption of CT technologies by TFW.

• A positive and non-significant association was found between mass media exposure and adoption of CT technologies by TFW.

• Age and social participation of TFW were found to be negatively and significantly associated with their perceived training needs apropos CT technologies.

• Education and extension contacts were found to be positively and significantly associated with perceived training needs of TFW regarding CT technologies.
• Family size was found to have negative, but non-significant association with perceived training needs of TFW regarding CT technologies.

• Family type, land-holding, herd-strength, milk production and mass media exposure exhibited positive and non-significant association with perceived training needs of TFW regarding CT technologies.

5.2 CONCLUSIONS AND IMPLICATIONS

1) A significant gain in knowledge and extent of adoption was reported among TFW after they attended training programmes on SDF, MPP, FVP, CCN and CT technologies. Therefore, it could be implied that more and more such training programmes related to dairying and home science activities may benefit the farmwomen, in particular, and farming-community, in general.

2) The results of the study showed that the training programmes organized in dairying and home science activities were more scientific in nature, and required technical skills. To impart technical skills in these programmes, more training should be organized at regular intervals. To fulfill this requirement, it could be suggested that more than one KVK should be established in a district.

3) The level of perceived training needs of NTFW was found to be higher than that of TFW. This implied that high level perceived training needs among NTFW should be tapped and properly exploited by imparting the required technical knowledge through training, which, in turn, may help in increasing their standard of living as well as socio-economic status.

4) Small entrepreneurship skills of farmwomen could be developed through these training programmes, i.e., SDF, MPP, FVP, CCN and CT, so that technologies learnt through these training programmes could be taken as vocation. To develop this entrepreneurship skill, self-help groups (SHGs) formed by the farmwomen at village level should be promoted through such training programmes. In this way, the self-help groups formed at village level, would help the farmwomen in adopting the technologies as a vocation.
5.3 SUGGESTIONS FOR FUTURE RESEARCH

1) The present study was mainly confined to determination of the impact on gain in knowledge, extent of adoption, perceived training needs and reasons behind non-adoption or discontinuation of technologies. The future studies may also be formulated to know the impact of training on skill-development and economic motivation.

2) The relevant variables, like, syllabus, duration, methods used for teaching towards training could be included in the future studies.

3) Due to time constraint for the present study, more trainings in the field of home science and other allied activities could not be included in the present study; however, future researches may be taken up by incorporating all such training programmes.

4) A comparative study of the functioning and impact of KVKs under different organization, like, ICAR, agricultural universities and voluntary organizations could also be taken up by the future researchers for investigation.

5) Trainers’ perceived needs, problems faced by them, and their perception about trainings may also be taken up by the future researchers for investigation.