

**GIDR Occasional Paper Series No. 2**

**AGRICULTURAL EXTENSION SERVICE  
THROUGH KRISHI MAHOTSAV IN GUJARAT:  
A PRELIMINARY ASSESSMENT**

**Itishree Pattnaik  
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Amita Shah**



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November 2012

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We hope this exploratory study will throw new insights and questions that may encourage researchers to take up a more probing and detailed analysis pertaining to the hitherto neglected, yet critical, extension service for promoting the future growth of agriculture and also welfare of the people involved therein.

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## EXECUTIVE SUMMARY

The program, Krishi Mahostava (KM) as launched in Gujarat in 2005 seeks to bridge the distance between technology and the farmers such that it expedites the process of technology diffusion among farmers in different parts of the state. The important challenge was to move from providing recommendations that are more generic in nature to those required for the farm and farmer specific situations. The central thrust of the program could be stated as: a) creating awareness by providing exposure to the new techniques, scientific ideas, crops and farm practices; b) transfer of specific technology suitable for the soil type, availability of eater, crop-mix, and households resources as well as preferences; c) introducing the farmers to a host of government schemes and providing subsidized inputs to poor farmers; d) bring producers, input-suppliers, marketing organizations and also policy makers and the scientific communities on a common platform in order to attain greater convergence across different players within the sector; e) to consolidate the efforts of the various actors/agencies to move towards a technology-driven growth in agriculture to help the farmer across class, communities and regions.

Since its launching, the KM continues till date as per the original design of the programme. It consists of three important features, viz. Krishi Rath (a mobile extension centre); Krishi Mela (agriculture and extension fair); and Krishi Shibir (farmers' training programme). Whereas the Krishi Rath covers all the villages, the Krishi Mela is organized at the taluka level and the Krishi Shibir, is organized by the Agricultural Produce Marketing Committee (APMC) at the district level. Every year the KM-activities start before monsoon. It is important to note that the agriculture scientists and experts take active part in all the three activities of the KM. The month-long program, begins on the day of Akshay Tritiya, by deploying as many as 100,000 personnel from across 18 government departments in the estate. The Krishi Rath provides on the spot information, advice, and audio-visual demonstrations to farmers who visit this mobile exhibition.

While well designed and well-spread, KM raises a couple of important issues especially with respect to the mode in which it is actually operationalised. For instance, an important concern that emanates from the design of KM is about the periodicity (i.e. once in a year in every village), the follow-up, and the synchronization with the existing machinery of extension services at the taluka and district levels. Similarly, there could be issues about the selection of the thrust areas of extension messages and the farm specific recommendations, which perhaps, may call for several rounds of consultations/ counseling. Lastly, there may still be concerns over inclusion of the resource-poor farmers who generally stay behind those having large land holding, access to water, and practicing commercial farming.

In this context the present study seeks to explore some of these issues through a fairly conducted rapid enquiry of the awareness, outreach, and adoption of the recommended practices covered by the KM across the districts of Gujarat. This is primarily an exploratory study aimed mainly at examining the coverage rather than the actual impact of the interventions. The study was conducted during August – September 2010 covering one village in each of the 25 districts in the state.

The major objectives of the study include: a) Examining the extent to which households from different segments of the village communities are aware about the programme; b) Analyzing how effective is KM program in generating awareness on new techniques, inputs and crops; and c) ascertaining the extent to which the awareness about KM has also translated into actual adoption of the new technologies.

Purposive sampling method was used and data was collected by using the participatory research approach. “Beneficiary Assessment Method”- a qualitative assessment of the impact of KM on beneficiary farmers was attempted. From each district one block was selected and from the block one villages was selected. Thus the survey was undertaken in 25 villages of Gujarat. Total 60 samples from each district were stratified in order to include households from different classes. The information at the field level was collected through structured questionnaire method. In order to supplement and ratify the information obtained from the farmers through the primary survey, the opinions and suggestions of officials and experts involved directly with the KM were also sought. Expert Opinion Method was used to understand the impact of the programme and suggestions to improve it. Personal interviews were conducted with the help of an unstructured questionnaire with the government officers and scientists.

The study shows that the KM program depicts a better scenario in the sense of bringing the knowledge and the technologies into the doorsteps of the farmers in Gujarat. However, there exists wide discrepancy between the awareness and the adoption of the farm technologies. It was observed that the aspects determining adoption of a particular knowledge or technology is not only the interest of the particular person, but also the availability of means to adopt it. It was also observed that large and medium landholding households showed improving knowledge and adoption of new technologies than others. This shows that the adoption of new technologies was mainly concentrated among the large and medium farmers compared to small and marginal households. Thus the benefits of the program mostly cornered by the large and medium farmers.

Thus the study suggests that there is a need to look into the questions of follow up and synergic linkages with the larger extension systems other than Krishi Mahotsav. Essentially, the programme may contribute towards revitalizing the larger systems of extension with which farmers keep connected on a regular basis. This issue of course, needs further probing as it was not part of the present enquiry.

Finally, the requirement for information services is increasingly becoming more nuanced and location/farm specific. This is particularly so in the wake of the increasing issues of climatic vulnerability, food insecurity and unsustainable resource-use. It is therefore, high time that the future models of extension services are better equipped with more nuanced rather than focusing on the messages/recommendations that are generic in nature. While Krishi Mahotsav could perform the latter task, it should keep reminding us that the more complex tasks are yet to be addressed with care and long term commitments.

## **ABBREVIATIONS USED**

APMC	Agricultural Produce Marketing Committee
ATIC	Agricultural Technology Information Centers
ATMA	Agricultural Technology Management Agency
DDOs	District Development Officers
FC	Farmers Club
FIAC	Farmer Information and Advisory Centre
GAIC	Gujarat Agro Industries Corporation Limited
GEC	Gujarat Ecology Commission
GGRC	Gujarat Green Revolution Company Ltd.
GS	Gram Sabha
GSSC	Gujarat State Seed Corporation
HHs	Households
ICAR	Indian Council of Agricultural Research
KCC	Kisan Credit Cards
KM	Krishi Mahostav
KR	Krishi Rath
KVK	Krishi Vigyan Kendra
LCD	Liquid Crystal Display
NABARD	National Bank for Agriculture and Rural Development
SAU	State Agricultural University
SC	Scheduled Caste
SHC	Soil Health Cards
ST	Scheduled Tribe
T & V	Training and Visit

## CHAPTER 1

### EXTENSION AND AGRICULTURAL DEVELOPMENT

#### 1.1. Dimensions of Agricultural Extension

Agriculture extension services play critical role in enhancing farm productivity, bringing forth gender equity and alleviation of rural poverty (Rivera and Corning, 1990). The integration of agricultural research with quality education and a properly planned extension education system has been one of the fundamental foundations of the developmental strategy (Venkatasubramanian, et. al, 2000). Extension education is one of the integral instruments to increase farm productivity. It is essential that the knowledge that is developed in the laboratory need to be transmitted to the farmers through some extension activity in order to have an increase in the production level. In India, the nature and scope of the extension activity has undergone fundamental changes since independence. As almost 81 percent of farmers cultivate about 2 hectares of land, there is a need for proper extension system for maximization of production. Reduction of poverty and hunger again depend upon increased productivity and profitability of these farmers, which in turn depends on the successful delivery of agricultural extension (Glendenning et.al. 2010).

The Department of Agriculture and Cooperation has taken several initiatives to revitalize the agriculture extension system in India. With faster increase in the population of the country, it is essential to increase the production with the help of the modern farming in order to feed the large population. The modern farming calls for adoption of the latest methods of farming based on science of agricultural production. Thus, in the scientific agriculture for farm production along with the four factors one more factor (the fifth) of the latest knowledge has been added (Chauhan, 2007). It is important to create the knowledge and send the same knowledge to the farm for practice. Thus scientific farming has three tools.



Immediately after independence, various necessary steps were taken in the country to initiate extension activities. The establishment of Indian Council of Agricultural Research (ICAR) and the extension activity of ICAR started with the objective of assessment, refinement and demonstration of technology through National Demonstration Project, Lab to Land Programme. There are 44 Agricultural Technology

Information Centers (ATIC) established under ICAR institutes and State Agricultural Universities. In the early 1960s, extension programs incorporated multipurpose rural development programmes, under which credit delivery and input distribution carried out. In the late 1960s and early 1970s technology diffusion became the focus of agricultural extension. Training and Visit (T&V) system of agricultural extension was initiated, which was expected to act as a link between agricultural research centers and millions of small farmers.

However, the transfer of T&V extension approach failed in the rainfed farming areas where the production system and the local conditions varied widely (Rao, 2003). There was establishment of a network of Krishi Vigyan Kendra (KVK) in the country. During 1990s, Agricultural Technology Management Agency (ATMA) was created with the objective to integrate functioning of line departments at the district level. Farmer Information and Advisory Centre (FIAC) established as a part of ATMA program. In the late 1990s there was expansion of the private sector extension provision like agri-business, contract farming arrangement, private consultancy services, NGOs, producer co-operatives and farmers associations (<http://agricoop.nic.in>). Investment on extension activities and the number of farmers covered under it has been considered as the rate of adoption of new technologies. However all the major innovations on extension program in India highlighted the gap between extension and research (Birner and Anderson, 2007).

India's 10<sup>th</sup> and 11<sup>th</sup> five-year plans emphasize agricultural extension as a key to increasing agricultural growth by reducing the yield gap in farmer fields, and therefore stress the need to strengthen agricultural extension in India (Planning Commission, 2006). Prima facie, the justification for placing research and extension services primarily in the state supported systems was drawn from the fact that the knowledge and information dissemination largely characterized by 'public goods' especially in a situation where farmers are large in numbers; spread over remote areas; operate in diverse socio-economic & agro-ecological conditions; illiterate; and with low capacity to pay for the services. Also research and extension in agriculture had to simultaneously serve the immediate and long term goals of profitability and food security respectively at individual and national levels. It was therefore, envisaged that left to the private sector, these multiple goals may not have been attained.

The efficacy of the T & V system has been examined in great details and the results were found to be mixed. Feder and Slade (1986) observed that that the yield levels of farmers whose main source of information was the T&V extension was found to be higher. The incremental investment in T&V extension was likely to generate at least a 15 to 20 percent rate of return. Another study in Haryana by Feder (1986) concluded that

knowledge of improved practices, especially in wheat cultivation, diffused faster in the area covered by T & V extension. However the impact of the investment in extension is difficult to calculate (Salmen, 1999). The impact has been studied on the basis of the use of inputs and the outcomes.

More recently, particularly in the post-reforms period, the justification for the public sector assuming the major responsibility of both research and extension, especially the latter, came under a serious scrutiny. This was due to four related factors: a) changing priorities and declining public expenditure on agriculture sector *per se*; b) inability of the state to put-in skilled and knowledgeable cadre of extension workers; c) improvements in some of the initial constraints noted above and spread of media, and d) growing interests of the international players to get into the vast and burgeoning markets encompassing a substantially large number of farmers in the country.

As a result, the agriculture extension scenario at the dawn of 1990s was marked by failing public systems on the one hand, and growing interest of the private sector almost knocking the door of the farmers for promoting their products (seeds, pesticides, farm equipments) on commercial basis. The funds starved farm sector, thus became a good candidate for opening up the doors for the private investors, including the MNCs, in the post-liberalisation era. Since then, a number of alternative models of agricultural-extension have been evolved; the most popular being the public-private partnership (PPP), which apparently could keep the balance between the twin objectives of social and private benefits (profits for the farmers as well as the service providers).

One of the innovative initiatives evolved in this context is Krishi Mahotsav (KM) in Gujarat. This innovative extension program by the Government of Gujarat initiated as an instrument to strengthen the agriculture sector in the state.

## **1.2 Krishi Mahostav: An Innovative Extension Program<sup>1</sup>**

Recognizing the rapidly changing agricultural situation in the state, the Government of Gujarat (GoG) has introduced a novel approach, in the form of Krishi Mahotsav, for agriculture extension in the state. Prima facie, the approach seeks to bridge the gap between the technology and the farmers such that it expedites the process of technology diffusion among farmers in different parts of the state. Another important challenge was to move from providing recommendations that are more generic in nature to those required for the farm and farmer specific situations. In other words the need was to move towards demand led approach to extension services for the farmers. Such services are often made available by the private sector/agencies. It is likely that these agencies may

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<sup>1</sup> The information about the KM in this section is obtained mainly from the following sources: <http://km.guj.nic.in/>, <http://agricoop.nic.in>, <http://www.gujagro.org>.

have limited outreach hence likely to miss the resource poor farmers, often in the remote areas. Krishi Mahotsava, thus, is an important policy response to address some of the important gaps thereby initiate a massive renewal of the agriculture extension in the state. The program aimed at strengthening backward linkages in terms of dissemination of research outcomes, technical assistance, credit support and input supply right for the individual farmer at the grass roots level (Shah *et al*, 2009).

Unlike the multi stage extension program that has been in place for several decades, KM aims at bringing the science and the scientists to the door steps of the farms and the farmers by actually putting in practice the 'lab to land' approach covering all villages in the state. An almost complete coverage of farmers by an extension programme such as this is not only unique to Gujarat, but, perhaps for the rest of the country as well. This is to be achieved through a bottom-up approach involving micro level planning. It aims at preparing micro level plans covering each block and village by keeping in view the suitable crops preferred by large number of farmers across different areas in the states. The programme therefore has been acclaimed as one of the flagship initiatives by the state, the implementation of which is carefully observed by the state-machinery. In a series of recent video conferences, the Chief Minister of Gujarat had addressed farmers meetings organized through Krishi Mahotsav noted that the KM has brought the 'best convergence of planning and manpower' (<http://www.narendramodi.in/krishi-mahtsav>).

The KM was launched in 2005, and continues till date as per the original design of the programme. It consists of three important features, viz; Krishi Rath (a mobile extension centre); Krishi Mela (agriculture and extension fair); and Krishi Shibir (farmers' training programme). Whereas the Krishi Rath (Farming Chariots with tractors turned into decorated raths) covers all the villages, the Krishi Mela is organized at the *taluka* level and the Krishi Shibir, is organized by the Agricultural Produce Marketing Committee (APMC) at the district level.

Every year the KM-activities start before the onset of monsoon. It is important to note that the agriculture scientists and experts take active part in all the three activities of the KM. Since the approach is essentially demand driven, it is equally important that the farmers also play a pro-active role by participating in the various activities organized under the KM. This is very important because the KM is one time activity, following a pre-decided schedule during a year. In order to facilitate farmers' participation, the time schedule of the KM is announced through advertisements, media, and massive campaigns. The month-long program, begins on the day of Akshay Tiritiya (the auspicious day for preparing the land for cultivation in the Kharif season), by deploying as many as 100,000 personnel from across 18 government departments in the state. By adopting 'lab to land' approach, the program is expected to help creating general

awareness about various aspects of agriculture on the one hand and provide specific technical support/advice on the other (<http://km.guj.nic.in/>).

Every year the Krishi Rath visits all the 18,600 villages in the state. Normally the KR is stationed for about 2-3 hours in each village. This is a mobile exhibition accompanied by the scientists/experts who provide useful information to the farmers of villages of Gujarat. During 2005, the Krushi Mahotsav had received overwhelming response from all types of the target audience (<http://agricoop.nic.in>). The Gujarat Agro Industries Corporation Limited (GAIC), was entrusted with the task of preparing 'Krishi Rath' for 'Krushi Mahotsav 2012'. As per the latest available information the GAIC had set up a total of 238 “Krishi Raths”. The Krishi Rath provides on the spot information, advice, and audio-visual demonstrations to farmers who visit this mobile exhibition. The information provided by these exhibitions includes aspects like irrigation-technology, soil testing, use of improved seeds, pesticides and fertilizers, and developments in animal husbandry and dairy products, etc. The Krishi Rath also carries, equipments like Liquid Crystal Display (LCV); exhibition panels, models of farm equipments, audio visual system, etc (<http://www.gujagro.org>).

