CHAPTER-I
INTRODUCTION

Communication - the sharing of ideas and information - forms a large part of the extension agent's job. By passing on ideas, advice and information, he hopes to influence the decisions of farmers. He may also wish to encourage farmers to communicate with one another; the sharing of problems and ideas is an important stage in planning group or village activities. The agent must also be able to communicate with superior officers and research workers about the situation faced by farmers in his area.

There are many ways in which extension agents and farmers communicate. Feedback is essential in communication so as to know whether the recipient has understood the message in the same terms as intended by the sender and whether he agrees to that message or not? Receivers are not just passive absorbers of messages; they receive the message and respond to them. This response of a receiver to sender’s message is called Feedback. Sometimes a feedback could be a non-verbal smiles, sighs etc. Sometimes it is oral, as when reaction to a colleague’s ideas with questions or comments. Feedback can also be written like - replying to an e-mail, etc.

Feedback is an important component of learning and performance improvement processes in organizations for several reasons. First, feedback plays an important role in motivation in that it provides information about how individuals’ performance compares to their goals. Second, feedback increases individuals’ awareness about how much task effort is required for effective performance. Finally, feedback serves as a learning mechanism because it highlights effective and ineffective behaviors and task strategies, and helps individuals select those behaviors and strategies that will enhance task performance.

According to London (2015), feedback is defined as “the information people receive about their performance”. Feedback is a powerful tool that is central to many functions at work, as it guides, motivates and rewards employees’ behaviours. Feedback tells us how we’re doing and how close we are to reaching our goals. People realize what they know, how they are performing, and what they need to do to
improve. Typically, feedback can be found as part of a traditional performance management system which would also include performance appraisal and measurement. More recently, the conflict between the developmental and administrative functions of performance management has become apparent. This has led some researchers to argue that we need to.

Feedback is an integral part of effective communication. It is a special case of communication process in which the message comprises information about the recipient. The recipients’ perception of the feedback and response to it depends on their personal attributes. It has the property of being able to adjust future conduct by past performance. In fact, feedback is a necessary component enabling the correction of errors, the adaptation to environmental changes and the learning process.

Feedback is an essential element of the communication process, which makes the communication cycle complete. Feedback is defined as “the response a receiver gives a sender as a result of the sender’s message”. Feedback is thus a corrective mechanism which tells the communicator how they are going, and it serves as a key to understanding the transactional nature of communication.

According to Schramm (1955) each person in the communication process is both encoder and decoder. He receives and transmits. However, a person will decode a message and interpret it in accordance with his own experience and then encodes a response accordingly. The same is true for both the receiver and the source. Hence, he points out that each one is constantly communicating back to the other. The return process that is communicating to the sender is called 'feedback'.

**FEEDBACK MECHANISM IN AGRICULTURE**

Now-a-days it is evident that the vital role of knowledge and information are co-determinants (with other factors) of productivity in agriculture. Technological innovation has been a key element in the growth of agriculture throughout the world and technology dissemination is the means of empowering the farmers with knowledge based information for increasing and intensifying agricultural productivity. Due to the growth of the population and the low price for agricultural produce, there is an urgent need to develop a holistic/ integrated approach to combat the problems of agricultural production and productivity and find out viable solutions to satisfy the various needs of the people of the developing countries. Transfer of
agricultural technology through Research – Extension – Farmers systems contributed
tremendously in increasing agricultural production and also its transfer mechanism
has been very purposeful and result-oriented.

Technology diffusion is a complex process comprises of innovation
(technology), communication channels, time and social system where feedback is the
most crucial link of various clement. Technology diffusion process is also known as
innovation - decision process (Rogers, 1983) where in a farmer first becomes aware
and knowledgeable about an innovation and then gets persuaded to take a favorable
decision (adoption) leading to continuous implementation only after confirmation.
Thus, feedback plays a vital role in adoption process in which an individual passes
from first knowledge of a technology to forming an attitude towards the technology,
to a decision to adopt or reject, to implementation of the technology and to
confirmation of the decision.

