# Chapter – IV

# Technology Demonstration

'Believing through seeing' and 'learning by doing' accomplished through demonstrations help KVKs in technology integration. This process arouses interest and improves the adoption, because it is based on the principles of 'learning by doing' and 'seeing is believing'. Technology demonstration is the most effective way to show how a thing works, how to do the work, principles involved in an operation and to show the end results of the technology/methodology adopted. On the basis of purpose for which technology demonstration is conducted it is classified into (i) method demonstration and (ii) result demonstration.

## 4.1 Method Demonstration

A method demonstration is conducted to explain how to carry out a particular operation according to its principles so that it is carried out systematically and yields better result. Through method demonstration we teach the learners about how to do something. The learners will be shown the right method for doing an old practice or taught about a new practice that are introduced to them. The method demonstration teaches new skill and helps the learner to obtain practical knowledge about something they need to practice or do in their day to day life.

**Method demonstrations in progress**
**Left: Induced breeding in fishes, KVK, Imphal East, Manipur**
**Right: Preparation of Half Moon terraces, KVK, Wokha, Nagaland**

### Purposes

Some of the specific purposes for which the demonstration is useful are urea molasses treatment of paddy straw, compost pit, biogas plant, pesticide spraying, milking operation, sanitation methods, seed treatment, milk collection and storage, de-beaking of poultry, egg preservation, cattle feed preparation, operation of improved implements, sericultural operation, beekeeping, grooming

of cattle, dehorning, vaccination of poultry and cattle, semen collection, seed bed preparation, judging and selection of dairy and work cattle, haymaking, silage making etc.

**Method Demonstrations in progress**
**Left: Maintenance of Beehives, KVK, Mokokchung, Nagaland**
**Right: Use of Wheel Hoe, KVK, Dimapur, Nagaland**

### 4.2 Result Demonstration

The value of a new practice can be realized better by seeing the end product or outcome in comparison with the existing practice. Therefore, in extension education the result demonstration serves as an important tool to convince the farmer about the value of a new idea or innovation that are introduced to them as an option to their existing practice. Unless the farmers see the outcome or results of the recommended practice in comparison with their existing practice with their own eyes and experience, it becomes difficult for the extension worker to make the farmer to adopt the recommended variety or practice. In such circumstances, the result demonstration helps the extension worker to make his job easy. From the above discussion it is understood that result demonstration is:

i) the method to show the worth or end product or outcome of a practice or an idea.

ii) conducted mainly to show the differences between two practices especially when one is considered more superior than the other in giving the result or outcome.

iii) to compare the results. For comparisons, records are to be maintained.

**Result Demonstrations at farmer fields.**
**Left: Zero tillage Rapeseed, KVK, Imphal West, Manipur**
**Right: Hybrid Rice, KVK, Bishnupur, Manipur**

## Purposes

The result demonstrations may be used for a single recommended practice or a series of practices that come in sequence with respect to a problem. The framework, observability of results, trialability, complexity of operation and compatibility to the local people are the essential points to be considered for deciding a result demonstration. For example, it is easy to conduct the result demonstration for showing an increased yield of a hybrid seed in comparison with a local variety than to show the increased milk yielding potential of a crossbred cow with that of an indigenous one. Here, the time framework required for the former operation is a maximum of three months whereas a minimum period of three years are necessary to show the difference in the milk production and other reproductive parameters. Some of the recommended jobs for which result demonstration is useful are compost production, improved seed, fertilizer application, plant protection, irrigation measures, improved tools and instruments etc.

## 4.3 Front-Line Demonstrations

Front-Line Demonstration (FLD) is a concept of field demonstration evolved by the Indian Council of Agricultural Research during the inception of Technology Mission on Oilseed Crops during mid-eighties. The field demonstrations conducted under the close supervision of scientists of the National Agriculture Research System is called front-line demonstrations because the technologies are demonstrated for the first time by the scientists themselves before being fed into the main extension system of the State Department of Agriculture. KVKs conduct frontline demonstration only on those technologies suited to their micro location as proved by their own assessment and refinement through OFTs. They can conduct FLD on any technology assessed and refined and found undoubtedly suitable by any other agency involved in developing technologies for regions/agro-climatic zones that include or are similar to the KVK microlocation.


