CHAPTER IV

SUMMARY AND CONCLUSION

India is an agricultural based country and above 70 percent of population of India lives in rural areas. Agriculture is a major sector, which provides 60 percent of labour employment. So for the development of nation and citizens, there is necessity to bring a development revolution in agriculture and the scientific transformation of agriculture is an important requisite of agricultural and rural development.

The new paradigm of agricultural development in India necessitates incorporation of Krishi Vigyan Kendra as a grassroots level institution for driving overall development. ICAR has established over 540 KVKs throughout the country and this concept was laid down by the Dr. Mohan Sinha Mehta Committee for the farmers training concerned with new agricultural research technology knowledge, to produce vocational efficiency among farmers and farm women, and to reduce gap between technical knowledge practices and farmers' level of knowledge.
KVKs organise various training programmes like skill production oriented both on campus and off-campus, informal education activities for young farmers, vocational trainings including craft and cottage industries to provide string technical support and front line demonstrations according to rural people’s needs. KVK had a great impact on the beneficiaries, farmers’ level of knowledge and adoption of practices of agricultural technologies. The KVK works are based on identified and prioritized thrust areas of rural development. So there is requirement to formulate a sound strategy for use of KVK’s potential in agricultural development and there is need to know the actual farm information needs and socio-economic environment while making a strategy to reduce the gap between agricultural technological knowledge and adoption practices of farmers.

So a study has been planned with the overall objectives for assessing the impact of KVKs on farmers’ technical knowledge and its adoption in western Uttar Pradesh. The study was carried out with the following specific objectives:

1. To find out the extent of adoption of crop technologies.

2. To delineate the factors influencing the adoption of crop production technologies.

3. To assess the farm technologies in terms of problems and probable interventions.

4. To assess the impact of recommended farm technologies on farmers’ knowledge and adoption level.

5. To suggest a suitable strategy to improve crop production technologies.
Methodology:

This study was conducted in Ghaziabad and Meerut districts of Uttar Pradesh. Two KVKs located at Hastinapur in Meerut and at Modinagar in Ghaziabad were selected. In each district two tehsils and in each block two villages were selected. Two villages, where KVK is providing its services and two villages, where no such services were provided were selected and an attempt was made to compare the two situations. A sample of 200 farmers were selected, out of which 100 were from adopted villages and another 100 from non-adopted villages. Appropriate variables were selected and data were collected using a suitable interview schedule. Data were analysed appropriately for getting the results.

Major Findings:

1. Profile of farmer respondents

Socio-personal attributes: Majority of farmers in both sets of villages was middle-aged. The educational status of farmers of KVK’s adopted villages was better than that of farmers of non-adopted villages. More than half of the respondents was living in nuclear families. Socio-economic status of farmers of KVK’s adopted villages appeared to better than of those from non-adopted villages. It can be concluded that the sample of farmers were quite representative of the universe of the farming community in both districts, as can be inferred from more or less normal distributions of frequencies of respondents on socio-personal attributes.

Socio-economic Characteristics: Based on their operational land holdings, the farmers were categorized into small, medium and big,
farmers. Among the sample these three classes of farmers were more or less in equal numbers. Majority of them was earning farm incomes in the range of Rs. 20 and 40 thousands per annum. The farmers of adopted villages appeared to be earning more than the farmers of non-adopted villages. Similarly, the level of economic motivation of farmers of KVK’s adopted villages was found to be higher than that of farmers of non-adopted villages.

**Communication variables:** Majority of farmers from KVK’s adopted villages was having moderate levels of extension contact. Among the farmers of non-adopted villages, the level of extension contact was lower. Similarly, the mass media exposure was also found to be at a moderate level among farmers of KVK’s adopted villages and at a lower level among the farmers of non-adopted villages. Among the farmers of KVK’s adopted villages more cosmopolitaness was observed and among the farmers of non-adopted villages more localiteness was observed. With respect to degree of extension participation, farmers of KVK’s adopted villages had shown more than the farmers of non-adopted villages. Thus the farmers of adopted villages had better communication behaviour than the other sample of farmers.