Different extension models and approaches exist around the world. Birner et al.
(2007) argued that there was no single best method for providing need-specific,
purpose-specific and target specific extension advice. The right approach depends on
the policy and infrastructural environment, the capacity of potential service providers,
the farming systems and potential for market access, and the characteristics of local
communities, including their willingness and ability to cooperate with agents of
agricultural extension. Different approaches can work for different sets of conditions.
To fit a particular situation, agricultural extension needs to be flexible and able to
accommodate local needs.

Feedback gives an opportunity to the technology developers to disseminate the
technology and rethink on the issues raised by the clientele the farmer through
extension personnel. The possible refinement and modifications could be done by the
research scientist which in turn will lead to higher adoption and faster diffusion of the
technologies. In addition through feedback, the clientele express their views about the
technology, which increases the suitability of that technology for their socio-
economic conditions.

**THE CRITICAL ROLE OF AGRICULTURAL EXTENSION**

Extension network is an effective means by which proper agricultural technology
will reach to its users for its efficient adoption. Agricultural research agendas remain
largely academic unless extension workers provide input in terms of the identified and as – yet unsolved field problems of the farmers. Research focuses on the technical aspects for generating useful technologies, while extension focuses on the acceptance, utilization and finally adoption of technologies by users. Effective technology dissemination will be the key for addressing the challenges in agriculture.

Agricultural extension involves the whole gamut of complex interaction between farmers, extension workers and researchers in transfer of technology, eventually resulting in enhancing productivity and profitability to the farmers. Agricultural extension at present is focused on commodity oriented macro – level technologies, the focus of agricultural extension at present needs to be on micro farming situation based on location specific problem oriented intervention. It is this context that the farmer – scientist interaction brings in high degree of confidence among farmers.

The purpose of agricultural extension is to disseminate advice to farmers. Gaps in knowledge contribute to the yield gap in biophysical and economic settings. Services and purchased inputs such as seeds and synthetic complements are essential productivity-enhancing tools. However, their effective use requires knowledge, which advisors need to articulate and communicate to farmers. The knowledge farmers need goes well beyond production. It includes price and market information, post-harvest management techniques, and an understanding of product quality determinants and safety standards. Some farmers marshal and command the needed knowledge on their own. The ‘resource-poor’ majority of farmers (growers of a large share of the nation’s food) depend on science-based extension from outside to complement their local knowledge for improved farming and prospects for sales. How, therefore, can one best get meaningful advice to farmers and create learning environments that help achieve the desired outcomes and results?

**INDIAN EXTENSION SYSTEM: OVERVIEW**

Extension in India has a mixed record of achievement. The literature is clear in recognizing agricultural extension as a factor in promoting productivity increases, sustainable resource use and, more broadly, agricultural development. But the public provision of extension has on balance fallen short of expectations. Research-extension-farmer linkages are seen to be absent or weak in many instances. At the
same time there are duplications of efforts, with a multiplicity of agents attending to extension work without adequate coordination.

Agricultural extension practice has evolved over time, following similar patterns and trends across the globe. The Training and Visit system (T&V) was an early anchor in the past 40 to 50 years. Promoted by the World Bank from the 1970s, T&V reflected a belief in the role of the state as the main actor in development. Under the unified, top-down, approach of T&V, existing efforts and organizations were merged into a single national service to promote the adoption of high-yielding (‘Green Revolution’) technologies.

Public extension has a long and distinguished history in India going back to the pre-Independence and the pre-Green Revolution eras. Extension went through distinctive stages over time, evolving with national priorities (Singh and Swanson, 2006). Thus, the food crises starting in the late 1950s prompted a refocusing of extension from ‘rural development’ to agricultural production intensification and food security. The combination of Green Revolution technologies in the late 1960s and the ‘single line of command’ T&V system from the mid-1970s helped bring about food self-sufficiency during the 1980s and beyond. However, doubts about the methods and extension value of T&V began to creep in for a number of reasons, including the apparent limitations of the approach in less well endowed agricultural settings.