**Result Demonstrations at farmer fields.**
**Left: Rapeseed, KVK, Bishnupur (Utlou), Manipur**
**Right: Integrated fish farming, KVK, Thoubal, Manipur**

The main objective of Front-Line Demonstrations is to demonstrate latest crop production technologies and its management practices in the farmers' field under different agro-climatic regions and farming situations. While demonstrating the technologies in the farmers' field, the scientist are required to study the factors contributing towards higher crop production, field constraints of production and thereby generate production data and feedback information. Front-Line Demonstrations are conducted in a block of two or four hectares land in order to have better impact of the demonstrated technologies on the farmers and field level extension functionaries.

### 4.4 FLD v/s Other Demonstrations

The Front-Line Demonstrations are different from the normal demonstrations conducted by the extension functionaries. The special features of Front-Line Demonstrations are:

1. Front-Line Demonstrations are conducted under the close supervision of the scientists of the National Agriculture Research System comprising of Krishi Vigyan Kendras, ICAR Institutes, National Research Centers, Project Directorates and the State Agricultural Universities and its regional Research Stations.

2. Only latest proven technologies are selected by KVKs for Front-Line Demonstrations.

3. Front-Line Demonstrations are organized in a block of two to four hectares involving all those farmers whose plots fall in the identified demonstration block.

4. Only critical inputs and training are provided from the scheme budget, remaining inputs are supplied by the farmers themselves.

5. Training of the farmers associated with the Front-Line Demonstrations is a prerequisite for conducting such demonstrations.

6. The target audience of the Front-Line Demonstration is both farmers and the extension officers. The purpose is to convince extension functionaries and farmers together about the potentialities of the technologies for further wide scale diffusion; and

7. Front-Line Demonstrations are used as a source of generating data on factors contributing higher crop yields and constraints of production under various farming situations.

### 4.5 Typology of Frontline Demonstrations

Frontline demonstration is a long term educational activity conducted in a systematic manner in farmers' fields to show worth of a new practice/ technology. "Seeing is believing" is the basic philosophy of field demonstrations. Only proven technologies (based on OFT results) are selected for field demonstrations. Field demonstrations educate farmers through results obtained in terms of varieties resistant to disease and pest, quality of the grains and overall higher yields. In addition, it also educates the farmers in term of input-output ratio and economic gains in terms of net returns. Basically, there are two types of FLD:

I. Single practice FLD and

II. Composite FLD.

A 'Single Practice FLD' aims at proving the worth of a single practice such as effect of balanced fertilizers in rice crop, higher yields from newly released varieties of hybrid maize, effect of irrigation at crown root initiation stage of wheat, effect of new pesticide on fruit borer in gram etc.

A 'Composite FLD' is a combination of field based result demonstrations and a chain of skill oriented method demonstrations. A long term sequential method demonstration (Composite FLD) aims at demonstrating the superiority of a package of practice in growing a field crop. Here the effect of one practice in harnessing the effect of other practices is also demonstrated and studied. For example, combined effect of irrigation and fertilizer application on grain yield and quality of a newly released rice variety may be demonstrated as a composite FLD.

Many times, there is an over emphasis on FLD in KVK work. Successful FLDs lead to higher adoption of demonstrated practices by the farmers as they develop the confidence amongst them in the practices demonstrated. Field demonstrations provide an effective learning situation as farmers as well as extension personnel of line departments "See the crops themselves", "interact with the KVK scientists on the fields", and "get doubts clarified on the spot". It is, therefore, essential

that all FLDs should be well planned and executed leaving no room for failure. One bad FLD can spoil the impact of many good FLDs. KVK Scientists; therefore, have to be very careful in planning and conducting the FLDs. Without specific purpose, demonstrations should not be organized. Demonstration should be conducted only when situation demands.