**Psychological characteristics:** Farmers of KVK’s adopted villages were having higher levels of degree of risk preference, scienticism, and source perception. They were more favourable towards improved crop production technologies. The farmers from non-adopted villages were possessing low risk preference, low levels of scienticism, and source perception. They seemed to possess an indifferent attitude towards improved crop production technologies.
2. Farmers' Level of Knowledge of Improved Crop Production Technologies

Knowledge of Wheat Production Technology: The levels of knowledge scores on improved wheat production technology were found to be higher among the farmers of adopted villages under both the KVK's. Majority of the farmers were having a fair or moderate level of knowledge. But there were more farmers with poor level of knowledge among the non-adopted villages, while there were more farmers with adequate or higher levels of knowledge among the KVK's adopted villages.

In general, the farmers were found to possess fair knowledge of various components of improved wheat cultivation practices. In all the samples, farmers were having fair to adequate levels of knowledge on line sowing, irrigation, inter-culture and plant protection measures and harvesting and threshing practices.

Knowledge of Sugarcane Production Technology: The levels of knowledge scores on sugarcane cultivation were found to be higher among the farmers of adopted villages of both the KVK's. The frequencies of knowledge scores on sugarcane production technology fell into highly skewed distribution towards higher side indicating farmers' adequate levels of knowledge in the KVK's adopted villages in both the districts. In case of non-adopted villages, the frequency distribution was highly skewed towards poor level of knowledge on sugarcane. Farmers were quite aware of such practices as irrigation, inter-culture and regular weeding. They were always aware of intercropping with cowpea, guar and other green manuring crops. For other components of sugarcane technology, majority farmers had fair levels of knowledge.
Adequate knowledge was found in many of the components of crop production technologies. In some critical components like balanced nutrition and plant protection measures, farmers’ levels of knowledge tended to be fair in few cases, but poor in majority cases among the farmers from KVK’s non-adopted villages. Indeed the efforts of the KVK seemed to have a positive effect in enhancing the farmers’ technical knowledge on crop production technologies, especially in the KVK’s adopted villages.

The interventions of KVK staff in training, demonstration activities and other timely interventions, most probably, helped in enhancing the technical knowledge of farmers of KVK’s adopted villages. The larger frequencies in the category of ‘adequate’ level of knowledge can be seen as a welcome sign for success of KVK’s efforts.

3. **Extent of Adoption of Improved Crop Production Technologies**

**Extent of adoption of improved wheat production technology:** Extent of adoption of improved wheat production technology was found to be moderately high among the farmers of the adopted villages of both the KVKs. The frequency distribution of farmer respondents on extents of adoption of improved wheat production technology, in the adopted villages of KVK, Meerut, was found to be highly skewed towards the higher side of adoption levels. The picture was reversed in the non-adopted villages, with more farmers in the low and medium categories of adoption levels. With respect to adoption of various components of improved wheat production technology, the majority of farmers was found to adopt the practices up to a moderate level.

**Extent of adoption of improved sugarcane production technology:** Extent of adoption of improved sugarcane production technology was
found to be moderate among the farmers of all the study villages. In the
adopted villages of both KVKs, however, the extent of adoption of
production technology of sugarcane was found to be better than that in
non-adopted villages.

In case of KVK’s adopted villages, the frequency distributions of
farmers fell into a highly skewed distribution towards the higher side of
adoption levels. But it was not so in the non-adopted villages. Among
the various components of improved sugarcane production technology,
most of the farmers were adopting many of them up to moderate levels.

Factors influencing adoption of improved crop production
technologies:

Extent of adoption of wheat production technology in adopted
villages: Only six variables were found to significantly contribute to the
variation in farmers’ extent of adoption of wheat production technology
in the adopted villages: educational status of farmers, farmers’ levels of
economic motivation, extension contact, mass media exposure,
extension participation and risk preference. This result adequately
explains the impact of KVKs on farmers’ level of extent of adoption.