Since then, agricultural extension has evolved towards pluralistic models and modes. New thinking includes the delivery of extension services in the context of decentralization, and aspects such as outsourcing, cost recovery, and the involvement of the private sector and NGOs. Subsequent Plan documents explored the role of extension under a liberalized regime. Extension implications for agribusiness sub-systems were among the concerns, as was the role of extension in addressing crop-wise and region-wise disparities in growth, natural resource degradation, and vulnerable areas and people. A breakthrough of sorts emerged in the form of ATMA, the Agricultural Technology Management Agency, as the 21st century dawned.

ATMA was piloted through the Innovations for Technology Dissemination component of the World Bank-supported National Agricultural Technology Project (NATP) that became effective in 1998 and concluded in mid-2005. The new thrust represents a decentralized approach that emphasizes local solutions, diversification,
market-orientation, and farm income and employment growth, operating through state-level and local institutions.

In India today, these local needs have everything to do with the rapid transformation of agriculture that is visible almost everywhere one looks. Market liberalization and globalization are driving Indian agriculture out of the staple-based subsistence system of the past towards a high-value, information-intensive commercial enterprise (Adhiguru et al., 2009). In this new world of agriculture, farmers are interacting with different information sources to help them produce and sell products and deliver safe commodities of good quality to consumers.

**AGRICULTURAL EXTENSION SERVICE SCENARIO IN SAURASHTRA REGION**

The agricultural education in Saurashtra region of Gujarat State started way back in 1960 with the establishment of College of Agriculture in a palatial building at Sardarbaug, Junagadh. The college was affiliated to Gujarat University, Ahmedabad from its outset till the year 1967. Subsequently, on inception of Saurashtra University in 1968 at Rajkot, the affiliation was transferred to it. With the establishment of Gujarat Agricultural University (GAU) as an autonomous body in 1972, it was transferred to the Gujarat Agricultural University with all the activities so far carried out by the Department of Agriculture. It thus, became a constituent college of the Gujarat Agricultural University. Junagadh agricultural university was carved out of GAU with its splitting into four universities on May 01, 2004. Then JAU came into existence. The jurisdiction of this university is eleven districts viz., Junagadh, Gir Somnath, Rajkot, Morbi, Jamnagar, Porbandar, Devbhumi Dwarka, Amreli, Bhavnagar, Botad and Saurashtra region comprising nearly 32.82 per cent (6.43 million ha) area of the Gujarat State (19.60 million ha). The university has taken up the task to intensify and reorganize the research, education and extension education.

Agriculture is a state subject and its development and achievement is based on the policies and approaches taken by respective state Governments. In Gujarat, the agriculture growth has been rapidly increasing than India as a whole since 2000’s (Shah et al., 2009). The sources of agriculture growth performance may be explained in terms of exogenous and endogenous variables. The production and productivity of
food crops, non-food crops and non-crops are endogenous and exogenous variables like land utilization, land irrigation, other inputs and Government’s innovative agricultural policies. Gujarat is the one of the fastest growing states of India. The state has adopted a novel pattern of progress with the strategic development of the key sectors like energy, industry and agriculture for which it has achieved ambitious double digit growth rate since 10th Five Year Plan period. The state constitutes about 6.2 per cent of total geographical area and 4.99 per cent of total population of India. As per Census 2011, about 3.47 crores people of the state live in rural areas forming about 57.4 per cent of its total population (GoI, 2011). About 70.5 per cent of total workers in the state are rural based. Agriculture continues to be the primary occupation for the majority of rural people in the state. About 51.8 per cent of total workers are cultivators and agricultural labourers. Thus, the agriculture in the state has been a major source of labour absorption. Moreover, agriculture provides indirect employment to large portion of population in agro-based occupations. Thus, prosperity and well being of people in Gujarat is closely linked with agriculture and allied activities.

Gujarat has proved to be successful in implementing some of these policies and make agriculture growth miracle after 2000. The major policy and programmes in agricultural development of Gujarat are Krishi Mahostav campaign for research and extension support, Soil health card faculties for soil conservation, Jyotigram Yojana to provide 24/7 electricity, Sarda Sarvor Project for the construction of major and medium canal irrigation, management of ground water irrigation under Sardar Patel Sahakari Jal Sanchaya Yojana etc. Other Policies include programme for horticulture development through Gujarat Horticulture mission, improved market access through Agricultural produce marketing committee etc.