Among the technical personnel accompanying the KR are agricultural scientists, officers from the departments of agriculture, horticulture, animal husbandry and dairy, representatives from the Gujarat Green Revolution Co. (GGRC), staff from the APMC, officers from National Bank for Agriculture and Rural Development (NABARD), representatives of the private companies supplying seed, fertilizers and equipments and students from the agricultural universities etc. Initially some of the officers introduce the various components of the KR through lectures and audio-visual equipments, and also distribute pamphlets and books; the main thrust of the Krishi Rath is on individual consultation and interaction so as to be able to address the farm-farmer specific problems/needs as noted earlier.

The output produced by the farmers need to be marketed properly for enhancing the income of the farmers. The APMC officers provide information regarding better marketing facilities and the information on prices. Issuing Soil Health Cards (SHC) and Kisan Credit Cards (KCC) is yet another important task being performed through the KR. Soil health card is prepared after conducting soil tests and contains the recording of the results along with the recommended soil nutrient practices as well as suitable cropping pattern for each soil type. Animal Husbandry is also another important element of the KM program. Farmers receive useful and much sought after information on how to increase the quality and quantity of milk and also the ways to improve productivity of poultry farms.

Overall, the central thrust of the KM could be stated as follows:

- Creating awareness by providing exposure to the new techniques, scientific ideas, crops and farm practices.
- Transfer of specific technology suitable for the soil type, availability of water, crop-mix, and households resources as well as preferences.
- Introducing farmers to a host of government schemes and providing subsidized inputs to poor farmers.
- Bring producers, input-suppliers, marketing organizations and also policy makers and the scientific communities on a common platform in order to attain greater convergence across different players within the sector.
- To consolidate the efforts of the various actors/agencies to move towards a technology driven growth in agriculture to help the farmer across class, communities and regions.

### 1.3. Functioning of Krishi Mahostava and the Krishi Rath<sup>2</sup>

**State level:** In order to create awareness about the new technology and development schemes among the farmers with limited manpower, the GOG took initiative to begin the new extension program. It was decided to bring all the rural development agencies of the state (GEC, Health, Education, Irrigation, Water Supply and others) in direct contact with the farmers. In this respect a state level (steering) committee was formed under the chairmanship of the Chief Minister with all the ministers, MDs, Gujarat Agro Industries Corporation (GAIC) and Gujarat State Seed Corporation (GSSC) as members and Minister for Agriculture as the Secretary and convener of the committee. Detailed guidelines were prepared and circulated. The District Collectors and the District Development Officers (DDOs) were made the team leaders. The responsibilities were distributed at different levels among the officers.

Implementation of the event is done in three phases as discussed below.

**District Level:** At the district level a management committee under the chairmanship of the minister in-charge of a particular district was formed. The members included all the district level officers of the agricultural departments and other rural development departments. The District Collector was appointed as the secretary and convener of this committee. The prime objective of the committee was to address the needs of the farmers (roads, electricity, water, information on agriculture technology and above all the awareness about the development schemes meant for the poor and farmers). The higher authority of this committee was the state level committee.

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<sup>2</sup>This sub-section draws from the inputs provided by Dr. G. Koppa, one of the authors of this report.

**Taluka Level:** The taluka level committee was assigned to prepare the routes of the Krishi Rath, the formation of teams for the programmes at the villages as well as providing training and supervision of the officers. The Taluka Development officer was the nodal officer to finalize the route for the Krishi Rath in consultation with District Collector (District Management Committee). Normally, depending on the number of villages in each taluka the KR visits 3-4 villages per day. The KR is accompanied by scientists from SAUs, development department officials, officials of cooperatives and others.

Every Gram Sevak is instructed to organize a 'Gram Sabha' before the KR reaches the village. One of the main objectives of the Gram Sabha is to form the village level committee and to provide an orientation to them. The other important objective of the Gram Sabha is to collect the application forms for different schemes and to prepare the list of beneficiaries for the distribution of the different kits. The village committee also identifies the beneficiaries for the implementation of community oriented schemes. The third and final phase of the event commences with the flagging off of the Krishi Rath and the implementation of the programme activities at the village level over a period of a month.

The responsibility of preparing the Krishi Rath is entrusted to the Gujarat Agro Industries Corporation (GAIC). The GAIC prepares the Krishi Rath in consultation with the State level Steering Committee, District level Management committee and Taluka Development Officer who are also the nodal officers for Krishi Rath. In the Krishi Mahotsav-2009, GAIC was given the responsibility of organizing the exhibitions and melas held at the taluka level.

**Technical guidance:** The technical aspect of Agriculture and allied subjects are left to the State Agricultural University (SAU). Director and Directorate of Extension of each SAU are designated as the Nodal Scientist for each district. SAUs are also responsible for imparting training to the staff involved in the Krishi Rath and prepare the related literature for distribution to the farmers. All the scientists in the SAUs are required to participate in the Krishi Rath programme for one month across the state.

The SAU has joined the effort in a big way by sending its entire scientific and faculty community alongwith it's post graduate students to the field to accompany the State Government officials. In particular, the Sardarnagar Agriculture University, Dantewada, has created a castor seed bank of 60,000 tones to promote the cash crop.

As part of the event, each village panchayat had been given 15 agriculture kits free. Besides, five families living below the poverty line in each of the 18,600 villages were being provided agriculture kits (Total of 1.69 lakh kits) comprising certified seeds, fertilizers, pesticides, farming tools and even water pumps in some areas. Those engaged in animal husbandry get kits with cattle-feed, grass, mineral-mixture etc. The aim is to make them aware of the scientific requirements for increasing production. Similar kits

are also distributed to floriculturists and horticulturists. The State Government also provided two lakh soil health cards and three lakh soil sampling cards to farmers in order to make them aware of the nature of soil in their farm lands and the measures required to improve soil productivity.

### **1.3.1. Functioning of the KM Program (2005 to 2009)**

Around one lakh government employees, including senior bureaucrats right from the level of the secretary to *Talati* (the last administrative link at village level) coordinate the planning, implantation and monitoring of the program. There is active involvement of diverse stakeholders such as elected representatives, elected bodies, people's organizations, NGOs, government officers, agricultural scientists, successful farmers and communities inclusive of women and children in the programme.

Earlier extension programs made no attempt to promote agricultural planning on a scientific basis at the village and farmer levels. Thus the aspects such as soil type, market forces and rainfall pattern were not given their due importance by the farmers while determining their cropping patterns. However with Krishi Mahotsav, micro level planning was being undertaken for every block and village. Village level plans were prepared on scientific basis by expert teams and are handed over to the village for future reference during the month long activities.

During Krishi Mahotsav 2005 to Krushi Mahotsav 2010 barring 2009 (during which exhibitions, Krishi Melas and seminars were held at taluka level and SAUs), contact up to village level has been established through a mobile exhibition called “Krishi Rath” that visited every village. As noted, experts accompanying the “Krishi Rath” help the farmers by clarifying their problems related to farming and transfer of technology. Along with advising and assisting individual farmer, distribution of free input kits to resource poor farmers is also undertaken, besides incorporation of community based programs like water conservation. By this way active involvement of NGOs, progressive farmers and cooperatives and private institution also been made.

### **Krishi Mahotsav-2009**

During 2009, the KM included exhibitions, Krishi Melas and seminars at the taluka level. Emphasis was made on farmer's seminar, group interaction and exhibition during the KM 2009. Multi level approach had been undertaken with the active involvement of the State Agricultural Universities (SAU).

#### **(I) University level**

- Three day world-class (aspiring) Krushi Mela, Agri-Exhibition and Seminar at four Agricultural University Campuses.

- Optimum time would be allotted for farmers interested in specific topics.
- Farmers are benefited as area / crop specific topics are selected.
- Farmers selected and invited for seminar are the ones who cultivated a particular crop and are motivated.
- Farmers benefit by use of Audio Visual Aids in presentations at seminar.
- Agricultural exhibitions introduce farmers to latest products & technology.

## **(II) Taluka level Mahotsav**

- Two day exhibition and seminar in each Taluka
- Location specific guidance to farmers
- Honors of 'Krushi na Rushi' given to dignitary farmers

### **1.4. The Present Study**

While it was well designed and well-spread, the KM raises a couple of important issues especially with respect to the mode in which it is actually operationalised. For instance, an important concern that emanates from the design of the KM is about the periodicity and (i.e. once in a year in every village), the follow-up and the synchronization with the existing machinery for extension services at the taluka and district level. Similarly, there could be issues about the selection of the thrust areas for extension and the farm specific recommendations, which perhaps, might call for several rounds of consultations/ counseling. Lastly, there might still be concern over the inclusion of resource-poor farmers who generally lag behind the large farmers having better access to water and other resources and are practicing commercial farming.

In this context the present study seeks to explore some of these issues through a fairly administered rapid enquiry about the awareness, outreach and adoption of the recommended practices covered by the KM across districts of Gujarat. This is primarily an exploratory study aimed at assessing the coverage rather than the actual impact of the interventions. The study was conducted during August – September 2010 covering one village in each of the 26 districts of the state.

### **1.5. Objectives**

The prime objectives were to examine 'whether the Krishi Mahotsav was successful' in:

- Penetration among the farmers: This involves examining the extent to which households from different segments of the village communities are aware about the programme and had also visited/participated in the programme.

- Improving awareness and learning new methods: It involves analyzing how effective KM program was in generating awareness on new techniques, inputs and crops.
- Adopting new ideas: This involves ascertaining the extent to which the awareness about KM had also translated into actual adoption of the new technologies.
- Meeting the targets of Soil Health Cards, Kisan Credit Cards etc: This was ascertained through secondary data from the official records further verified through the household survey.

It is hoped that the assessment might help in improving the efficacy of the program implementation across the different parts of Gujarat.

## 1.6. Methodology

Purposive sampling method was used and data collected by using the participatory research approach. “Beneficiary Assessment Method” - a qualitative assessment of the impact of KM on beneficiary farmers was attempted. From each district one block was selected and from the block one village was selected. Thus the survey was undertaken in 26 villages of Gujarat.<sup>3</sup> A total of 60 samples from each district was stratified in order to include households from different land size classes.

For analytical brevity and easy comparison, the study adopted a Nine-fold classification of the sample households as described below:

1. Cultivators with more than 10 acres of land.
2. Cultivators with land holding between 5 to 10 acres.
3. Cultivators with land holding less than 5 acres of land.
4. Landless Labours or tenants.
5. Un-irrigated farmers (any landholding size).
6. Schedule Caste households (SC HHs) (owning any land holding size).
7. Schedule Tribe households (ST HHs) (owning any land holding size).
8. Muslim Cultivators (owning any land holding size).
9. Women Headed households (owning any land holding size).

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<sup>3</sup> The data collected from Dahod district was not included in the analysis part as the data found as counterfeit.

The rationale behind including the 9 category of households was to cover households under different socio-economic categories, including the minority groups. These 9 categories cover almost all the classes of population. The first three categories (Cultivators with more than 10 acres of land, cultivators with land between 5 to 10 acres and cultivators with less than 5 acres) included only those households who come under the general caste (in some cases there was instances that the whole village consists of households in the backward castes. In such cases we included them in the first category). The last four categories (SC, ST, Muslim and Women headed households) might represent households with any land holding size.

The information at the field level was collected through a structured questionnaire method. The questionnaire was primarily divided into six parts as shown below:

1. Understanding the economic status of the household by collecting information on their landholding type, livestock possession and ownership of other livelihood assets.
2. Penetration of the Krishi Mahotsav at the village level and local participation in KM.
3. Improved awareness through the Krishi Mahotsav.
4. Adoption of new ideas from the Krishi Mahotsav.
5. Benefits from the different government schemes.
6. Collecting information on the merits and demerits of the program and their suggestion on how to improve the program.

In order to supplement and ratify the information obtained from the farmers through the primary survey, the opinions and suggestions of officials and experts involved directly with the KM were also sought. Expert Opinion Method was used for this purpose. Personal interviews were conducted with the help of an unstructured questionnaire with the following experts:

- a. District Agricultural Officers
- b. District Nodal Scientists
- c. Officers from NABARD
- d. Gujarat Green Revolution Company (GGRC) officers
- e. APMC officers
- f. Gram Sevak of the particular village
- g. Sarpanch of the particular village

Each district agricultural officers and nodal scientists (a total of 52) were interviewed during the survey. The researchers made maximum efforts to fix the appointments with the other officers like NABARD, GGRC and APMC. In some districts the GGRC and the APMC officers were not available, thus we were able to take the opinion of few NABARD, GGRC and APMC officers at Gandhinagar. Besides the primary data, secondary data was collected from the relevant government departments.

### **1.7. Chapter Outline**

The study report has been divided into five chapters. After the introductory first chapter the second chapter provides a brief description about the land and assets profile of the surveyed households. The third chapter analyses the extent of knowledge assimilation among the households due to the extension program. The awareness and the adoption of different aspects of the programs among the different group of households has been accessed in the forth chapter. The last chapter provides a critical assessment of the program and the conclusion of the study.

## CHAPTER 2

### PROFILE OF SAMPLE HOUSEHOLDS

This Chapter intends to provide a detailed profiling of the sample households. It then analyses the level of awareness and adoption of new technology by the stakeholders following the KM program. The analysis consists of assessment of the KM program in 25<sup>4</sup> districts of Gujarat.

A total of 1445 sample households from 25 districts of Gujarat were collected during the survey. Nine categories of farm households are included as described in Chapter 1. Table 2.1 shows the distribution of sample households across the nine categories. The households owning small lands, constitute a major share of the total sample (39%) households. The large and medium land owning households (ownership of land above 10 acres and ownership between 5 to 10 acres respectively) together accounts for approximately 17 per cent of the total sample.

**Table 2.1: Category-wise distribution of Total Households in the study Districts in Gujarat**

Categories	Households (#)	Percentage
1. Large land holding households	76	5.26
2. Medium landholding households	178	12.32
3. Small land holding households	563	38.96
4. Farmers without any source of irrigation	114	7.89
5. Landless households	131	9.07
6. Schedule Caste households	120	8.30
7. Schedule Tribe Households	74	5.12
8. Muslim Households	72	4.98
9. Women Headed Households	117	8.10
Total	1445	100.00

There was difficulty in finding all the nine category of households in some villages. In the absence of households from any of the listed categories, the total sample was adjusted by interviewing extra members from the third category of households (i.e. cultivators owning less than 5 acres of land). For instance, ST households were absent in

<sup>4</sup> The data collected from Dahod district is not included in this study.

Gandhinagar, Rajkot, Mehsana, Amreli, Bhavnagar, Anand, Patan, Banaskantha and Jamnagar districts. Similarly in The Dangs, the whole community consisted of only ST households. In some villages of Gandhinagar, Valsad, Vadodara, Mehsana, Bharuch, Tapi, Surendranagar, Ahmedabad, Dangs and Porbandar muslim households are absent.

The land ownership pattern of households is one of the main indicators of the asset status. The average holding size for the different categories of households is presented in Table 2.2. The average holding size for the SC and ST households is 3.42 acres and 2.57 acres respectively. The average holding size is high in case of Muslims, i.e. 6.04 acre. And the land ownership among the women headed households is 3.03 acre. The quality of landholding in terms of soil moisture shows that nearly 39 per cent of the total sample households own fully or partially un-irrigated land. Among the large farmers, around 44 per cent own land, which was either partially or fully unirrigated.