Extent of adoption of sugarcane production technology in adopted
villages: Only three variables were found to be influencing the farmers’
extent of adoption of improved sugarcane production technology:
operational land holding, economic motivation and mass media
exposure. Sugarcane being a cash crop, big farmers with higher
economic motivation were adopting improved cultivation practices
intensively, than others.
Extent of adoption of wheat production technology in non-adopted villages: Only three variables were found to be affecting the farmers’ extent of adoption of improved wheat production technology in the non-adopted villages. These variables are: operational land holding, extension participation and scienticism. Big farmers who tended to have a higher degree of extension participation were more likely to adopt improved wheat production technology on seeing some empirical evidences with their own eyes.

Extent of adoption of sugarcane production technology in non-adopted villages: Only two variables were found to be influencing the farmers’ extent of adoption of sugarcane production technology in the non-adopted villages. These are educational status and localiteness-cosmopolitaness among the farmers. In such villages, localite information sources and one’s educational status play an influencing role in adoption of improved cultivation practices.

4. Impact of Recommended Farm Technologies on Farmers’ Technical Knowledge

Farmers of the KVK’s adopted villages had benefited greatly by the efforts of the KVK staff in training farmers and thereby enhancing the farmers’ technical knowledge. Some of the factors impacting the farmers’ level of knowledge were found to be farmers’ educational status, their operational land holding, socio-economic status, extension contact and extension participation. There appeared to be an indirect impact through increased extension participation due to KVK’s activities in the adopted villages and hence enhanced levels of farmers’ technical knowledge of improved wheat production technology.
In case of farmers' technical knowledge of improved sugarcane production technology, farmers' educational status, their extension participation, mass media exposure and localiteness-cosmopolitaness were found to be influencing factors. Here again, farmers' increased extension participation through increased activities of KVK in the adopted villages was found to impacting farmers' level of technical knowledge.

Thus, it can be concluded that the KVKs have provided adequate opportunities for farming community to interact with subject matter specialists of the KVKs and enhance their technical knowledge.

5. Assessment of Farm Technologies in terms of Problems and Probable Interventions

Wheat Cultivation: The interventions suggested, demonstrated and taken up by the KVK staff included maintenance of optimum plant population, integrated nutrient management for balanced nutrition, irrigation at crucial stage of crop growth, plant protection measures, pre-emergence herbicide sprays, etc., for ensuring higher yields and farm incomes.

Sugarcane Cultivation: The intervention suggested, and taken up by the KVK staff included maintenance of optimum plant population and healthy crop stand, use of good quality seed sets, suitable intercropping, inter-culture operations, and adequate plant protection measures, etc., for getting higher yields of sugarcane.

The attempts of the KVKs to make suitable and appropriate interventions through training and demonstration of key improved
practices of wheat and sugarcane cultivation were adequately received by farmers.


Krishi Vigyan Kendras are considered the knowledge centres of the local areas at district level to meet the requirements of the local agro-climatic conditions. These institutions were set up to enhance the level of technical knowledge among farmers. Prof. M. S. Swaminathan aptly coined the word ‘technical literacy’ to mean ‘ability of rural people (although illiterate, otherwise) in understanding and using technical knowledge of farm science’. Such technical literacy would be imparted through work experience and farmers’ training through ‘learning by doing’.

Some of the strategies that were suggested in this study are:

1. Farmers’ Field School
2. Farmers’ Training Courses: on-campus and off-campus programmes
3. Vocational Training Courses for Rural Youth
4. Front-Line Demonstrations
5. On-Farm Trials

Among these suggested strategies, vocational training of rural youth needs to be taken up urgently to make agriculture a viable enterprise option for young rural people in India’s villages. Another
important strategy is launching of farmers' field schools by the KVKs in the adopted villages for providing adequate technical guidance on a weekly on-farm classes through farmers' field schools during the crop season for major crops in the district. Since it has been ascertained through this study that KVKs impact farmers' technical knowledge, KVKs need to be strengthened for further progress and development in rural areas.