In modern Gujarat, cooperation between the Department of Agriculture and the State Agricultural University was enforced through the operation of a District Agricultural Advisory Technology Center in all districts besides collaborating through ATMA. These centers were supposed to refine technology, make diagnostic visits, and organize field programs in collaboration with the Department of Agriculture and allied departments so as to improve the dissemination of technology, to strengthen research and extension capacities and to foster farmers capabilities for effective Agricultural Technology Management in the state.
FEEDBACK MECHANISM: AN ESSENTIAL ARTISAN FOR COMMUNICATION DEVELOPMENT IN AGRICULTURAL EXTENSION SERVICE

Development of need based, location specific and user friendly technologies and their diffusion among farmers are the key issues of Agricultural Extension Services in specific and in general agricultural development. Technology diffusion is a complex process comprising of innovation (technology), communication channels, time and social system where feedback is the most crucial link of various elements. Thus, feedback plays a vital role in adoption process in which an individual passes from first knowledge of a technology to forming an attitude, to a decision to adopt or reject, to implementation of the technology and finally to confirm the decision. At all these stages of communication channels with inbuilt feedback mechanism plays an important role.

Delivering meaningful extension is not easy. Farmers living in widely dispersed communities can be difficult to reach. Farmers’ information needs vary across locations, making extension challenging. Supply side rationing may be a problem in the sense that there are likely to be too few extension agents relative to the number of farmers. On the demand side, self-selection on the part of larger, more commercial farmers may bias outcomes. Extension service budgets may be inadequate. Issues of motivation, competence, performance and accountability of extension institutions and their agents may affect results (Anderson, 2007).

With the globalization of market and the WTO regime, the job of extension personnel have become more difficult and sophisticated putting him to challenges of diversified salient features. Such challenging situation demands effective, timely feedback as it plays a vital role in maintaining the quality of service delivery function.

The yield gap between on-station and farmers’ fields shows the effectiveness of technology transfer and the level of feedback mechanism as prevalent in agriculture. The number of extension workers per thousand farmers is very less as compared to developed countries. This shortage of trained manpower could be a reason for absence of proper feedback mechanism.
1.1 STATEMENT OF THE PROBLEM

Agriculture is the mainstay of Indian economy and communication plays very important role in updating the farmers with new research findings as well as technological advancement done by the several agencies like ICAR, SAUs, KVKs, CSIR etc. Information often passes through several channels before it reaches a particular receiver, but it is rarely passed on in exactly the same words in which it was received. Due to the lack of fidelity the understanding and meaning is not taking place. In particular, technical information is often distorted as it goes from one person to another. Extension agents should aim at being accurate sources and channels of information, and should make sure that farmers have heard and fully understood any information passed on to them.

Without proper feedback from the end-users of the technologies the communication cycles seems incomplete. By ignoring the views of the clientele, the potential benefit of any technology can’t be harvested by the group for whom it has been developed. In fact, feedback is an integral component of the whole communication process, which takes place in the arena of agriculture and allied activities. The vast experiences of various initiatives for agricultural development reveals how important feedback is in Agricultural Extension Services through various structural, functional, organizational, institutional and administrative reforms, extension methodologies, approaches and reforms.

Feedback provides information on how well individuals are performing relative to their goals and how effective specific behaviors are for a given task. Feedback also suggests how much task effort is required to achieve specific objectives—thereby enabling individuals to learn what task strategies are most effective, learn what level of task effort is required to perform effectively, and revise their strategies and effort as needed to enhance task performance. Despite these theoretical benefits of feedback, prior empirical research demonstrates that feedback can have both positive and negative effects on learning and task performance and these differential effects are often attributed to different dimensions of feedback.

Thus, the feedback through effective feedback mechanism increases the functional linkage between the clientele, technologies and the development agencies. Hence, the feedback mechanism ought to be used at all level of extension organizations, so that
clienteles’ perception and their views could be reached to the planners, policy makers and researchers for the sustainability of the technology in the long run. So far very few efforts were made in this regards. Feedback for sustainable mechanism in Agricultural Extension Services is limited in utilization and literature on this topic is meagre. Therefore, it is essential to analyze the factors and suggest strategies to the stakeholders of feedback mechanism for its effective functioning and use in Agricultural Extension Activities. Considering this fact, the study entitled “A study on Feedback Mechanism of Agricultural Extension Services in Saurashtra Region of Gujarat” was undertaken.

