

ASAP-M-001

**AGRICULTURAL EXTENSION
METHODOLOGY**

A REFERENCE MANUAL

**THE PROJECT FOR STRENGTHENING
SUPPORT SYSTEM FOCUSING ON
SUSTAINABLE AGRICULTURE IN THE JORDAN RIVER RIFT VALLEY**

Agricultural Support Assist Project (ASAP)



JAPAN INTERNATIONAL COOPERATION AGENCY

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AGRICULTURAL SUPORT ASSIST PROJECT (ASAP)

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- AE-05 Farm Records
- Form AE-05-01 General Information
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PREFACE

The Project for Strengthening Support System Focusing on Sustainable Agriculture in Jordan Rift Valley (ASAP) of JICA was launched in 2007 with the objective of establishing a basis for an effective agricultural extension system through direct linkage between research and extension in the project area.

Agricultural Extension Methodology: A Reference Manual for Extension Agents was compiled as one of the need based activities identified and agreed upon in the PDM of ASAP. In the absence of such published material and organized training programs on the subject, this Manual is expected to serve as a reference book for the Extension Agents working in the field. Further, it is envisaged that a series of training programs will be developed on selected sections from the Manual to provide the Extension Agent with in-depth understanding of the topics.

The first five chapters in the Manual form the core section, where basics that are considered essential for extension, are presented. The remaining chapters contain important and highly relevant topics, namely, Extension Education, Rural Sociology and Farm Management, Planning and Evaluation, and Some Trends and Challenges, that will help the Extension Agent to streamline his extension strategies and approaches. It is hoped that materials on topics such as rural women and youth, agricultural marketing and credit, etc., which are highly relevant to the field, would be incorporated to this Manual in the future.

Since the compilation had to be done in a very brief time period allotted, one may find inadvertent omission of some important information and inclusion of irrelevant material in this edition. Suggestions and comments for improvement are most welcome, and every effort shall be made to accommodate them by revision.

It is proposed to present the Manual in the form of a binder file so that new chapters on related topics could be inserted later on. Further, it will facilitate constant upgrading of the material already in with improved new versions through constructive suggestions and comments.

JICA Team
ASAP
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CHAPTER 1 ORIGINS, CONCEPT AND PRINCIPLES OF EXTENSION

Extension is an ongoing process of getting useful information to people and then assisting those people to acquire the necessary knowledge, attitudes and skills to utilize this information or technology for improvement of their quality of life. The term, 'agricultural extension', narrows the focus and defines the area to which the extension process is applied. Without extension, the farmers would lack access to the support and services required to improve their agriculture and other productive activities.

Extension is not concerned directly with generating knowledge. This is done in specialized institutions such as agricultural research centers, agricultural colleges or engineering departments. Researchers and inventors neither have time nor are they equipped for the job of ascertaining from the farmers their field problems and of persuading farmers to adopt scientific method. Similarly, it is not always practical for the farmers to visit the research stations and obtain first-hand information. Thus, there is a need for an agency to interpret the findings of research to the farmers and to carry the problems of the farmers to researchers for solutions. This process is guided and supported by Extension Agents of the extension agency who work at the program and field levels and are in direct contact with farmers and their families. The general objectives of extension may be listed as follows:

1. To assist farmers to discover and analyze their problems and identify the felt needs.
2. To develop leadership among farmers and help them in organizing groups to solve their problems
3. To disseminate research information of economic and practical importance in a way farmers would be able to understand and use
4. To assist farmers in mobilizing and utilizing the resources which they have and which they need from outside
5. To collect and transmit feedback information for solving management problems.

It offers technical advice on agriculture and livestock to farmers, and also may assist in supply of necessary inputs and services to support their agricultural production. Where appropriate, agricultural extension also helps to form local farmer groups and build up farmer leaders for effective implementation of extension programs. Agricultural extension, therefore, provides the indispensable elements that farmers need to improve their agricultural activities.

1.1 Origins of Agricultural Extension

Since the beginning of first human settlement approximately 10,000 years ago, men and women have been growing crops and raising livestock. Throughout this period, farmers have continuously adopted their technology, assessed results and shared their experiences with other members of the community.

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It is not known where or when the first extension activities took place. The earliest known records on information and advice to farmers are those inscribed on clay tablets and hieroglyphs found in ancient Mesopotamia and Egypt dating back to 800 B.C. Disseminating agricultural information in China commenced at around the same time, and the Sung and Yuan Dynasties (960 – 1368 A.C.) were notable in organizing and promoting agricultural research, extension work and the teaching of agriculture and sericulture through their strong local government administration.

Agricultural extension service in the modern form came into existence as a result of the outbreak of Potato Blight in Europe in 1845. In Ireland, its effects were particularly severe because the predominantly peasant population relied on potato as their staple diet, and the ‘potato famine’ persisted until 1851. The British government arranged for ‘practical instructors in husbandry’ who were centrally appointed, deployed and paid, to travel around the affected districts and to advise small farmers, in simple terms, how to improve their cultivation and how to grow alternate root crops.

This scheme attracted the attention of government authorities in Germany, who organized their own system of traveling instructors. By the end of the 19th century, the idea had spread to Denmark, Netherlands, Italy and France.

In the United States, the Hatch Act of 1887 established a system of agricultural experimental stations in conjunction with each State’s land-grant university, and the Smith-Lever Act of 1914 created a system of cooperative extension to be operated by those universities in order to inform people about current developments in agriculture, home economics, and related subjects.

The use of the term ‘extension’ originated in England in 1867 to describe teaching activities that extended beyond their campuses by the Universities of Oxford and Cambridge. Most of these early activities, however, were not related to agriculture. It was not until the beginning of the 20th century, when colleges in the United States started conducting demonstrations at agricultural shows and giving lectures to farmers’ clubs, that the term ‘extension service’ as applied to the type of work that we now recognize by that name.

In Japan, following the Meiji Restoration of 1868, modernizing policies were adopted which led to establishment of two Agricultural Colleges in 1870s. This was soon followed up by commencement of experimental work undertaken at these colleges and government farms, and holding of agricultural fairs and exhibitions where progressive farmers gave talks and held demonstrations. Formation of many agricultural societies since 1881 led to their formalization by legislation in 1899. In 1885, the government also initiated, at national and prefecture levels, a system of appointing experienced farmers as visiting agricultural instructors. Supported by the work at government experimental stations, established from 1893, these farmers formed the basis of agricultural extension work. In 1910, the 1899 law was strengthened to require farmers to belong to a village agricultural society, which was linked to a national network and hierarchy of societies, and compelled farmers to adopt the technical guidance and recommendations of the societies’ extension workers.

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1.2 Modern Agricultural Extension

In the early years of the 20th century, extension services were in their formative stages and functioned on relatively small scale and had limited scope. They were organized predominantly by central or local governments, or by agricultural colleges, usually in close association with experimental stations or by farmers' organizations such as agricultural societies and cooperatives. As the century progressed, the organizations have matured through changes occurring in their parent organizations and increased government funding. The extension objectives have become broader and the workers have become better trained and more professional. In addition, several other organizations such as agriculture related commercial companies (concerned with supply of inputs, plant and machinery etc.), commodity marketing boards (concerned with assuring the supply and quality of specific products), agricultural development projects and a variety of non-governmental organizations (specially religious and charitable) have evolved to support the development process

1.2.2 Extension Systems

A number of systems have been developed and applied throughout the developing world as alternative approaches to organize agricultural extension. The extension models categorized under general clientele and selected clientele approaches are listed below.

a) General Clientele Approach

- i) Ministry-based general extension
- ii) Training and visit extension (T&V)
- iii) Integrated (Project) approach
- iv) University-based extension

b) Selected Clientele Approach

- i) Commodity based extension
- ii) Commercial extension service
- iii) Client-based and client-controlled extension

1.3 The Concept of Extension

1.3.1 Basic Premises

The basic premises on which the concept of extension is based may be listed as follows.

- a) People have unlimited potential for personal growth and development.
- b) The development may take place at any stage of their lives if they are provided with adequate and appropriate learning opportunities.

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- c) Adults are not interested in learning only for the sake of learning. They are motivated when new learning provides opportunity for application, for increased productivity and improved standard of living.
- d) Such learning is a continuous need of rural population and should be provided on a continuing basis, because the problems as well as the technologies of production are continuously changing.
- e) Given the required knowledge and skills, people are capable of making optimal choices for their individual and social benefits.

1.3.2 Definitions of Extension

Extension has been organized in different ways to encompass a wide range of communication and learning activities organized for rural people. These include activities such as home economics, family health and nutrition, population education and community development which are not directly related to agriculture or livestock production. This has made the term 'extension' open to a wide variety of interpretations and there is no single definition that is universally accepted or which is applicable to all situations. In reality, it is organized in different ways to accomplish a variety of objectives.

The term extension may be examined by looking at a number of statements that have been written about it.

- The central task of extension is to help rural families help themselves by applying science, whether physical or social, to the daily routines of farming, home-making and family and community living. Brunner and Hsin Pao Yang (1949)
- Agricultural Extension has been described as a system of out-of-school education for rural people. Saville (1965)
- The task of extension personnel is bringing scientific knowledge to farm families in the farms and homes. The object of the task is to improve the efficiency of agriculture. Bradfield (1966)
- Extension is a service or system which assists farm people, through educational procedures, in improving farming methods and techniques, increasing production efficiency and income, bettering their levels of living and lifting the social and educational standards of rural life. Maunder (1973)
- Extension involves the conscious use of communication of information to help people form sound opinions and make good decisions. van den Ban (1974)
- Agricultural extension: Assistance to farmers to help them identify and analyze their production problems and become aware of the opportunities for employment. Adams (1982)
- Extension is a professional communication intervention deployed by an institution to induce change in voluntary behaviors with a presumed public or collective utility. Roling (1988)
- Extension (is) the organized exchange of information and purposive transfer of skills. Nagal (1997)
- The essence of agricultural extension is to facilitate interplay and nurture synergies within a total information system involving agricultural research,

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agricultural education and a vast complex of information providing businesses. Neuchatel Group (1999)

- Extension (is) a series of embedded communicative interventions that are meant, among others, to develop and/or induce innovations which supposedly help to resolve (usually multi-actor) problematic situations. Leeuwis and van den Ban (2004)

The above statements illustrate the range of interpretations that can be found about extension. There has been a change of emphasis in various aspects of extension, such as greater interest in human factor and concern with the rural community and even the region as a whole. They do, however, share a number of common points. They all stress that extension is a process which occurs over a period of time, and not a single, one-time activity. They also underline extension as an educational process which works with rural people, supports them and prepare them to confront their problems more successfully.

1.4 Principles of Extension

Principles are generalized guidelines which form the basis for decision and action in a consistent way. The basic principles of extension which have been observed and found to hold under varying conditions and circumstances are presented below.

a) Principle of cultural difference

Culture simply means social heritage. There is a cultural difference between the Extension Agents and the farmers. Differences may exist between groups of farmers as well. These arise from differences in their habits, customs, values, attitudes and way of life. Extension work, to be successful, must be carried out in harmony with the cultural pattern of the people.

b) Grass roots principle

Extension programs should start with local groups, local situations and local problems. It should fit to the local conditions and the change should start from the existing situation.

c) Principle of indigenous knowledge

People everywhere have indigenous knowledge systems, which they have inherited over generations and developed through years of work experience as well, to solve problem in their own specific way. The indigenous knowledge systems encompass all aspects of life and people consider it essential for their survival.

Instead of ignoring the indigenous knowledge systems as outdated, the Extension Agent should try to understand them and their ramifications in the life of the people, before proceeding to recommend something new to them.

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d) Principle of interests and needs

People's interests and people's needs are the starting points of extension work. To identify the real needs and interests of the people are challenging tasks. The Extension Agents should not pass on their own needs and interests as those of the people. Extension work shall be successful only when it is based on the interests and needs of the people as they see them.

e) Principle of learning and doing

Learning remains far from perfect unless people get involved in actually doing the work. Learning by doing is most effective in changing people's behavior. This develops confidence as it involves maximum number of sensory organs. People should learn what to do, why to do, how to do and with what results.

f) Principle of participation

Most people in the village community should willingly cooperate and participate in identifying the problems, planning of projects for solving the problems and implementing the projects in getting the desired results. It has been the experience in many countries that people become dynamic if they take decisions concerning their own affairs, exercise responsibility for, and are helped to carry out projects in their own areas.

Participation of the people is of fundamental importance for the success of an extension program. People must share in developing and implementing the program and feel that it is their own program.

g) Family principle

Family is the primary unit of the society. The target for extension work should, therefore, be the family. That is, developing the family as a whole, economically and socially. Not only the farmers, the farm women and farm youth are also to be involved in extension programs.

h) Principle of leadership

Identifying different types of leaders and working through them is essential in extension. Local leaders are the custodians of local thought and action. Their involvement and legitimization are essential for the success of a program.

Leadership traits are to be developed in the people so that they of their own shall seek change from less desirable to more desirable situation. The leaders may be trained and developed to act as carriers of change in the villages.

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i) Principle of adaptability

Extension work and extension teaching methods must be flexible and adopted to suit the local conditions. This is necessary because the people, their situation, their resources and constraints vary from place to place and time to time.

j) Principle of satisfaction

The end product of extension work should produce satisfying results for the people. Satisfying results reinforce learning and motivate people to seek further improvement.

k) Principle of evaluation

There should be a system built-in to the extension program to find out, on continuous basis, the extent to which the results obtained are in agreement with the objectives fixed earlier. Evaluation should indicate the gaps and steps to be taken for further improvement.

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CHAPTER 2 EXTENSION COMMUNICATION PROCESS

Rural extension is the process whereby knowledge generated by researchers is communicated in a variety of ways to the farm family. It is not enough for an Extension Agent to have technical knowledge; he must also know how to communicate this knowledge and how to use it for the benefit of the farm family.

2.1 Communication

2.1.1 Definitions of Communication

Leagans (1961) defined communication as the process by which two or more people exchange ideas, facts, feelings or impressions in a way that each gains a common understanding of the meaning, intent and use of messages. It was defined by van den Ban & Hawkins (1988) as the process of sending and receiving messages through channels which establishes common meaning between the source and receiver. Griffin (2003) encompasses different aspects of the term to define communication as management of messages with the objective of creating meaning. If communication is considered purposeful, that is to persuade, inform and entertain, then it is intentional, and the objectives are achieved only through interaction with a person or persons. In brief, communication is a conscious attempt to share information, ideas, attitudes and the like with others.

2.1.2 Functions of Communication

Communication has four basic functions, namely, information, command, influence and integrative, which are described briefly as follows.

a) Information function

The basic requirement for adopting and adjusting oneself to the environment is information. There must be some information about what is going on in the environment which concerns the people. Exchange of information underlies all communication functions directly or indirectly.

b) Command or instructive function

Those who are hierarchically superior, in the family, society or organization, often initiate communication either for the purpose of informing their subordinates or for the purpose of telling them, what to do, how to do, when to do, etc. The command or instructive functions of communication are more observable in formal organizations than in informal organizations.

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c) Influence or persuasive function

It is sometimes considered that the sole purpose of communication is to influence people. Persuasive function of communication, that is, to induce people is extremely important for extension in changing the behavior in the desired direction.

d) Integrative Function

This helps to maintain individual, societal or organizational stability and identity by integration at the interpersonal or organizational level.

2.2 Models of Communication

A number of models have been developed since the time of Aristotle who proposed communication to consist of three ingredients; a speaker – the person who speaks, a speech – the speech that the individual produces and an audience – the person/persons who listens. Over the years, other components such as transmitter, receiver, channel, encoder, decoder, response and effects, sometimes used to describe the same component, were added to elaborate the steps in the communication process.

Roger and Shoemaker (1971) proposed communication process in terms of SMCRE model, the components of which are Source, Message, Channel, Receiver and Effects. A source sends a message via certain channels to the receiving individual which causes some effects, i.e., changing the existing behavior pattern of the receiver.

2.2.1 Extension Communication System

Communication, in extension, may be thought of as two-way stimulus-response situation in which the necessary stimulus is provided by the communicator (the Extension Agent) in the form of a message, which provides certain response on the audience (the farmers). A diagrammatic representation of the extension communication system based on the model developed by Leagus (1963) is presented in Fig. 2.1

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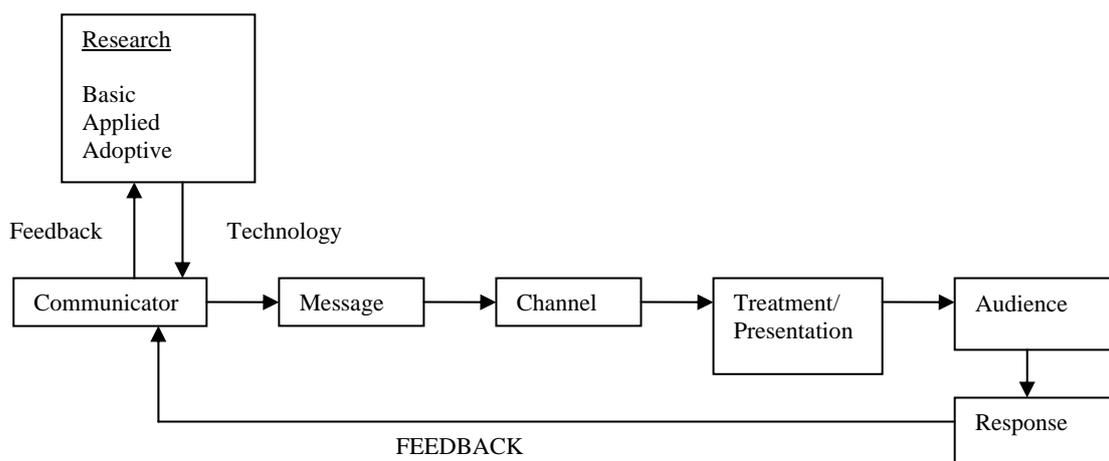


Fig. 2.1 Extension Communication System

2.3 Elements of Extension Communication System

2.3.1 Research and Technology

Research is considered to be the more formal, systematic and intensive process of carrying on a scientific method of analysis. It is an activity directed toward discovery and the development of an organized body of knowledge. Research is generally classified as basic, applied and adaptive. The connectivity of these three types of research is illustrated in the following example.

Table 2.1 Connectivity of Types of Research

Basic or fundamental research	Applied or practical research	Adaptive or on-farm research
Discovery of dwarfing gene in rice	Development of dwarf high yielding varieties of rice	Find out location specific dwarf high yielding rice varieties.

Technology is the application knowledge for practical purposes. Generally, technology is used to improve the human condition, the natural environment, or to carry out other socio-economic activities. Agricultural technology is a complex blend of materials, processes and knowledge. Agricultural technology may be classified into three categories.