**Table 2.2: Category-wise Land and Irrigation Facility across Households**

Categories	Households Owning Land and Sourced of Irrigation (%)					Land with/out Irrigation (%)			
	HH owning Land (%)	Average holding Size (acres)	Irrigation From Canal *	Irrigation From Well/ Tubewell *	Irrigation From Other Sources *	Un-Irri. Land	Irrigation From Canal	Irrigation From Well/Tube well	Irrigation From Other Sources
1. Large Landholding IIIs	100.00	17.62	15.79	72.37	10.53	20.18	14.84	54.55	7.36
2. Medium Landholding HHs	100.00	6.75	14.61	66.85	10.11	21.39	9.78	59.01	5.90
3. Small Landholding HHs	100.00	2.53	20.96	53.29	8.17	20.19	15.24	51.16	7.17
4. Un Irrigated Farmers	100.00	2.81	-	-	-	100.00	-	-	-
5. S.C. HHs	96.67	3.42	15.52	42.24	13.79	24.57	17.97	40.70	12.23
6. S.T. IIIs	93.24	2.57	28.99	37.68	8.70	25.26	28.08	34.47	6.54
7. Muslim HHs	87.50	6.04	6.35	71.43	4.76	9.54	17.99	67.74	2.36
8. Women Headed IIIs	91.45	3.03	17.76	32.71	12.15	33.88	12.90	39.43	7.98
Total	89.00	4.33	16.87	48.91	8.55	25.59	13.74	49.90	6.59

\* : Percentage from the households owning land.

Source: Field Survey.

Source wise irrigation pattern among the different categories shows that out of the total 76 Large landowning households only 15.8 per cent avail the facility of canal irrigation. Instead, they heavily depend on open wells and tube wells for irrigation practice (i.e. approximately 72%). The dependence on wells/ tubewells is relatively lower especially among small farmers, SCs and also Muslims; the lowest dependence was found among the STs and women headed households. As expected access to employment guarantee

under NREGA was found to be the highest among landless and SCs whereas only a small proportion of large and medium farmers had obtained the job card (Table 2.3).

**Table: 2.3. Category-Wise Ownership of Assets, Access to Extension activities and NREGS among the Households (%)**

Categories	Tractor	Well/ tube well	Electric pump	Diesel pump	Soil Health Card	Kisan Credit card	NREGS
1. Large Landholding HHs	55.3	75.0	65.8	25.0	23.7	32.9	17.1
2. Medium Landholding HHs	51.8	56.8	45.9	24.3	15.1	27.6	20.0
3. Small Landholding HHs	5.4	33.6	21.1	13.8	7.1	13.1	35.1
4. Un Irrigated Farmers	1.7	0.0	1.7*	1.1**	5.0	4.2	32.8
5. Landless	0.7	0.0	0.0	0.7	0.0	0.7	61.0
6. S.C. HHs	6.5	29.3	20.3	16.3	6.5	11.4	57.7
7. S.T. HHs	2.5	13.9	6.3	7.6	6.3	5.1	50.6
8. Muslim HHs	11.7	44.2	27.3	18.2	6.5	9.1	42.9
9. Women Headed HHs	4.1	23.0	12.3	13.9	4.1	9.0	35.2
Total	9.6	31.2	21.7	13.6	7.7	12.9	37.7

Note: Percentages are presented as a share of the Total Households

\*Two un-irrigated farmers (1 each in Navsari and Kheda) rented the electric pump for the cultivation purpose thus responded to this question.

\*\*In Dangs one un-irrigated farmer owns a diesel pump but presently it is not in working condition.

Source: Field Survey

Livestock is an integral part of agriculture in India and is likely to be the instrument for the future growth and development of agricultural sector. Table 2.4 presents the livestock ownership status across different categories of households. Around one fifth of the the total sample households do not own any kind of livestock. Though the ownership of livestock is very paltry among the women headed and the landless households, a positive correlation was observed between the ownership of cultivable land and the ownership of livestock in general.

**Table: 2.4. Households owning Livestock (percentage)**

% of HH owning animal	Percentage of households owning			
	Desi cows (milking)	Crossbred cows	working bullocks	Buffalocs in milk
1. Large Landholding HHs	59.21	51.32	68.42	73.68
2. Medium Landholding HHs	55.62	50.00	65.73	61.80
3. Small Landholding HHs	43.16	36.41	50.44	51.33
4. Un Irrigated Farmers	47.37	41.23	58.77	48.25
5. Landless	45.80	42.75	42.75	47.33
6. S.C. HHs	57.50	49.17	58.33	55.83
7. S.T. HHs	52.70	37.84	48.65	52.70
8. Muslim HHs	77.78	73.61	76.39	80.56
9. Women Headed HHs	46.15	42.74	45.30	46.15
Total	49.76	43.32	54.67	54.67

*Note:* Percentages are calculated from the total number of samples from each category.

*Source:* Field Survey

Analysis of the ownership pattern of livestock among different categories of households shows that muslim households has the highest dependency on livestock of all classes. The ownership of any type of livestock is low among the landless and the women headed households. This implies that there is a high correlation between the land ownership and livestock use. Out of the total Muslim households, 87 per cent own cultivable land, while all of them (i.e.100%) own one or all types of animals. Nevertheless it has been observed that out of the total women headed households, 91 per cent own land, but the ownership of livestock among them is less at 63 per cent. The women who are the head of households, generally do not cultivate their own land. It has also been observed that they either keep the land fallow or lease out the land.

## CHAPTER 3

### KRISHI MAHOSAV: AWARENESS AND KNOWLEDGE ASSIMILATION

#### 3.1. Awareness of the KM

KM aims at transferring the new technology and information by targeting the farmers. The analysis shows that out of total 1445 sample surveyed across all districts, a total of 998 households (i.e. 69%) were aware of the KM program (Table 3.1). While in Banaskantha, the awareness level was found 100 per cent, it was near complete in Sabar Kantha (98.2%) and Jamnagar (98.1%) districts (Appendix 1). In contrast, awareness level was the lowest among the farmers of Valsad (17.2%) district. Valsad (Barai), is dominated by horticulture crop production where mango and chikku are the primary crops and the farmers there prefer to work as daily wage labourers in their free time rather than working in the field. The daily wage income earned by working in industry (Rs 120-150) was higher than the income earned from cultivation of the horticultural crops. Hence, the interest to attend the KR was low among the villagers. Similarly, the awareness about the program was less than 50 per cent in the other districts, viz., Narmada and Surendranagar.

Out of those, who were aware about KM, around 95 per cent believed that the program was useful to the farmers in Gujarat. Almost all the respondents who were aware about KM feel that the program is useful for the farmers. An important observation emerges from this analysis is that in many districts a large segment of stakeholders are unaware of the program. At the same time, a large segment of farmers (about 60%) who are aware about the program in the districts of Panchmahal, Baruch, Surendranagar, Amreli, Ahmedabad, Dangs and Porbandar believe that it was useful and helpful to the farmers (Appendix 1).

One of the integral parts of the KM program is to conduct Krishi Mela and Sibir at the district and taluka levels. The participation in these programs were observed to be low among the farmers. Only 375 households out of total 1445 households (26%) had visited the Krishi Mela as detailed in Table 3.1. The participation rate was highest in Junagadh (90.2%) and Kuchchh (85%), while it was very low in Ahmedabad (6.9%), Panchmahal (13.2%), Bharuch (14.7%) and Banaskantha (12.7%) districts. The reason for the low participation in the Krishi Mela might have been due to the low level of interest among the farmers or due to the prohibitive travel costs involved in visiting the Krishi Mela which is held at the district headquarters. For example in Narmada, none of the sample households ever visited Krishi Mela, and the reason cited by them was that they were not interested in travelling to the district headquarters to attend the Krishi Mela. They held

the view that similar information on agricultural extension could be gained from the private companies as well.

**Table 3.1: Awareness of the KM in Gujarat**

Information regarding different programs	Percentage of Sample who are aware about KM	Percentage of Total Respondent
1. Awareness about the Krishi Mahostava	--	69.07
2. Whether the program is good for Gujarat's farmers	94.39	65.19
3. Visit to Krishi Mela (ever in 5years)	37.58	25.95
4. Attended Krishi Shibir (ever in 5years)	28.16	19.45
5. Whether Krishi Rath ever visited the village	83.97	57.99
6. Visit to Krishi Rath (KR)	75.25	51.97
7. Organization Gram Sabha before the visit of KR	60.12	41.52
8. Participation in the Gram Sabha	46.69	32.25
9. Receipt of pamphlets/booklets through Krishi Mahotsav	38.08	26.30
10. Usefulness of the pamphlets/booklets	35.97	24.84
11. Farmers' Club established in the village during Krishi Mahotsav	4.21	2.91
12. Member of the Farmers' Club	1.90	1.31
<b>Interaction with different officers</b>		
1. Scientists from Agriculture University	32.97	22.77
2. Government officials	43.29	29.90
3. Students of Agriculture University	20.04	13.84
4. Officials of Gujarat Green Revolution Company (micro-irrigation )	20.34	14.05
5. Staff of the APMC	16.13	11.14
6. Officials of NABARD	16.03	11.07
7. Officers from Private seed, fertilizer, equipment companies	27.56	19.03

Source: Field Survey.

The participation in the Krishi Shibir was also very squat among the households. Out of the 998 households who had positively responded about their awareness on the KM, only 281 (28%) attended the Krishi Shibir during the last six years of KM (Table 3.1). Thus out of the total sample surveyed, only around 19 per cent attended the Krishi Shibir. The participation rate in the Krishi Shibir was noted to be even lower than the participation in the Krishi Mela. The participation in the Krishi Shibar was highest in Kuchchh (75%) and lowest in Banas Kantha (3.6%) and Panchmahal (5.3%).

The major rationale of the KM program is to bring the knowledge directly at the door steps of the rural households. On enquiring about the awareness regarding the KR, it was found that out of the total households surveyed, only 57 per cent were aware about the visit of the KR to their village. This shows that the awareness among the people regarding the visit of the Rath was rather low. Disparity across the districts regarding the awareness of the KR was also observed. For example, in Banaskantha (the village i.e. Pasavadal) and Sabarkantha (Palla) the awareness among the villagers about the KR was observed to be high (Appendix 2). On the other hand in Valsad (Barai) very few responded about the KR. The low awareness in Valsad might have been due to the village which was divided into 3 different parts (faliya) and spread across a five kilometers radius. People who were residing in the same street as that of the Sarpanch were aware of the KR. It was also witnessed that the upper caste residents, who tended to stay far away from the ST community, had lesser idea about the KR.

Around 75 per cent of the sample, who were aware of the KR visited the Rath when it stayed in the village. But, even if around 838 people were aware of the KR only 751 people (52%) actually visited the Rath. In Kuchchh and Vadodara, all of those who were aware of Rath also visited it. The level of attendance was lowest in Valsad (1.7%) followed by Narmada (14.8%), Bharuch (26.2%), Surendranagar (27.2%), Porbandar (38.2%), Ahmedabad (40.0%), Amerali (44.3%), Rajkot (41.7%), Surat (44.3%) and Gandhinagar (47.5%) (Appendix 2). Some of the reasons cited by the villagers for the low attendance to the KR are:

- The KR visits the villages during marriage season and hence people prioritize the social function rather than the KR.
- In some villages the KR visits at working hours. The villagers feel that they have to sacrifice one day of labour to attend the KR.
- As the KR halt in the villages only for very few minutes (i.e. not more than 30 minutes), the people never got a chance to visit it.
- The training and/or the information provided by the scientists is the same each year and hence villagers feel that they do not get additional new information by visiting the KR.

In every village Gram Sabha (GS) was convened before the KR visits the village. As regards the awareness about GS, around 600 out of the 1445 farmers answered positively, which suggests that only 41 per cent of farmers were aware about it. Interestingly, out of the 600 farmers who were aware of the GS, only 466 farmers (78%) had attended it. Participation in the GS was extremely low in almost all the villages. Out of the total sample only 32 per cent of the cultivators had attended the GS. The participation in the GS was the highest among the districts of Banaskantha (98.2%) and Sabarkantha (92.7%), whereas it was quite low in Narmada (1.6%) and Valsad (1.7%) districts.

During the KR the officers distributed pamphlets and other literature on better farming techniques for the village. A total of 380 cultivators had received or read those pamphlets and of them 359 (94%) had found it to be useful. One of the major factors determining the utilization of the pamphlets is the level of literacy. The utilization of the pamphlets was observed to be higher among the large and wealthy farmers rather than the other categories of farmers. Except in Patan, Banaskatha and Mehsana, the use of pamphlets and book was low in the other districts.

The awareness regarding the establishment of the Farmers Club (FC) during the KM was observed as very low among the respondents. Only 4.21 per cent out of the total sample farmers those were aware about KM, responded regarding the establishment of the FC in the village. Out of the total 1445 respondents only 19 farmers are members of the FC that was established during the KM. This constitutes 1.9 per cent of the total sample.

The KM aims to be the harbinger of change in agriculture right at the doorstep of the farmers. The interaction of the beneficiaries with the government officers helps the farmers to clarify their doubts relating to the problems of crop production, subsidy, availability of seeds, fertilizer etc. Therefore it is important to understand the level of interaction between the farmers and the experts who accompany the KR and as to whether they gain much out of it. Around 32 per cent of the total sample, those who knew about KM, actually interacted with the university scientists, while 20 per cent reported that they had met students from the University. However around 43 per cent of the respondents interacted with the government officials, which was expected to be higher, as the officers are the administrators of the program. Private seed, fertilizer and equipment companies seemed to have motivated in enhancing the opportunity posed by the KM. Around 20 per cent of the respondents reported to have interacted with the GGRC officers and 27 per cent responded to have interacted with the private seed, fertilizer and equipment companies. Interaction with the officials from the Lead Bank/ NABARD (16.03 per cent) and officials of APMC (16.13 per cent) was reported to be quite low. The district-wise analysis of the households interaction with different government and private officers illustrate that apart from the scientists, the interaction of the farmers with the government officers and the private seed companies was quite low (Appendix 3).

### **3.2. Flow of Information on New Technology during KM**

As stated above, the main aim of the KM program is to spread the awareness of new technologies at the farm level. Thus, among the main objectives of the study one of the essential aspects was to understand the level to which the farmers are informed about the new technologies and the level of implementation of those technologies at the farm level. This section discusses the level of awareness and the implementation of the new knowledge and technologies by the cultivators in their agricultural practices. The

farmers receive different types of information such as those regarding government subsidies, new crop and crop varieties, improved farm practices, irrigation practice, pest management, etc.

There are different types of government subsidies like subsidy for farm pond, tractors, electric pump etc, that are provided during KM. The study shows that the awareness regarding different types of subsidies is extremely low among the sample farmers. Only 29 per cent of the sample farmers who knew about KM were aware about the type of subsidies provided by the government during the program (Table 3.2). Out of the 998 sample farmers who knew about the KM, only 294 (29.5%) responded positively of being aware of the subsidy program. Awareness on government subsidy is low among the farmers of Banaskantha (3.6%), Jamnagar (5.7%), Ahmedabad (6.9%) and Surendra Nagar (7.7%) (Appendix 4). The application of this information in actual practice was observed to be extremely low among the households. Only 108 respondents availed any of the government subsidy schemes from the KM (Table 3.3).

**Table: 3.2. Information on New Technology from the KM**

New ideas/ concepts	Sample farmers (%) who are Aware about KM	Percentage of the total Respondent Sample
1. Government subsidy schemes for farmers	29.4	20.3
2. New crops	31.3	21.6
3. New seed varieties	31.9	22.0
4. Improved farming practices	14.7	10.2
5. Improved irrigation practices	29.7	20.5
6. Improved pest management	11.6	8.0
7. Soil health management	13.9	9.6
8. Water harvesting	20.0	13.8
9. Better marketing of crops	12.1	8.4
10. Increasing milk production	14.9	10.3
11. Improving milk quality	10.8	7.5
12. Horticulture	17.3	12.0
13. Floriculture	7.0	4.8
14. Organic farming	15.5	10.7
15. Micro-irrigation	6.2	4.3

Source: Field Survey

The type of subsidies that farmers generally availed were mainly subsidies on drip irrigation, sprinkler irrigation, oil engine, farm pond, well and tractor. For example, in Rajkot there was information gathered regarding the different types of agricultural implements such as tractor, electric pump but it was noted that only 2 members in the end had availed the facility of government subsidy. There is a significant gap between information dissemination of new technology and actual adoption of the technology in the field. In districts like Mehsana,

Surendranagar, Ahmedabad, Kuchchh, Patan and Jamnagar it was observed that the actual adoption of any type of the subsidies was nil (Appendix 4). The main reason that was attributed for this low levels of actual use of subsidies by the villagers was the long processes, high levels of official paper work, time lag and corruption involved.