***As a thumb rule, KVK scientists can conduct FLDs on those technologies which are proven beyond doubt (through OFTs earlier conducted by them) as suitable for various micro-locations of the district.***

## 4.6 Steps in Conducting FLDs

Since FLD is often used as an extension method, it is sometimes laid out in a routine manner. A well conducted demonstration should help the SMS to give finishing touch to changing attitude of farmers and extension workers and improve their knowledge, understanding and skills. The following broad steps need to be followed in conducting FLDs[1].

### 4.6.1 Planning Phase

#### a. Know the Vicinity

The scientists need to develop an understanding of the farmers, their farming systems, resources and establish rapport with them. It is essential to gather information on cropping system, present level of use of inputs and productivity of major crops of the area. There are different ways of knowing vicinity. Some are formal and some are informal. A few are as under:

(a) Visiting villages and farmers.

(b) Collection of information using PRA tools.

(c) Meeting people individually and in groups.

(d) Meeting opinion leaders.

(e) Exchanging information with local extension workers; and

(f) Consulting office records of population and basic agriculture.

***[1] The step by step guidelines for conducting OFTs given in Chapter – III (See Section 3.17 Practicalities of OFTs: Step by step guidelines) applies for FLDs also with minor modifications. Hence, those steps are not repeated in this Chapter.***

***All said and done, it should be noted that a KVK which has successfully executed a well planned OFT won't face much problem in planning a good FLD.***

**b. Select Technologies**

Select only proven technologies which have higher potentialities in terms of yield, disease resistance, quality, and can fit in the existing farming systems and situations of the area/farmers. Technology should be frontier ones i.e. recently released technologies or such which are atleast not more than five years old. Be sure that the technology selected for demonstration is much superior to the technology being already in use by farmers. At this stage SMS, responsible for demonstration must have enough consultations with the research scientists who are responsible for release of the technology. They should ask relevant questions from the research scientists and should be satisfied about the superiority of the technology.

***A better and exact way is to conduct FLDs only on technologies proven beyond doubt through OFTs conducted by same KVK.***

**c. Select Demonstration Site**

Avoid isolated farm. Demonstration site should be easily accessible for the farmers and extension workers. As far as possible, block of demonstration site should have a good number of farmers of all categories of land holding and status. Never conduct block demonstration in a single farmer's plot. Pay attention to farm size, layout of the field, soil type, fertility status, irrigation facilities and drainage system.

**d. Select Demonstration Farmers**

A group of farmers with land holdings in the selected demonstration block and who are willing to cooperate in the conduct of demonstration should be selected. Demonstration farmers should be selected finally by holding a meeting in the village where the purpose of demonstration should be clearly stated and suggestion sought from the farmers. Any difference in opinion may be sorted out tactfully. Otherwise there is a chance of having non cooperation from those who are not selected as demonstrating farmers which may ultimately jeopardize the very purpose of demonstration.

**e. Finalize Package of Practices**

This is an important step in planning FLDs. Collect the new technologies from the ICAR Institute/SAUs and ensure these technologies are frontier ones showing substantial increase in yields or other performance parameters. Involve as many scientists of the parent research station in the discussion as possible. This will help in working out minute details of sequences of method demonstration required; identification of important tasks/practices in which presence of scientists

should be necessary and critical inputs for FLD. Knowledge about farming conditions will be useful at this stage. Involve also demonstrating farmers in finalizing package of practices. This will help in understanding the level of farmers' practices, resource base to sustain the technologies and their perspectives.

### f. Prepare for demonstration

Arrange critical inputs for the demonstration. Critical inputs are those agricultural inputs which are vital to help the selected technologies to exhibit its production potentialities on farmer's field and not earlier being used by the farmers. Arrange such inputs viz. seeds, fertilizers, farm equipments and other inputs in time. Only critical inputs need to be supplied by the KVK. Other inputs should be arranged by the farmers themselves. Ensure that the inputs which are to be given by the farmers are available with them. The farmers should never be given an impression that the FLD is a means of receiving free inputs. Also, the KVK should make sure that farmer don't divert the critical outputs supplied to other crops in the field. Rather, they should be educated to understand the educational value of such demonstrations.