- a) Material technology where knowledge is embodied into a technological product such as tools, equipments, agrochemicals, medicines, etc.
- b) Knowledge-based technology, such as the technical knowledge, management skills and other processes that farmers and rural people need for better production in their enterprises.

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- c) Traditional technology which is essentially experience based and situation based and is made up of farm operations which have evolved over generations.

Technology may be a fully or partially science based system. Most often it is upgraded traditional technology with research contribution built to the existing system. Thus when we talk about recommended modern agricultural technology, we often refer to traditional technology with several scientific components which are systematically evolved and validated.

2.3.2 Communicator

In the context of agriculture and rural development, Extension Agent is the communicator who starts the communication process. The abilities an individual should possess or the competencies needed by the Extension Agent, according to Dubey and De (1990), are given below.

- a) Technical competency: Refers to the ability to acquire, understand and apply technical information needed by the target audience. It includes his ability to correctly handle relevant technical materials and equipments.
- b) Economic competency: Relates to the ability to understand the market forces and, advice and guide the client system towards maximization of benefits. It includes his ability organize economic activity with the client system such as formation of beneficiaries committee, cooperative society, arrange bank credit, etc.
- c) Scientific competency: Relates to the ability to understand the cause and effect relationships and a logical approach towards problem solving.
- d) Occupational competency: Relates to the willingness and skill to perform the range of physical tasks involved in the execution of a specific activity. It includes his ability to conduct trials and demonstrations in the client's own situation and interpret the results to them.
- e) Communication competency: Relates to the ability to select process and communicate appropriate messages to the audience in a way they can understand and motivate them to change their behavior in the desired direction. It includes his ability to use appropriate extension method and media, treatment and presentation and evaluation.
- f) Social competency: Relates to the ability to understand the social system of the target audience and be sociable with them. It includes his ability to initiate and sustain group activity for achieving the desired goals.

Knowledge generates through research and as such the Research Institutes, Agricultural Universities and other Research projects are the originators or

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sources of extension message. The Extension Agent obtains the required information from the research and carries it to the audience, the farmers. He is the communicator, the carrier of information. They also carry back the reactions of the farmers, their problems, etc., as feedback information to research, for finding solutions for them.

The credibility of the communicator and the organization the individual represents are important for effective communication. Credibility means trustworthiness and competence. Before the audience accepts any message, it will judge whether the communicator and the organization the individual represents can be relied upon and is competent enough to give the information.

The characteristics possessed by a good communicator are:

knowledgeable of:

- i) the objectives – have them specifically defined,
- ii) the audience – their needs, interests, abilities, predispositions,
- iii) the message – its contents, validity, usefulness, importance,
- iv) channels – that will reach the audience;

interested in:

- i) the audience and its welfare
- ii) the message and how it can help people
- iii) the results of communication and its evaluation;
- iv) the communication process,
- v) the communication channels – their proper use and limitations;

prepared to

- i) make plan for communication – a teaching plan,
- ii) acquire communication materials and equipment,
- iii) make plan for evaluation of results,

skilled in

- i) selecting message
- ii) treating message
- iii) expressing messages - verbal and written
- iv) selection and use of channels,
- v) understanding the audience,
- vi) collecting evidence of results.

On the other hand, poor communicators:

- i) fail to have ideas to present that are really useful to the audience,
- ii) fail to give the complete story and show its relationship to peoples problems,
- iii) fail to appreciate that time and energy are needed to absorb the materials presented,
- iv) feel that they are clearly understood,

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- v) fail to adjust to ‘closed’ minds,
- vi) talk when others are not listening,
- vii) get too far ahead of audience understanding,
- viii) fail to recognize others view pint,
- ix) fail to appreciate that communication is a two-way process,
- x) let their own biases over-influence the presentation,
- xi) fail to see that everyone understands questions brought up for discussion,
- xii) fail to create a permissive atmosphere, and
- xiii) disregard the values, customs, prejudices, and habits of the people.

To be a good communicator, the thumb rule is *go to the people and listen to them.*

2.3.3 Message

Research in agriculture carried out at the relevant research institutions originate or source the knowledge-based technology which constitutes the content or subject matter of the message. Information given in the message is usually specific to a particular audience and it may only be a ‘noise’ to another audience.

To motivate people to produce the desirable changes in their behavior, the message should be relevant, interesting, clear, credible, timely, applicable and beneficial. A good message should be;

- i) in line with the objectives to be achieved,
- ii) clear – understandable by the audience,
- iii) in line with the mental, social, economic, and physical capabilities of the audience,
- iv) significant – economically socially or aesthetically to the needs, interests and values of the audience,
- v) specific – no irrelevant material,
- vi) simply stated – covering few pertinent points at a time,
- vii) accurate – scientifically sound, factual and current,
- viii) timely – especially when seasonal factors are important and issues are current,
- ix) appropriate to the channels selected,
- x) appealing and attractive to the audience – having utility and immediate application,
- xi) applicable – can apply recommendation to one’s own particular situation,
- xii) manageable – can be handled by the communicator within limits of time and resources.

2.3.4 Channel

Channel or method of communication constitutes the medium through which information flows from a sender to one or more receivers. Face-to face word-of mouth is the simplest and yet one of the most widely used and effective means of

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communication, particularly in the developing countries. As society change from traditional to modern, the emphasis shifts from oral to media systems of communication. The channels of communication may be classified into a number of ways according to different criteria as follows.

Table 2.2 Classification of Channels by Criteria

Criteria	Type	Examples
By nature of form	Spoken	Farm visits, farmers call, meetings, radio, etc.
	Written	Personal letter, farm publication, newspapers
	Audio-visual	TV, video, cinema, etc.
By nature of personnel	Personal localite	Local leaders, innovators and adopters, etc.
	Personal cosmopolite	Extension Agents, change agents of various organizations from outside the social system
	Impersonal cosmopolite	Mass media from outside the social system
By nature of contact	Individual	Farm & home visits, farmers call, personal letter, etc
	Group	Group meetings, small group training, field days, study tour, Farmer's Field Schools, etc.
	Mass	Mass meetings, campaigns, exhibitions, etc

Many obstructions can enter the channels. These are often referred to as 'noise' and prevent the message from being heard by or carried over clearly to the audience. 'Noise' emerges from a wide range of sources and causes. Some of these are listed below.

- a) Failure of a channel to reach the intended audience. All people cannot attend meetings, all people may not have radio or TV, or may not be tuned in if they had, or some people cannot and others may not read the written materials,
- b) Failure on the part of the communicator to handle channels skillfully. In a meeting, those who cannot hear and see what is being said and shown do not receive the message.
- c) Failure to select the channels appropriate to the objectives of a communicator. If the objective is to teach a certain skill, method demonstration, TV or video will be appropriate, rather than radio or newspaper.
- d) Failure to use channels in accordance with the abilities of the audience. Written materials cannot serve as useful channels of communication for an illiterate group of persons.
- e) Failure to avoid physical distraction. Loud noise near a place of meeting or load shedding at the time of projecting visuals may cause distraction to the audience.

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2.3.5 Treatment and Presentation

Treatment is the way a message is processed so that the information gets across to the audience. The purpose of treatment is to make the message clear, understandable and realistic to the audience. Presentation means how the message is communicated or placed before the audience. Some useful hints in treatment and presentation of the message are given below.

- a) Treatment and presentation of the message shall depend to a great extent on the choice of the channels and the nature of audience.
- b) Treatment and presentation of the message cannot be 'tailor made' for each communication function or reduced to a formula or recipe.
- c) Treatment and communication are creative tasks that require original thinking, deep insight into the principles of human behavior and skills in using refined techniques of communications.

Some aspects that would be useful in the treatment and presentation of the message are listed below.

- a) Treatment:
 - i) repetition or frequency of mention of ideas and concepts,
 - ii) contrast of ideas,
 - iii) chronological, logical or psychological ordering of presentation material
 - iv) presenting one side or both sides of an issue,
 - v) emotional or logical appeal,
 - vi) starting with strong argument compared to saving them for the end of the presentation,
 - vii) proceeding from general to specific or vice-versa, and
 - viii) drawing conclusions explicitly compared to leaving conclusions implicit for the audience to draw.
- b) Presentation:
 - i) limit the scope of presentation to a few basic ideas and to the time available – too many ideas at one time may be confusing.
 - ii) be yourself – you cannot be someone else, strive to be clear, not clever,
 - iii) know the facts – fuzziness means death of a message,
 - iv) do not read the message – people have more respect for a communicator who talks to the audience,
 - v) know the audience – each audience has its own personality, be responsive to it,
 - vi) avoid showing superiority – do not talk or act down to people or audience, or underestimate their intelligence,

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- vii) decide on the dramatic effect desired – effective presentation requires sincerity, smoothness, enthusiasm, warmth, flexibility and appropriateness of voice, gestures, movements and tempo,
- viii) use a combination of communication methods or techniques to keep audience interest,
- ix) use alternative communicators when appropriate, as in group discussion, panels, interviews, etc.,
- x) quit on time – communicators who stop when they have finished are rewarded by audience goodwill.

2.3.6 Audience

An audience or receiver of message is the target of communication function and may consist of a single person or a number of people comprising of men, women and youth. Communication, to be successful, must be target oriented. The communicator must know the target, their needs, interests, resources, facilities, constraints as well as their number and locations.

Audience segmentation is a communication strategy that consists of identifying certain sub-audiences within a total audience, and then conveying a special message to each of these sub-audiences. An audience may be formed according to tenancy groups such as land owner farmers, share cropper farmers, livestock farmers (dairy, poultry or ruminants), home makers, etc or they may be categorized according to farm size (large, medium, small or marginal) etc. This approach breaks down a heterogeneous audience into a series of relatively more homogenous sub-audiences in which different communication channels or messages are used with each sub-audience.

In addition to knowing the identity of an audience and some general characteristics, there are other somewhat more specific aspects that help to clarify the exact nature of an audience and how to reach it. Some of these aspects are listed below.

- a) Established communication channels in the social organization,
- b) The system of values held by the audience – what they think is important,
- c) Forces influencing group conformity – customs, traditions, etc.,
- d) Individual personality factors – proneness to change, etc.,
- e) Native and acquired abilities,
- f) Educational, economic and social levels,
- g) Pressure of occupational responsibility – how busy or concerned they are,
- h) Peoples needs as they see them, and as a professional communicator see them,
- i) Why the audience is in need of changed ways of thinking, feeling and doing,
- j) How the audience views the situation.

It may be noted that the audience is not a passive recipient of message. The individuals are rather selective in receiving, processing and interpreting messages.

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2.3.7 Audience Response

Response of the audience is the ultimate objective of any communication function. Response to messages received may be in the form of some kind of action, either mental or physical. However, until the desired action results, extension communication does not achieve its' most essential objective.

The possible kinds of response to messages received are numerous. The following gives an idea of the possible variety in responses that may result when a useful message is received by a typical rural audience.

- a) Understanding verses knowledge: people usually do not act on facts alone. To act one has to gain understanding of the facts. Understanding is attained when one is able to attach meaning to facts, see the relationship of facts to each other and to the problem. Communication must promote understanding.
- b) Acceptance versus rejection: audience response may go either way. Communication must lead to understanding and acceptance of the message.
- c) Remembering verses forgetting: when opportunity of action is not immediately available or action is delayed, the message may be forgotten. Transmitting the message to right people at right time is often a crucial factor in successful communication.
- d) Mental verses physical action: changes in the minds of people must always be followed by physical action. People should not only understand and accept the message but shall act on it.
- e) Right verses wrong: the goal of communication is to promote desirable action by the audience as specified in the objective. If the response of the audience is in line with the objective, it is assumed to be 'right' action.

2.3.8 Feedback

Extension communication is never complete without adequate and correct feedback information. Feedback means carrying some significant responses of the audience back to the communicator. Communication work is not an end in itself. The Extension Agent should know what has happened after the message has reached them. Some of the characteristics of feedback are,

- a) it is source oriented,
- c) it varies in different communication situations.
- d) it affects the source or communicator,
- e) it exerts control over future messages,
- f) it affects communication fidelity, (fidelity is described as the degree of desirable changes in receivers behavior as a result of communication)
- g) it maintains the stability and equilibrium of a communication system

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Feedback should be a continuous process as the audience and communicators are neither always the same persons, nor are they interacting in the same situation. Feedback information provides the communicator an opportunity to take corrective steps in communication work, helps in follow-up activities, and acts as a pathfinder for need-based research.

The Extension Agent shall take steps to analyze the response of the audience which may be positive, negative or no response. If there has been no response or negative response to a message, the Extension Agent shall find out reasons for the same. If the problem pertains to research, it should be referred as feedback information to research for finding out solutions.

If the problem does not relate to research, the Extension Agent shall find out whether the message has been relevant to the audience, or whether the channel, treatment, audio-visual aids have been appropriately used. If not, corrective action should be taken without any loss of time. For a season-bound program, if nothing can be done in that particular season, the Extension Agent shall take the appropriate steps next season, so that the mistakes are not repeated.

If there has been a favorable response to the message by the audience, the Extension Agent shall find out what next is to be done to reinforce the learning already made by the farmers.

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CHAPTER 3 EXTENSION METHODS

The channel or method of communication is called extension teaching method. The choice of the method generally depends on the number and location of the target audience and the time available for communication. They are categorized as individual method, group method and mass method. Each of the method has both advantages and limitations. The Extension Agent has to choose a particular method or combination of methods according to the needs of the situation.

3.1 Individual Method

In this method, the Extension Agent communicates with the people individually, maintaining separate identity for each person. This method is adopted when the number of people to be contacted are few, are conveniently located close to the Extension Agent and sufficient time is available for communication.

a) Advantages:

- i) Helps the Extension Agent in building rapport.
- ii) Facilitates gaining first hand knowledge of farm and home.
- iii) Helps in selecting demonstrators and local leaders.
- iv) Helps in changing attitude of people.
- v) Helps in teaching complex practices.
- vi) Facilitates transfer of technology.
- vii) Enhances effectiveness of mass and group methods.
- viii) Facilitates getting feedback information.

b) Limitations:

- i) Time consuming and relatively expensive.
- ii) Has low coverage of audience.
- iii) Extension Agent may develop favoritism or bias towards some persons.

3.2 Group Method

A group may be defined as an aggregate of small number of people in reciprocal communication and interaction around some common interest. In this method, the Extension Agent communicates with the people in groups and not as individual persons. The method is used when it is necessary to communicate with a number of people simultaneously, who are located not too far off from the communicator and time available for communication is reasonably adequate. Group participation and the formation of group opinions are two crucial factors for success of this method.

In a group situation there may be may sometimes involve more than one communicator such as the Extension Agent and Subject Matter Specialists. The size of a small group may vary from 10 – 20, a medium group from 20 – 40, and a large group over 40 persons.

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a) Advantages

- i) Enables Extension Agent to have face-to-face contact with a number of people at a time.
- ii) Enables the Extension Agent to reach a select part of the target group.
- iii) Facilitates sharing of knowledge and experience and thereby strengthen learning of the group members.
- iv) Reach fewer people, but offer more opportunities for interaction and feedback.
- v) Satisfies the basic urge of people for social contacts,
- vi) Motivate people to accept change due to group influence.
- vii) More effective than mass method in stimulating action.
- viii) Less expensive than individual method owing to wider coverage.

b) Limitations

- i) Wide diversity in the interest of group members may create a difficult learning situation.
- ii) Holding the meeting may be regarded as an objective itself.
- iii) Vested interests, power groups and village factions may hinder free interaction and decision making by group members.

3.3 Mass Method

In this method, the Extension Agent communicates with a vast and heterogeneous mass of people, without taking into consideration their individual and group identity.

The method is used when a large and widely dispersed audience is to be communicated within a short time. There may be a few communicators and Subject Matter Specialists involved. The size of the audience may vary depending on the technique used.

a) Advantages

- i) Suitable for creating general awareness amongst people.
- ii) Helps in transferring knowledge and, forming and changing opinions.
- iii) Large number of people may be communicated within a short time.
- iv) Facilitates quick communication in times of emergency.
- v) Reinforces previous learning.
- vi) Cost effective due to large coverage.

b) Limitations

- i) Less intensive method.
- ii) Little scope for personal contact with the audience.
- iii) Little opportunity for interaction with and amongst the audience.
- iv) Generalized recommendations hinder their application by individuals.
- v) Little control over the responses of audience.
- vi) Difficulty in getting feedback information and evaluation of results.

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3.4 Classification of Communication Methods

The communication methods adopted in extension may be further classified into techniques as follows.

Table 3.1 Classification of Extension Methods

Individual methods	Group methods	Mass methods
1. Farm and home visits 2. Farmers call or office call 3. Personal letter/telephone call 4. Adoptive or mini-kit trial 5. Farm clinic	1. Result demonstration 2. Method demonstration 3. Group meeting 4. Small group meeting 5. Field day or farmers day 6. Study tour 7. Farmers Field School	1. Broadcast media Radio, TV 2. Print media Leaflet, folder, bulletin, newsletter, magazine 3. Projected media Film, video 4. Others Exhibition, campaign, mass meeting, Agricultural festival

Communication methods have also been classified as interpersonal communication and mass media communication.

3.5 Techniques of Individual Method

- a) Farm and Home Visit (Refer sheet AE-01-01)
- b) Office Call or Farmers Call (Refer sheet AE-01-02)
- c) Adaptive Mini-kit Trial (Refer sheet AE-01-03)
- d) Farm Clinic

Farm clinic is a facility developed and extended to the farmers for diagnosis and treatment of farm problems and to provide some specialist advice to individual farmers. The extension agency may set up farm clinics in the village and/or in the organizations head-office and sub-centers in collaboration of with the Extension Agents. Here, farmers get the opportunity to meet with the relevant Subject Matter Officer to obtain solutions for their problems directly. This may be coupled with field visits, on-the-spot examination and diagnosis with guidance or follow up. This method is suitable for treatment and prevention of health problems relating to crops and livestock.

3.6 Techniques of Group Method

- a) Result Demonstration (Refer sheet AE-02-01)
- b) Method Demonstration (Refer sheet AE-02-02)
- c) Group Meeting (Refer sheet AE-02-03)

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- d) Small Group Meeting (Refer AE-02-04)
- e) Field Day or Farmers Day (Refer AE-02-05)
- f) Farmers Field School (Refer AE-02-06)

In a radical departure from the earlier agricultural extension programs, a group based learning process is adopted in the Farmers Field School (FFS) approach. In the FFS, farmers carried out experimental learning activities that helped to understand the ecology of their crop fields. Knowledge gained through these activities enabled farmers to make their own locally-specific decisions rather than adopt generalized recommendations that had been formulated from outside the community. For a detailed description of the FFSs please refer Section 10.4 of Chapter 10.

