INTRODUCTION
Rural women play a very important role in managing their farms depending upon the situational, personal and socio-economic characteristics of the family to which they belong. Participation of women in home and agriculture in developing countries has been silently appreciated but without much recognition and recording their contribution. Women are involved in all aspects of agriculture, from crop selection to land preparation, seed selection, planting, weeding, pest control, harvesting, crop storage, handling, marketing and processing. The rural women perform diversified roles. Performance of these diversified roles more efficiently and effectively calls for specialized knowledge and skills. The present situation calls for massive intensive efforts to update the capabilities of women on technological, operational and managerial skills related to agro-support, agro-technology and agro-based activities.

Since independence Indian agriculture has made rapid strides. The annual food grain production increased from 51 million tons in early fifties to 206 million tons towards the end of the twentieth century. Contribution of Indian women to agriculture is significant. In fact agriculture employs 85% of all economically active women. It is also related to the fact that although they work to sustain their families and communities most of their work is still invisible.

It is estimated that on an average the Indian women, especially in the rural sector, spends about 5 hours / per day more than the Indian man in the work, including the invisible burden of home making and child rearing. The bulk of rural women belong to the families of small and marginal farmers, and provide most of the farm labour, putting in 14 - 18 hours of productive manual labour everyday. As per the 1991 census there are 14.4 million females engaged as cultivator, agricultural labourers and in allied sectors like livestock, forestry and fishing industry. The preference for female workers was noticed in cultivation, livestock, forestry, fishing,
hunting, plantation, orchard and allied activities and also in manufacturing, processing, servicing, repairs and other services. The economic status of the female labourers remained inferior to their male counterparts in dry farming areas, although the effect of technological changes seem to be favourable on both the sexes of the agricultural labour force (Rajesh and Kombairaju 1999).

Further, FAO booklet titled, “Most Farmers in India are Women”, which has served as an eye opener in many quarters focusing that rural women particularly, farm- women are to be given much importance for over all economic improvement of the rural households. The booklet has highlighted several ground realities about women in agriculture. Nearly 84% of all economically active women in Indian villages were found engaged in agriculture directly or indirectly. National sample survey of 1993 also has reported that the proportion of women in farming was as high as 57.71%. They have proven that they can be better entrepreneurs and development managers in any kind of activities.

However, the situation of women agricultural labour remains both grim and pathetic. It is estimated that one third of all rural households belong to landless category, where a steadily raising proportion of the agricultural labour force in the country is female. This also clearly indicates the rapid approach towards “feminized” work force in agriculture. Women are primarily in those activities, which required less skills and in activities which are repetitive and monotonous like transplanting, harvesting or threshing etc. were done by females. Women are never allowed to do any skilled job or anything, which can give them a sense of pride or belonging. According to Sinha (1999) recently a Bill introduced in Parliament to give protection to agricultural workers made no mention of critical issues like maternity entitlement and child care or even wages, which clearly indicates ignorance of women’s multiple roles in family and society.
It has been noticed that except in heavy physical labour, women are able to perform other farming operations more efficiently than the men folk. In spite of their diligence there has been wide discrimination in their wages when compared to men. Moreover, this has demoralized rural women and prevented them from taking greater initiatives. The importance of developing farming technologies relevant to women has only recently been recognized. The effective management and development of women’s resources i.e. their abilities, interests, skills and other potentialities are of paramount importance for the mobilization and development process of rural women. Therefore it is important and necessary to make women empowered in taking decision to enable them to be in central part of development process.

The fact remains that in spite of “all round development”, even today a place is in her home and she is still in bondage, bound by traditions. Our educated middle class thinks that imparting technical education to girls means destroying family peace and upsetting the equilibrium. It is because of different roles of men and women that there is conflict in ideals for women and education for women. The aim of education is to acquire the ability to assess and analyze in a scientific manner, and the values of freedom of thought. Various commissions and committees formed after independence has maintained this ideal of inequality.

The search for a new strategy towards women’s programme and the current emphasis on that is the outcome of various observations and recommendations made by various national and international committees and conferences and a number of research studies on women commissioned by various organizations. Special programmes were taken up for the welfare of the women and also to cater to their special requirements. As a part of socio-economic programme for women, Government of India had set up the Central Social Welfare Board in 1958 for improving the economic condition of poor and needy women by providing them with employment and a source of income. A centrally sponsored scheme for setting up training centers for rehabilitation of women in district was launched by the Union
Government in 1977-78. Under this scheme, government extends financial assistance to voluntary organizations. About 20-40 women are trained in a course of six months duration. Training of Rural Youth in Self- Employment (TRYSEM) by the Ministry of Rural Development was started in 1979 which suggest various fields for taking up self- employment, like beekeeping, construction of biogas plants, basket weaving, handlooms, sericulture, handicrafts, khadi and village industries etc. The Five Year Plans have consistently placed special emphasis on providing minimum health facilities, integrated with family welfare and nutrition, acceleration in women's education etc.