It may be observed from Table 3.2 that the farmers were more interested in information about new crops and crop varieties rather than any others. A total of 312 farmers responded to the question on new crop information adopted during the KM program (Table 3.2). In Anand, the highest number of sample responded about their knowledge on new crops (Appendix 5). Out of the total 312 farmers, who positively responded to this question, only 152 farmers actually tried the information gained. Similarly the information on new crop varieties among the sample households was 318 and out of them only 157 farmers adopted any of those new crop varieties in the agricultural field. Excluding Anand district, the rate of adoption among the farmers on new seed varieties was low in almost all the other districts and with number being only marginal in Vadodra, Narmada, Bharuch, Surat and Patan districts.

**Table 3.3: Absorption of New Ideas from Krishi Mahotsav**

New ideas/ concepts	Percentage of the Sample who are Aware about KM	Percentage of the total Respondent Sample
1. The Government subsidy scheme adopted during Krishi Mahotsav	10.8	7.5
2. New crops tried	15.2	10.5
3. New seed variety tried	15.7	10.9
4. Improved farming practice tried	2.8	1.9
5. Improved irrigation practice tried	3.7	2.6
6. Improved pest management practice tried	4.9	3.4
7. Soil health management practice adopted?	4.4	3.0
8. Water harvesting practice adopted?	2.7	1.9
9. Way to improve the marketing of crops?	4.1	2.8
10. Improved practice for increasing milk production adopted?	5.6	3.9
11. Improved practice adopted for improving milk quality	3.9	2.7
12. New horticulture crop tried?	5.4	3.7
13. New floriculture crop tried?	1.0	0.7
14. Organic farming practice adopted?	3.0	2.1
15. Drip or sprinkler irrigation adopted?	3.2	2.2

Source: Field Survey

Improved irrigation practices like drip and sprinkler irrigation methods was adopted by only 3.2 per cent of households who knew of the KM. The adoption of new irrigation technology was nil among the sample farmers in the districts of Valsad, Panchmahal, Narmada, Surat, Navsari, Surendranagar, Ahmedabad, Dangs, Kuchchh, Bhavnagar, Porbandar, Patan, Banas Kantha, Sabar Kantha and Jamnagar. This shows that among the 25 districts in 15 districts the sample households did not adopt any of the new improved irrigation practices.

Only 20 per cent of the households had responded regarding the information on improved water harvesting practices. But only 2.7 per cent of them had actually adopted those techniques in regular practice. The response on awareness regarding new horticultural crops was 17.3 per cent, out of which only 5.4 per cent of the households adopted the new technologies. State level analysis of the level of awareness and adoption of new technologies shows that there exists a wide gap between information disseminated on new technology and the genuine adoption of it. The rate of adoption of technology is significantly lower than the level of awareness.

## CHAPTER 4

### THE EQUITY ASPECT OF THE KRISHI MAHOSTAV PROGRAM

#### 4.1 Awareness Regarding the KM Across Category of Farmers

Aparently awareness about the KM was found to be fairly high (>80%) among large farmers and muslims whereas lowest among landless and women headed households (Table 4.1). The awareness among the landless/tenants households was quite low compared to other households. Out of the total landless households only 65 households responded regarding the KM. Around 70 per cent of the small land holding households were aware about KM (they constitute 38 per cent of the total sample size).

**Table 4.1: Category wise awareness regarding the KM among the respondents**

Categories	Awareness Regarding KM		Usefulness of the Program		
	Awareness on KM	Percentage of Sample Aware about the KM	Usefulness of the Program	Percentage from those who are aware about KM	Percentage from the total sample
1. Large Landholding HHs	61	80.3	59	92.2	77.6
2. Medium Landholding HHs	130	73.0	127	88.8	71.3
3. Small Landholding HHs	394	70.0	372	89.2	66.1
4. Un Irrigated Farmers	79	69.3	72	85.7	63.2
5. Landless	65	49.6	65	74.7	49.6
6. S.C. HHs	81	67.5	75	79.8	62.5
7. S.T. HHs	53	71.6	48	81.4	64.9
8. Muslim HHs	62	86.1	58	89.2	80.6
9. Women Headed HHs	73	62.4	66	80.5	56.4
Total	998	69.1	942	86.0	65.2

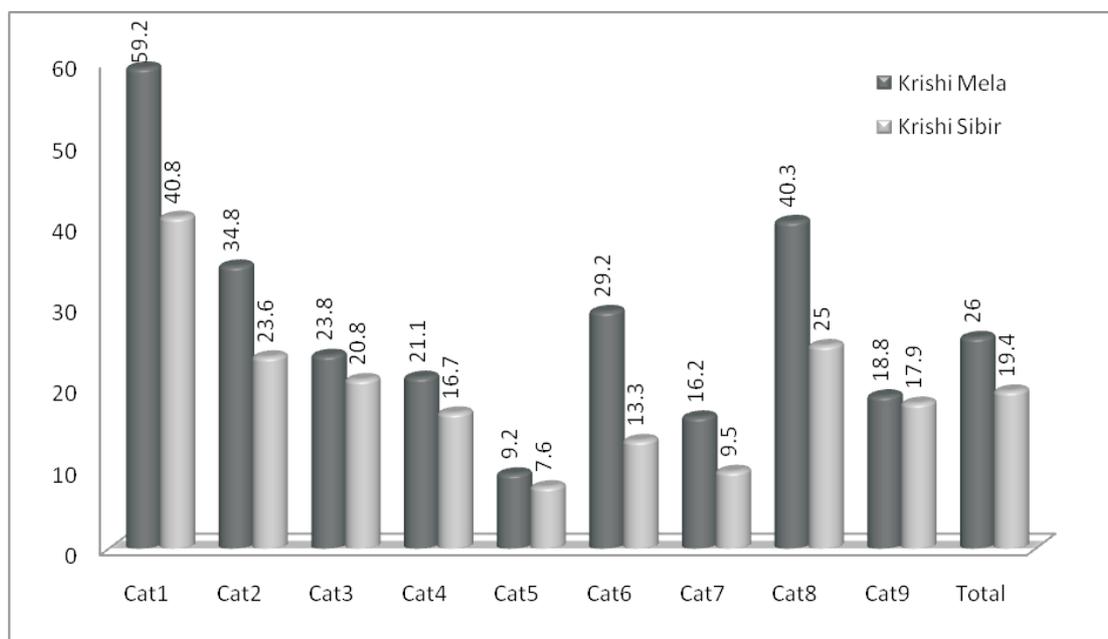
*Note:* Figures in parantheses indicate total sample in each category.

*Source:* Field Survey

In order to understand status of the KM program in Guajrat, the study enquired about the usefulness of the program. Table 4.1 shows that among 86 per cent of the farmers who were aware of the KM believed that it was a good and useful program for the farmers. The category-wise analysis shows that 92 per cent of the big farmers, 89 per cent of the small land holders and 89 per cent of the Muslim households responded that the KM program was useful. On the other hand only 74 per cent of the landless/tenants and 79 per cent of the SC households responded confirming that KM was a good program. Across the different categories, the response regarding the usefulness of the program was low

among the SC households and landless/tenants. This might have been mainly due to the fact that most of them were illiterate and thus might not have been able to gain significantly out of the program. Out of the total sample interviews only around 49 per cent of landless/tenants had responded about the usefulness of the program.

**Figure 4.1: Category-wise percentatge of households participated in Krishi Mela and Krishi Sibir**



*Note:* Cat-1 = Farmers with more than 10 acre of land, Cat-2 = Farmers with land between 5-10 acre, Cat-3 = Farmers with less than 5 acre of land, Cat-4 = Un-irrigated Farmers, Cat-5 = Landless, Cat-6 = SC, Cat-7 = ST, Cat-8 = Muslims, Cat-9 = Women headed households.

*Source:* Field Survey

The Krishi Mela and the Krishi Shibir are organized at the district and the taluka levels. The participation of stakeholders in the Krishi Mela shows that the participation rate was highest among the households owning land more than 10 acres (Figure 4.1). As it was expected, the participation of the landless in the Mela and the Shibir was extremely low. Despite a large proportion of households positively responded regarding their awareness on the KM, only some of the big farmers were able to attend the Krishi Mela and Krishi Shibir. This was limited by the ability and capacity to travel and ability to spend money among the small and marginal farmers. Many of the small farmers had stated that even if they were really interested in visiting the Krishi Mela or Shibir, due to the high travel costs involved they would prefer not to do so. Time management was also indicated as

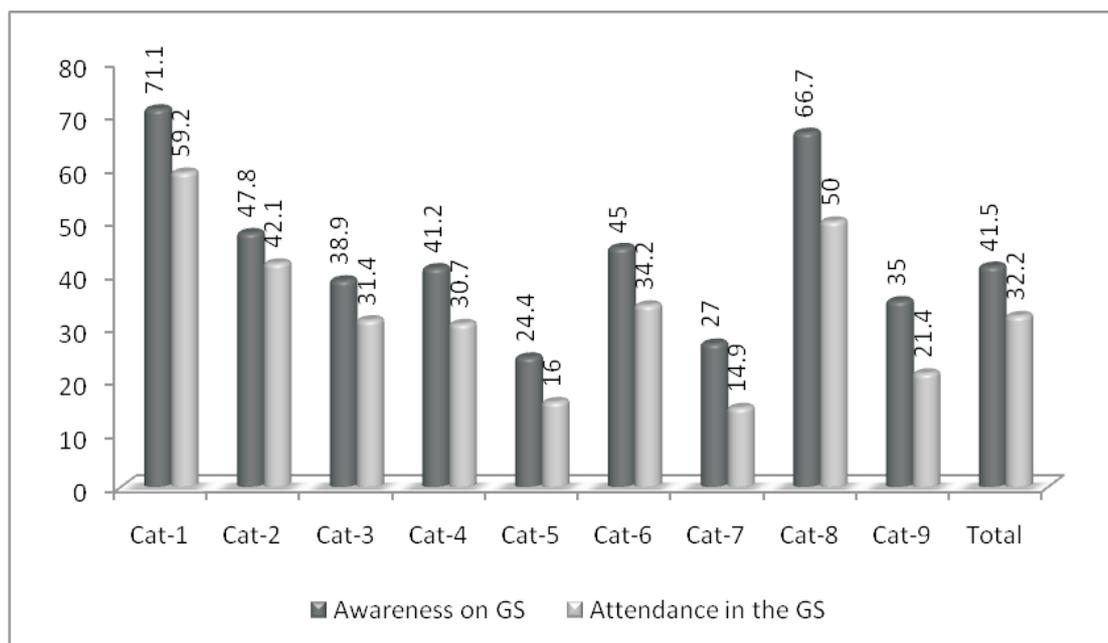
another reason for the low participation in the Krishi Mela and Shibir. They had to spend a day or two in the program, then one had to forego the daily wage earned during that period. The small farmers also stated that even if they gained information by attending the Krishi Shibir they would never be able to implement those into practice as it involves high investments. Thus the small farmers particularly responded that in comparison even if the cost involved in the Krishi Mela and Shibir was high, the final implementation was lower.

**Table 4.2: Category-wise awareness among households regarding the Krishi Rath**

Categories	Awareness Regarding the KR			Attendance in the KR		
	Number	Share from Sample who are aware about KM	Share from the total Sample	Number	Share of the Respondents about the Awareness of KR	Share from the Total Sample
1. Large Landholding HHs	61	100.0	80.3	57	93.4	75.0
2. Medium Landholding HHs	110	84.6	61.8	107	97.3	60.1
3. Small Landholding HHs	331	84.0	58.8	293	88.6	52.0
4. Un Irrigated Farmers	67	84.8	58.8	61	91.0	53.5
5. Landless	48	73.8	36.6	42	87.5	32.1
6. S.C.	73	90.1	60.8	63	86.3	52.5
7. S.T.	31	58.5	41.9	27	87.1	36.5
8. Muslim	57	91.9	79.2	46	80.7	63.9
9. Women Headed HHs	60	82.2	51.3	54	90.0	46.2
Total	838	84.0	58.0	751	75.25	52.0

Source: Field Survey.

Table 4.2 shows that the level of awareness regarding the KR among the big farmers was almost 100 per cent. Out of the 84 per cent of sample responded about the KR, only 75 per cent attended the KR. The maximum participation was observed among the large and medium farmers, while participation was very low among the landless, SC and ST households.

**Figure 4.2: Category-wise Awareness and Attendance in the Gram Sabha**


*Note:* Cat-1 = Farmers with more than 10 acre of land, Cat-2 = Farmers with land between 5-10 acre, Cat-3 = Farmers with less than 5 acre of land, Cat-4 = Un-irrigated Farmers, Cat-5 = Landless, Cat-6 = SC, Cat-7 = ST, Cat-8 = Muslims, Cat-9 = Women headed households.

*Source:* Field Survey

Category-wise analysis shows that the awareness and participation in the GS was highest among the big farmers and lowest among the landless and ST households (Figure 4.2). The landless/tenants did not show interest in attending the GS.

**Table 4.3: Receipt of Pamphlets during KM among the households**

Categories	Receipt of Pamphlets		Usefulness of the Pamphlets	
	% from the Sample Responded about KM	Share from the Total Sample	% of the sample households received the Pamphlets	Share from the Total Sample
1. Large Landholding HHs	55.74	44.74	97.0	43.4
2. Medium Landholding HHs	42.31	30.90	94.5	29.2
3. Small Landholding HHs	37.82	26.47	93.9	24.9
4. Un Irrigated Farmers	37.97	26.32	93.3	24.6
5. Landless	27.69	13.74	94.4	13.0
6. S.C.	48.15	32.50	89.7	29.2
7. S.T.	11.32	8.11	100.0	8.1
8. Muslim	46.77	40.28	96.5	38.9
9. Women Headed HHs	27.40	17.09	100.0	17.1
Total	38.08	26.30	94.4	24.8

*Source:* Field Survey.

**Table 4.4: Category-wise Awareness and the Membership in the FC**

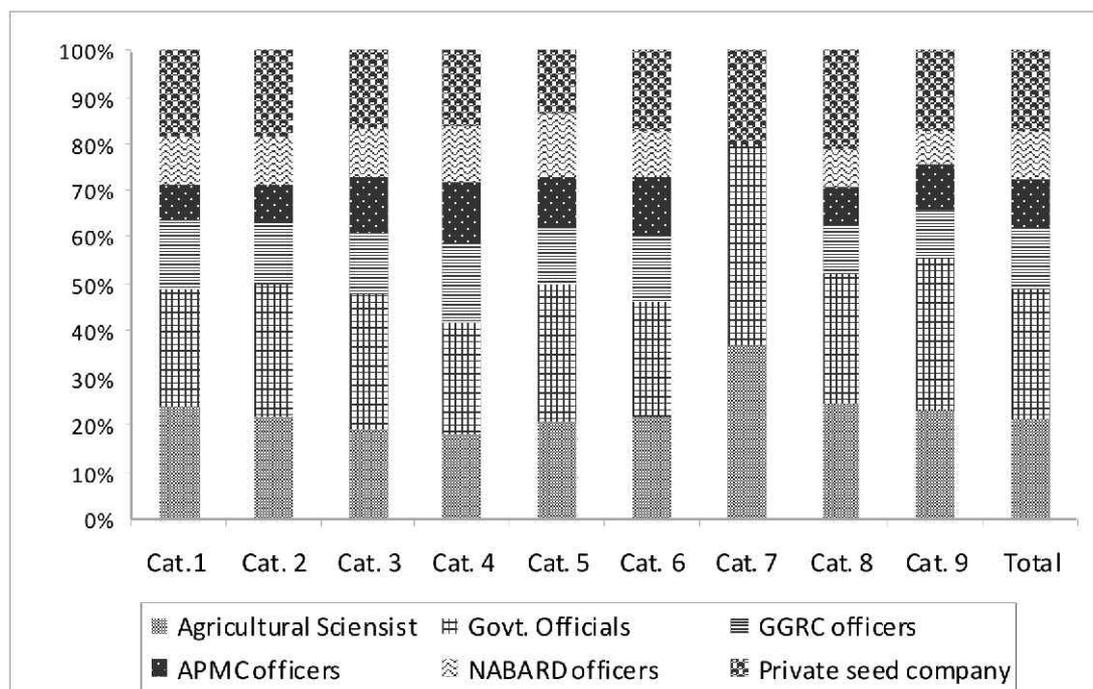
	Share Sample Aware about KM	Share from the Total Sample	Share from the Sample Responded to Awareness of the FC	Share from the Total Sample
1. Large Landholding HHs	16.4	13.1	50.0	6.6
2. Medium Landholding HHs	5.3	3.9	42.9	1.7
3. Small Landholding HHs	3.1	2.1	76.9	1.8
4. Un Irrigated Farmers	3.8	2.6	0.0	0.0
5. Landless	3.1	1.5	0.0	0.0
6. S.C. HHs	4.9	3.3	25.0	0.8
7. S.T.HHs	0.0	0.0	0.0	0.0
8. Muslim HHs	3.2	2.7	0.0	0.0
9. Women Headed HHs	2.7	1.7	50.0	0.9
Total	4.2	2.9	47.6	1.4

Source: Field Survey.