3.7 Techniques of Mass Method

Techniques of mass method of communication are generally beyond the purview of the Extension Agent operating at field level. No attempt has therefore been made in this manual to present the techniques in detail. However, two of the techniques are explained briefly to highlight their relevance in agricultural extension.

3.7.1 Farm Publication

Farm publication is a class of publications prepared by the extension agency in printed form, containing information relating to the improvement of farm and home. Farm publications can be of various types and they may be used singly or in combination with other extension methods.

- a) Leaflet: usually a single printed sheet of paper of small size, containing preliminary information relating to a topic.
- b) Folder: a single sheet of printed sheet of paper of big size, that is folded once or few times, giving essential information relating to a particular topic.
- c) Bulletin: a printed, bound booklet with a number of pages, containing comprehensive information about a topic.
- d) Newsletter: a miniature newspaper printed in good quality paper, containing information relating to the activities and achievements of the organization. It has a fixed periodicity of publication.
- e) Journal, Magazine: periodicals containing information related to various topics of interest not only for the farmers but also for the extension agents.

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Farm publications are extremely useful to the literate farmers. Even illiterate farmers can make use of them with the help of literate members of their family. They may be used in most of the individual, group and mass methods.

3.7.2 Exhibition

An exhibition is a systematic display of models, specimens, charts, photographs, pictures, posters, information, etc., in a sequence around a theme to create awareness and interest in the community. They are held at many different levels, ranging from village to international.

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Manual of Agricultural Extension: Agricultural Support Assist Project

AE-01	Individual Methods
AE-01-01	Farm and home visits
Description	It is a direct, face-to-face contact by the extension agent with a farmer or homemaker at their farm or home for extension work. The extension agent communicates with the people individually maintaining a separate identity of each person
Objectives	<ul style="list-style-type: none"> • To get acquainted with and gain confidence of farmers and homemakers. • To obtain and/or give firsthand information on matters relating to farm and home. • To advice and assist in solving specific problems, and teach skills. • To sustain interest.
Situation	<ul style="list-style-type: none"> • People to be contacted are few in number. • Farmers are conveniently located close to the extension agent • Sufficient time is available for communication
Procedure	<p><i>Planning for preparation</i></p> <ul style="list-style-type: none"> • Decide on the audience and the objectives – whom to meet and what for? • Get adequate information about the topic. • Collect relevant publications and materials to be handed over. • Make a schedule of visits to save time and money. • If possible, send advance information. <p><i>Implementation</i></p> <ul style="list-style-type: none"> • Visit on the scheduled date or according to convenience of the farmer and when the person is likely to listen. • Create interest of the farmer and allow the individual to talk first. • Present the message or points of view and explain up to the satisfaction of the farmer. • Answer to questions raised and clarify doubts. Hand over publications, if any. • Try to get some assurance for action. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Keep appropriate record of visit • Send committed information or material • Make subsequent visits as and when necessary
Advantages	<ul style="list-style-type: none"> • Helps to build a rapport with farmers • Helps to identify local leadership. • Helps to change attitude of people. • Helps in teaching complex practices • Enhances effectiveness of group and mass media methods. • Facilitates getting feedback information.
Limitations	<ul style="list-style-type: none"> • Only a limited number of contacts may be made. • Time consuming and relatively expensive. • Favoritism may develop towards some farmers.

Tips

Avoid concentrating your attention on a few big and progressive farmers thereby creating a prejudice towards the larger number of small and marginal farmers, landless labor and backward people.

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AE-01	Individual Methods
AE-01-02	Office Call
Description	The farmers call is a call made by a farmer or homemaker at the working place (office) of the extension agent for obtaining information and assistance.
Objectives	<ul style="list-style-type: none"> • To provide advice and information urgently required by the farmers in solving specific field problems faced by them. • To get specimens for examination and proper identification of the problem. • To ensure timely supply of inputs and other services if such services are sourced through the extension office.
Situation	<ul style="list-style-type: none"> • Farm is difficult to reach due to poor road access or it is located far away from the extension office. • When urgent attention and solution is required for farm problems such as outbreak of a new pest or disease
Procedure	<p><i>Planning for preparation</i></p> <ul style="list-style-type: none"> • Place the extension office in a convenient location • Keep the office neat, orderly and attractive. • Maintain an up-to-date bulletin board displaying current leaflets, photographs, charts, etc, as well as posters relating to important information and current extension activities and events in the area. • Be available in office on fixed days and hours each week, which have been communicated to the farmers in advance. <p><i>Implementation</i></p> <ul style="list-style-type: none"> • Make a special effort to put the visitor at ease, especially if he appears to be shy in the unfamiliar environment. • Allow the visitor to talk and make the point. It may be necessary to ask the questions in order to determine the visitor's concerns and problems. • Discuss the problems and issues and suggest solution • Let the visitor leave the office satisfied. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Keep appropriate record of the call • If necessary, refer the problem to subject matter specialist for appropriate advice and/or solution • Supply further information and material if such commitment has been made
Advantages	<ul style="list-style-type: none"> • Builds up farmer's confidence in extension agent. • Helps to build up a good rapport with the farmer. • Helps to change attitude of the people. •
Limitations	<ul style="list-style-type: none"> • The extension agent may find it difficult to understand the field problem through farmer's verbal description. • It is not possible for the extension agent to be available in office all the time.

Tips

Make yourself contactable by keeping communication open on mobile phone

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Manual of Agricultural Extension: Agricultural Support Assist Project

AE-01	Individual Methods
AE-01-03	Adaptive or Mini-kit Trial
Description	Adaptive or mini-kit trial is a method of determining the suitability or otherwise of a new practice in farmers situation.
Objectives	<ul style="list-style-type: none"> • To test a new and promising practice (including new crop and crop varieties) under the existing resources, constraints and abilities. • To compare and find out the benefits of the new practice compared to the existing practice.
Situation	<ul style="list-style-type: none"> • When farmers choice and farmers opinion about the new practice are most important. • As an initial step in spreading out the message of new or improved practice after it has been successfully tried out at the demonstration farm.
Procedure	<p><i>Planning for preparation</i></p> <ul style="list-style-type: none"> • Select new and promising practices suitable for the area in consultation with the subject matter specialist and the researcher if necessary. • Select a small number of innovating farmers for conducting the trial. • Prepare appropriate formats to maintain the record of operations for farmers. <p><i>Implementation</i></p> <ul style="list-style-type: none"> • Explain the objectives to the farmers. Make it clear that it is a simple trail in a small portion of the plot and does not involve great risks. • Supply all critical inputs in time and supervise all important steps personally. • Assist the farmer to maintain accurate records. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Study the farmer's reaction to results of the trial. • Discuss the results with subject matter specialist and farmers, and researchers if required, to explore the suitability or not suitability of the practice for the area. • If required, the trial may be repeated for one or two seasons more. • On the basis of the results, make the decision by consensus to recommend or not to recommend the practice for general adoption.
Advantages	<ul style="list-style-type: none"> • It helps to build up confidence of the extension agents, researchers and farmers working in cooperation through direct participation. • It helps to prevent making incorrect recommendations based on insufficient or faulty data or hasty decisions.
Limitations	<ul style="list-style-type: none"> • Since their locations usually are scattered, the trials may suffer from inadequacies in supervision by the extension agent • The method to be successful, the objectives should be clearly defined and the practices tried out and the farmers should be carefully selected.

Tips

New or improved practices that have been successfully developed and demonstrated at the Research and Demonstration Farms, proposed under ASAP, could be combined with the mini-kit method. In the first instance, the key farmers may be provided with the mini-kits to assist in trying out the practice and its suitability in their fields for wider adoption in the area.

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AE-02	Group Methods
AE-02-01	Result Demonstration
Description	Result demonstration is a method of motivating people for adoption of a new practice by showing its distinct superior results.
Objectives	<ul style="list-style-type: none"> • To show the advantages and applicability of a newly recommended practice in farmer's own situation. • To motivate groups of people in the community to adopt a new practice by showing its results. • To develop innovative leadership
Situation	<ul style="list-style-type: none"> • When it is necessary to communicate with a group of people, rather than individuals, to show the benefits of a new innovation. • When the probable results of the demonstration trial is known beforehand through research findings, experience in its application in other areas and its potential adaptability to the conditions prevailing in the local area.
Procedure	<p><i>Planning and preparation</i></p> <ul style="list-style-type: none"> • Analyze farmer's situations and select relevant beneficial practices, in consultation with subject matter specialists and researchers. • Select few responsible, innovative and cooperating farmers who possess adequate resources and facilities, and having acceptance in the local community, with consensus of the farmer leaders, for conducting the demonstration. This, however, does not imply that big farmers are to be selected. • Select representative locations for conducting the demonstrations where it will be easily visible to a large number of people in the community. • Develop a complete plan of work clearly identifying each individual step and who has the responsibility each task, along with a time schedule. • Discuss with the selected farmer and work with him to make sure that he understands the purpose of the demonstration and how it will be implemented. • Organize materials and equipment required for conducting the demonstration. • Give adequate publicity about the demonstration highlighting the date and time as well as the topic and its relevance. For example, by means of displaying a colorful signboard, for each demonstration plot, put up in prominent and visible places. <p><i>Implementation</i></p> <ul style="list-style-type: none"> • Put up suitable signboard for each demonstration site • Start the demonstration on the scheduled date and time in the presence of those who will be present. • Welcome the attending farmers and explain the objectives of the demonstration. • Ensure that all critical operations are done in time and try to supervise them personally. • Motivate as many farmers as possible to be present at the time of final assessment of the results. • Make frequent visits to monitor the demonstration plots closely during their entire trial period and make sure that they are progressing well. • Take photographs for record and help the demonstrating farmers to maintain records • Arrange method demonstrations where a new skill is involved. • Conduct field days and farmers days around successful demonstrations. • Encourage the demonstrating farmers to explain the procedures and experiences to visiting farmers as much as possible. • Analyze and interpret the results and compare them with those under the

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	<p>existing farming practice.</p> <ul style="list-style-type: none"> • Motivate the farmers to accept the new practices by emphasizing its applicability under the farmers own situation and the financial benefits that could be realized. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Use the results of the demonstration in future extension work and also release on to mass media for further dissemination. • Prepare extension material, particularly visual aids such as photographs, charts, videos, etc, on the demonstrations for future use in extension programs. • Engage the demonstration farmers in farmers meetings and training programs.
Advantages	<ul style="list-style-type: none"> • It helps to produce positive results for extension worker by creating confidence in their judgment and ability. • It helps to open way for further interaction with the farmers. • Hands-on participation in the trial will train and encourage the farmers to act in a more systematic and scientific manner.
Limitations	<ul style="list-style-type: none"> • Unsuccessful demonstrations may cause some setback to extension work. • It can be costly in terms of time, energy and funds for the extension work.

<p>Tips</p> <p>To enhance its effectiveness, result demonstration should be integrated with the total extension program.</p> <p>If the particular result demonstration may involve new skills development, it can most effectively be combined with method demonstration.</p> <p>Similarly, application of other extension communication techniques such as field days and farmers days can be arranged to center around successful demonstrations.</p> <p>Avoid using the same set of demonstration farmers continuously for subsequent demonstrations as this may be regarded as favoritism towards some selected farmers by the extension agent.</p>
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AE-02	Group Methods
AE-02-02	Method Demonstration
Description	The method demonstration shows a group of people how an entirely new technique or an old practice in an improved way is carried out step-by step. It is sometimes used to complement result demonstration.
Objectives	<ul style="list-style-type: none"> • To teach skills and stimulate people to action • To discard ineffective or inefficient practices • To improve the final result by doing a job in a better way. • To build up learners confidence and satisfaction on the practice
Situation	<ul style="list-style-type: none"> • When skills development is emphasized to carry out a job more effectively as means of improving the final result.
Procedure	<p><i>Planning for preparation</i></p> <ul style="list-style-type: none"> • Identify the problems giving due consideration and involving the local clientele • Select the skill which is important and needed by the farmers for immediate use • Ensure the participation of subject matter specialists. • Assemble the relevant information, materials and equipment. • Plan the presentation step-by-step including an introduction and summery, and practice the demonstration. • Decide on the date and time for the demonstration in consultation with the farmer leaders and relevant subject matter specialists, and give timely intimation to all concerned. • Display diagrams, photographs, charts, etc., at the demonstration site. <p><i>Implementation</i></p> <ul style="list-style-type: none"> • Start the demonstration on the scheduled date and time in the presence of those who will be present. • Welcome the attending farmers and explain the objectives of the demonstration. • Show each operation step-by-step, explaining clearly why and how it is done. • Ensure that all the participants have seen the demonstration and have understood it. Repeat difficult steps if required. • Invite the participants one by one or in small batches to practice the skill. • Clarify doubts and answer their questions. • After the participants have completed practicing the skill, summarize the proceedings highlighting the key points. • Hand over relevant publications. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Keep a record of the participants and maintain contact with then • Assist participants to acquire the required material and equipment.
Advantages	<ul style="list-style-type: none"> • It involves seeing, hearing, participation and practicing in a group which stimulate interest and action. • As the results of method demonstration are known within a relatively short time, it is very effective in persuading people to acquire the skill. •
Limitations	<ul style="list-style-type: none"> • Suitable mainly for practices involving skills • Require good deal of preparation, equipment and skill of the extension agent. • Not all the participants may get the opportunity to practice the skill depending on the size of the gathering and time available.

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AE-02	Group Methods
AE-02-03	Group Meeting
Description	Group meeting is a method of democratically arriving at a decision by a group of people, after taking into consideration the members point of view.
Objectives	<ul style="list-style-type: none"> • To prepare a favorable climate for discussion and better understanding the problem. • To facilitate in-depth discussion by involving a small number of participants. • To generate new ideas and methods involving useful traditional practices and conventional wisdom, and select the rational ones through group interaction. • To develop a favorable attitude and commitment for action through group involvement.
Situation	<ul style="list-style-type: none"> • When pooling of knowledge and experience of a number of persons is desired in arriving at collective decisions through shared opinion. • To act as a safety valve for reducing tension that may arise as a result of local disputes or outside influences.
Procedure	<p><i>Planning and preparation</i></p> <ul style="list-style-type: none"> • Prepare an agenda highlighting the topic to be discussed, decide who should be involved and the date and time for holding the meeting. • Assemble relevant information. Contact subject matter specialists, researchers and resource persons for participation, if required. <p><i>Implementation</i></p> <ul style="list-style-type: none"> • Start the meeting on the scheduled date and time. • Introduce the topic to the group and initiate the discussion. • Allow the members to talk and interact. • Encourage the less vocal members to participate in the discussion. • Assist the group to take decisions and keep record of the discussion. • While facilitating the discussion, gentle guidance may be required to ensure that it does not stray away from the main topic of the meeting. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Remind members of the decision arrived and assist them to take action. • Arrange for services consistent with the decisions
Advantages	<ul style="list-style-type: none"> • Promotes collective decision making as well as individual decision making by using knowledge and experience of group members. • The group process enhances peoples participation and facilitates program implementation • It develops the capability of the people to face challenges and adverse situations.
Limitations	<ul style="list-style-type: none"> • Requires understanding of group dynamics and skill of the extension agent. • Village factions may hinder successful use of this method • Some self discipline among members is needed for the method to be successful. • It is a slow process and may not be suitable in crisis or emergency situations.

Tips

Convenient size of group for conducting a meeting or discussion may be around 15 to 25, which may be extended up to 50 as the situation demands.

The participants may be a cross section of the farming community representing all strata from landless through small, medium and large farmers to land owners.

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AE-02	Group Methods
AE-02-04	Small Group Training
Description	It is a technique of imparting specific skills to a group of people who need them by creating an appropriate learning situation
Objectives	<ul style="list-style-type: none"> • To impart the needed skills to a small group of people. • To motivate people to adopt new practices through skills training
Situation	<ul style="list-style-type: none"> • Facilities for holding several sessions spreading over more than one day may be required. • Useful where transfer of technology (e.g., post harvest technology for marketing, etc) is an important aspect
Procedure	<p><i>Planning and preparation</i></p> <ul style="list-style-type: none"> • Identify a technology for which there is a need in the community. • Decide on the location, date, time and duration of the training program. • Select trainers having both theoretical knowledge and practical experience about the technology. They should have the ability to speak well and at the level of the farmers. • Prepare a written program allocating topics and time duration to different trainers. • Discuss the program with the trainers to finalize the presentations schedule. • Collect relevant materials, publications and audio-visual aids. • Inform all concerned in time. • Make arrangements for refreshments, food, accommodation, transport and other facilities according to the needs of the program. • Allocate responsibilities to suitable persons. • Make arrangements for registration of participants. <p><i>Implementation</i></p> <ul style="list-style-type: none"> • Start the training program on the appointed date and time. • Distribute publications and materials for taking down notes at the time of registration. • Keep the inauguration function and other formalities to a minimum. • Invite the trainers as per the program. Give enough time for discussion and the trainees to react. • Explain the relevant technology and state clearly why and how it should be done. • Use visual aids such as chalk or white board, flip-chart, models, O/H projector, computer, etc, as appropriate. • Arrange practical demonstrations and give enough time to each trainee for practicing the skill. • Clarify doubts and answer to their questions. • Arrange for film/video show on the topic and/or visit to a location nearby where they can see a successful demonstration of the practice. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Maintain contact with the trainees. • Encourage and assist them to apply the new practice and remove hindrances.
Advantages	<ul style="list-style-type: none"> • In-depth learning of skills is possible.
Limitations	<ul style="list-style-type: none"> • Only a small number of people can be trained at a time. • Follow-up requires more staff and time