## 4.6.2 Conducting Phase

### a. Layout of Demonstration

Guide and assist the farmers in laying out the field. Special training programme may be arranged for all farmers in whose plots demonstrations are to be laid. Keep the control plot if needed; otherwise treat all other neighboring/surrounding plots as control plots. In case of block demonstration, one acre plot as a control is adequate. Sometimes a control plot is not necessary as the "entire memory of the farmer" is taken as a "control" or the neighboring plots would serve the purpose of control plots. Put a publicity board on the fringe of the demonstration plot indicating the technology demonstrated, period of demonstration and technology donor. Mention the KVK name also on the board.

### b. Crucial Farm Operations

The SMS should ensure his presence at the time of important operations like, seeding, fertilizer application, weeding, and irrigation, plant protection measures, harvesting, threshing and weighing of produce. Two things are important at this stage:

(i) Using demonstration for farmers' training, and

(ii) Record keeping

Each operation should be used as input of training of farmers. Encourage questions from the farmers at each of these operations. This will help in better understanding of the task/operations.

### c. Field Day

Arrange a field day to project the new technologies demonstrated in front of a large manageable group of interested farmers. It is an intensive educational activity in which farm experts, extension workers and farmers are involved and learn from each other.

**Field days in progress.**
**Left: A field day on *Megha Turmeric* at KVK, Ri-Bhoi, Meghalaya.**
**Right: A field day on *Construction of Jalkund* at KVK, Wokha, Nagaland.**

Plan the field day when the crop is fully matured yet green. Ask the demonstration farmers to explain the story of demonstration one by one to the assembled group of farmers and extension workers. Arrange a few method demonstrations on operation of farm machines and equipments, operation of seed drill, seed treatment, fertilizer application, plant protection, etc. Farmer-Scientist-Extension worker discussion should be an important feature of the Field Day.

### d. Harvesting

Make an eye estimate of the field. Arrange harvesting in the presence of identified groups of farmers. Ask the farmers to estimate the yield and to say in what way the demonstrated technologies are superior to the earlier ones. Are they satisfied with the performance of the technologies? What lessons they have learned from the demonstration? Will they advice other fellow farmers to adopt this practice? Will they exchange the seed materials of new variety with other fellow farmers? What are the expected profits? Will it be more than what they used to get from their own practices? What are the difficulties in following the demonstrated practices? Idea is to ascertain as to what extent farmers are satisfied with the demonstrated technology and what is the possibility of their continued adoption.

### 4.6.3 Follow-up Phase

Some farmers may revert to old practices in the absence of follow-up. They need information reinforcement, timely supply of inputs or on the spot guidance. Group approach in follow-up will give better results. It is better to link your follow-up programmes with the local institutions like Farmers Club, Farmers Cooperative Society and Village Panchayat etc.

### 4.6.4 Record Keeping

There are two types of records which one should maintain for each block demonstration.

#### a. Information Card

This card contains basic information about the demonstration site viz. previous crops and varieties grown, fertility status of the plots, present productivity of crops, size of holdings of each farmers in the demonstration block, extent of use of inputs etc. It should also contain detail information of demonstration like size of block, variety of crop, seed rate, sowing date, inputs applied, irrigation schedule followed, intercultural operation performed, plant protection measures taken, date of maturity, date of harvesting, incidence of disease and pests, average numbers of tillers, yields of crop etc. The card should remain with the demonstration farmers and is filled up by them or by an educated person in their family or by the KVK staff who visit the demonstration site from time to time.