Very few farmers responded as being aware about formation of a FC in the village. For instance, only around 4 per cent of households were aware of the FC and of them only 47 per cent were members of the FC (Table 4.4). None of the un- irrigated land owning households, landless/tenants, ST and Muslim households were members of the FC.

It was also observed that there was maximum interaction between the big land holding farmers and the officers. Others, i.e. small, SC and ST farmers who had lesser incentives to cultivate, were seen to have extremely limited interaction with the officers. The interaction of the farmers with the GGRC, NABARD and APMC officers was also extremely limited. The low interaction of the stakeholders with the different officers and the scientists indicates that even if the villagers attended the KR or the Krishi Mela, their actual levels of interest was extremely low.

**Figure 4.3: Farmers interaction with Different Officers during the KM**



*Note:* Cat-1 = Farmers with more than 10 acre of land, Cat-2 = Farmers with land between 5-10 acre Cat-3 = Farmers with less than 5 acre of land, Cat-4 = Un-irrigated Farmers, Cat-5 = Landless Cat-6 = SC, Cat-7 = ST, Cat-8 = Muslims, Cat-9 = Women headed households.

*Source:* Field Survey

## 4.2. Information and the Adoption of Technology during KM

The present section attempts at understanding whether there exists inequality in the information gained from the KM and the adoption of that information, among different categories of farmers. As discussed above the KM program aims at providing information regarding new technologies and different subsidies to the farmers. There are different types of subsidies provided to the farmers in the KM. It was observed that the awareness regarding the different subsidies provided by the government was highest among the large farmers as compared to other categories. From the total sample of households who were aware of the KM, only 29.5 per cent were aware of the different subsidies provided by the government (Table 4.5). The landless and unirrigated farmers were found to be having a very low level of knowledge regarding information on government subsidies. Awareness regarding subsidies was also observed to be very low among the ST households. This indicates that the tribal and the economically backward households were not aware about the government subsidies. On the other hand the actual

reflection of this information in the agricultural field was found to be very low in all categories. Even in the case of the big/ large farming households those availing the subsidies was seen to be limited. As it was expected the gain from the subsidy was low among the landless/tenets, the availing of subsidy was also low among the big farmers. Even when the big farmers responded that they had come to know about the different type of subsidies, but their actual absorption was only 24 per cent. Out of the total sample only 19 per cent of the farmers responded to have availed any one of the subsidies. It was observed that only 2 landless tenants had availed any of those subsidies. The important types of subsidies that the farmers opted were subsidies for tractor and pump sets.

Table 4.5 also shows that only 10 per cent of the total sample responded about KM had actually utilized the subsidy information given at the time of KM. The economically backward households and the lower caste households responded that as the land under cultivation with them was small, they did not require subsidy as it would have costed money and time.

**Table 4.5: Awareness and Adoption of Government Subsidy among the households**

Categories	Awareness on Govt. Subsidy		Adoption of Govt. Subsidy	
	% of Sample aware about KM	% of Total Sample	% of Sample aware about KM	% of Total Sample
1. Large Landholding HHs	47.54	38.16	24.59	19.74
2. Medium Landholding HHs	30.77	22.47	11.54	8.43
3. Small Landholding HHs	31.98	22.38	8.38	5.86
4. Un Irrigated Farmers	20.25	14.04	7.59	5.26
5. Landless	16.92	8.40	3.08	1.53
6. S.C.	29.63	20.00	12.35	8.33
7. S.T.	22.64	16.22	16.98	12.16
8. Muslim	30.65	26.39	16.13	13.89
9. Women Headed HHs	23.29	14.53	10.96	6.84
Total	29.46	20.35	10.82	7.47

Source: Field Survey.

Awareness was also found to be enormously low among the small, un-irrigated farmers and women headed households. Awareness regarding the government subsidy was notably low among the landless cultivator/tenants. Villagers had gained information regarding government subsidy on agricultural implements, seed and fertilizer. Subsidy on agricultural implements includes subsidy on tractor, pump sets (both electric and diesel), farm ponds, drip irrigation among others. It has been observed from Table 4.5 that the subsidy availed was low among the un-irrigated farmers and the landless

households. Analysis of the fifteen district (where we have asked questions, regarding the type of subsidies they have adopted), showed that around 14 per cent of the big farmers, 3 per cent of small land holders and 3 per cent of the Muslim households had availed the subsidies on agricultural and irrigation implements.

The category-wise analysis of the awareness regarding new crops and the adoption of those crops into the agricultural practice shows that the large farmers were more aware about new crops as compared to the other categories. Around 50 per cent of the large farmers were aware of the information provided during the KM on different types of new crops (Table 4.6). But only 22 per cent of the big farmers adopted any of those learnings into actual practice. The awareness regarding the new crops was extremely low among the landless and the ST households.

**Table 4.6: Category-wise Analysis of the Awareness and Adoption of New Crop during KM**

Categories	Awareness/New Crop		Adoption/New Crop	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	49.18	39.47	22.95	18.42
2. Medium Landholding HHs	38.46	28.09	25.38	18.54
3. Small Landholding HHs	30.71	21.49	13.45	9.41
4. Un Irrigated Farmers	21.52	14.91	7.59	5.26
5. Landless	15.38	7.63	6.15	3.05
6. S.C.	38.27	25.83	16.05	10.83
7. S.T.	16.98	12.16	9.43	6.76
8. Muslim	46.77	40.28	24.19	20.83
9. Women Headed HHs	20.55	12.82	12.33	7.69
Total	31.26	21.59	15.23	10.52

Source: Field Survey.

Out of the total 53 ST households who knew about the KM, only 9 households were aware about the new crop information provided during the KM and only 5 of the 9 households adopted these new crops. Similarly from the total of 114 un-irrigated households only 79 households knew about the KM, but only 17 households were aware about the information of new technology. Finally the actual implementation was undertaken by only 6 households. Table 4.7 shows that there exist a gap between improving the awareness on new crops and the actual adoption of the same by the households. The gap was highest among the households without any source of irrigation, as well as among the SC and landless/tenant households.

The information on new seed varieties aids the farmers to know the application of the improved variety seeds in field and helps them reap higher yields. The scientists provide the information on different new and improved varieties of seeds and the process of using those seeds into the field. The awareness regarding the new varieties of seeds was highest among the big farmers and lowest among the landless/tenants and the ST households. From the total 998 sample households who were aware of the KM, only 30 households responded that they were aware of the new seed variety (Table 4.7).

**Table 4.7: Category-wise Analysis of the Awareness and Adoption of New Varieties of Seeds during KM**

Categories	Awareness/New Seed Variety		Adoption/ New Seed Variety	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	49.18	39.47	32.79	26.32
2. Medium Landholding HHs	41.54	30.34	25.38	18.54
3. Small Landholding HHs	28.43	19.89	12.69	8.88
4. Un Irrigated Farmers	22.78	15.79	3.80	2.63
5. Landless	16.92	8.40	1.54	0.76
6. S.C.	44.44	30.00	19.75	13.33
7. S.T.	18.87	13.51	15.09	10.81
8. Muslim	50.00	43.06	32.26	27.78
9. Women Headed HHs	21.92	13.68	8.22	5.13
Total	31.86	22.01	15.73	10.87

Source: Field Survey.

However from the 30 households who claimed to be aware about the new seed varieties only 20 households (67%) had actually adopted these new varieties. Among the 74 ST households only 10 households (13.5%) positively responded to have been aware of the new seed varieties, conversely the rate of adoption of new seed varieties was highest among the ST households. The rate of adoption was also higher in the case of big farmers and Muslim households. While it was lowest in the case of landless/tenant households.

There are different types of improved farming practices provided by the scientists during the KM. The new and improved farming practices include inter cropping, mixed cropping, proper plantation of seeds etc. From the total 76 big land owning households only 23 households had responded as having all the awareness on improved farming methods and out of them only 9 households adopted these techniques (Table 4.8). This shows that only 14 per cent of the households those who were aware of the KM, have adopted the new farming techniques. Among the ST households the response to the improved farming practice was nil. Only 6 per cent of the households without any

sources of irrigation and 8 per cent of the women headed households responded positively to the improved farming practices. Table 4.8 shows that the awareness on new farming practice among most of categories of households was low. Also, the adoption of these techniques by the different categories like un-irrigated farmers, landless households, SC and ST was nil. This implies that the actual adoption of the information on improved farming practices was absent among most of the categories of farmers. The adoption of the technology on new farming practice also was insignificant in the case of small land holders, Muslim and women headed households.

**Table 4.8: Category-wise Analysis of the Awareness and Adoption of Improved Farming Practice during KM**

Categories	Awareness/Improve Farming Framing		Adoption/ Improve farming framing	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	37.70	30.26	14.75	11.84
2. Medium Landholding HHs	18.46	13.48	5.38	3.93
3. Small Landholding HHs	12.69	8.88	2.54	1.78
4. Un Irrigated Farmers	6.33	4.39	0.00	0.00
5. Landless	9.23	4.58	0.00	0.00
6. S.C.	25.93	17.50	0.00	0.00
7. S.T.	0.00	0.00	0.00	0.00
8. Muslim	19.35	16.67	1.61	1.39
9. Women Headed HHs	8.22	5.13	1.37	0.85
Total	14.73	10.17	2.81	1.94

Source: Field Survey.

Irrigation is one of the most important inputs required for the improved performance of agricultural production. There are different types of information on new and improved irrigation practices that is provided during the KM. The improved irrigation practice includes information on drip as well as on different micro irrigation practices. Among the nine categories of households the awareness regarding improved irrigation practice was highest among the medium and big land holding households. As it was expected the awareness was found to be highest among the wealthy households. Out of the total 130 households owning land between 5 to 10 acres only 58 households responded to an improved awareness regarding the irrigation practice, this constitutes around 44 per cent of the sample households. Out of the total 58 households who responded to the awareness regarding the irrigation practice, only 6 households actually adopted these practices. This indicates the presence of a wide gap between the awareness and the adoption of improved irrigation technology. The adoption was insignificant among most categories of households. The adoption was nil among the unirrigated, landless, SC, ST and Muslim households (Table 4.9).

**Table 4.9: Category-wise Analysis of the Awareness and Adoption of Improved Irrigation Practice during KM**

Categories	Awareness/irrigation practice		Adoption/Irrigation Practice	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	39.34	31.58	13.11	10.53
2. Medium Landholding HHs	44.62	32.58	4.62	3.37
3. Small Landholding HHs	32.23	22.56	5.08	3.55
4. Un Irrigated Farmers	25.32	17.54	0.00	0.00
5. Landless	7.69	3.82	0.00	0.00
6. S.C HHs	28.40	19.17	0.00	0.00
7. S.T HHs	11.32	8.11	0.00	0.00
8. Muslim HHs	24.19	20.83	0.00	0.00
9. Women Headed HHs	24.66	15.38	4.11	2.56
Total	29.66	20.48	3.71	2.56

Source: Field Survey.

The awareness regarding improved pest management was observed to be extremely low among the households. Awareness about improved irrigation practices was reported by just 29 per cent of the respondents who were aware of the KM (Table 4.10). Adoption of improved irrigation practices was still lower at only 3 per cent. The adoption of the improved irrigation practice is nil/completely absent among landless/tenants, un-irrigated households, SC, ST and Muslim households. One of the important observations that emerge from this table is that even if the cultivators who held unirrigated land, they were aware of the different irrigation practices; the adoption of these practices was found to be nil. Around 25 per cent of the farmers were aware of the different irrigation technologies which were made available by the government but none of them had actually adopted it..

**Table 4.10: Category-wise Analysis of the Awareness and Adoption of Improve Pest Management**

Categories	Awareness/Pest Management		Adoption/Pest Management	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	31.15	25.00	14.75	11.84
2. Medium Landholding HHs	19.23	14.04	10.00	7.30
3. Small Landholding HHs	11.17	7.82	4.82	3.37
4. Un Irrigated Farmers	6.33	4.39	2.53	1.75
5. Landless	0.00	0.00	0.00	0.00
6. S.C.	9.88	6.67	1.23	0.83
7. S.T.	3.77	2.70	3.77	2.70
8. Muslim	11.29	9.72	4.84	4.17
9. Women Headed HHs	8.22	5.13	0.00	0.00
Total	11.62	8.03	4.91	3.39

Source: Field Survey.

The awareness on improved pest management was also very low across categories. Only 31 per cent of the big land holding households responded to an increased awareness on pest management and only 14 per cent adopted some of these technologies (Table 4.11). When the percentage from the total sample size is calculated the share observed is even lower than before. The share of small land holders, unirrigated land holders, SC, ST and Muslim households who adopted this technology on pest management was nearly insignificant.

The information on soil health management includes soil testing, FYM use, inter culturing etc. The improved awareness regarding soil health management was observed to be extremely insignificant across categories. The large and medium land holders made an effort for soil testing but this was observed to be quite low among the other categories. Among the unirrigated cultivators and the ST households the adoption of type of soil management technology was nil. For instance, only around 6 per cent of households in the state had taken the soil health card.

**Table 4.11: Category-wise Analysis of the Awareness and Adoption of Soil Health Management practices**

Categories	Awareness on Soil Health Management		Adoption of Soil Health Management	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	36.07	28.95	18.03	14.47
2. Medium Landholding HHs	22.31	16.29	8.46	6.18
3. Small Landholding HHs	12.69	8.88	3.55	2.49
4. Un Irrigated Farmers	8.86	6.14	0.00	0.00
5. Landless	6.15	3.05	1.54	0.76
6. S.C.	16.05	10.83	2.47	1.67
7. S.T.	5.66	4.05	0.00	0.00
8. Muslim	9.68	8.33	4.84	4.17
9. Women Headed HHs	6.85	4.27	2.74	1.71
Total	13.93	9.62	4.41	3.04

Source: Field Survey.

Among the large and medium farmers around 28 and 16 per cent respectively were aware of the soil health management and around 14 and 6 per cent of the farmers holding land more than 10 and 5 acres adopted it (Table 4.12).

**Table 4.12: Category-wise Analysis of the Awareness and Adoption of Improved Water Harvesting**

Categories	Awareness on Water harvesting		Adoption/water harvesting practice	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	37.70	30.26	13.11	10.53
2. Medium Landholding HHs	23.08	16.85	1.54	1.12
3. Small Landholding HHs	21.57	15.10	2.79	1.95
4. Un Irrigated Farmers	17.72	12.28	2.53	1.75
5. Landless	7.69	3.82	0.00	0.00
6. S.C.	25.93	17.50	2.47	1.67
7. S.T.	9.43	6.76	0.00	0.00
8. Muslim	12.90	11.11	1.61	1.39
9. Women Headed HHs	12.33	7.69	1.37	0.85
Total	20.04	13.84	2.71	1.87

Source: Field Survey.