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AE-02	Group Methods
AE-02-05	Field Day or Farmers' Day
Description	It is a method of motivating the people to adopt a new practice by showing them what has actually been achieved by applying the practice under field conditions.
Objectives	<ul style="list-style-type: none"> • To convince the farmers about applicability of the practice in their own situation. • To motivate them to adopt the practice by showing its performance and profitability under field conditions. • To remove doubts and unfavorable attitude about the new practice. • To reinforce previous learning about the practice.
Situation	<ul style="list-style-type: none"> • Field days or farmers' days can be held in research and demonstration farms, farmer's field or home. • It can be used to the show results achieved with mini-kits or method demonstration plots laid down by selected farmers to the community.
Procedure	<p><i>Planning for preparation</i></p> <ul style="list-style-type: none"> • Decide about the practice, the location, date, time and the participants. • Contact Subject Matter Specialists and fellow extension agents serving in surrounding areas to ensure participation. • Arrange a meeting place close to the location where the practice has been applied. • Make a written program identifying the activities and responsibilities of suitable persons • Involve the farmers and youth to assist in the preparations at all stages from programming to preparation of displays including charts, exhibits, diagrams, etc., and in organizing and decorating the site. • Collect relevant publications and prepare a handout for the occasion. • Arrange public address system, required materials and equipment, vehicles, etc. • Inform invitees, farmers and, depending on the scale of the event, mass media personnel. • Make arrangement to register participants. <p><i>Implementation</i></p> <ul style="list-style-type: none"> • Welcome the participants on arrival, assemble them to meeting place and register attendance. • Start the meeting at scheduled time giving a brief introduction on the purpose of the field day and how the group should move. • Station capable Subject Matter Specialist or Extension Agents to man each important point and explain the practice and answer farmers' questions. If a demonstrating farmer is involved, he should also play an active role, and may be assisted by the Subject Matter Officers. • On completion of the field visit, invite all participants to the meeting place and distribute publications or handouts. • A short time may be allotted to formal addresses followed by emphasizing of important points of the practice again. • Invite few participants to present their observations and answer the questions that may be raised. • End the meeting by thanking the participants for their attendance and the people who have helped in various ways. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Maintain contact with the participants to keep their interest and promote adoption of the practice • Reinforce learning about the practice through use of mass media.
Advantages	<ul style="list-style-type: none"> • The method gives the participants to visually observe the benefits that can be

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	<p>gained by application of the practice.</p> <ul style="list-style-type: none"> • Helps the farmers to socialize and to acquaint themselves with outside persons like Subject Matter Specialists. • Builds confidence of demonstrating farmers to continue with the practice and help in the extension effort to spread its wider application in the farming community.
Limitations	<ul style="list-style-type: none"> • Field days cannot be held frequently • Does not facilitate in-depth learning

<p>Tips</p> <p>If the number of participants is large, they can be divided into small groups of say 20 – 25 each. Each group can visit the field in rotation according to pre-arranged time schedule thereby all participants get the opportunity to make full use of the field day.</p>
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AE-02	Group Methods
AE-02-06	Farmers Field School (FFS)
Description	FFS is a season-long group-based training/learning program conducted in a designated field, where farmers carry out experimental learning activities that help them to understand the ecology of their farms through simple experiments, regular field observations and group analysis. The method has been used mainly for Integrated Pest and Crop Management (IPCM) programs, but may well adopted to other farming systems, e.g., soil and water, animal production and health, plant production, etc.
Objectives	<ul style="list-style-type: none"> • To enable participating farmers to make their own locally specified decisions about crop management practices. • To transfer part of the Government cost on extension to the community
Situation	<ul style="list-style-type: none"> • When mass mobilization of the farming community is required for a change in the currently operating farming systems.
Procedure	<p><i>Planning and preparation</i></p> <ul style="list-style-type: none"> • Select suitable locations to establish the FFSs. It is better if the selected sites are close to the location of Extension Agent or the Facilitator. • Discuss and finalize the terms and conditions with the owner farmer, on compensation, logistics, etc., and maintain proper communication channels. • Carry out a baseline assessment. • Select participating farmers who are interested, motivated, ready to learn, cooperative, full-time farmers growing the FFS crop for the FFS. • Form farmer groups for FFS by gathering participants from a similar crop production background. • Plan and conduct an introductory meeting to each group to explain objectives, benefits, farmer contribution (e.g., time and labor), distinctiveness of the system, and meeting schedules of FFS. Involve SMSs and relevant outside organizations. • Register the willing group members • Design the FFS curriculum through a study of problem identification and needs assessment to stating objectives, field activities and learning subjects of FFS. • Prepare meeting schedules and detailed activity plans • Procure materials and stationery including forms for data collections, etc. in time. • Prepare FFS budget <p><i>Implementation (the procedures will vary with the program and crop)</i></p> <ul style="list-style-type: none"> • Conduct the meetings and field activities as scheduled. Invite resourcepersons as and when required. • Facilitate farmers to carry out field observation and sampling, charting the development of the crop, grouping the field data, analyzing the agro-ecosystem and present the results for discussion. • Take care of the administrative obligations and maintain constructive communication with local authorities, NGOs and other organizations in the area. • Evaluate the FFS during the season for training quality • Evaluate the FFS at the end of FFS training – Impact evaluation <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Set up farmer studies by providing specific training on field study skills to promote continuation by themselves independently • Support farmer-to farmer extension by graduates of FFS offering to training to new groups • Encourage the trained group to repeat activity on a different crop.

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Advantages	<ul style="list-style-type: none"> • Provide means to develop expertise among farmers in a farmers community and thereby promote good management practices and possible increase in profits • Provide opportunities for farmer work group formation for related activities such as marketing (Global GAP) and community action on related topics. • Provides an opportunity to integrate farmers' knowledge and experiences into the program through experimentation in FFS fields without personal risks. • The basic knowledge acquired through FFS makes trainees better clients for research and extension systems as they have more scientific questions and demands,
Limitations	<ul style="list-style-type: none"> • Assumes that the Extension Agent possesses all the required skills in growing of the crop selected for FFS. • This makes it necessary to train Extension Agents or the Facilitators in 'Farmer Respect Course' for at least one full season before commencement of FFS. • Finding a suitable FFS plot may not always possible due to reluctance of the land owner farmers (it differs from 'traditional demonstration' plots) • Cost per trained farmer is high.

Tips

Farmer participation can be improved by selecting locations where a wide gap exist between the current practice and the expected result of FFS.

Clustering of the FFSs is considered more advantageous than spreading as the former creates a critical mass for better interaction and strengthening farmer networks.

It is more likely that full-time farmers will have a greater interest in FFS participation than those who are part-time farmers.

Promote independent establishment of farmer associations and assist in writing proposals and requests for local funding.

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CHAPTER 4 AUDIO-VISUAL AIDS

Audio-visual aids are instructional devices which are used to communicate messages more effectively through sound and visuals. The aids help in stimulating the sensory organs like ears and eyes, and facilitate quick comprehension of the message by the audience. These may be used for literate as well as illiterate people and has the following advantages.

- a) Capture audience interest and arouse their interest.
- b) Highlight the points of the message clearly.
- c) Possibility of misinterpreting concepts is reduced.
- d) Structure the learning process more clearly.
- e) Messages perceived with several senses are understood and retained better.
- f) Help more people irrespective of their level of literacy and language.
- g) Speed up learning process.
- h) Save time for the communicator and receiver.

4.1 Classification of Audio-visual Aids

Instructional devices can be classified into audio aids – message can only be heard, visual aids – message can only be visualized, and audio-visual aids – message can be heard and seen simultaneously.

Table 4.1 Classification of Audio-visual Aids

Audio Aids	Visual Aids	Audio-visual Aids
Tape recorder Public address system Telephone	<u>Non-projected</u> Chalk/white board Bulletin board Picture and photograph Flash card, flip chart Poster Diagram, map, chart, graph Specimen, model	<u>Non-projected</u> Drama, puppet show
	<u>Projected</u> Slide Overhead projection Use of computer	<u>Projected</u> Documentary cinema Video

4.2 Choice of Audio-visual Aids

Audio-visual aids are used singly or in combination with other aids and extension methods. The Extension Agent should be well conversant about the audio-visual aids and acquire sufficient skill in handling them before using them in extension programs. The choice of audio-visual aids shall depend on a number of considerations.

- a) Teaching objective – whether to give information, to impart skill or bring about change in attitude, etc.

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- b) Nature of subject being taught – particular aspect of the technology and whether understanding depends on seeing or not.
- c) Nature of audience – their age, education, interest, experience, knowledge, intelligence, etc.
- d) Size of the audience – small or large.
- e) Availability of equipment, materials and funds.
- f) Skill and experience of the extension agent in preparation and use of audio-visual aides.

4.3 Organization of an Audio-visual Program (Refer Sheet AE-03-01)

For a fool-proof and effective presentation, pre-testing and/or pre-view of audio-visual aids are a must. One should also be mindful in proper storage and maintenance of the equipment. To facilitate running of audio-visual aids on electricity, a standby portable generator, a multiple switch-board with long flexible cord for power supply and a voltage stabilizer may be procured. For projected visuals, a roll-back screen and a folding table may be kept ready at hand.

4.4 Audio Aids

Some of the audio-visual aids have become obsolete over the years to be replaced by more technically advanced equipment. Few selected audio-visual aids that are currently in use are described here briefly.

4.4.2 Public Address System

It is useful in extension programs involving large gatherings of people such as mass meetings, training programs, farmers' field days, campaigns and exhibitions.

4.4.2 Telephone

Telephone provides for instant interpersonal communication at high speed and at considerable saving of time, money and labor. Use of mobile telephones has spread rapidly even in the rural areas and may be considered as a necessity rather than a luxury.

4.5 Visual Aids

4.5.1 Non-projected Visual Aids

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a) Chalk and White Board (Refer Sheet AE-04-01)

Chalk board is probably the simplest, cheapest, most convenient and widely used visual aid. It is suitable for use in lectures, training programs, group meetings, etc. The chalk board is being replaced with white boards.

b) Bulletin Board

Bulletin board is simply a board to display messages. It may be made of a variety of materials and may or may not be covered with glass. The message on a bulletin board may be in the form of words, graphs, charts, photographs, illustrations, publications, etc. Advantages in use of bulletin board may be listed as follows.

- i) Draws attention to important announcements.
- ii) Develops audience interest.
- iii) Facilitates display of graphic and pictorial matter.
- iv) Highlights current activities and achievements.
- v) A basic means of communication at less cost.

c) Picture and Photograph

Picture is a representation made by drawing, painting or photography which gives accurate idea of an object. A good picture may tell a story. Pictures and photographs are used in a variety of ways in extension work such as in training programs, farm publications, projections, etc. Advantages in using pictures and photographs may be listed as follows.

- i) Arouses audience interest.
- ii) Facilitates introducing a new topic.
- iii) Clarifies complex ideas.
- iv) Conveys message to even an illiterate person.
- v) Provides proof for evaluation of results.
- vi) Leaves an impression in the mind.
- vii) Increases the credibility of message.
- viii) Easy to take and moderate in costs.

d) Flash Card and Flip Chart (Refer Sheet AE-04-02)

Flash cards are 30cm x 25cm cards on which the messages are written in an orderly manner. They are held by the presenter as a deck of cards and flashed to the audience one-by-one in a sequence along with the talk. In flip chart, the messages are written or drawn in large size papers and are arranged like a calendar, the leaves of which are turned over one-by-one in a sequence as the talk proceeds. These are generally used in classroom situation, but may be adopted in field extension as well.

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e) Poster (Refer Sheet AE-04-03)

A poster is generally seen by persons passing by from a distance and its job is to stop them and thrust the message upon them as quickly as possible to lead them to action sooner or later. A good poster should have the following properties.

- i) Able to attract attention – to stop a hurriedly passing person to look at it.
- ii) Convey message quickly – wording must be brief and illustrations easily understood so that the message of the poster is quickly absorbed.
- iii) Lead to action – either immediately or eventually. This requires a forceful idea that is strongly presented by the poster content.

f) Diagram, Map, Chart, Graph (Refer Sheet AE-04-04)

Here, the information is presented in abstract form, and as such, a higher level of education and intelligence of the audience is required to understand and absorb the information. The rural audience may need assistance to get the message from diagrams, maps, charts and graphs. However, these visuals are very convenient for presenting large amount of information in a comprehensive and meaningful way. They can be used in bulletin board, method demonstration, group meeting, training program, etc.

g) Specimen, Model (Refer Sheet AE-04-05)

In extension work, when it is not possible to expose the audience to real life situation, specimen and model may be used to communicate a reliable idea of the original. They are used in method demonstration, group meeting, training program, etc.

4.5.2 Projected Visual Aids

a) Overhead Projection

The main advantage of overhead projection is that it enables the speaker to simultaneously deliver the talk and project the instructional materials, while facing the audience.

- i) Overhead Projector - For use of an overhead projector instructional material may be hand drawn or electronically printed on transparent sheets or transparent poly roll. It provides for progressive exposure of portions or overlapping of the transparencies for effect.

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- ii) Use of Computers - Computer application software such as Power Point is increasingly used for presentations as the necessary hardware become accessible. Its ability to combine the instructional material with digital photography, and even computer animation, relative ease of handling has made it much more effective and a popular visual aid among communicators. Computer literacy and conversancy in use of the equipment are essential requirements on the part of the Extension Agent for him to apply the method.

4.6 Audio-visual Aids

4.6.1 Non-projected Audio-visual Aids

Non-projected audio-visual aids include drama and puppet shows. These techniques provide dramatic experience to the audience and may be used more commonly to communicate broad social themes rather than extension programs.

4.6.2 Projected Audio-visual Aids

- a) Documentary Cinema – Cinema involves production of the film and projection of the film. The Extension Agent is most likely to be concerned about the projection of film than in its production.
- b) Video Technology

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AE-03	AUDIO-VISUAL AIDS
AE-03-01	ORGANIZATION OF AUDIO-VISUAL PROGRAM
Procedure	<p><i>Planning</i></p> <ul style="list-style-type: none"> • Identify the objectives and the audience • Plan for a simple, practical, educational, and interesting presentation • Anticipate the size of the audience • Plan for a variety of colorful visual aids <p><i>Preparation</i></p> <ul style="list-style-type: none"> • Collect relevant equipment and materials • Pre-view the audio-visual aids • Rehearse and make adequate practice • Check power supply, lighting, need for darkness, seating arrangements, etc. • Select and train a suitable individual in audio-visuals to operate and assist • Arrange the audio-visual aids in a sequence and have them within easy reach. <p><i>Presentation</i></p> <ul style="list-style-type: none"> • Motivate the audience and stress on the key points • Present aids at the right moment and in proper sequence. • Stand on one side of the material presented and speak facing the audience • Avoid a hurried presentation <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Observe reaction of the audience • Clarify doubts and dispel misunderstanding, if any • Improve subsequent presentations by deleting irrelevant and outdated material and adding something new.
Advantages	<ul style="list-style-type: none"> • Captures audience attention and arouse their interest • Highlights main points of the message clearly • Reduces possibility of misinterpreting concepts • Structures the learning process more effectively • Improves understanding and retention of messages perceived with several senses • Provides experiences otherwise difficult to get • Helps to reach more people irrespective of their level of literacy and language • Speeds up the process of learning • Saves time for teacher and learner
Limitations	<ul style="list-style-type: none"> • Because of cultural differences, the audience may form a mistaken or distorted impression about the audio-visual aids • Teaching may be scratchy instead of being complete • Over-reliance on audio-visual aids may convert teaching to showmanship

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AE-04	VISUAL AIDS
AE-04-01	CHALK BOARD, WHITE BOARD
Description	Chalk board and white board are boards having different surface composition for writing with chalk or marker pens as the case may be.
For effective use	<ul style="list-style-type: none"> • Fix the board firmly to the stand so that it does not tilt while writing • Maintain properly, avoid pasting (unless with recommended adhesives) or driving nails on the board
Procedure	<p><i>Planning</i></p> <ul style="list-style-type: none"> • Plan ahead • Keep layout of the teaching plan ready <p><i>Preparation</i></p> <ul style="list-style-type: none"> • Get the materials like white and colored chalk or colored marker pens, ruler, pointer, eraser etc., ready • Erase the board clean before use • Draw complicated time consuming illustrations/tables beforehand <p><i>Presentation</i></p> <ul style="list-style-type: none"> • Write a few important points on the board. Brief statements are more effective than lengthy ones • Write in clear bold letters. Avoid crowding, scribbling and overwriting • Use illustrations, graphs, etc., to clarify important and complex points. • Underline statements and use pointer to focus attention • Use colors where necessary • Stand on one side of the board and avoid covering the written material • Erase unrelated materials at frequent intervals and keep the chalk board tidy. <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • After completion, keep all materials in proper place • Erase the board and leave it clean
Advantages	<ul style="list-style-type: none"> • Furnishes a writing surface which may be easily erased • Step-by-step presentation of the topic on the board creates a dramatic impact which sustains audience interest. • Important points may be emphasized by underlining them • Clarity in communication can be brought about by drawing illustrations. • Helps in taking down notes by the audience • Less costly and simple to construct, use and maintain
Limitations	<ul style="list-style-type: none"> • Use of chalk board may appear drab and old fashioned to some persons • Clumsy hand writing of the speaker may confuse the audience • Writings are very temporary

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AE-04	VISUAL AIDS
AE-04-02	FLASH CARD, FLIP CHART
Description	Flash card and flip chart are visual aids in which the messages are written or drawn on paper and presented step-by step by the Extension Agent to the audience to synchronize with the talk
For effective use	<ul style="list-style-type: none"> • May be used for a group of people generally not exceeding 30. • The talk should be rehearsed before presentation
Procedure	<p><i>Planning</i></p> <ul style="list-style-type: none"> • Decide on the objective • Identify key points and organize them in a sequence • Decide on how much lettering or illustration is to go in each sheet <p><i>Preparation</i></p> <ul style="list-style-type: none"> • Procure good quality, thick paper of different colors • Procure ink, poster color, marker pens, brush, stencil, and any other required material • Write in bold letters that are clearly visible from a distance • Use simple, bold, easy to understand drawings. Avoid overcrowding. • Use good color combination. Engage an artist, if required • Rehearse and synchronize with the talk • Arrange the presentation material in a sequence and number them • Check up lighting and seating arrangements <p><i>Presentation</i></p> <ul style="list-style-type: none"> • Present visuals in perfect order along with the talk • Limit the number of visuals from 10 to 15 in a single presentation <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Watch reaction of the staff • Keep the materials up-to-date • Prepare fresh set of relevant materials for each topic
Advantages	<ul style="list-style-type: none"> • Facilitate presentation of the talk as important points are already noted on the paper • Helps in clarifying concepts • Helps in showing cumulative process • Produce dramatic effect on the audience • Help in summarizing the talk • Save time in presentation of a talk
Limitations	<ul style="list-style-type: none"> • Suitable for a small/medium audience • Require some preparation and practice