The Sixth Five Year Plan document for the first time had included a separate chapter on “Women and development” which incorporates various fields like health, nutrition, education, training, development etc. In 1992, the International Federation for Women in Agriculture (IFWA), New Delhi, and the International Institute of Rural Reconstruction (IIRR), Silang, Cavite, Philippines, agreed jointly to develop simple, science based resource materials, which could be used by female and male extension workers.

The Eighth Plan (1992-1997) for the first time recognized the need of separate land titles for women and directed state government to allot 40% surplus land to women spouses (GOI, 1992a). The newly formulated ninth five year plan (1997-2002) mentions “there will be a special focus on women in agriculture and its allied sector as they are in majority (89.5%) and form the stock of all the agricultural operations. The extension services will be strengthened to cover a large number of women, the number of women extension workers will be increased to assist rural women to take advantage of various training programmes” (GOI, 1997).

The World Conference on Agrarian Reforms and Rural Development (WCARRD) recommended that Government should promote collective activities for the purpose of organizing rural women. Opportunities for them to work in various
fields should also expand. There are many more programmes being implemented by various ministries viz. Agriculture, Food, Health, Education, Labour, Social Welfare, Commerce and Industry as well as by Khadi and Village Industries Commission, All India Handicrafts Board, Small Industries Services Institute etc. but the largest operational programme for rural women always have been with the Department/Ministry of Rural Development. All the programmes are designed with an integrated approach. Health, Nutrition, Education, Employment etc. are all interrelated and priority has to be fixed according to socio-economic status of the women in that geographical area and according to the situation they live in. Self Employment Women’s Association (SEWA), Ahmedabad, works with a large number of landless agricultural labourers.

The different income generating activities like dairy, forest nursery, sericulture, vegetable cultivation, beekeeping, mushroom cultivation, food preservation etc. are the good source of earning money. Therefore, training should be given to women for income generating activities to enable them to be self-reliant. A professional orientation has to be given to the training programme so that all the learning of the trainees results in vocational development and employment generation. Major areas of training include horticulture including fruits and vegetable production, water management and water shed management, women’s training in agriculture and integrated farming system including animal husbandry and other related vocations.

The main purpose of organizing training programme is to provide new knowledge and develop new skills required for adoption of the latest technology and build up desirable scientific attitude among farmers and farm women, rural youth, school drop-outs and other grass root level extension functionaries. Training programme are, to be organized in the field of crop production, live-stock production, horticulture, fisheries, agricultural engineering, home science and a number of other related vocations. The training should be based on principles of “learning by doing” and “teaching by doing”. It should provide experience to the participants in the real-
life situation either on the demonstration units of K.V.K. or farmers' fields. The training prepares an individual to earn the living through accusation of specific skills of a profession, an occupation or a vocation.

For making the training most effective one should be very keen in choosing the most effective and suitable method of training according to the need of the target group. The design should be multidimensional, to involve learning objectives, the learner's needs, the availability of instructors and training materials, the urgency of training, the norms of the organization and the money available for the training. There are different methods of training or teaching involved for better learning such as lectures, interactive lecturette, reading, interactive demonstrations, field trips, group discussions, question answer panel, case studies, small group tasks, workshops and role playing (Dugan Laird 1985). An ideal training situation is the one where all the five training elements are present in a given training programme. These elements are trainees, trainers, curriculum, training methods & tools and physical facilities.

Fig 1.1 Requirement of an ideal training programme.

Krishi Vigyan Kendra (KVK) is an innovative science-based institution, which undertakes vocational trainings of farmers, farm women and rural youths; conducts on-farm research for technology refinement and frontline demonstrations to promptly demonstrate the latest agricultural technologies to the farmers as well as the
extension workers (ICAR 1994) The KVK functions on the principles of collaborative participation of scientists, subject matter experts, extension workers and farmers. Vocational training is one of the important functions of new mandate of integrated model of Krishi Vigyan Kendra.