However, these figures are deceptive. This is because awareness of soil health management is taken to be present if the farmers had given soil samples from their land for analysis. These are collected in a target driven manner by the Gram Sevak. However, those farmers who have reported to be having a soil health card, did not really know what it meant or as to what was to be done with it. They did not study it in detail or plan their future cropping pattern or input use on that basis. Hence, the soil health card was rendered to be a mere formality with no cognizable advantage to the farmers.

One of the main constraints faced by the farmers was to sell the products in a better market. The awareness of better marketing facilities is important for the farmers for a better income. As expected the awareness regarding better marketing facilities was highest among the large landholders. Of the households who responded positively about the awareness of KM only 20 percent responded about their awareness on better marketing facilities (Table 4.13).

On the other hand, the adoption of these practices was extremely low among all the categories. The large farmers show that out of total 76 big farmers, only 61 households knew about the KM and of them only 13 responded about better marketing practices. Thus, finally only 7 households had responded to have availed these facilities. This shows that only around 9 per cent of the total sample of big farmers adopted any one of the better marketing facilities. The adoption was nil among the un-irrigated land owning households, ST and the landless/tenants. This shows that it was mainly the economically backward farm households who had not adopted any of the marketing facilities.

**Table 4.13: Category-wise Analysis of the Awareness and Adoption of Improved and Better Marketing Facility**

Sample Category	Better Marketing of Crops		Improved the Marketing of Crops	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	21.31	17.11	11.48	9.21
2. Medium Landholding HHs	19.23	14.04	9.23	6.74
3. Small Landholding HHs	10.91	7.64	4.06	2.84
4. Un Irrigated Farmers	3.80	2.63	-	-
5. Landless	3.08	1.53	-	-
6. S.C.	18.52	12.50	2.47	1.67
7. S.T.	7.55	5.41	-	-
8. Muslim	19.35	16.67	4.84	4.17
9. Women Headed HHs	5.48	3.42	1.37	0.85
Total	12.12	8.37	4.11	2.84

Source: Field Survey.

Livestock is one of the main sources of income for the rural farmers. The information on how to increase milk production was also provided in the KM. Around 14 per cent of the sample households who knew about the KM, were aware about the better milk production practices provided during KM. The category-wise analysis shows that only 18 big farmers households, out of 61 sample households responded about the KM (Table 4.14). The percentage of adoption among the big farmers was limited to only around 8 per cent of the sample who knew about the KM and 6 per cent of the total sample. No household owning un-irrigated land and those belonging to the ST community adopted any technology to increase their milk production.

**Table 4.14: Category-wise Analysis of the Awareness and Adoption of technology on Increasing Milk Production**

Categories	Awareness on Increasing milk production		Adoption of increase milk production Practice	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	29.51	23.68	8.20	6.58
2. Medium Landholding HHs	20.00	14.61	9.23	6.74
3. Small Landholding HHs	11.93	8.35	6.09	4.26
4. Un Irrigated Farmers	8.86	6.14	0.00	0.00
5. Landless	12.31	6.11	7.69	3.82
6. S.C.	23.46	15.83	6.17	4.17
7. S.T.	1.89	1.35	0.00	0.00
8. Muslim	24.19	20.83	4.84	4.17
9. Women Headed HHs	10.96	6.84	2.74	1.71
Total	14.93	10.31	5.61	3.88

Source: Field Survey.

For the provision of better quality of milk, there are different measures like providing calcium power and better quality of food to the livestock. The awareness regarding the better milk quality was highest among the big land holders and also among Muslim households. The awareness regarding the improved milk quality was lower among the categories of farmers belonging to unirrigated farmers, women headed households and the landless households. The adoption of those technologies was extremely low among most categories. For example, in the case of big farmers who have more than 10 acres of land, only 27.87 per cent were aware of the technology to increase milk quality. Whereas only 8 per cent adopted these technologies to produce better quality of milk (Table 4.15). This shows that from the total only around 3 per cent of the households adopted the technology of increasing the milk quality.

**Table 4.15: Category-wise Analysis of the Awareness and Adoption of technology for Increasing Milk Quality**

Categories	Awareness on Improve Milk Quality		Adoption of Practrices for Improving Milk Quality	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	27.87	22.37	8.20	6.58
2. Medium Landholding HHs	17.69	12.92	7.69	5.62
3. Small Landholding HHs	8.38	5.86	3.05	2.13
4. Un Irrigated Farmers	2.53	1.75	0.00	0.00
5. Landless	9.23	4.58	4.62	2.29
6. S.C.	12.35	8.33	4.94	3.33
7. S.T.	0.00	0.00	0.00	0.00
8. Muslim	20.97	18.06	6.45	5.56
9. Women Headed HHs	5.48	3.42	1.37	0.85
Total	10.82	7.47	3.91	2.70

Source: Field Survey.

Awareness about horticultural crops was reported to be around 17 per cent among those who knew about the KM, while 5 per cent respondents stated that they had tried it (Table 4.16). Main crops tried through tissue culture, were taiwan papaya, orange, mango, tea and banana. The horticultural crops was mainly observed to be adopted by the categories of big farmers and the Muslim farmers.

**Table 4.16: Awareness and Adoption of Horticulture Crops**

Categories	Awareness on New Horticulture Crops		Adoption of New Horticulture Crops	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	36.07	28.95	16.39	13.16
2. Medium Landholding HHs	25.38	18.54	8.46	6.18
3. Small Landholding HHs	13.96	9.77	3.05	2.13
4. Un Irrigated Farmers	12.66	8.77	5.06	3.51
5. Landless	4.62	2.29	0.00	0.00
6. S.C.	30.86	20.83	4.94	3.33
7. S.T.	3.77	2.70	1.89	1.35
8. Muslim	19.35	16.67	12.90	11.11
9. Women Headed HHs	15.07	9.40	5.48	3.42
Total	17.33	11.97	5.41	3.74

Source: Field Survey.

Improved awareness on organic method of cultivation was around 15 per cent. Out of the total sample households who had positively responded about the KM, only 155 responded to have received information on organic methods of cultivation (Table 4.17). But the adoption of these methods was limited to 3 per cent of the households.

**Table: 4.17. Category-wise Analysis of the Awareness and Adoption of Organic Farming**

Categories	Awareness on Organic farming		Adoption of Organic Farming	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	31.15	25.00	9.84	7.89
2. Medium Landholding HHs	18.46	13.48	4.62	3.37
3. Small Landholding HHs	14.97	10.48	2.79	1.95
4. Un Irrigated Farmers	12.66	8.77	3.80	2.63
5. Landless	4.62	2.29	-	-
6. S.C.	17.28	11.67	1.23	0.83
7. S.T.	11.32	8.11	-	-
8. Muslim	19.35	16.67	-	-
9. Women Headed HHs	10.96	6.84	4.11	2.56
Total	15.53	10.73	3.01	2.08

Source: Field Survey.

The awareness regarding micro irrigation practice was very low across all categories. Only around 6 per cent of the households responded to an improvement in their awareness on horticultural crops but only 3 per cent had adopted it (Table 4.18). Only few big cultivators had adopted drip irrigation practices.

**Table: 4.18: Category wise Micro Irrigation**

Categories	Awareness on Micro-Irrigation		Adoption of Micro Irrigation	
	% from Sample Know about KM	% from Total Sample	% from Sample Know about KM	% from Total Sample
1. Large Landholding HHs	11.48	9.21	8.20	6.58
2. Medium Landholding HHs	10.77	7.87	6.92	5.06
3. Small Landholding HHs	5.58	3.91	2.79	1.95
4. Un Irrigated Farmers	2.53	1.75	-	-
5. Landless	1.54	0.76	-	-
6. S.C.	7.41	5.00	2.47	1.67
7. S.T.	0.00	0.00	-	-
8. Muslim	4.84	4.17	1.61	1.39
9. Women Headed HHs	9.59	5.98	5.48	3.42
Total	6.21	4.29	3.21	2.21

Source: Field Survey.

The analysis of data for all the 25 districts in Gujarat illustrates an improved awareness among the farmers regarding new and different technologies as well as improved knowledge on new farming inputs and production. The main findings of this Chapter are as follows:

1. Around 69 per cent of the sample households in Gujarat were aware of the KM program that had been initiated by the government from 2005. Around 65 per cent of the sample households positively responded that the KM was a useful program for farmers in Gujarat.
2. Around 25 per cent of the total sample attended the Krishi Mela and around 19 per cent of the respondents attended the Krishi Shibir.
3. Out of the total sample surveyed only 57 per cent were aware of the KR and 51 per cent had visited the KR.
4. Before the KR visited the village the Gram Sevak with the help of the Sarpanch organized a GS. Only around 41 per cent were aware about the GS and only 32 per cent of the total sample had attended the GS.

5. Around 26 per cent of the households had received the pamphlets and only 24 per cent had actually used those pamphlets and books.
6. The awareness on the establishment of the FC in the village was abysmally low at 2 per cent, while hardly 1 per cent became members of the FC.
7. The interaction of the farmers with the different officers plays a very important part of the program. The data analysis showed that only 22 per cent interacted with the agricultural scientists, 30 per cent interacted with the agricultural officers, 13 per cent interacted with the students from the various agricultural universities, 14 per cent interacted with the GGRC officers, 11 per cent interacted with APMC officers, 11 per cent interacted with NABARD officers, 19 per cent interacted with the officers from the private seeds and fertilizer company and only 8 per cent of the farmers out of the total sample visited the model farmer's field (demonstration plots).
8. The scientists provide information on new types of subsidies, new crop varieties, irrigation sources etc during the KM program. The analysis shows that out of the total sample 20 per cent were aware of the different types of subsidies available and provided by the government and only 7 per cent took advantage of these subsidies.
9. Out of the total sample around 21 percent reported of improved awareness on new type of crops though only 10 per cent actually adopted any of these crops.
10. Awareness about new crop varieties was found amongst 22 per cent of the respondents, but only 10 per cent tried any of such crop varieties.
11. Awareness about improved irrigation practices was reported by just 10 per cent of the respondents. Adoption of improved irrigation practices was highly insignificant at 2 per cent.
12. Awareness about improved pest management was reported by 8 per cent of respondents, while only 3 per cent had practiced the improved pest management practices.
13. Awareness about soil health management was reported by 9 per cent of the respondents while its adoption was reported by 3 per cent of the sample farmers.
14. Around 13 per cent of the households reported to be aware of better water harvesting practices while only around 2 per cent tried it.
15. Awareness of better marketing facilities has been reported by 8 per cent of the farmers with hardly 3 per cent following the new marketing innovations.

16. Out of the total sample around 10 per cent households responded to an improved awareness to increase milk production and around 4 per cent adopted those methods for increasing the milk production. Around 7 per cent responded to have increased awareness on improving milk quality and 2 per cent adopted it.
17. Awareness on horticultural crops was reported to have improved among 12 per cent of the households, but only 3 per cent adopted it. The awareness and adoption for floriculture was insignificant.

### 4.3. Assessment of the Outreach of the program

The overall status of achievement of the KM under different schemes is presented in Table 4.19. This table summarizes the analysis presented in the chapter, which shows the glaring mismatch between improved awareness levels among the people and the actual adoption of the technologies in Gujarat in the post KM scenario. Figure. 4.4 is a graphical illustration of the gap between awareness and adoption.

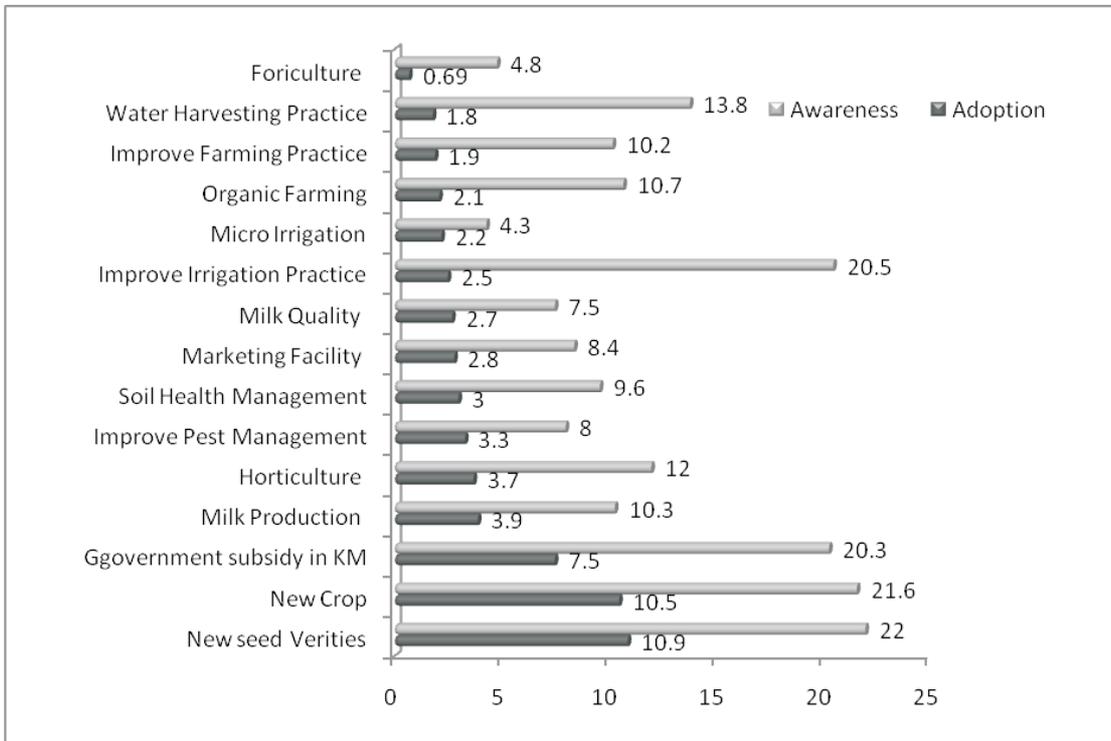
**Table: 4.19. Achievement of the Program against its Objective**

Aim of the Program		Target Achieved	
1. Make people familiar with the new extension program		69%	
2. Participate in different programs under KM			
	(a) Krishi Mela	26%	
	(b) Krishi Sibir	19%	
	(c) Krishi Rath	52%	
3. Increase proximity between Agriculture Scientist and farmers		43%	
4. Increase proximity between Government Officers and farmers		33%	
5. Transfer of Technology in Agriculture		Awareness	Adoption
	1. Government subsidies in KM	20.3	7.5
	2. New Crop	21.6	10.5
	3. New seed Varieties	22.0	10.9
	4. Improved Farming Practice	10.2	1.9
	5. Improved Irrigation Practice	20.5	2.5
	6. Improved Pest Management	8.0	3.3
	7. Soil Health Management	9.6	3.0
	8. Water Harvesting Practice	13.8	1.8
	9. Marketing Facility	8.4	2.8
	10. Milk Production	10.3	3.9
	11. Milk Quality	7.5	2.7
	12. Horticulture	12	3.7
	13. Foriculture	4.8	0.69
	14. Organic Farming	10.7	2.1
	15. Micro Irrigation	4.3	2.2

Source: Field Survey.

The graph shows that the share of households who have adopted new technologies in floriculture is lowest (0.69%) whereas the adoption of new seed varieties is the highest (10.9%). But the rate of adoption, which is presented in Figure 4.20, clearly shows that the lowest for irrigation practices (2.5%) implying the existence of a huge gap (11%) between information received on improved irrigation practice and its actual adoption. It can be observed from Figure 4.4 that farmers are interested in gathering information regarding new seed varieties, new crop, subsidy and irrigation practices.