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AE-04	VISUAL AIDS
AE-04-03	POSTER
Description	Poster is a placard displayed in a public place with the purpose of creating awareness amongst the people
For effective use	<ul style="list-style-type: none"> • Brevity – as few words as possible should be used • Simplicity – should be compact with minimum number of individual units. The illustration should be contain only the essentials • Idea – visualization of the idea should be clever and original, so as to attract and impress the viewer • Layout – the arrangement of the elements should be logical and easy flowing. The letters should be simple, attractive, bold and visible from a distance. • Color – bright and attractive colors should be used.
Procedure	<p><i>Planning</i></p> <ul style="list-style-type: none"> • Decide on the theme of the poster and identify the key points • Decide on the size of the poster, caption, illustration and colors to be used • Based on the availability of funds and number of target communities, decide the number of copies to be produced. • Keep in mind the date by which the posters are to be made ready <p><i>Preparation</i></p> <ul style="list-style-type: none"> • Prepare a number of dummies, small but proportional to the actual size • Ensure a balance words and picture. The picture should be bold, without much detail. Put the caption in one line. Follow optical spacing of the letters. • Select the best layout and make some sets of color combinations. The picture and the letters must make a contrast with the background • Select the best color combination. Engage an artist, if required. • Consult the printers and decide on economic production of the paper • If only a few posters are required, they may be hand drawn first by making pencil sketches and overdrawn with poster colors on a thick paper <p><i>Presentation</i></p> <ul style="list-style-type: none"> • Put up hand drawn posters in well lighted place, where the visitors are likely to assemble or pass through • For printed posters, ensure timely dispatch • Display printed posters at prominent places, in time. In important places put up a number of posters closely to produce mass effect <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Watch reaction of the audience • Ensure availability of inputs and services consummate with the message in the poster
Advantages	<ul style="list-style-type: none"> • Helps in making announcements • Quick communication message to a large number of people dispersed widely and in remote areas • Facilitates motivating people
Limitations	<ul style="list-style-type: none"> • Can convey only initial idea and cannot furnish detailed information • Production of a good poster is a technical job and requires skill, time and money

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AE-04	VISUAL AIDS
AE-04-04	DIAGRAM, MAP, CHART, GRAPH
Description	These are visuals where information is summarized and presented in a more or less abstract form. Diagram is a line drawing of an object or an idea; Map is a informative diagram of an area; Chart contains information in tabular form and a Graph is a diagrammatic representation of relationships between variables.
For effective use	<ul style="list-style-type: none"> • Visuals should be scientifically prepared on the basis of the data available for the purpose • They should be simple, clear, colorful, bold and devoid of unnecessary details.
Procedure	<p><i>Planning</i></p> <ul style="list-style-type: none"> • Decide on the theme on which the visual is to be made • Decide on the form (diagram, map, chart or graph) in which the message is to be communicated • Decide on the purpose for which the visual is to be prepared • Decide on the caption of the visual <p><i>Preparation</i></p> <ul style="list-style-type: none"> • Process the data and prepare an initial pencil sketch (dummy) • Refine the dummies till a clear presentation of the data is obtained • Avoid unnecessary details and overcrowding • Enlarge and transfer the final sketch accurately on a good quality paper or any other material of desirable size • Draw the visual with good color combination and bold lettering • Seek assistance of an artist if needed • Try to prepare the visual in an original way <p><i>Presentation</i></p> <ul style="list-style-type: none"> • Fix the visuals on bulletin board or suitable or suitable hard background and display the in a well lighted place • Make arrangements for explaining the visuals to the visitors <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Watch the reaction of the audience • Keep the visuals up-to-date
Advantages	<ul style="list-style-type: none"> • Help in visualizing the broad concept • Give proper perspective of an area (Map) • Show proper sequence and relationship (Chart) • Help in analyzing a problem or situation (Chart) • Help in making comparison and contrasts (Graph)
Limitations	<ul style="list-style-type: none"> • Abstract and symbolic visuals may be difficult to understand • Requires good amount of planning and preparation

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AE-04	VISUAL AIDS
AE-04-05	SPECIMEN, MODEL
Description	Specimen is a sample which represent the whole and Model is miniature replica of an object
For effective use	<ul style="list-style-type: none"> • Individual items of specimens or models may be used in training programs, group meetings etc. • Generally, a number of the systematically arranged and properly labeled are displayed as exhibits • These exhibits may be on long term display in Extension Agents office, or temporarily displayed in festivals and exhibitions
Procedure	<p><i>Planning</i></p> <ul style="list-style-type: none"> • Decide on the theme and the medium of presentation • Decide on the sequence and the number of units to be made <p><i>Preparation</i> (<i>Specimen</i>)</p> <ul style="list-style-type: none"> • Collect representative samples, process and add suitable preservatives where needed • At permanent exhibition sites, the specimens may be displayed in glass jars while at mobile exhibitions, transparent glass jars may be used. • Label all items properly in bold letters and in local languages • As far as possible, avoid liquid specimens and specimens that are strongly corrosive or poisonous. Instead, their they can be displayed in their empty containers which shall serve the purpose. <p>(<i>Model</i>)</p> <ul style="list-style-type: none"> • Start with rough sketch and arrive at a final sketch to the scale • Make dummies to the scale • Make dummies on the basis of approved dummies • Models of human beings, animals, etc., can be made of clay, plaster of paris or modeling clay. Structural models may be made of masonite, cardboard, plastics or light metal • Properly label them with bold lettering. <p><i>Presentation</i></p> <ul style="list-style-type: none"> • Arrange and display all items in proper sequence • Use display racks and place the materials at eye level • Explain the visuals so that the intended message is clearly communicated to the visitors. If required, engage trained demonstrators <p><i>Follow-up</i></p> <ul style="list-style-type: none"> • Change, replace or re-paint the exhibits as and when needed • Ensure proper cleaning, maintenance and storage of exhibits.
Advantages	<ul style="list-style-type: none"> • Arouse interest of the audience • Give three dimensional idea of an object • Communicate message when it is physically impossible to present the real object • Do not require replacement too often
Limitations	<ul style="list-style-type: none"> • Involves good amount of planning and preparation • Moderately costly

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CHAPTER 5 ADOPTION AND DIFFUSION OF INNOVATION

One of the major goals of extension is to get new and profitable technologies adopted by the rural community. An understanding of the adoption and diffusion processes shall help the Extension Agent to accelerate them.

Adoption is a decision to make full use of an innovation as the best course of action available.

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication in which the messages are concerned with new ideas. It is this 'newness' of the idea in the message content of communication that gives diffusion its special character. The diffusion of innovations is essentially a social process in which subjectively perceived information about a new idea is communicated.

An innovation is an idea, practice or object that is perceived as new by an individual or other unit of production. Perception is an activity through which an individual becomes aware of objects around oneself and of events taking place. The technologies, practices developed through research, are innovations. These may be new varieties of crops and plants, new breeds of livestock, new techniques of doing things, etc. Farmers themselves may develop some new practices which are also innovations.

5.1 Some Features of Innovation

5.1.1 Uncertainty

People may perceive some degree of uncertainty (lack of predictability) in the 'newness' of an innovation. An innovation presents an individual with a new alternative or means of solving a problem. But the probability of the new alternative being superior to previous practice is not exactly known by the individual. Thus he is motivated to seek further information about the innovation to cope up with the uncertainty that it creates.

5.1.2 Form, Function and Meaning

Innovation has three attributes, namely, its form, function and meaning. Form is the directly observable physical appearance and substance of an innovation, while function refers to the contribution made by the innovation to the way of life of the people. Meaning is the subjective and frequently unconscious perception of an innovation by members of a social system. While the form and function of the innovation is easily understood by the Extension Agent, he may not always anticipate its social meaning. For instance, a desirable innovation he introduces may result in negative consequences due to different conditions under which it is applied.

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5.1.3 Perceived Attributes of Innovations

It refers to the qualities or characteristics of the innovation as people see to them. The perceived attributes of innovations that are basic to extension are shown in Table 5-1.

Table 5.1 Perceived Attributes of Innovations

Attribute	Brief Description	Examples
Relative advantage	Degree to which an innovation is perceived as being better than the idea it supersedes.	A new technology or practice that gives more yield or income, saves time, labor and costs, etc., has higher relative advantage. Similarly, a multi-function equipment or material has more relative advantage than single-function ones.
Compatibility	Degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of the potential adopters.	When a new crop variety suits the agro-ecological conditions of the farmer, it indicates situational compatibility. Likewise, when a new livestock breed introduced to the farmers is in agreement with their beliefs and values, it is cultural compatibility
Simplicity	Degree to which an innovation is perceived as relatively easy to understand and use	An innovation should, as far as possible, be less complex for the farmers to understand and use. Complex innovations, like for instance high yielding crop variety, require a appropriate package of technology and appropriate training to ensure best results. However, if the relative advantage is high enough, complexity will not hamper the diffusion and adoption process and continued use.
Trialability	Degree to which an innovation may be experimented with on a limited basis.	Divisible inputs such as seeds, fertilizers, agrochemicals etc, can easily be tried out by farmers. Non-divisible items such as farm machinery require large investment and cannot be tried out in parts.
Observability	Degree to which the results of an innovation are visible to others	Effects of using balanced fertilizers in crops, as recommended by extension agent, become visible only on the long run. Similarly, though the cost of preventive pest and disease control is less, farmers resort to curative measures owing to higher visibility of results.
Predictability	Degree of certainty of receiving the expected benefits from adoption of an innovation	Farmers operating near economic border-line tend to be cautious in adoption of innovation as crop failure or substantial reduction due to the adoption could cause him many hardships.

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5.2 Adoption Process

The way in which an individual adopts an innovation is viewed by most researchers as a process, a series of related events in a time sequence, similar to a decision making process. Different stages in the adoption process identified by the North Central Rural Sociology Subcommittee for the study of Diffusion of Farm Practices (1955), is tabled below (Table 5.2).

Table 5.2 Stages in the Adoption Process

Stage	Description	Explanation
Awareness	The individual learns of the existence of a new idea or innovation, but lacks information about it.	The person may know the name only, but not know what the innovation is, what it can do or how it works.
Interest	The individual develops interest in the innovation and seeks additional information about it.	The person wants to know what it is, what it can do, how it works and its potentialities.
Evaluation	The individual makes a mental application of the new idea to the present and anticipated future situations and decides whether to try it or not.	The person makes judgment on worth of the innovation and assesses its possible applicability and the results in his own situation.
Trial	The individual actually applies the new idea on a small scale in order to determine its utility in own situation.	The person tests the effectiveness of the innovation in his own situation as he may be not fully convinced of making assessments based on the information gathered alone.
Adoption	The individual uses the new idea continuously on a full scale	The person satisfies himself of the benefits of the innovation by practical evaluation of the trial and takes a final decision to apply the innovation in a scale appropriate to own situation on a continued basis.

5.3 Innovation-Decision Process

Rogers (1983, 1995) proposed the innovation-decision process which takes into account the uncertainty that is inherently involved in deciding about a new alternative to those previously in existence. The process consists of a series of actions and choices over time through which an individual evaluates a new idea and decides whether or not to incorporate it into the ongoing system. Thus, the perceived newness of an innovation, and the uncertainty associated with this newness, is a distinctive aspect of innovation-decision making.

The innovation-decision process is the process through which an individual (or other decision making unit), passes through:

- (a) knowledge of an innovation,
- (b) forming an attitude toward the innovation,

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- (c) decision to adopt or reject,
- (d) implement and use of the innovation, and
- (e) confirmation of this decision.

Innovation-decision is a process that occurs over time and is conceptualized to have five stages as shown in the Table 5.3 below.

Table 5.3 Stages in the Innovation-Decision Process

Stage	Description	Explanation
Knowledge	Occurs when an individual is exposed to an innovation's existence and gains some understanding of how it functions.	A need can motivate an individual to seek information about an innovation and the knowledge of an innovation may develop the need. 'Awareness knowledge' (existence of innovation) motivates individual to 'how-to knowledge' (necessary information on how to use) and 'principles knowledge' (functioning principles on how innovation works).
Persuasion	Occurs when an individual forms a favorable or unfavorable attitude toward the innovation	The individual perceives the attributes of innovation, which is conditioned by one's personality and social system norms, and develops a general idea about the innovation. There may be two levels of attitudes: a specific attitude towards the innovation and a general attitude towards change.
Decision	Occurs when an individual engages in activities that lead to a choice to adopt or reject the innovation.	The individual puts the innovation to a small scale trial in own situation, and based on relative advantage, risks involved and other related factors make a decision to adopt or reject the innovation.
Implementation	Occurs when an individual puts an innovation to use.	Implementation may involve changes in management of the enterprise and/or modifications in the innovation. Modification or re-invention (degree to which the innovation is changed by the user to suit own situation) often occurs at this stage and often is beneficial to the adopter of the innovation
Confirmation	Occurs when an individual seeks reinforcement of an innovation decision already been made, or an individual reverses a previous decision to adopt or reject the innovation if exposed to conflicting messages about the	If an individual perceives that the innovation is consistently giving satisfactory or unsatisfactory results, he may continue to adopt or reject the innovation as the case may be. Rejection is a decision not to adopt an innovation and may be 'active'

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	innovation	<p>(decide not to adopt after initial consideration) or 'passive' (never considering its use).</p> <p>Discontinuous is a decision to reject an innovation after having previously adopted it and may be 'replacement' (to adopt a better idea that supersedes) or 'disenchantment' (dissatisfaction with its performance).</p>
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At the persuasion and decision stages, an individual is often motivated to seek information in order to reduce uncertainty about an innovation's expected consequences. This type of information is usually sought by most individuals from their near-peers. The peer's subjective opinion of the innovation, based on their personal experience with adoption of the new idea is most convincing. Thus, for some individuals and for some innovations, the trial of a new idea by a peer like themselves can substitute, at least in part, for their own trial of an innovation. Extension Agents often seek to speed up the innovation-process by organizing result demonstrations and field days to promote a new idea in a social system. These are quite effective in influencing adoption by individuals.

5.4 Communication in Innovation Decision Process

The communications channels, as has been already discussed in Chapter 2 on Extension Communication Process, are sometimes categorized as (a) interpersonal/group or mass media in nature, and (b) originating from localite or cosmopolite sources.

Localite sources of information belong to the same social system as that of the receivers. Their knowledge about objects and events are restricted, and generally confined to the local system. Examples of local sources are relatives, friends, neighbors, etc. The cosmopolite sources of information are from outside the social system of the receivers. Their knowledge about objects and events are wider, and as such, they can bring new ideas to the receivers. Examples of cosmopolite sources are Extension Agents (personal cosmopolite), mass media (impersonal cosmopolite), etc.

The present situation in the rural areas seem to indicate that in all stages of innovation-decision process, personal cosmopolite channels like Extension Agents are most important in high urbanized villages and personal local channels like other farmers are more important for the low urbanized villages. The emerging pattern appears to show that in the high urbanized villages, after getting the initial information about the innovation from Extension Agents, for going ahead with adoption, the farmers seek support and reinforcement from other farmers who belong to their own social system. The reverse process takes place in the low urbanized villages.

The generalization has also been made that mass media channels and cosmopolite channels are relatively more important at the knowledge stage, and local and

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interpersonal channels are relatively more important at the persuasion stage in the innovation-decision process.

Unlike the formal systems of communication, local exchanges of information are continually taking place, often occurring in locations and during periods when agents of extension and research services are rarely, if ever, present. The information passed between the local farmers contains a unique blend of indigenously developed techniques and varieties, as well as farmers' experiences with verifying and adopting technologies that originated elsewhere to local conditions.

5.5 Some Features of Adoption

5.5.1 Rate of Adoption

Rate of adoption is the relative speed with which an innovation is adopted by members of a social system. It is generally measured as the number of individuals who adopt a new idea in a specified period, such as each year. The variables that determine the rate of adoption of innovations are:

- (a) perceived attributes of the innovations,
- (b) type of innovation-decision,
- (c) communication channels used or available,
- (d) nature of the social system, and
- (e) extent of the Extension Agents promotional efforts.

5.5.2 Over-adoption

Sometimes it may happen that people continue to adopt an innovation, rather vigorously, when experts feel that it should not be so done. This is called over-adoption, and an example would be sinking of tube-wells in a catchment area which may result in complications such as lowering of water table and development of salinity making the irrigation system ineffective. Other examples may include overproduction of a crop and excessive use of agro-chemicals.

Insufficient knowledge about an innovation and inability to predict its consequences generally leads to over-adoption. The role of the Extension Agent is to prevent excessive over-adoption of the innovation by providing adequate knowledge about the innovation and making the client system aware of its consequences.

5.6 Adopter Categories

All individuals in a social system do not adopt an innovation at the same time. Rather, they adopt in an ordered time sequence, and they may be classified into adopter categories on the basis of their innovativeness. Innovativeness of an individual refers to his earliness in adopting new ideas compared with other members in the social

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system. It is of great practical importance for the Extension Agent to identify the individuals who are likely to adopt innovations early and who may lag behind.

5.6.1 Distribution of Adopter Categories

The distribution of adopters over time closely approaches normalcy and may be represented by bell-shaped normal curve. The distribution of adopters may be partitioned into five adopter categories by using the Mean (X) and the Standard Deviation (SD), as shown in Fig 5.1

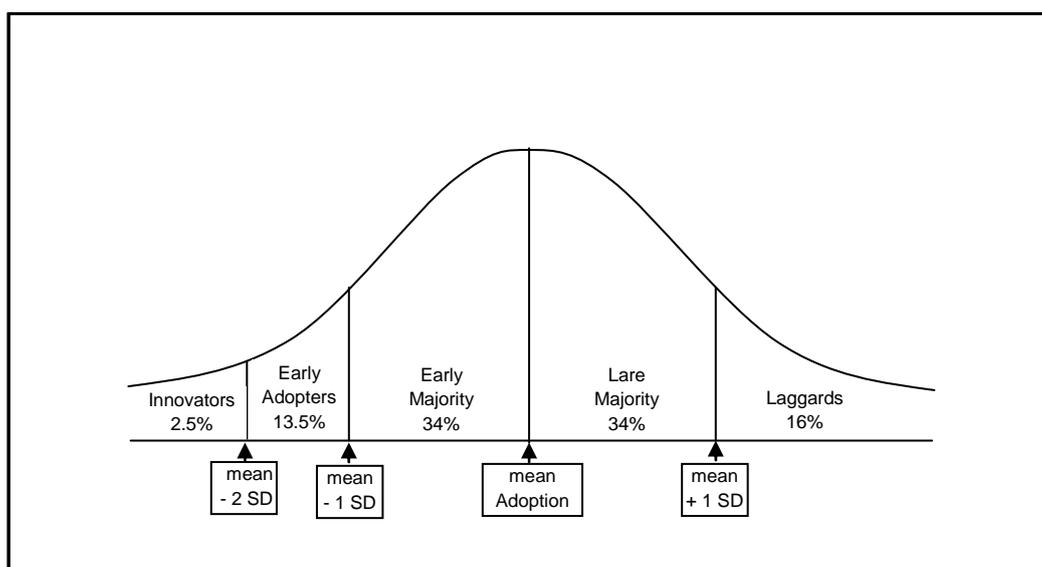


Fig. 5.1 Innovativeness of Adopter Categories

Individuals belonging to each adopter category tend to have a common set of characteristics. The general characteristics of the different adopter categories are analyzed in Table 5.4 below.