1.2 OBJECTIVES OF THE STUDY

The overall objective of the study was to examine the Feedback Mechanism of the Agricultural Extension Services in Saurashtra Region of Gujarat. The specific objectives of the study were:

1. To analyze the profile characteristics of the respondents on feedback mechanism in Agricultural Extension Services;

2. To develop and standardize a scale to measure the feedback index based on awareness, perception, participation and utilization of the feedback mechanism activities by the respondents in Agricultural Extension Services;

3. To document the present feedback mechanism in Agricultural Extension Services;

4. To study the awareness and perception of the respondents about feedback in Agricultural Extension Services;

5. To study the extent of participation in and utilization of feedback mechanism in Agricultural Extension Services;

6. To assess the relationship between the selected independent variables and participation in and utilization of feedback mechanism of the respondents;

7. To identify the problems and study the suggestions given by the respondents regarding feedback mechanism in Agricultural Extension Services;

8. To suggest strategies to the stakeholders to improve the feedback mechanism for its implementation in Agricultural Extension Services.
1.3 SCOPE AND IMPORTANCE OF THE STUDY:

The objective stated above will be indicating the practical utility of the research. Feedback plays an important role in transfer of technology. So knowledge on feedback mechanism will help in proper selection of information dissemination at large. In real life situation, the perception of the feedback and response to it depends on their personal attributes. It was, therefore, considered necessary to find out the factors that influence the participation and utilization of feedback mechanism in Agricultural Extension Services in Saurashtra region of Gujarat. The study focused on assessing awareness and perception of the respondents about the feedback mechanism and extent of participation and utilization of the feedback mechanism in Agricultural Extension Services. Feedback mechanism varies in terms of people, place and situation. The communication skills of the information sender and the receivers mainly the farmers differ in multiple dimensions that ultimately affects the whole communication process. These variations may have realistic impact on communication behavior on the long run. Thus, the study will help to understand the effects of these attributes on feedback mechanism and thereby it will provide guidelines to all stakeholders of feedback mechanism for its effective functioning. The findings shall help the State Department of Agriculture, State Agricultural Universities and other development agencies to formulate effective and proper use of feedback and feedback mechanism in Agricultural Extension Services for better implementation in the working arena. The scope of this study only focuses on formal feedback mechanism among extension personnel and farmers as well as how they are communicating with different actors because knowing the organizational communication needs of extension staff can be useful in enhancing an effective and dynamic organization. The result of this study will provide in-depth information to the SDA, SAU & DEE about the factors that affect feedback among extension personnel and farmers; the communication methods and channels utilization to communicate with farmers and how to improve this for better achievement of organizational objectives and improve the life standard of the farmers. Moreover, the results of this study will provide information for development related organizations, policy makers, planners, and researchers for improving feedback methods among and between extension personnel and farmers in order to achieve organizational as well as farmers’ objectives through: identifying feedback constraints, opportunities, and design
strategies for improvement in the country in general, and in the study area, in particular.

1.4 LIMITATIONS OF THE STUDY

Since all the social science researchers are subjected to certain limitations, the present study was no exception. As such, the study had certain limitations as indicated below:

1. The area of investigation was restricted to only Saurashtra Region of Gujarat comprising 30 villages of 5 Talukas of 5 districts. As such generalization of the study could be extended to the areas where such similar conditions exist, but may not have wider applicability.

2. Only few selected characteristics of the respondents were studied. The items included in the study for detailed investigation were limited and it was not possible to study all the areas in a short span of time.

3. Respondent were selected based on profession only rendering services in extension sector.

4. The study was limited to only few selected respondents from the Saurashtra Region.

5. The study was conducted using ex-post-facto design.

6. The study was based on only verbal response of the respondents.

7. The study was limited to a sample of 240 respondents comprising Scientists, Extension Personnel, farmers and their stakeholders in connection to extension activities. Hence, the findings need to be interpreted with caution.