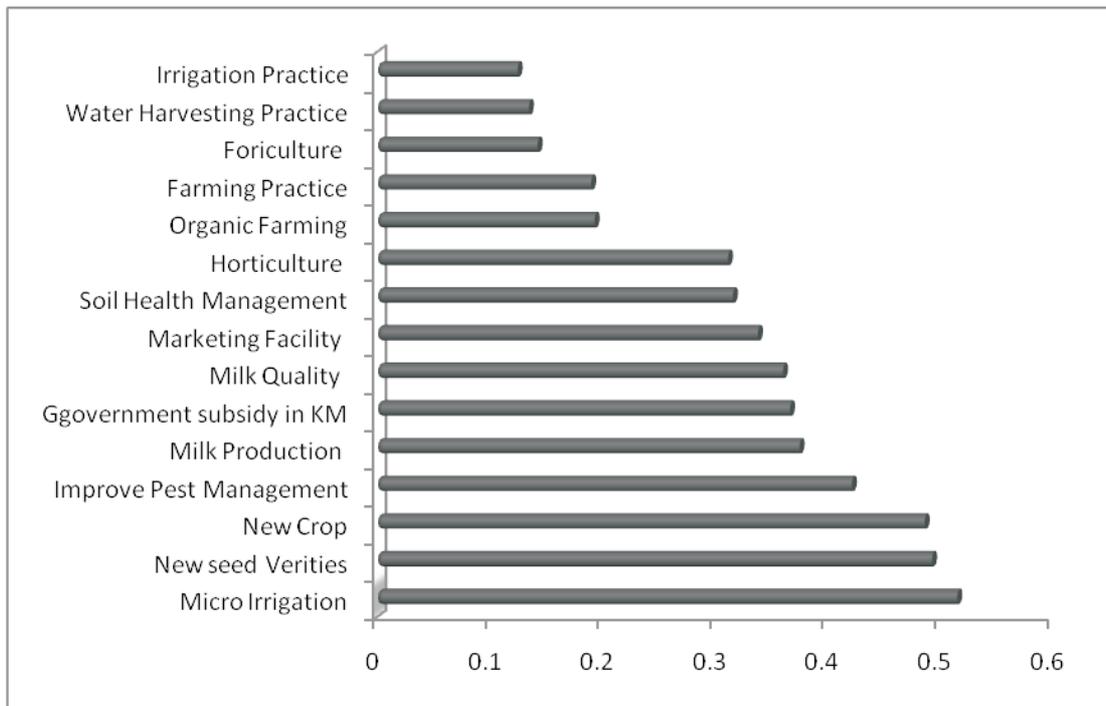
**Figure 4.4: Household awareness about New Technologies and Adoption under the KM Program (%)**



Source: Field Survey.

Figure: 4.5 represents the rate of adoption of different new knowledge and technologies during the KM program. The rate of adoption of all most all the new technologies was quite low among the households. Thus the rate of actual adoption depends upon factors like access to basic inputs for faming, economic status of the farmers, climatic suitability, location etc.

**Figure 4.5: Rate of Adoption of Different Programs (Number of Households Adopted/Number of Households Aware)**



Source: Field Survey.

The sampling method used for this study may be overlapping, thus in order to understand the outreach of the program among the households we have reduced the total categories of household into four categories according to their land owning size. The categories are namely; large, medium, small and marginal land holding household and lanless household. The outreach and the extent of the program; Krishi Mahostava was concentrataed only to the large and medium farmers in the state (Table 4.20). That is quite obvious from the Table: 4.20, showing higher percentage of farmers from large and medium land holding categories were aware about the program and participated whereas the participation of the small and marginal and landless households was quite unimpressive.

**Table 4.20: The coverage of the Program among the category of households**

	Large landholders	Medium landholders	Small and marginal	Landless	Total
1. Awareness about KM	79.2	72.6	69.4	54.4	69.1
2. Usefulness of the program	76.7	70.9	64.6	51.9	65.2
3. Awareness about KR	75.8	63.0	58.8	43.8	59.2
4. Visit to KR	70.8	59.1	51.3	39.4	52.9
5. Organization of Gram Sabha during KM	66.7	49.6	40.1	27.5	42.4
6. Participate in GS	56.7	41.7	30.5	15.0	32.7
7. Receipt of pamphlets during KM	40.8	28.7	26.0	13.8	26.3
8. Interaction with officers from agricultural department	43.3	29.6	20.2	14.4	23.0
9. Interaction with Agricultural Scientists	46.7	38.7	27.9	18.8	30.2

Upgrading knowledge on new technology through KM program among the category of households witness that mainly the large and medium landholding households showed improving knowledge and adoption of new technologies. This again reveal the fact that the adoption of new technologies was only concentrated among the large and medium farmers compared to small and marginal households. Thus the benefits of the program more concentrate towards benefiting the large and medium farmers.

**Table 4.21: Awareness and adoption of new techniques among the categories of household**

Improved awareness on new technologies/inputs	Large landholders	Medium landholders	Small and marginal	Landless	Total
1. Government subsidies	32.5 (16.7)	23.9 (8.3)	19.9 (7.2)	8.8 (1.3)	20.3 (7.5)
2. New crop	31.7 (16.7)	28.3 (17.0)	21.0 (9.5)	-	21.6 (10.5)
3. New seed varieties	35.0 (24.2)	29.6 (14.8)	20.7 (9.9)	-	22.0 (10.9)
4. Irrigation practice	30.8 (9.2)	32.6 (2.6)	18.8 (2.1)	-	20.5 (2.6)
5. Water harvesting	22.5 (8.3)	18.7 (1.3)	13.0 (1.5)	-	13.8 (1.9)
6. Increasing milk production	22.5 (8.3)	12.2 (4.3)	9.0 (3.3)	6.3 (3.1)	10.3 (3.9)
7. Horticulture	21.7 (10.0)	20.0 (7.0)	10.4 (2.8)	-	12.0 (3.7)
8. Organic farming	19.2 (5.8)	13.9 (4.3)	10.3 (1.4)	-	10.7 (2.1)

Note: Numbers in the brackets represent the percentage of household adopted new technologies among the category of households.

## CHAPTER 5

### KRISHI MAHOSAV: A CRITICAL ASSESSMENT

#### 5.1. Unfolding the Ground Realities: Going Beyond Individual Responses

The foregoing analysis was based on the preliminary investigation on the awareness, adoption and outreach across different categories of households; which provide a fairly positive picture of the programme, particularly when it pertains to the awareness. This chapter traverses beyond the primary data collected from the households and reflects on the field observations as well as the detailed discussions that were conducted with the informed persons involved in the programme. The main idea was to try to unfold one more layer of the ground reality that might not have been captured through the fairly simplistic enquiry carried out with the help of the structured questionnaire. In what follows we raise and discussed some of the pertinent observations that emerged during the field work. It is hoped that this part of the analysis would provide some useful insights on the future directions of enquiry and impact assessment of the KM programme in the state.

That said, it is important to note here that this study did not aim at evaluating the impact of the KM program on the farmer's decision making process. It in fact is a quick and rapid assessment of the program's coverage and makes an attempt to understand the improved awareness among the people regarding new technologies.

#### 5.2 Linking Awareness with Outcomes

##### a) 'Overall a Good Programme': What does it imply for the actual outcomes?

The analysis of the primary data collected from 1445 households spread over 25 districts in Gujarat shows that two third of the respondents reported that the program was useful and beneficial for the farmers. This response was obtained when they were asked, 'whether KM was a good program'. Some people felt that it was a good program because unlike before, at least once in a year the officers from various department visited the village. Thus, they got a chance to interact with these officers. The visit of the scientists helped the farmers to clarify their doubts. The KR helped to bring the knowledge directly to the rural farmers and the scientists' speech helped the farmers in understanding the problems related to agricultural production, marketing, irrigation, livestock etc. All these were fairly standard responses and were within the expected lines.

Does this imply that the farmers have actually benefited from the scientists' visit to their door steps? This issue arises because several of the respondents did not recognize or recall KM and the visit of KR to their village. In fact several of the respondents had

initially confused KM/KR with some other programmes such as the Garib Mela. This was apparent from the fact that the investigators before starting the interview had to provide an extensive introduction regarding the motive behind the KM program. People remember KM as a cultural program that was organized in the school rather than an extensive agricultural program. There were even instances, when in Valsad and Tapi the school teachers had to welcome the KR in a traditional way and the number of participants remained very low. In Valsad only few school children and teachers were present during the KR. The participation of the farmers or cultivators was quite low. There were also instances wherein the people visited the KR just to see the gathering, rather than actively participating in the event. Some people in Valsad, Navsari and Dangs responded that in the beginning they thought the name Rath implies a chariot with a horse and with that interest they had visited the KR. To be precise, the answer to the question 'whether you have seen the KR' as reported in the foregoing sections might be mis-leading, as one might just go and visit the rath without proper orientation or intentions of participation. Thus, the participation of 69 per cent does not necessarily translate in terms of access to effective and relevant extension services. Furthermore, the interaction of the villagers with the agricultural scientists and the government officers was only around 40 per cent, thus implying a low level of interaction. Thus, the actual transfer of knowledge was low. In Narmada the main reason cited for their limited interactions with the officers was the lack of interest. The villagers responded that there was a sugarcane factory nearby and the factory undertook the entire responsibility for the production. Thus, they did not feel the need for a KM or KR.

**b) Does the Gram Sabha Create a Proper Orientation?** Usually, a GS is organized in the village before the KR visits the village. The main aim of the GS is to discuss the issues related to the KM and to make the villagers aware of the rationale of the KR. It has been observed that the participation in the GS was just 32 per cent. As the participation in the GS was low the awareness and the participation in the KR also were affected. An important reason indicated for the lower attendance in the GS was the feeling among majority of households that the matters discussed in the GS never happen in actual practice. This has led to a loss of interest among them in attending the GS. There were instances in Valsad and Ahmedabad districts wherein the Gram Sevak and the Sarpanch go door to door collecting villagers' signature in the attendance register.

The answer on the attendance in the KR and KM again may be misleading because one might have visited the KM and KR just once in the last 6 years, and might not have visited again. Getting a clear answer on the assessment is out of purview of the present investigation and it requires a better understanding even at the intermediate stage.

**c) Has there been any Change in the Farm Practices?** As per the data presented in the earlier sections, only a few respondents i.e. 20 to 30 per cent had reported actual improvement in their farm practice/crop choice/ input use if not in yield. Similarly, only 8 per cent had reported that they were able to avail the subsidies available to them, about which they had learnt from the KM.

The results regarding the improved awareness and adoption of technology by the farmers shows that on one hand the actual adoption rate was low while on the other hand there existed a high discrepancy in the adoption of technology among different categories. The adoption of new technology among the marginalized community was limited. The analysis of the data shows that the awareness and adoption levels were insignificant among the economically backward communities, such as SC, ST as well as women headed households. The evidence also suggested that the response among the Muslims was relatively better than the other marginalized categories noted above. This could be due to relatively larger land holding size and/or their concentration in certain districts such as in Surat, Kheda, Bhavnagar Kachchh and Junagarh which are agriculturally more dynamic and primarily own land above five acre.

One of the important impacts of extension activities was women's empowerment through spreading knowledge about user friendly, faster and efficient technology and equipments which are now available for agriculture. This could in general increase the participation and empowerment of women in agriculture as well as the social milieu. Therefore, the impact of KM on women farmers was sought to be studied. For this purpose, maximum possible women headed farm households irrespective of their land holding were included in the sample. However, it has been observed that the participation of the women in the KR and the adoption of technologies and better practices was negligible.

The deciding factor for the adoption of a particular idea is not limited to the interest of a particular person, but also the availability of means required to adopt it. Cultivators with small land holdings might have the interest to adopt new technologies but their means to adopt these technologies is low. The small farmers have fewer assets and can not invest more money. Even if they get information regarding new technologies, they don't take much interest to adopt those, because it requires a huge channel and a lot of paper work. It was also stated by the villagers that even if they knew about certain technologies they lacked the ideas on how to approach it. The prevailing corruption and a lot of paper work is one of the main factors which has led to the disinterest among them.

**d) Does Distribution of Input-Kits Help Adoption among Poor?** There was great dissatisfaction among the farmers regarding the distribution of the Krishi Kits. The list of people who would receive the Krishi Kits was to be decided in the GS. The criteria

generally used by the Sarpanch for allotting the Krishi Kits is that the eligible family should be a BPL family. It was observed that many landless people in the village had received the Kit. In Surendra Nagar, the landless households either sold their Kits to other farmers or had just thrown away the kits. Another problem associated with the kit distribution was the timeliness in the distribution of input kits. There were instances like in Navsari, Valsad, Rajkot and Amerali districts, where the farmers received the input kits after the sowing season.

**e) Information vs Infrastructural Support?** In the whole course of interview, the farmers were more interested to discuss about their basic and development oriented problems rather than on knowledge transfer. The main problems faced by the people in the villages include lack of electricity, irrigation, land leveling etc. Some people suggested that instead of spending more money on the extension activity that the government could spend on development oriented activities that might help the farmers extensively.

### **5.3. Stakeholder Suggestions for Improvements in the contents and Implementation of KM**

#### **a) Suggestion by the farmers:**

The suggestions provided by the farmers about KM are stated as below:

1. **Timing of the program:** In many districts the farmers pointed about the odd timing of the functioning of the KR. The time provided for the Rath was very short thus it is not enough for each village.
2. **KR should visit in alternative year rather than Every Year:** The farmers feel that the Rath instead of visiting to each village every year, they should gather more update information on new technologies and visit once in two year rather than every year.
3. **No incentive to attain the program:** Those farmers or poor (the BPL households) who receive some Krishi Kits, has the incentive to attain the program. Others believe they do not receive anything for attaining the program.
4. **Information provided are not location specific:** It was suggested by the farmers, that the agricultural scientists and the government officers should provide information specific to the cropping pattern and problems related to the cropping pattern in each village. One of the main complains that the stakeholders had that the solution and the technology are not location specific.
5. **Not much up-to-date Information:** The information provided by the officers should consider the changing cropping pattern, changing climatic condition, changing soil type etc. The participants feel that the knowledge provided is not updated.

6. **Lack of basic facilities are the primary concern:** In all most all the villages' farmers feel that the provision of the basic facilities like irrigation, electricity and roads are essential rather than spending a huge amount of money in the extension program. The lack of basic facilities and amenities lead to lack of interest for attaining the extension program.
7. **Provision should be given to travel till the taluka:** Most of the participants feel that even if they are interested to visit the Krishi Mela and Shibir, the travel cost is high. They feel that the Krishi Mela should continue for a longer period of time and they should be provided with some basic facilities to visit to the Mela.
8. **Not much attention has been given to the landless and the Women Famers:** Special efforts should be made to reach out to women and farmers from poorer households who often do not participate in the programme, partly because of the lack of adequate information about KM.

#### **b) Suggestion by the Officials**

The study conducted personal interviews with the government officers, the agricultural scientists and the other officers. The suggestions and the experienced shared by them are presented in the section.

1. **Not much value addition:** There was a greater sense of the tension among the officers that KM is less effective for providing new and update knowledge to the farmers apart from what is available publically. Thus the interest among the farmers to attain the program by sacrificing the day long work was not worthwhile.
2. **Timing of the Program:** KM is organized during the summer and during the festive season. Thus it leads to lack of participation among the farmers and the lack of interest among the officers too.
3. **Krishi Melas better than krishi Rath:** Much attention should be given for the better functioning of the Krishi Mela and Shibir. The duration of the mela and sibir should be extended that is expected to help the farmers rather than the Rath.
4. **Modification in the Functioning:** Some of the officers suggest that the Rath should stay for a whole day at one of the common place of the two-three villages instead of visiting each place. Other suggestion regarding the functioning includes breaking the program in two parts. One could be conducted in winter and the other before summer. This is expected reduce the work pressure on administrative staff and scientist and also it might be more convenient for the farmers and hence, thus the results would be more effective.

5. **Facilities for the officers for the better functioning:** It was suggested that the scientist and the officers should be provided facilities for the night stay during the program. It is tiresome to do extensive travel. The provision to stay near the village also might help the farmers for better interaction.
6. **Privatizing the KM program:** Some of the officers pointed out that extension functions could be privatized. This would allow to the administrative departments carry on with their normal functions and at the same time allow private extension agencies to bring in more efficiency in the whole program.