Table 5.4 Categories of Adopters and the General Characteristics

Category of Adopter	General Characteristics
Innovators	They are generally very few in number (about 2.5% of the community), first to adopt the new idea ahead of other members in the community, may deviate from the social norm and may be viewed as social deviants by others. They are cosmopolite, better informed, actively seek new ideas and their influence and activity may go beyond the community boundaries having outside friendship networks They are oriented to take risks, have large enterprises and financial resource bases to absorb losses due to adoption of innovations, oriented to develop good contact with researchers and high level extension functionaries and have more prestige in the community.
Early adopters	They form the localite and a more integrated part of the community (representing about 13.5%), and try to maintain adoption leadership to keep up their prestige in the community.

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	<p>They exhibit qualities of opinion leadership and potential adopters look to them for advice and information about the innovations and are not too far ahead from average members of the community to comprehend their activities relating to adoption of the innovations. They have large enterprises, high income, more participative and maintain good contact with cosmopolite sources for information. They do not test untried ideas, but quick to adopt tried ideas in their own situations.</p>
Early majority	<p>They represent a larger segment of the community (about 34%), adopt new ideas before the average members of the community, neither very early nor too late to adopt an innovation, take a longer time for the adoption decision than innovators and early adopters. They may not hold leadership position in adoption but participate in extension programs and somewhat above average in education, social and economic status and experience about the enterprise. They cannot take hasty or poor decisions due to limited resource base, have less contact with cosmopolite sources of information, form active localites and associate with people of their own community. They are the 'neighbors and friends' from whom majority of the members of the community seek information about innovations.</p>
Late majority	<p>Like early majority, they represent about 34% of the population, are cautious, skeptical and adopt new ideas just after the average members of the community. They adopt because others have already adopted the innovation and are benefited by it, generally of low education level, low in participation and depend mostly on localite sources for information.</p>
Laggards	<p>They are traditional, constitute about 16% of the population, last to adopt an innovation and by the time they adopt an innovation, it may already have been superseded by a more recent idea which innovators are already using. They are most localite, primarily interacting with those who have traditional values and frankly suspicious of innovations, innovators and Extension Agents.</p>

Rogers (1995) observes that the individuals or other units in a system who most need the benefits of a new idea, say from improved agricultural practices (among others) are the less educated, less wealthy and the like. But they are generally last to adopt an innovation. In this context, units in a system who adopt first are perhaps the ones who least need the benefit of the innovation.

An undesirable consequence of the tendency of Extension Agents to concentrate their efforts on their elite clients, while largely ignoring the hard-to-get sub-audience of the late majority and laggards, is widening the gap between the information-rich and the information-poor in a social system. Extension Agents could pursue a strategy in which communication efforts are concentrated on the sub-audiences who are lowest in socio-economic status, who feel the least need for innovation, and who would otherwise be the last to adopt.

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CHAPTER 6 EXTENSION EDUCATION

Education is described as the process of developing capabilities of the individuals so that they can adequately respond to their situations. It is an integral part of extension. Because of the fact that extension is pursued in agriculture as well as in many non-agricultural disciplines to educate, motivate and change behavior of the people, this particular branch of science is also known as extension education.

6.1 Types of Education

6.1.1 Informal, Formal and Non-formal Education

Education is generally distinguished into three types, informal, formal and non-formal. The types of education are analyzed briefly in the following Table.

Table 6.1 Types of Education

Type	Description
Formal	It is the highly institutionalized, chronologically graded and hierarchically structured 'education system' spanning lower primary and the upper reaches of the university.
Informal	It is the lifelong process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment at home, at work, at play etc.
Non-formal	It is an organized, systematic, educational activity carried on outside the framework of the formal system to provide selected types of training to particular sub-groups in the population, adults as well as children according to their needs. An example: agricultural extension.

6.1.2 Formal and Extension Education

Extension education differs from formal education in a number of ways, and the main differences identified are presented in the Table 6.2 below.

Table 6.2 A Comparison of formal education and extension education

Formal Education	Extension Education
Teaching is largely confined to the premises of the institution	Education is largely outside the premises of the institution
The learners are homogeneous with common goals	The learners are heterogeneous and diverse goals
Strict adherence to institutional norms and no free choice for learners	Freedom and choice of subject matter left to the farmer
There is a fixed curriculum, after completion of which the students are examined and degrees are awarded	There is no fixed curriculum. It is flexible depending on the needs of the learners. No examinations held or degrees awarded
Knowledge flows from teacher to the learners	The extension agent also learns from those whom he or she teaches
The teacher only instructs the student	The extension agent teaches a great deal through

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	local leaders
Formal education starts with the theoretical and works up to the practical	Extension education starts with practical situation of the learners in which they live and work, and develops into theoretical or basic understanding of them

6.1.3 Elements of Non-formal Education

In non-formal education, to which extension education belongs, six key elements have been identified. These are;

- a) Non-formal education is learner centered. Emphasis is on learning rather than on teaching. The learner participates in determining the educational objectives and exerts substantial control over the content and methods. Local initiative, self-help and innovation are encouraged in order to equip learners to analyze critically and take action to resolve their own practical problems,
- b) There are variety, options and flexibility in curriculum, which are generated primarily by learners,
- c) Informal human relationships are essential,
- d) Reliance on local resources, which means that costs are kept low without sacrificing quality. Both conventional and unconventional sources are used, and available resources are deployed efficiently,
- e) Educational content and methodology are directly related to learners' lifestyles and have immediate use and,
- f) Less bureaucratic control and more decentralization allow local approaches to the solution of the local problems.

6.2 Extension Educational Process

Extension education is a participatory process and involves five essential and interrelated steps. The sequence of steps is discussed on the basis of concept developed by Leagans (1967)

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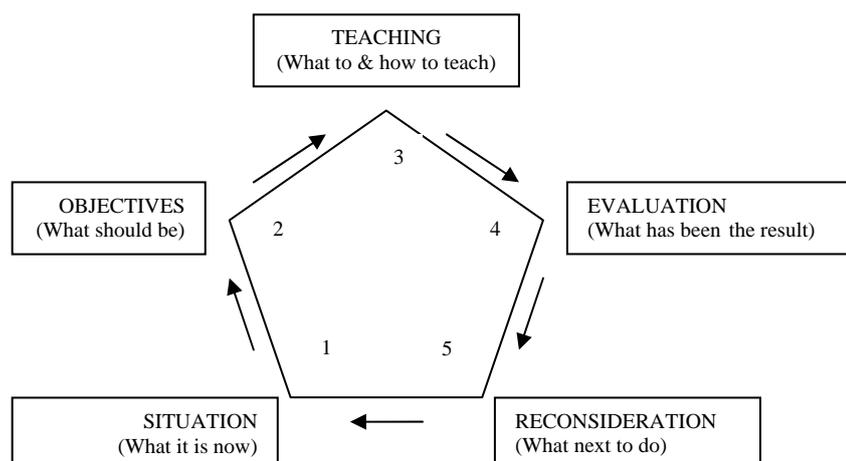


Fig.6.1 Extension Educational Process

The five steps are analyzed into respective activity with an example is shown below in Table.6.3

Table 6.3 Steps in Extension Education

Step	Activity	Example
1. Situation	Collection of data through a survey and rapport with people and analysis of the situation with local community.	The problem identified as low income to farm family from crop production
2. Objectives	Deciding on realistic objectives which may be accomplished by the community with their participation and specify the behavioral changes and socio-economic outcome desired.	The data analysis reveals that poor seed quality and low fertilized use are affecting crop yield and by taking into consideration the capacity and resources available to people, say 20% increase in crop yield within a fixed time period is set as the objective. It is estimated that the yield increase shall increase the income
3. Teaching	Teaching the people by selecting appropriate training material (content) and methods/aids	Technologies like high yielding hybrid varieties and balanced fertilizers as contents of the teaching program, method and result demonstrations, farm publication as teaching methods and video as teaching aid may be selected.
4. Evaluation	Evaluating the teaching by determining the extent to which the objectives have been reached through a re-survey at the end of specified time period.	Re-survey reveals that the yield increase is 12%, a gap of 8% against the set objective of 20%. It also highlights deficiencies in the educational process as some additional factors such as inefficient water use and lack of credit have contributed for the gap to exist.
5. Reconsideration	Reconsideration of the entire extension educational program	Discuss with people the results of evaluation and set up training program on water

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	so that the additional field problems identified could be the starting point for the next phase of educational program	management and facilitation for credit access.
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Thus, the continuous process of extension education shall go on, resulting in progress of the people from a less desirable to a more desirable situation.

6.3 Teaching Process

It should be clear by now that an understanding of the teaching-learning process is essential to have a grasp of the meaning of extension. Teaching is the process of arranging situations in which the important things to be learned are called to the attention of the learners, their interest developed, desire aroused and action promoted.

6.3.1 Criteria for Effective Extension Teaching

Extension teaching is a planned and deliberate act on the Extension Agent. The Extension Agent has to move step by step in a scientific and logical way to impart training to the clientele who are the farmers, farm women and rural youth. Eight criteria for effective extension teaching, according to Leagans (1961), are presented below in Table 6.4.

Table 6.4 Criteria for Effective Extension Training

Criterion	Requirements
Objectives	Teaching must be clearly conceived and specifically defined with clear-cut conception about what to achieve. Aspects to be considered in deciding the teaching objectives are, (a) people to be taught, (b) behavioral changes to be developed, (c) content of subject matter to bring about the behavioral change, and (d) actual situation where the action is going to take place.
Learning situation	This consists of five inter-related elements: (a) Instructor – the Extension Agent, (b) learners – the farmers, farm women and rural youth, (c) subject matter – the message, (d) teaching materials – seeds, fertilizer, audio-visuals, etc, and (e) physical facilities – suitable land for demonstrations, hall for lectures, etc.
Communication	This involves the transfer of knowledge from a source to one or more receivers. To be effective, extension training must take into account the proper functioning of the elements of communication – communicator, message, channel, treatment and presentation, audience and audience response. Effective communication requires feedback information.
Content and method	Content means what to teach, the subject matter, which should be relevant to the audience. Method means how to teach, the delivery system, and should be selected and combined to suit the needs of the situation.
Intentional process	Teaching should be properly planned and designed on the basis of available research findings and relevant data on the situation. It is essential that people are motivated through the teaching.
Learning	The meaning of what is taught should be understood and internalized by the learners. This usually requires a combination of teaching methods and aids relevant to a particular situation. An effective learning experience is one which results in a maximum number of desirable changes in the behavior of

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	the learners.
Accomplish changes	Desirable changes in the knowledge, skills, attitudes, understanding, goals, actions, and confidence of the people are to be achieved in relation to the topic being taught.
Result evaluation	To what degree the teaching has been effective in reaching the set objectives by bringing about the desirable behavioral changes should be assessed or evaluated.

6.3.2 Steps in Extension Training

Extension teaching is a planned and deliberate act on the part of the Extension Agent. He has to move step by step in a scientific and logical way to impart training to the clients who are farmers, farm women and rural youth. The role of the Extension Agent is that of a facilitator and motivator. Though details of the procedure may vary from situation to situation, there are some steps which are basic to extension teaching. These are presented in the Table 6.5 below.

Table 6.5 Steps in Extension Training

Item	Activity	Method (as examples)
Attention	Make people aware of new idea or practice as starting point of change.	Mass media like radio, TV, exhibition, etc, and personal contact, contact through local leaders.
Interest	Stimulate their interest by furnishing more information in a way they will be able to understand and use. It is prudent to offer one idea at a time which is relevant to their need.	Personal contact by Extension Agent, contact through local leaders, farm publications, radio, TV.
Desire	Motivate the people to change the existing behavior by emphasizing on the advantages of the new idea or practice.	Visit to demonstrations, farm publications, personal contact by Extension Agent, group discussions, etc.
Conviction	Persuade the people to convince them about the applicability of the new idea or practice in their own situation and its benefits to them	Field day or farmer's day, videos, personal contact by Extension Agent and training.
Action	Put the idea or practice into operation in small-scale demonstrations with supply of critical inputs in farmers fields. This provides direct experience to the learners. Collect data on changes such as yield, income, behavior, etc.	Demonstration, personal contact by the Extension Agent, supply of critical inputs and ensuring essential services.
Satisfaction	Produce satisfying results by improved yields, income, etc. to reinforce learning and develop confidence which motivates further change.	Mass media, local leaders and personal contact by Extension Agent.

The steps in extension teaching should be synchronized with the innovation-decision process of the adopters.

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6.4 Learning Process

Learning is the process by which an individual, through one's own efforts and abilities changes the behavior. A central problem in getting adults to learn is that of motivation. Motivation largely determines the rate of learning. Desire to learn must be aroused by the Extension Agent adopting methods appropriate to the situation. To learn, the adult must find meaning and significance in the subject matter to be learned.

6.4.1 Psychology of Learning

Acquisition of knowledge and development of understanding are important aspects of learning. People learn a lot from their own experience and their own experiments, from watching others' actions, from discussion with others and from media. Some concepts relating to learning advanced by van den Ban and Hawkins (1996) are discussed below.

a) Law of Effect

This basic law states that an action which leads to a desirable outcome is likely to be repeated in similar circumstances.

Example:

If application of a new input or method increases production, it may be regarded as a reward. This reinforces motivation and learning, and the people may continue use of the input or method.

b) Self-Efficacy

It is the perception people have of their ability to perform a certain task well. If people with a high level of self-efficacy fail to obtain the desired results, they shall try again and/or try to discover what they can do better.

Example:

Poor farmers with little education often are apathetic, because all attempts to improve their situation have failed in the past due to lack of resources, lack of power and or lack of knowledge of innovations. If the Extension Agents wish to change their attitude, they should start with small changes which are successful. If any attempt to help farmer fails for some reason, it shall confirm the farmers' conviction that it is impossible for them to improve their situation and that nobody is really interested in helping them.

c) Observation, Analysis and Interpretation

A keen observation of objects and events, their analysis in proper perspective and interpreting the situation, i.e., making generalizations, are important steps in the learning process. This provides an individual a direct and personal opportunity for learning. Extension Agents can help the process and thereby build up solid experiences in the people.

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Example:

IPM in rice in Indonesia, farmers learned about pests and predators and the latter's influence on pest populations in the field by direct observation and analysis at the Farmers Field Schools. This led the farmers away from indiscriminate use of pesticides resulting in improved farm income through increased in crop yields and reduced pesticide use.

d) Learning Through Others Experience

This is an indirect and conscious method of learning and much time and labor of an individual may be saved in gaining new experience. By observing what others are doing and discussing the actions and consequences with them, one can get the results of a new test or trial without personally taking the trouble or risk in conducting it. This method is also known as social training.

e) The Motivation to Learn

Motivation refers to the inner state of mind that energize, activate or move and direct human behavior towards goals. It is a need satisfying and goal seeking behavior. Motivation is a generalized term which includes drives, desires, needs, and similar forces. It may generate at two levels.

- i) Intrinsic motivation: It is the motivation which generates from within ones' own self. For example, the satisfaction of doing good work may itself be perceived as a reward, which may motivate an individual to do better work and progress further.
- ii) Extrinsic motivation: It is the motivation which generate from an artificially induced incentive, e.g., certificates, prizes, etc.

Intrinsic motivation produces a stronger and more permanent drive in comparison with to extrinsic motivation and is considered more important in extension training and extension in general.

A number of forces act as motivating factors and those which are more relevant for the rural people are presented below.

- i) Security: People are in need of economic, social, psychological and spiritual security, so that they may feel safe. The farmers may be motivated to adopt new practices by convincing them to that the new practice shall increase income and employment, and thereby enhance security of the family.

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- ii) **New Experience:** People are attracted towards new situations, new ideas, new interests, and new ways of doing things. Extension teaching provides new knowledge, new skills and new attitudes and satisfies a basic human desire.
- iii) **Response:** People need companionship and a feeling of belongingness in the society they live. Extension satisfies this need by encouraging people to learn and work together in groups.
- iv) **Recognition:** It is well known that humans crave for status, prestige and for being considered as important. Adoption leadership acquired through learning builds up prestige and recognition for the people in the rural community.

Motivated people tend to be very active learners, though high levels of motivation may lead to learning blocks if the learners do not succeed in their learning tasks. It is always more rewarding to find one's own solution to a problem than to be given the solution by someone else.

6.4.2 Learning Situation

An effective learning situation is one in which all the elements for promoting learning are present in a dynamic relationship with one another. Conditions under which effective learning can take place are presented, after Leagans (1961), in Table 6.6.

Table 6.6 Criteria for Effective Learning

Category	Description	Requirement
Learners	Persons who want and need to learn (farmers, farm women , rural youth) occupy the central position	They should be: capable of learning, interested in the subject, needing the information offered, and able to use the information once gained.
Teachers	Extension Agents who impart training and motivate the learners.	They should be: equipped with clear-cut, purposeful objectives, knowledgeable about the subject matter and have it well organized, enthusiastic and interested in the listeners, able to communicate and skilled in using teaching aids, and able to encourage participation of people.
Subject matter	Content or topic of teaching that is useful to the learners	It should be: pertinent to listeners' needs, applicable to their real life situations, well organized and presented logically and clearly, consistent with overall objectives, and challenging, satisfying and significant to learners.
Teaching	Appropriate	They should be:

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materials	instructional materials, equipments and aids	suitable to the subject matter and physical situation, adequate in quantity and available in time, and used skillfully.
Physical facilities	Appropriate physical environment in which teaching-learning can take place	They should be: compatible with the objectives, representative of the area and situation, and adequate and easily accessible

6.5 Learning as Applicable to Extension

There are some principles of learning which are very well applicable in extension. These principles (shown in Table 6.7) may provide good guidance for making learning in extension effective.

Table 6.7 Principles of Learning

Principle	Description	Example
Self-activity	Learning is an active process on the part of the learners.	Conducting demonstrations by farmers in their own fields provide the opportunity of self-activity. This makes learning effective and permanent.
Association	New learning may be associated with previous successful and satisfying responses.	When the farmer has obtained high returns by application of N, they may be motivated to use balanced NPK fertilizers for still higher returns.
Transfer	Unless the knowledge or learning acquired can be applied, it remains very much restricted with little spreading.	When the farmers have learnt the technique of water management, they should be able to use this method for other crops as well.
Disassociation	For effective learning, undesirable responses are to be eliminated.	When straight fertilizers give better yields, farmers may be advised not to use mixtures
Readiness	Learning takes place more effectively when one is ready to learn.	When farmers are ready to cooperate, they may be able to form a legal body to serve collective needs such as inputs, marketing, etc.
Attitude	Favorable attitude accelerates learning and adoption.	When farmers develop a favorable attitude towards results of demonstrations, they shall learn the importance of adopting them in own situation.
Practice	The practice must be correct, or else there will be wrong learning. Perfection is seldom achieved without practice.	Learning to use a sprayer correctly requires practice several times over.
Motivation	Motivation means stimulation towards action. It is essential for learning, and the practice recommended must be motivating enough for learning to take place.	