#### b. Technical Report

The technical report should contain information on soil analysis, crop variety, germination, plant population, pest and diseases, irrigation, fertilizer application, harvesting, final yield, extension activities undertaken etc. It should also contain information on cost-benefit ratio of the demonstration. This will help to work out the economic returns. A favorable cost-benefit ratio will fully convince the extension officers and the farmers about the profitability of the technologies demonstrated. Submission of technical reports to ZPD/Council in time is as important as conducting good field demonstrations. Late submission of reports may constrain the ZPD/Council as it will not be possible to include them in the Zonal report/national report. Remember, demonstration report helps in planning agricultural development and farm research programme of your area, state and country. Therefore, send technical report of block demonstration in time. Each block demonstration should be concluded with a feature story written in simple and easily understandable language. The story should have supporting data and photographs of demonstration to convince the readers. Role of the scientists in writing of feature story is very important. Such story becomes important learning materials in Krishi Vigyan Kendras.

The FLD has to be reported in the following format as shown below:

Details of FLDs implemented during current year (Information is to be furnished in separate tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

| No. | Crop | Thematic area | Technology Demonstrated | Season and year | Area (ha) | | No. of farmers/ demonstration | | | Reasons for short fall in achievement |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Pro-posed | Actual | SC/ ST | Others | Total | |
| 1. | Radish | Varietal performance | Japanese White | Rabi 2007 | 1.0 | 1.0 | 6 | - | 6 | - |
| 2. | Okra | Varietal performance | Arka Anamika | Kharif 2008 | 1.0 | 1.0 | 6 | - | 6 | - |

Details of farming situation

| Crop | Season | Farming situation (RF/Irri-gated) | Soil type | Status of soil | | | Previous crop | Sowing date | Harvest date | Seasonal rainfall (mm) | No. of rainy days |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | N | P | K | | | | | |
| Radish | *Rabi* | Rainfed | Loamy | L | M | M | Rice | 03-10-2007 | 05-12-2007 | 120.42 | 8 |
| Okra | *Kharif* | Rainfed | Loamy | L | L | M | Rice | 03-04-2008 | 25-06-2008 | 957.40 | 46 |

Performance of FLD

| No | Crop | Technology Demonstrated | Variety | No. of Farmers | Area (ha.) |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1. | Radish | Varietal performance | Japanese White | 6 | 1.0 |
| 2. | Okra | Varietal performance | Arka Anamika | 6 | 1.0 |

Impact on Yield

| Demo. Yield Qtl/ha | | | Yield of local Check Qtl./ha | Increase in yield (%) | Data on parameter in relation to technology demonstrated | |
|---|---|---|---|---|---|---|
| H | L | A | | | Demo | Local |
| **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| 132.75 | 85.50 | 113.04 | 87.25 | 29.56 | Av. yield 113.04 q/ha | Av. yield 87.25 q/ha |
| 165.00 | 108.50 | 132.93 | 95.25 | 39.56 | Av. yield 132.93 q/ha | Av. yield 95.25 q/ha |

Economic Impact

| Average Cost of cultivation (Rs./ha) | | Average Gross Return (Rs./ha) | | Average Net Return (Profit) (Rs./ha) | | Benefit-Cost Ratio (Gross Return / Gross Cost) |
|---|---|---|---|---|---|---|
| Demonstration | Local Check | Demonstration | Local Check | Demonstration | Local Check | |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 28,500/- | 20,800/- | 79,128/- | 47,987/- | 50,628/- | 27,187/- | 2.78:1(D) |
| | | | | | | 2.31:1(LC) |
| 48,500/- | 32,100/- | 1,59,516/- | 76,200/- | 1,10,016/- | 44,100/- | 3.29:1(D) |
| | | | | | | 2.37:1(LC) |

## 4.7 Examples of model FLDs

### 4.7.1 FLD: 1 Demonstrating 'Mithun Microchip' Technology

Mithuns are semi-domesticated animals in Arunachal Pradesh and under the prevailing system of Mithun rearing they are let-loose freely in the jungle to feed by themselves. They feed on natural fodders with out any supplement feeding or care by the attendants except occasional offering of common salts by the Mithun owners.