#### 5.4. Conclusion

The program depicts a better scenario in the sense of bridging the knowledge and the technologies into the doorstep of the farmers in Gujarat. The study found that the awareness about the program was quite high among the farmers. But it is essential to understand whether it really imply the knowledge enhancement among the farmers regarding the new technologies? The participation among the farmers in the Gram Sabha and the meeting, organized before the KR was low. This implies the lack of interest among the people for attaining the program. The awareness regarding new technology and equipments was fairly decent among the participants; however it was difficult to assess whether it is the impact of KM alone. There was wide discrepancy between the awareness and the adoption of the same technologies. It was observed that the determining aspect for the adoption of a particular knowledge or technology is not only the interest of the particular person, but also the availability of means to adopt it.

The insights from the discussion with the government officers and the farmers show that major attention should be given for the functioning and the implementation of the program.

There is a need to look into the questions of follow up and synergic linkages with the larger extension systems other than Krishi Mahotsva. Essentially, the programme may contribute towards revitalizing the larger systems with which farmers keep connected on a regular basis. This issue of course, needs further probing as it was not part of the present enquiry.

Finally, the requirement for information services is increasingly becoming more nuanced and location/farm specific. This is particularly so in the wake of the increased climatic vulnerability, food insecurity and resource-use sustainability. It is therefore, high time the future models of extension services are better equipped with more nuanced rather than focusing on the messages/recommendations that are general in nature. While Krishi Mahotsav could perform the latter task, it should keep reminding us that the more complex tasks are yet to be addressed with care and long term commitments.

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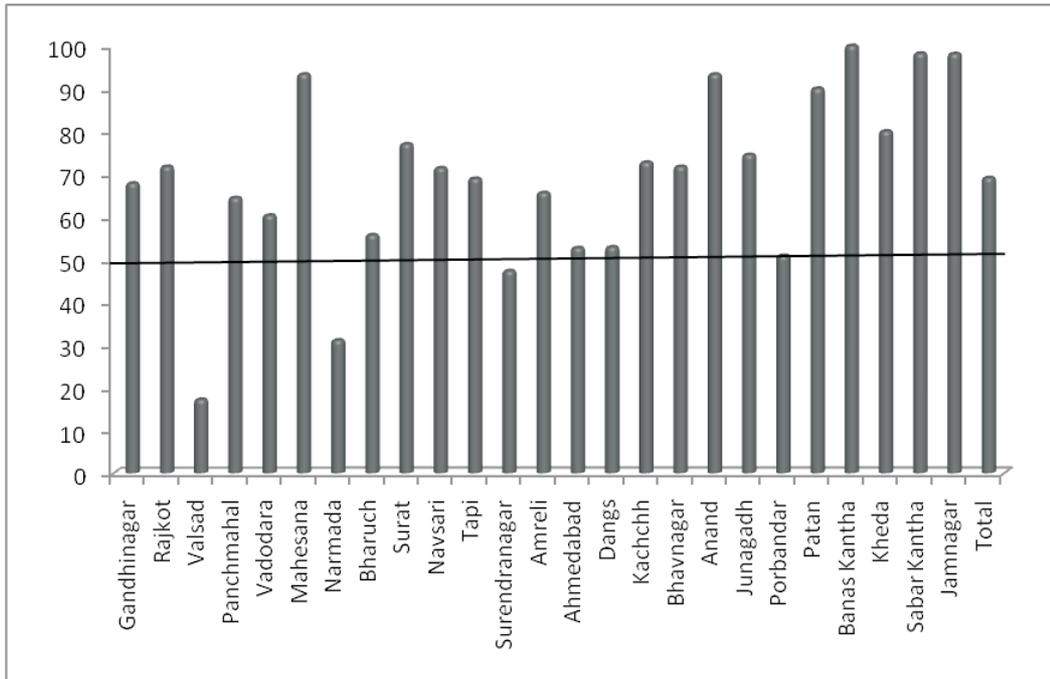
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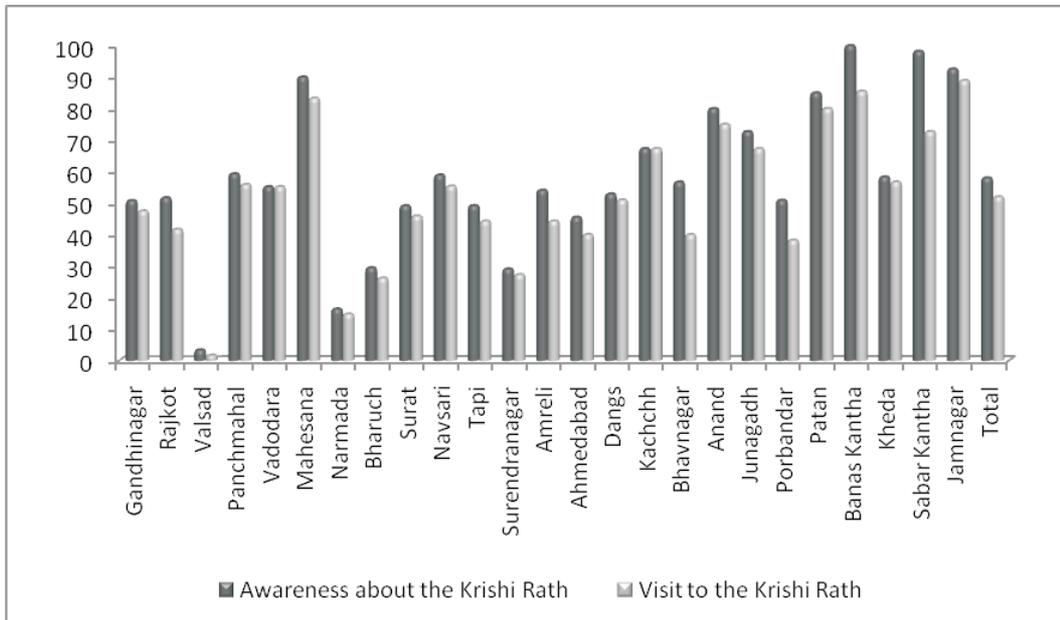
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**Appendix 1: District-Wise Awareness of Gujarat Government's Krishi Mahotsav**



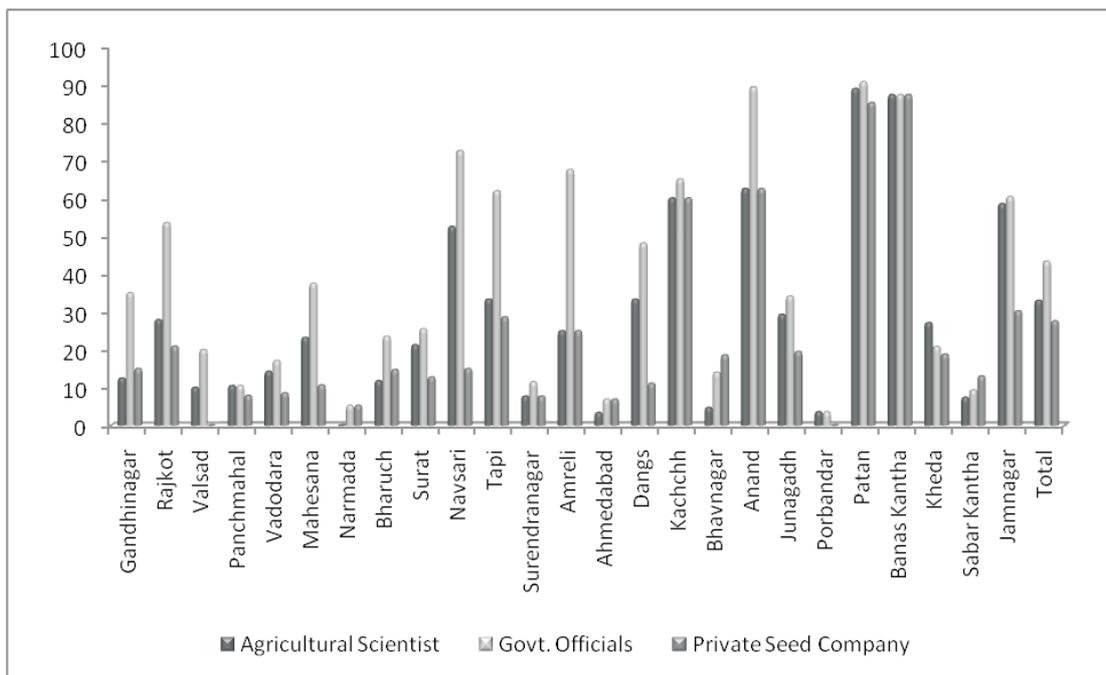
Note: The horizontal line represents the awareness among the districts above and below 50 percent.  
Source: Field Survey

**Appendix 2: Awareness and Participation in the Krishi Rath**



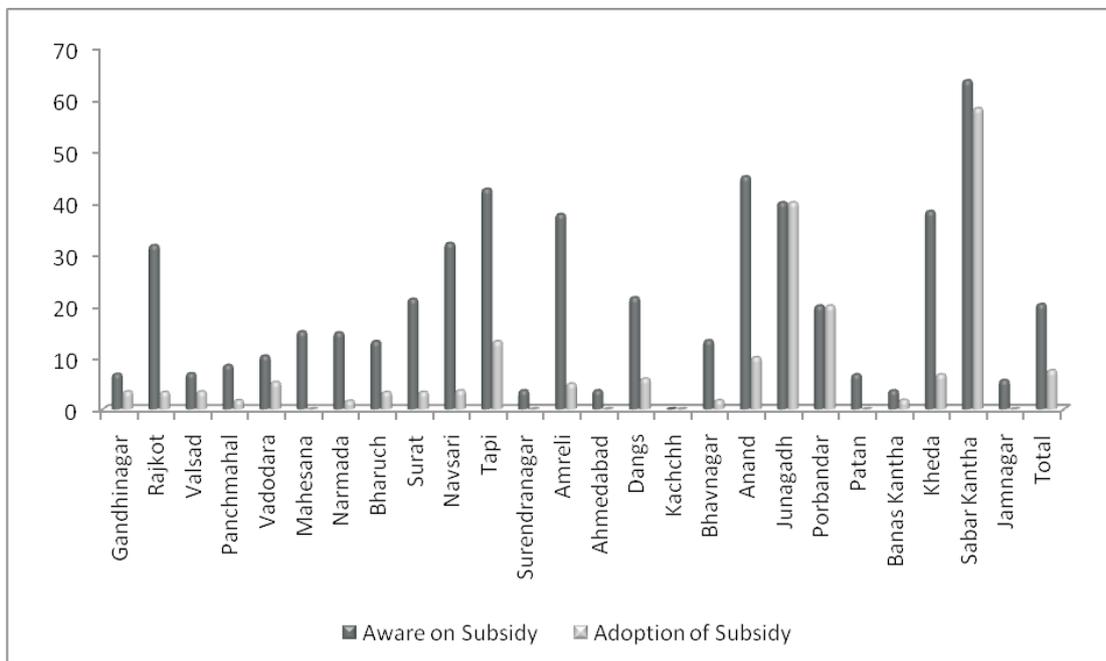
Source: Field Survey

**Appendix 3: Framers Interaction with the Different Officers during the KM**



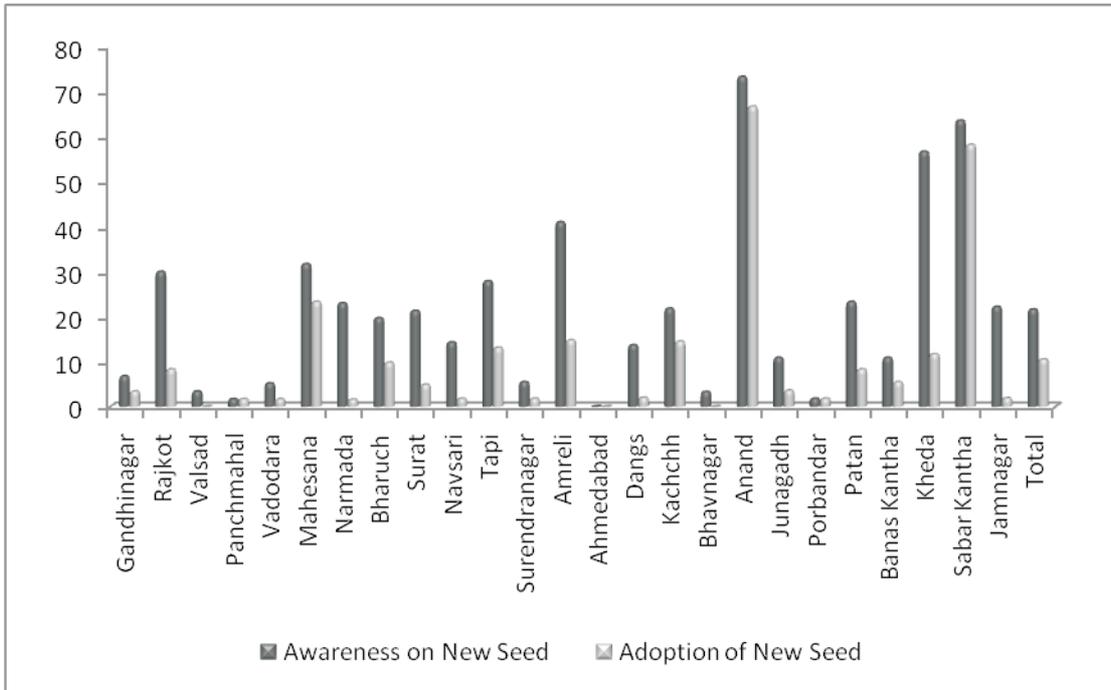
Source: Field Survey

**Appendix 4: Improved Awareness on the government subsidy schemes for farmers**



Source: Field Survey

**Appendix 5: Improved Awareness and Adoption of New Crop**



Source: Field Survey

## About GIDR

The Gujarat Institute of Development Research (GIDR), established in 1970, is a premier social science research institute recognised and supported by the Indian Council of Social Science Research (ICSSR) of the Government of India, and the Government of Gujarat.

The major areas of research at the institute are the following:

### 1. Natural Resources Management, Agriculture and Climate Change

Research under this thematic area concerns the broad realm of environment and development. Studies have focused on aspects relating to economic viability, equity, environmental impact assessment and institutional mechanisms. Issues in common property land resources, land use and water harvesting too have been researched extensively. Implications of climate change risks for Asia and the adaptation and mitigation strategies at the local levels have begun to be studied.

### 2. Industry, Infrastructure, Trade and Public Finance

The main themes pursued under this area include policy dimensions concerning of the micro, small and medium enterprises, industrial clusters, regional industrialization and intellectual property rights, especially in pharmaceuticals, biotechnology and Bt cotton. Studies enquiring into provisioning of and access to basic infrastructure and the linkages between infrastructure and regional growth have also been carried out. Current research includes studies on aspects of trade and development with special reference to India. Public finance, especially, state finances, is a new area of interest.

### 3. Employment, Migration and Urbanisation

Studies under this theme relate to employment, labour, diversification of economic activities and migration. The Institute has made significant contribution in these areas, especially during the 1980s and 1990s. International migration has emerged as an additional theme. Urban services and aspects of urban economy and governance are the other emerging areas.

### 4. Poverty and Human Development

Issues examined under this broad area include access, achievement and financing of education and health sectors. Research on health and family welfare has contributed towards developing a framework towards a target-free approach in family planning. Studies on poverty relate to conceptual and measurement aspects, quality of life, livelihood options and social infrastructure, mainly in rural India. There is an increasing interest in understanding urban poverty as also rural-urban linkages. The policy and practice of microfinance is a relatively new theme in this area.

### 5. Regional Development, Institutions and Governance

With a notable early record of research on local level (block and village) planning, recent studies have continued with enquiries into regional underdevelopment and whether and how institutions at various levels influence certain development outcomes. Tribal area development mainly relating to livelihood promotion and human resource development has been a specific focus area. Recent analyses have also looked into Panchayati Raj Institutions, Forest Rights Act, MGNREGA and Right to Education Act.

Much of the research directly informs national and regional policies. The institute also undertakes collaborative research and has a network with governments, academic institutions, international organisations and NGOs. A foray into specialized teaching and training has just been made.



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