The Education Commission (1964-66) recommended that various efforts be made to establish a specialized institution to provide vocational education in agriculture and allied fields at the pre and post-matriculate levels to cater the training needs of a large number of boys and girls coming from rural areas. The commission further suggested that such institutions be named as “Agricultural Polytechnics”. The recommendations of the commission was thoroughly discussed during 1966-72 by the Ministry of Education, Ministry of Agriculture, Planning Commission, Indian Council of Agricultural Research (ICAR) and allied institutions. Finally, the ICAR mooted the idea of establishing Krishi Vigyan Kendra (Agricultural Science Center) as innovative institutions for imparting vocational training to the practicing farmers, school dropouts and field level extension functionaries. The ICAR standing committee on Agricultural Education, in its meeting held in August, 1973, observed that since the establishment of Krishi Vigyan Kendras (KVKs) was of national importance which would help in accelerating the agricultural production as also in improving the socio-economic conditions of the farming community, the assistance of all related institutions should be taken in implementing this scheme. To work out the details for establishment of the Kendras, the Director–General ICAR, constituted a committee under the chairmanship of Dr. Mohan Sinha Mehta. Prof. L. Gobley of UNESCO and Dr. M. S. Swaminathan, D. G. ICAR, participated in a few sessions of this Committee.

The terms of reference of the Committee were:
1. Selection of locations of the Kendras.
3. Arrangement for teachers training programme.
The first KVK, on a pilot basis, was established in 1974 at Pondicherry under the administrative control of the Tamil Nadu Agricultural University, Coimbatore. In 1976-77 Planning Commission approved the proposal of the ICAR to establish 18 KVKs during the Fifth Five Year Plan. By the end of the Fifth Five Year Plan, thus 19 KVKs (including one established on Pilot basis at Pondicherry) were established in the country. With the growing demand for more such Kendras, 12 more KVKs were approved by the Governing Body (GB) of the Council in 1979 and they were established in the same year from Agricultural Produce Fund. The Planning Commission, keeping in view the demand of people from various places to establish more KVKs in the country and recommendations of the High Level Evaluation Committee on KVK (1984), approved the scheme of ICAR to establish 44 new KVKs during the Sixth Plan. Thus by the end of Sixth Plan, 89 KVKs started functioning in the country. During the Seventh Five Year Plan, 20 new KVKs were established. The success of the KVKs at many locations created a great demand for establishment of more KVKs in the remaining districts of the country. Accordingly, the Planning Commission further approved 74 new KVKs to be established during the period 1992-93. Again in the Eighth Five Year Plan (1992-97) 78 new KVKs were approved and the same were established in the country, making total number of functional KVKs by the end of the Eighth Five Year Plan, to 261. (List of KVKs given in Appendix E).

Every KVK identifies thrust areas according to natural climatic conditions and inventorization of physical and human resources of the district. KVKs work in joint collaboration with DRDA, Agriculture Research Station (ARS), Department of Agriculture, Horticulture, Animal Husbandry, other Govt. and non-Govt. organizations and local farmers for maximum development of rural people. It has multidisciplinary team of young scientists who work enthusiastically in missionary spirit for undertaking vocational training of farmers, farm women, rural youth and extension personnel to update them with recent and proven agricultural research. It also involves in assessment and refinement of technology through on farm testing, front line demonstrations and adoptive trials.
Fig. 1.3 Map of Rajasthan
Rajasthan is the largest state in area (342,239 sq. Kms) after formation of Chatisgarh state from Madhya Pradesh. It is ranked 8th in population size among states/UTs of India. The present population of Rajasthan is 56,473,122 and its rural population is 43,267,678 (Census of India 2001). For the benefit of these rural people KVKs are established in each district of Rajasthan and it is the only state where maximum number of KVKs (31) are established. One of the KVKs is established in Borkheda village at Kota district of Rajasthan, which has been focused in the present study.

Socio- economic profile of the KOTA District

According to census (2001) the population of Kota district is 1568580. Kota should be a proud district of achieving the highest literacy rate of 74.45 among all the districts of Rajasthan in 2001. At the female front line the highest literacy of 61.25 percent has been attained by Kota district. The number of female per 1000 males are 895 in the year 2001. The percentage of rural population is low in Kota district. Kota is the only district in Rajasthan which can claim to be an urban as only 46.58 of population lives in rural areas of the district.

Agricultural Profile of the KOTA District

Physiography-

In Kota district the land slopes gently from south to north and is drained by the Chambal. The Chambal is perennial river on which 4 dams- Jhawahar sagar, Gandhi sagar, Rana Paratap sagar and Kota Barrage have been constructed for generating power and irrigation.
Major crops-

Major crops of Kota district are Paddy, Soyabean, Wheat, Gram, Barseam and oilseeds etc.

Horticulture-

Kota district is having highest area (883) hectare under potato crop followed by Bundi district. Other important vegetable crops are brinjal, cabbage, cauliflower, onion and spinach.

Live stock population –

The zone has cattle population of 1762 thousands accounting for 13.08 percent of the livestock of the state. The zone also contributes 9.32 percent buffaloes and 7.77% of goats to the state. In Kota, there are 245 thousand poultry birds accounting for 11.07% of the state.