Traditionally, Mithuns are identified based on their ear notching (done during the calf-hood), horn structures, body coat colour pattern, sex or the body size. Due to close similarity between the Mithuns of different owners in the locality, often it creates conflicts of Mithun ownership. This leads to controversies among the Mithun owners which ultimately compels them to plead the case to the Judiciary for further investigation on ownership. Taking the importance of social problem in view, one of the KVKs has initiated the FLD: 'Demonstrating 'Mithun microchip' technology'.

Under this composite FLD the following practices and technology were demonstrated:

- The micro-chip (size of rice grain) bearing a specific number for implantation in the Mithuns.
- Method of securing and restraining the Mithun for chip implantation.
- Method of sterilizing the neck region (anterior to the point of shoulder) with the help of absolute alcohol (spirit).

- Subcutaneous implantation of microchip.

- Rechecking and recording micro-chip number in the identity card of the Mithun using transponder (Reader Machine) and handing over to Mithun owners for safe custody.

At the time of conflicts for the ownership of the Mithuns, the microchip reader machine can be brought from the authority and the tag number or the micro-chip number can be read by rubbing the machine near to the site of implantation of the micro-chip.

The FLD was conducted with a total of 55 Mithun owners. This FLD has helped the local community to a great extent as the doubt and conflict over the ownership of Mithuns in the district was eliminated.

Presently, Govt. of Arunachal Pradesh has taken up programme of micro-chip implantation in the Mithun population available in the entire district. The plan is to provide identity card to Mithuns by Dec. 2009. All the districts will be covered in near future.

**Output of FLD**

- The awareness on use of microchip technology as a fool proof identification method for Mithun was created among the farmers.

- The dispute among the Mithun owners was completely eliminated and farmers now want to adopt this technology for identification of their animals.

**Outcome of FLD**

- The application of the microchip technology was accepted and taken up by Extension System of the Government of Arunachal Pradesh and it helped to extend the benefit to a larger population in other districts of Arunachal Pradesh and similar areas in the whole NE Region.

- Peace of mind and social harmony is established among the Mithun owner society as the conflict over Mithun ownership in the district is over.

### 4.7.2 FLD: 2 'Demonstrating Production Technology of Exotic Vegetable; Broccoli (Variety: Pushpa)'

The Mid Tropical Hill Zone provides enough scope for cultivation of exotic vegetables. But the farmers were resorting to traditional crops with average yields. The KVK, under it's OFT assessed the

performance of Broccoli Variety Pushpa in the district and found it suitable for demonstration and popularization among farmers of the district. Accordingly, in the next season, an FLD on Production technology of exotic vegetable Broccoli (Variety: Pushpa) was conducted among selected farmers of different micro-locations in the district.

Under this composite FLD the complete package of practice of Broccoli was demonstrated with a great success.

The FLD was conducted in 8 farmer fields in different locations covering 0.2 ha area. The yields were found excellent with an average primary head weight of 250 gms in comparison to the local check's primary head weight of 212 gms (22.18% increase). B:C ratio of 1.22 was also recorded. The farmers were much enthused with the results. The adoption of this crop in the district is on a rise due to the successful demonstration by KVK.

### 4.7.3 FLD: 3 'Demonstrating Impact of Group Formation on Social Capital and Farm incomes'

This FLD was a continuation to the successful OFT on 'Assessing effect of group formation on social capital and rural livelihoods'.

In most villages, farm families often resort to individual efforts which pay only average dividends. Social scientists have proven beyond doubt that group formation and positive management of group dynamics thereon will result in significant build up of social capital thus contributing to increase in economic capital. The success of Self Help Groups and Farmer Interest Groups in improving rural incomes all over the world has proven this fact.

The SMS (AE) observed that in various microlocations of the KVK district, farm incomes are abysmally low coupled with poor avenues for farm women and rural youth. Village surveys revealed that spirit of group activity is lacking among the rural population. This also resulted in poor response for various developmental initiatives by KVKs and other agencies. Building social capital by way of group formation was recognized as the solution for this social problem. Accordingly, the SMS (AE) conceived an OFT titled 'Assessing effect of group formation on social capital and farm incomes'. The OFT was conducted in 5 different locations of the district with the following four treatments:

Treatment 1: Self Help Group (SHG) with 20 farmers focusing on group farming.