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Timing	Other things being equal, learning takes place more rapidly if the topic or skill is introduced at a time when it can be applied in a serviceable manner.	When insects appear or are likely to appear in crops, farmers shall readily learn about plant protection.
Clarity of objectives	For learning to be meaningful, its objectives should be very clear. This will ease the learning process and make subject matter presented interesting to the learner..	When farmers use crop loan only for growing crops, they are clear about the objective of getting the loan. This enables the farmers to learn about proper utilization, repayment and take further loans if necessary
Satisfying-ness	Satisfying results, as a consequence of learning, reinforce the importance of learning.	Crops grown in green houses give higher returns and satisfaction to farmers than those in open fields. Farmers learn to invest more and take better care for crops in green houses.

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CHAPTER 7 RURAL SOCIOLOGY

Clear understanding and appreciation of the rural people in the proper perspective is an essential prerequisite for effective extension work. The Extension Agent may possess high technical competency, but such competency cannot compensate for lack of knowledge on how to work with rural people. Effective introduction of improved practices is not possible without an effective approach based on proper knowledge and understanding of the farmer and the social and cultural context within which he operates. Rural sociology acquaints the Extension Agent with intricacies of behavior of the rural people that he serves.

Rural sociology may be defined as the study of relationships in human societies in rural situations. Society refers to a group of people who have lived together, sharing common values and general interests, long enough to be considered by others or by themselves as a unit

Rural societies differ from urban societies in a number of ways including pattern of occupation and location of residences. Behavior, life style and beliefs of people in rural societies are conditioned and deeply influenced by their rural environment.

Learning sociological concepts equips the Extension Agent with scientific methods of thinking, analysis and action. These methods are being refined and tried out so that they may acquire increasing effectiveness in promotion of change among rural people for development of their lives and village communities. This chapter intended to introduce terminology and some of the general concepts of rural sociology with comments on their significance. Selected items, particularly those that have a direct bearing on extension are described briefly.

7.1. Social Structure

The social structure refers to the systematic arrangement of various units in the rural society from the smallest to the larger discernible entities. The units that form the social structure are identified below.

7.1.1 Family

It is the basic unit of the society and the basic unit for extension as well. Family is a system of organized relationships involving workable and dependable ways of meeting basic social needs. The common tasks fulfilled by family in society may be listed as follows.

- a) Procreation,
- b) Providing sustenance, affection, love and security of dependents, specially the children and the aged,

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- c) Furnishing education for the young, thus passing down from generation to generation accumulated knowledge, traditions, values and techniques,
- d) Providing class status to the individual of the family into which he/she has been born,
- e) Socialization
- f) Providing cooperative group interaction necessary for production or earning a living, consumption, recreation, worship and companionship.

The family has tremendous influence on the individual, his behavior and his actions, as it moulds him from infancy and has significant influence on the development of his personality.

7.1.2 Group

A group is a unit of two or more people in reciprocal interaction or communication with each other. People may associate in groups based on their common ancestry, common territory, common interest, etc. Groups are formed to satisfy human needs, physiological, psychological or both, and may be temporary or more permanent in nature.

A group may be organized whenever several persons feel that there is a need that cannot be satisfied by acting individually, with or without a stimulus from outside. It may take place if there is no group in existence to address the particular need, or the existing similar group is located outside the community or it cannot serve the need adequately.

- a) Group integration or cohesiveness

In a group, the members must remain together to ensure its stability. The force that acts on members of a group to make them remain in the group rests on the group integration or cohesiveness. Factors that determine the group integration or cohesiveness have been identified as follows.

- i) Homogeneity: Usually results from common interests, shared values, similar characteristics and norms of behavior, consensus on operational procedures, etc. The extent to which the group is held together is determined by the extent to which the common interests are served satisfactorily.
- ii) Size of group: Smaller groups usually exhibit informal and more intimate personal relationships among its members than a group having a larger membership.

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- iii) **Physical mobility:** The physical movement of one or several individuals belonging to a group to another location which separates them from the group may weaken the integration and cohesiveness of a group. For example, transient resident residents such as share cropping farmers.
- iv) **Effectiveness of communication:** Cohesion of a group is a function of the efficiency of communication among its members. When motivation of the members in a group is high, they tend to direct their efforts in such ways as to bring divergent attitudes into conformity with the rest of the group.

b) **Classification of Groups**

Although there is no complete classification of groups, different types of groups can be recognized based on the main group attributes or characteristics.

Table 7.1 Classification of Groups

Type	Category	Description
1	Primary	Intimate face-to-face interaction, informal personal relationships and a definite feeling of belonging on the part of the members. More permanent in nature, small in size and have the responsibility to socialize. E.g., family
	Secondary	Formal, contractual, utilitarian and goal-oriented relationships. Large in size and anonymity among members prevail. E.g., cooperative society
2	Formal	Organized, definite roles, have membership roll, operational procedures and rigidly enforced behavior for members. E.g., registered societies
	Informal	Not formally organized, rules and procedures not rigidly enforced. E.g., play groups, friendship groups
3	Involuntary	Individuals have no choice nor are they required to make an effort to be a member. E.g., membership by residency in a neighborhood or community
	Voluntary	Membership requires deliberate choice and/or some conscious effort. E.g., youth clubs

7.1.3 **Community**

The term community as applied in sociology refers to groups of mutually dependent people who are:

- a) living in a more or less compact contiguous geographical area,
- b) having a sense of belonging and sharing common values, norms and some common interests, as well as other aspects of culture, and,
- c) acting collectively in an organized manner to satisfy their chief needs through a common set of organizations and institutions.

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7.1.4 Organizations

An organization, sometimes referred to as an association is described as being an organized group of people formed in pursuit of some common interest with its own self-contained administrative structure and functionaries. Essential characteristics of organizations are listed below.

- a) Clearly defined limits
- b) Formal membership, status and roles
- c) Self-contained administrative structure
- d) Operational principles, procedures, and goals
- e) Provision for control, authority and decision making
- f) Other functions, such as:
 - i. an outlet for individual interests
 - ii. a channel for purposeful action
 - iii. a testing ground for new programs.

7.2.5 Social Institutions

An institution is an organized system of social relationships which embodies certain common values and procedures and meets certain basic needs of society. Institutions are organized systems of behavior and differ from organizations which are organized groups of people.

Five basic institutions are recognized in both rural and urban societies, namely, the family, religion, economic, government and education. Of these, the family has been dealt with as a unit of social structure in Section 7.1

7.2 Social Stratification

In their interrelationships, people tend to classify themselves or groups within higher or lower positions. Social stratification refers to the arrangement of individuals or groups of people into hierarchically arranged strata in a community. Even in what appears to be a homogeneous community, there may be internal inequities or divisions. These divisions become patterned and stabilized over time, with unequal distribution of privileges, power and status positions. Each stratum of society is only relatively homogenous as distinct from other strata. Further, the privileges and rewards enjoyed or restrictions imposed may or may not be related to needs of society. However, it does not necessarily follow that all differentiation leads to stratification in society as

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there exist forces, both internal and external to fix and to eliminate differences among people.

7.2.1 Features

Three features of social stratification are emphasized for greater comprehension. They are:

- a) It is a socially accepted cultural pattern that assigns members of society a general position in the structure of society,
- b) It is superimposed by members of society by tradition, without either the will or conscious knowledge of the majority, and
- c) It involves a system of differential privileges, i.e., unequal distribution of privileges, goods, services, etc., among members belonging to different social strata.

7.3.2 Functions

Main function of stratification in a society is to serve as means of,

- a) accomplishing essential jobs in society,
- b) regulating and controlling individual and group relationships, and
- c) contributing to social integration and structure

Social stratification may not be desirable from an idealistic sentiment of a ‘need for classlessness and equity’. Extension Agent should, however, recognize their existence, understand and appreciate their relevance and influence on behavior.

7.3 Social Interactions

Social interaction is defined as the dynamic interplay of forces in which contact between individuals or groups results in a modification of the attitudes and behavior of the participants. The interaction processes can be classified according to their cooperative (or positive) and oppositional (or negative) nature as presented in Table 7.2.

Table 7.2 Classification of Social Interaction Processes

Interaction	Type	Description
Cooperative or Positive	Cooperation	Working together towards common objectives or goals. It may be informal (as found within the family, between families, etc.) or formal (legal type as found in organizations like registered societies, etc).
	Accommodation	It is a process of getting along despite differences (as in compromises, tolerance, arbitrations, truce, etc). This

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		results when persons and groups accept each others' views and develop a common understanding.
	Assimilation	Fusing or blending by which cultural differences tend to disappear. It implies complete merging of divergent cultural groups within a society.
Oppositional or Negative	Competitive	It is the process by which persons or groups compete with each other for resources or to reach a goal. (as competition for profit, competition for ownership and control, etc). Competition may have both negative and positive aspects. Too much competition may result in tension and feeling of insecurity resulting in withdrawal of the failures. On the other hand, it may motivate people to strive for excellence and achieve the desired goals.
	Conflict	It is the struggle in which the competing parties, in their attempt to reach the goal, try to eliminate, abolish, wipe-out or make the other party ineffectual. Conflicts emerge as a result of opposing interests, are generally intermittent and arise at times of crises.

7.4 Culture

Culture may be defined as the continually changing patterns of learned behavior and the products of learned behavior (including attitudes, values, knowledge, and material objects) which are shared by and transmitted among members of society. Thus, one may speak of material culture which include house, food, clothing, tools, equipment, technology etc., or non-material culture which include social institutions, education, political organization, system of government, etc. The key phrases of the definition are briefly explained below.

7.4.1 Continually Changing

It is incorrect to assume that culture is static and that unless man works purposefully to change it, it will remain unchanged. Change occurs because it is an inherent part of culture.

7.4.2 Learned Behavior

Culture refers to the learned behavior that is acquired, consciously or unconsciously through formal and informal agents, after birth and through life. The learned behavior fits into patterns of individual behavior as well as interpersonal relationships; reciprocal and complementary behavior.

7.4.3 Products of Learned Behavior

During the process of learning the correct forms of behavior change, the person may himself change and the behavior that he passes on would have been modified through his experience. Human behavior is, therefore, the result of learned behavior. Two types of products of learned behavior have been identified.

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- a) Attitude, value, belief:
 - i) Attitude can be loosely defined as a tendency to act in some way toward some object, person, situation, or idea. In general, it is a feeling of like, dislike, attraction, repulsion, interest or apathy toward other persons, objects, situations or ideas.
 - ii) Value refers to what people consider as valuable and desirable, and it is expressed as conception of the desirable, as standard of evaluation, as guide for decision making process or simply as expression of preference.
 - iii) Belief which is closely related to value, is the mental conviction one has about the truth or actuality of something. It refers to what people believe or accept to be true, for example, belief on what is right and wrong, proper and improper, lucky and unlucky, etc.
- b) Material Objects

7.5 Leadership

Within the power structure of every society certain vital, integral individuals operate within groups to promote, stimulate, guide, or otherwise influence members to action. Such activity has been called leadership, and the individuals have been referred to as leaders.

Leadership was considered at one time to be a set of traits handed down chiefly through heredity from one person to another. Thus, positions of leadership were restricted to individuals belonging to certain strata of society commonly deemed as worthy and suitable. However, with gradual elimination of social and economic barriers over time, leaders began to emerge from other strata thereby breaking the monopoly of few favored familial groups or social strata. Some of the concepts developed to describe leadership traits and characteristics are listed below.

- a) Leadership emerged as a function of traits of character such as intelligence, integrity, courage, wisdom and judgment.
- b) Leadership emerged as a function of acquired traits and characteristics learned through special training,
- c) Traits which are relevant to leadership roles are not rare, and may be distributed widely in a population making many individuals eligible for leadership positions.

7.5.1 Basic Elements of Leadership

- a) Role relationships

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Implied in the concept of leadership is the act of leading towards a common goal. Four basic elements in the leadership relationships have been identified.

- i) **Leader:** The leader may repeatedly perform functions and acts of leadership in the group over a varying period of time. The fact that the leader assumes the leadership does not preclude other members of the group from performing similar functions from time to time in various ways. Leadership can be dispersed among members of the group, but lies particularly in the leader.
- ii) **Followers:** The members in the group who allow themselves to be influenced by the leader, the followers, also have active roles to play. Their active interaction is essential for common movement toward desired goals.
- iii) **Situation:** The situation includes interpersonal relationships within the group, characteristics of the group as a unit, cultural context within which the group exists and the physical conditions within which the group is to act.
- iv) **Task:** The task defines the activities which are to be performed in common movement and achievement of desired goals by the group. These tasks set varying demands and requirements for leadership and, therefore, their nature is of importance for the motivation of the leaders.

b) **Competency**

Persons who perform functions of leadership effectively should possess specific knowledge, skills and attitude appropriate to the task.

c) **Performance**

Four specific elements of leadership are identified in relation to the performance of the leaders.

- i) **Role performance:** Leadership does not consist merely of prestige, status or competence but always refer to and involves effective action.
- ii) **Social interaction:** Leadership necessarily involves social interaction with individuals within and outside the group. Without interaction there can be no leadership.
- iii) **Position of centrality:** Leaders must occupy a position of centrality so that he is the focal point for the activity of his group.
- iv) **Collective action:** The central influence of the leader must be related to the collective action taken by the group

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d) Accumulation

There is the tendency to accumulate leadership even when not desired. An individual who plays an effective leadership role in a particular social situation may be persuaded by members of the group to assume the leadership role repeatedly.

e) Approaches

Two patterns of leadership based on divergent philosophies have been developed.

- i) Leader-centered leadership: This is a positive approach which follows directing the masses of people in the society by a controlling elite, the leaders. The basic approach would be to identify a select group of leaders, give them sound training on diagnostic and analytical methods as a basis of planning group activities, and impart to them effective skills for influencing others to accept these plans and to implement them.
- ii) Group-centered leadership: This approach places emphasis on enhancement of the group rather than on the individual who is its leader. It is believed that the leadership qualities are not the monopoly of one individual but dispersed among the members of the group and that each member has potential leadership qualities that contribute to leadership and function of the group in various social situations.

7.6 Social Change

Social change occurs in all societies irrespective of type or location of human society as an inevitable process. The terms social change and cultural change are frequently used interchangeably since a practical distinction between the two is not always possible. Social progress, on the other hand differs from social change in that the former refers to a changes in a desirable direction.

Social change may be influenced by programs of promoted change such as agricultural extension or rural development programs. Some change certainly is a manifestation of the process of change that normally takes place in society. Programs and conditions may, therefore, be considered as factors that serve to retard or accelerate change and influence its direction.

7.6.1 Some General Aspects of Social Change

- a) A single factor may trigger a particular change, but social change invariably results from interaction of a number of factors because of the mutual interdependence of social phenomena.

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- b) Social change in one aspect of life gives rise to a chain reaction of changes in other factors, e.g., a change in the social equity of women may set in motion a chain reaction of changes involving the home, family relationships and structure and economic conditions in the rural society.
- c) Social change may occur as modification and replacement of material goods in society and social relationship, e.g., modification of diet by food habits or replacement of traditional ideas in agriculture by new scientific technology.
- d) Social change may be planned or unplanned. Plans and programs of promoted change such as those for community development, introduction of new agricultural technologies, etc., are deliberately induced by human effort. Unplanned change refers to change resulting from natural calamities such as earthquakes, floods or droughts which may bring with them drastic changes in society.

7.6.2 Dimensions of Social Change

Three major dimensions for analysis of social change have been identified.

a) Structural Dimension

Changes in the structural dimension refer to changes in structural forms of society involving changes in roles, emergence of new roles, change in social institutions such as family, the government and educational system,

b) Cultural Dimension

Changes in cultural dimension refer to changes that take place in the culture of the society, such as through discovery, invention, new technology, and contact with other cultures involving diffusion. It involves integration of new elements into the culture, replacement of old forms, rejection or modification of some new elements and forms.

c) Inter-actional Dimension

Inter-actional dimension of social change refers to changes in social relationships in society as identified under five dimensions, namely, the frequency, social distance, directionality, instrumentality and form.

7.6.3 Factors in Social Change

Social change results from the interplay of several factors, and may be classified under three main categories, namely, geographic (agro-ecological conditions), biological (non-human environment) and cultural (contact with different cultures,

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diffusion, invention, borrowing, etc.). Each category contains several interrelated factors that react constantly to produce change in society.

7.6.4 Rate of Social Change

While change occurs in all societies, its rate varies from one society to another. Some of the factors that influence the rate the change are listed below.

- a) Physical environment
- b) Integration of institutions in society
- c) Social values, attitudes and norms
- d) The cultural base
- e) The role of innovator and political leadership
- f) Population changes

7.6.5 Acceptance of and Resistance to Social Change

Innovations are constantly appearing in society. Some are accepted while others are rejected or ignored. There are several factors that are associated with either acceptance or rejection of change brought about by innovations. Many of these factors are closely related to the culture of the society concerned. Understanding these factors are of considerable practical significance to programs of promoted change. Some of the important ones are briefly discussed below.

a) The Need for Change

To be accepted, the change must be recognized by the society as important and contributes significantly for achievement of social goals.

b) Provision of greater Satisfaction

The rewards derived from change must provide greater satisfaction to society than from the previous situation and adequately compensate for the hardship that society may have undergone during its implementation.

c) Demonstrated Utility

When proved to be of greater usefulness, the acceptance of both material and non-material change is facilitated and accelerated.

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d) Compatibility with Existing Culture

Changes are more readily accepted if they do not conflict with existing culture patterns in society.

e) Cost of Change

Change involves specific costs which the society may or may not be willing to bear.

f) The Agent of Change

The acceptance or rejection of an innovation in promoted change is largely influenced by the person, the change agent or Extension Agent, who promotes change. The personal characteristics of the change agent such as i) strategy of approach, ii) understanding of the people and context within which he promotes change, iii) technical knowledge of the change itself, and iv) skill in the use of techniques and methods of persuasion or teaching in creation of demand for change, influences the acceptance or rejection of change.

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CHAPTER 8 FARM MANAGEMENT

Present day farming has moved beyond its framework of merely providing the necessities of life to the farm family. The increasing family demand for cash has given agricultural production a market orientation, thereby introducing business component to the farming profession. On the one hand, a farmer has a certain set of farm resources such as land, labor, farm buildings, working capital, farm equipment, etc., that are relatively scarce. On the other hand, the farmer has a set of goals or objectives to achieve which may be maximum family satisfaction through increasing net farm income. This gap is bridged by the mental exercise and concentration of desire and will power of the individual farmer, to use his scarce resources in a way that desired objectives are achieved. The bridging up process necessitates taking a series of rational decisions in respect of farm resources having alternate uses and opportunities.