Agriculture is the backbone of economy and manpower is the greatest resource provided they are well educated, continue to be trained as science and technology advances. A big gap still exists between the productive technology available at one end and their application for increasing production at the other end. Krishi Vigyan Kendra, Kota plays an important role to minimize this gap through transfer of technology to the farmers and farm- women. It is the district level farm science centre established in August 1992 for speedy transfer of technology to the farmers’s field with an aim to increase the productivity on a sustainable basis and creating opportunities to greater economic activities in agriculture and allied sectors. It conducts number of short and long term training courses in the field of crop production, horticulture, animal production, home science, plant protection and multidisciplinary. It works to enhance the knowledge of farmers, farm- women and rural youth in agriculture and allied areas, for which training programme and other extension activities are
conducted regularly by the centre. The present study has been conducted to measure the impact of trainings on the farm- women who attended the trainings organized by Krishi Vigyan Kendra, Kota with the following objectives.

Objectives of the study:

1. To study the socio- personal profile of farm- women who attended the trainings.

2. To study the perception of farm- women regarding the training and its effectiveness.

3. To identify the perceived needs of the farm- women for advanced technologies of agriculture.

4. To develop an attitude scale to study the attitude of farm- women towards adoption of advanced technologies.

5. To find out the decision making pattern of farmwomen.

6. To assess the impact of the trainings on farm- women in relation to their
   (I) Age
   (II) Educational level
   (III) Marital status
   (IV) Type of family
   (V) Size of Family
   (VI) Land holdings
   (VII) Past experience of training
   (VIII) Exposure to media
Hypotheses (Null):

1. The knowledge, adoption of advanced technologies and improvement in the skills of farm-women after attending the training will not vary according to their
   (I) Age
   (II) Educational level
   (III) Marital status
   (IV) Type of family
   (V) Family size
   (VI) Land holdings
   (VII) Past experience of training
   (VIII) Exposure to media
   (IX) Contacts with Experts
   (X) Attendance in KVK activities
   (XI) Perceived needs of farm-women

Operational Definitions

Training –

Training is a process of aiding farmers or farm-women to gain effectiveness in their present and future work through the development of appropriate habits or through action, skill, knowledge, adoption and attitude.
Institutional Training

Institutional type of training is carried out in the form of short duration specialized courses at suitable place where physical facilities and expert guidance are available such as Government farms, Research stations, Agriculture colleges, Krishi Vigyan Kendras and Farmers Training Centres.

Impact of Training

For determining the impact of the training programme, it will be necessary to come in contact with the trainees in actual field of operation and have their views on the utility received in tackling the problems faced in implementing the programme and to find the knowledge gained, adoption and skills acquired, confidence gained in facing the field realities.

Limitations of the study

This study is restricted to only Kota district of Rajasthan and it is limited to only those farm- women who attended at least three trainings organized by the KVK, Kota in the years 1996 – 99.
Scope of the Study

Rajasthan is the only state where maximum numbers of Krishi Vigyan Kendras are established with the mandate to increase the productivity, to improve the efficiency and to change the attitude of the farmers and farm women towards advanced technologies of farming. KVK Kota has come into existence in the year 1992. Kota district is situated in the command area of Chambal River. Many canals and other irrigation channels are in abundance in this district. Land is also very fertile and most of the rural people occupy themselves in farming. Women help their husbands in the fields and do maximum work; therefore KVK, organizes many trainings for farmers and farm-women to make them efficient in the farming. Number of extension activities like training for farmers, farm-women and rural youth, field visits, field trips, front line demonstrations and kisan-goshthi are conducted by the centre regularly, therefore it is necessary to know the impact of these activities on the overall development of the rural people.

Trainings of the KVKs are conducted with the objective to increase the knowledge of the farmers and farm-women regarding the latest technologies introduced in the farming. Through trainings women can improve their skills by adopting advanced technologies to achieve maximum production.

This study will be beneficial in knowing the extent of knowledge women have gained through trainings, improvement in their skills and the extent of their adoption towards advanced technologies of farming. Results of the study and the suggestions of the farm-women will be helpful in improving the trainings, which include methods, time, duration, procedure, language, content, curriculum, number of trainees and other related factors related to trainings and make the women more skillful and efficient in farming. The decision making pattern of the family affect the generosity to gather new information. Through this study investigator is trying to find out the decision maker of the family so as to involve them in all the activities organized by the centre. Women
from different age groups are attending the trainings; therefore it is necessary to plan the content of the training according to the interest of the age group. This study will be beneficial for programme planner and KVK trainer to organize repeated trainings with same trainees to make them efficient as well as confident. With regards to women empowerment maximum vocational trainings might be planned to improve the economic status of the farm- women. It is hoped that the study will also be helpful in organizing the need- based trainings on the subject, and also in ascertaining the most efficient method of learning suitable to farmwomen.

Relevant literature has been collected, referred and reviewed as a guideline for this study, which is presented in the following chapter.