Treatment 2: Self Help Group (SHG) with 20 farm women focusing on savings and income generation.

Treatment 3: Farmer Interest Groups (FIG) with 15 farmers each which are product focused.

Treatment 4: Farmer Interest Groups (FIG) with 15 farm women each which are enterprise focused.

In every location, the above four treatments were followed. In total, the OFT covered 200 SHG members and 150 FIG members.

The success of above mentioned OFT has compelled the SMS to continue the groups for demonstration purpose for farmers of other villages. So the groups will now become part of a 'FLD on impact of group formation on social capital and farm incomes'.

The following aspects were demonstrated through functioning of SHGs and FIGs in the district:

1. Build up of group spirit
2. Spread of 'self help' message
3. Dynamics of groups formed
4. Build up of social capital
5. Increase in saving habit and
6. Initiation of group farming

Several hidden variables were highlighted and demonstrated such as:

- Outflow of extra income to family savings
- Better health and education for children from extra savings
- Group feeling among villagers
- Increase in cooperative efforts
- Spirit of entrepreneurship
- Reduction in farming costs due to group farming

- Build up of farm assets from extra income
- Development of better marketing models for rural products through FIGs
- Culture of hard work among rural youth and
- Better status of women in villages due to income from SHG and FIG activities.

The KVK will continue the demonstration groups till they reach a stage where they can sustain themselves. The Social output of this demonstration can be termed as far better than the economic outputs from many other demonstrations.

### 4.7.4 FLD: 4 'Demonstrating effectiveness of 'e-village' concept in providing efficient farm decision support'

The SMS (AE) observed that in various microlocations of the KVK district, farm incomes are abysmally low due to poor access to market intelligence coupled with low productivity due to pests and diseases. Even though information on the above aspects already existed, the farmers were unable to make use of the same due to inaccessibility. At this point the SMS (AE) mooted the idea of setting up an 'e-Village' on a pilot basis. Accordingly he formulated an OFT titled: "Testing applicability of 'e-village' concept in providing efficient farm decision support" in a selected microlocation of the district. Under the OFT, a computer with internet connection was provided in the village. Selected farmers were trained in internet usage and data retrieval. Farmers were also introduced to the various websites on pest and disease management as well as market information. Success of the OFT helped the SMS to initiate an FLD on the same concept.

Upon initiation of the FLD, the SMS recorded the following aspects:

1. Usage of internet by farmers
2. Utilization of market information from internet
3. Utilization of pest and disease information
4. Utilization of other information such as package of practices.
5. Increase in farm income over a period due to 'e-village' facilities.

The SMS could clearly demonstrate a significant improvement in all the above parameters to the villagers and extension personnel from line departments. The data was collected for every

three months through village surveys and compared with previous ones to reach at conclusions. The various benefits from 'e-village' noticed were such as:

1. Better decision making in farm management by farmers
2. Reduced losses from pest and disease attacks
3. Better crop and animal management
4. Reduction in farming costs due to better information
5. Reduced exploitation by middlemen due to better informed farmers
6. Increased farm income due to better marketing practices
7. Outflow of extra income to family savings
8. Better health and education for children from extra savings
9. Build up of farm assets from extra income
10. Development of better marketing models at village level

The success of above mentioned FLD has compelled the SMS to continue the facility for demonstration purpose for farmers of other villages. So the FLD will now be replicated in other villages of the district. It is expected that the success of the FLD will create a multiplier effect thus forcing other villages to take up the technology. The SMS in story demonstrated the latest cyber extension technology available to give efficient farm management and marketing decision for the farmers thus bringing a significant increase in their farm incomes.

Technology demonstration occupies one of the most important positions among technology application activities. Successful demonstrations have a multiplier effect on adoption and diffusion of frontier technologies thus aiding agricultural development in the country. But, technology application is complete only when farmers, rural youth and extension functionaries are trained on the latest proven technologies. The process and requirements of KVK training component is discussed in detail in the next chapter.