Thus, farm management can be defined as a science which deals with well judged and sensible decisions on the use of scarce farm resources, having alternate uses, to obtain the maximum profit and family satisfaction from the farm as a whole and under sound farming programs. In other words, farm management seeks to help the farmer in deciding problems like what to produce, how much to produce, how to produce and when to buy and sell and in organization and managerial problems relating to these problems.

Farm management is generally considered to fall in the field of micro-economics. It deals primarily with the allocation of resources at the level of an individual farm as the basic unit and covers aspects of farm business which have a bearing on the economic efficiency of the farm. The subject of farm management includes farm management research, training and extension.

8.1 Relationship with Other Sciences

Farm management is an integrating science in a sense that the facts and findings of other sciences are coordinated for solution of various problems of individual farmers with a view to achieving certain desired goals. It considers the findings of other sciences in reaching its own conclusions. This interdependency is illustrated in Fig. 8.1.

8.2 Farm Management Decisions

Farm management may in short be called a science of decision making or a science of choice. It must be emphasized that managing a farm is a continuous process of decision making. The need arises because of the changes in the farming conditions as well as changes occurring outside the farm that requires continuous adjustment of farm operations. The principle changes frequently encountered by the farmers include fluctuations in prices (both input and product), weather variations, innovations to farming practices, changes in socio-economic environment (Government policy changes, social responses, values, etc.).

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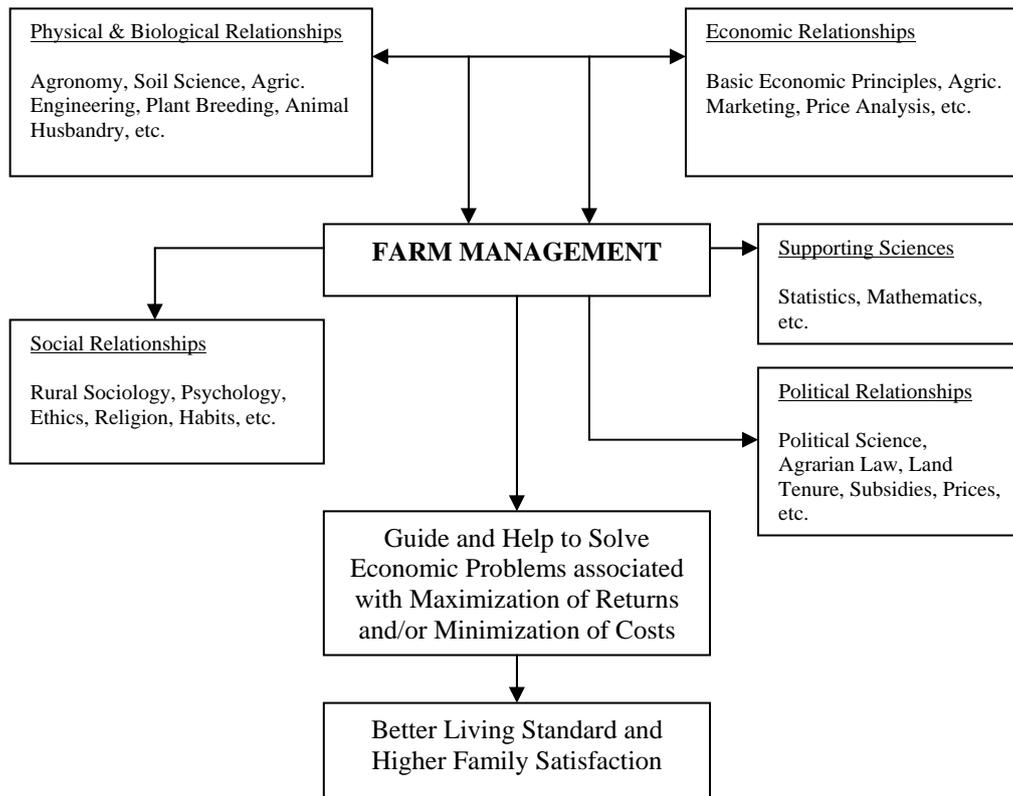


Fig. 8.1 Relationship of Farm Management with Other Sciences

8.3 Economic Principles in Farm Management

For understanding typical farm management decisions in a proper sequence, decisions can be discussed under three major headings, namely, production and organization decisions, administrative decisions and marketing decisions. A farm management decision chart is presented in Fig. 8.2, and is self explanatory.

Basically, farm management is the application of agricultural sciences and economic principles to the organization and operation of a farm business. An introduction to some of the more important economic principles that guide the farmers in making decisions in all aspects of farming are presented below.

- a) Principle of Variable Proportion - This principle has three phases:
 - i) Diminishing returns: If increasing amounts of one input are added to a production process while other inputs are held constant, the amount of added output per unit of variable input will eventually start decreasing. Operation of this universal law can be, however, be delayed by improvements in technology and/or improvements in managerial ability.

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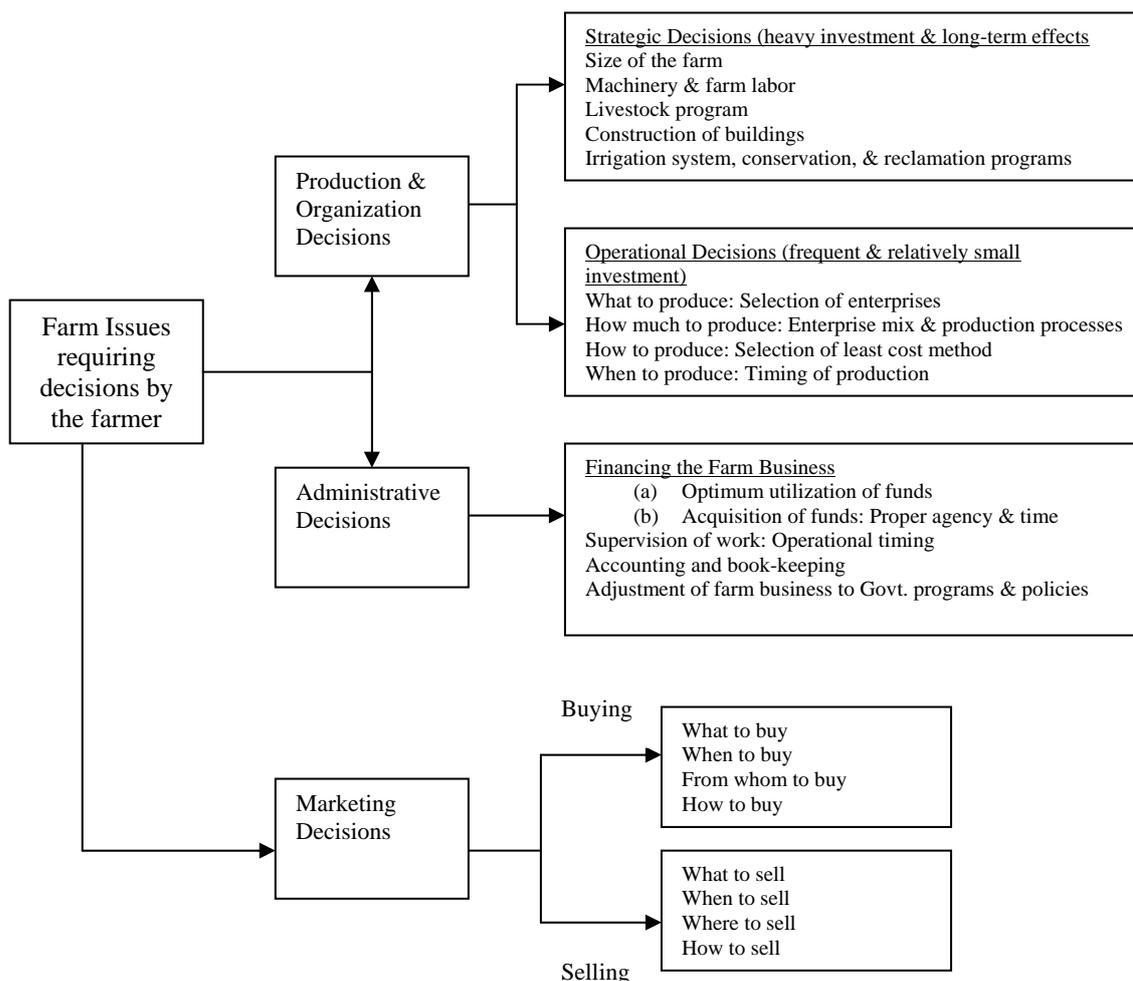


Fig.8.2 Farm Management Decision Chart

- ii) Constant returns: It means each additional unit of a variable resource adds the same amount of output to the total production. For example, another dunam added to the enterprise may be as productive as the first with same inputs.
- iii) Increasing returns: It means that added resources give increasing returns. This relationship may hold only over a very limited range of production and is applicable when all resources are increased together and not when some resources are fixed.

b) Cost Principle

Several kinds of costs are involved in even the most simple production process. Corresponding to the length of planning period (short or long), there are two major categories of costs, namely, fixed costs and variable costs.

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i) Fixed Costs

Fixed costs are costs that have to be paid whether or not production takes place. This means that they are types of expenses that cannot be avoided, no matter what is grown or raised and cannot easily be allocated directly to any particular enterprise. The services that fixed inputs provide last for more than one production cycle. Fixed costs can be divided into three broad categories.

- land, buildings and finance costs
- Machinery and depreciation
- Other costs that have to be met whether or not production takes place

ii) Variable Costs

Variable costs are costs that vary according to the level of production (i.e., increase as production increases and vice versa), and can be easily associated with specific enterprises. The services variable inputs provide usually only last for one production cycle. Some variable costs are paid for (i.e., cash inputs) and some are not paid for (i.e., non-cash inputs). Examples of variable costs of a crop enterprise are given below.

- Hired labor: It is used for tasks that require doing at times when there is insufficient family labor available.
- Seed and planting material: Home grown seeds and planting material will need to be valued at the value it could have been sold for.
- Fertilizer: Besides inorganic fertilizers, if compost and manure, which have no market for it are used, it can be valued at zero.
- Agro-chemicals and biological agents
- Sundry crop expenses: This covers any miscellaneous costs such as packing materials and marketing group membership fees.

iii) Cash and Non-cash Costs

Cash costs are incurred when resources are purchased and used immediately in the production process. Most cash costs result from purchases of non durable inputs such as fertilizers, fuel oil, casual labor, etc, which do not last more than one production period or cycle.

c) Principle of Factor Substitution (Least-cost Combination)

In agricultural production, various inputs or practices can be substituted in varying degrees for producing a given output. For

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example, hand weeding vs. machine weeding, different combinations of N, P and K in fertilizing crops, etc.

Cost minimization will not depend only upon the cost of inputs and prices of products but also on the rate of substitution. If labor costs less relative to cost of performing the operation by machine, costs may be lowered by substituting labor for machinery.

d) Principle of Equi-marginal Returns

This law is applicable when resources or inputs are limited, which is usually the case with small farmers. It provides guidance to the farmer to allocate his limited resources on several enterprises to get the maximum return from the farm

e) Principle of Opportunity Cost

As farm resources are limited, there are more than one alternative to use resources. When resources are used in one product, some alternative is always foregone. Opportunity cost is the value of the next best alternative foregone. The value of one enterprise sacrificed is the cost of producing another enterprise.

f) Principle of Combining Enterprises

This relationship addresses a common problem in the decision making process in agriculture that involves the selection of enterprise combination or product-mix. The possible relationships that can exist between different enterprises fall into four categories.

- Joint enterprises: (beef and hides, wheat and straw, cattle and manure)
- Complementary enterprises: (better corn crop after a legume crop that fixes atmospheric nitrogen)
- Supplementary enterprises: (no effect on product level one crop on another crop)
- Competitive enterprises: (change in production of one commodity affects the other commodity inversely)

8.4 Farm Records

The basis for progress and success in business is experience. Without suitable records and accurate interpretation of them, much of the value of experience is lost. To be a real asset in running a farm business, the records need to be maintained in a systematic and duly classified form so that they can be summarized to give concise and precise picture of the farm operations over the year.

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8.4.1 Advantages of Farm Records

a) Means to Higher Income

To obtain higher income, farmers must have exact knowledge about present and potential gross income and operating costs. The best way to obtain information on present results is to keep records and accounts of farm operations.

b) Way to Improve Managerial Ability of the Farmer

It helps to acquire business habits which can be of use in taking advantage if changes in the economic environment. The farmer gets a better insight into the working of his business, which helps him in finding out the defects which can be set right by exercising better control.

c) Basis for Credit Acquisition and Management

Properly kept records and accounts can demonstrate and authenticate the production and income potentials and credit worthiness of the farmer

d) Guide to Improved Home Management

Records and accounts provide information on farm-household economy, particularly where farm and home management are closely integrated.

8.4.3 Types of Farm Records

Because of the diversity of the farm situation, not all records will be of equal use on all farms. What kinds of records to keep will depend on what information one wishes to have. There are many kinds of farm records each of which can be adopted for a given purpose on a particular farm situation. There are no hard and fast rules for the preparation of farm record forms and they can vary with the purpose, system of farming, level of understanding and capacity of the farmer.

A complete farm record system consists of three parts, namely, the physical farm records, the financial farm records and the supplementary farm records. However, presentation of all these farm records is beyond the scope of this manual. A set of typical farm record forms for a crop enterprise is presented as a useful starting point for designing of a similar set appropriate to the local farming conditions. The forms are developed based on 'Helping Small Farmers Think About Better Growing and Marketing: FAO Pacific Farm Management and Marketing Series 3, FAO Rome (2004).

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a) **General Information (Refer Sheet AE-05-01)**

The information needs to be collected once per production cycle. Hired farm hands refer to hired laborers who work in the farm on a regular basis.

b) **Sketch Map of Farm (Refer Sheet AE-05-02)**

Farm map is one of the most simple and brief record of the arrangement of farm features. The map should indicate the farm plots by numbers. However, the farm map does not replace the actual observation of the physical situation or location of the farm. Soil and contour features of the farm could be incorporated into this map, if available.

c) **Land Utilization Record (Refer Sheet AE-05-03)**

The land utilization record will summarize the seasonal land use over the years. It indicates efficiency of land use at a glance. It needs to be completed seasonally at the end of each production cycle.

b) **Cropping Pattern Record (Refer Sheet AE-05-04)**

Cropping pattern record will indicate the production cycle of each crop enterprise in the farm by season.

Column (1): Enter the plot number as shown in Sketch Map of Farm (Sheet AE-05-02)

Column (2): Enter each crop enterprise

Column (3): Enter the season/year in which the crop is cultivated.

Column (4): Record extent of land area in dunams.

Column (5): Indicate whether production is in Green House or open Field conditions.

Column (6): Dates of planting, commencement and end of harvesting to be recorded in the appropriate monthly Columns. The crop growing period and the crop harvesting period may be indicated by a bar using different color codes.

c) **Labor Activity Form (Refer Sheet AE-05-05)**

The form needs to be completed every time some work is done on the plot. It is advisable to record the labor activity as soon as possible as it has been done. It is often underreported or underestimated.

Fill out the details on crop enterprise at the top of the table

Column (1): Record the day work was done on the plot.

Column (2): Record the date work was done on the plot.

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- Column (3): Record the activity done on that plot on that day (land preparation, mulching, planting, weeding, fertilizer application, harvesting, etc.).
- Column (4): If while working in the plot, inputs are added, then these should be recorded (seedlings, mulch, manure, fertilizers, irrigation, herbicides, etc.). This should be followed by filling up of Non-labor Input Form (Sheet AE-05-06).
- Column (5): This refers only to family labor – unpaid labor. (3 sub-
(5a): Record the number of family members who worked on that enterprise and that operation that day.
(5b): Record the type of units that you measure labor time, say hours.
(5c): Record the total number of units all the family members worked on that enterprise and that operation that day (Column (5a) x Column (5b)). At the end of the crop cycle, these figures can be added up to give the total family labor expended on that enterprise plot.
- Column (6): This refers only to hired labor – paid labor (5 sub-columns)
(6a): Record the number of hired laborers who worked on that enterprise and that operation that day.
(6b): Record the type of units that you measure labor time, say hours.
(6c): Record the total number of units all the hired laborers worked on that enterprise and that operation that day (Column (6a) x Column (6b)). At the end of the crop cycle, these figures can be added up to give the total hired labor expended on that enterprise plot.
(6d): Record the cost per unit of labor (per unit of labor of what has been entered in Column (6b). If the worker is paid on monthly basis, it is necessary to work out the equivalent in terms of the unit in Column (6b)).
6(e): Record the total cost of the hired labor for that operation on that day (Column (6c) x Column (6d)). At the end of the crop cycle, these figures can be added up to give the total cost of hired labor expended on that enterprise plot.

(f) Non-labor Inputs Form (**Refer Sheet AE-05-06**)

This record must be completed every time an entry appears in Column (4) of the Labor Activity Form (Sheet AE-05-05), which is every time an input (non-labor) is applied to the enterprise.

Fill out the details on crop enterprise at the top of the table.

Column (1): Record the day non-labor inputs were added on the enterprise.

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- Column (2): Record the date non-labor inputs were added on the enterprise.
- Column (3): Record the input that was applied (seeds, seedlings, mulch, compost, fertilizer, agro-chemicals, etc.). This should be same as that entered in the input column, i.e., Column (4) of the Labor Activity Form (Sheet AE-05-05).
- Column (4): Describe the input in more detail (e.g., crop variety, type of fertilizer, etc.).
- Column (5): Indicate units the input was measured (e.g., kg, liters, numbers, baskets, etc.).
- Column (6): Record the number of units (Column (5)) applied to the plot.
- Column (7): If the input is paid for, enter **Y** in the cell. If the input is free (no cost), then enter **N** in this column.
- Column (8): If no (N) is entered in Column (7), then indicate where it came from as follows.
- From the farmers farm **(F)**
 - From another farm **(A)**
 - From a donor agency **(D)**
 - From landowner **(L)**
 - From somewhere else **(S)**
- Column (9): These columns must be completed if yes (**Y**) appears in Column (7). Enter the cost per unit indicated in Column (5).
- Column (10): If (Y) appears in Column (7), indicate the total cost of that input applied to that enterprise (Column (6) x Column (9)).

(g) Record of Crop Harvested and Sold (**Refer Sheet AE-05-07**)

Farmers often harvest in standardized plastic baskets and generally know the capacity in terms of the weight per basket. If farmers weigh the crop after harvesting or at the time of selling, only the total weight harvested and sold need to be entered.

Fill out the details on crop enterprise at the top of the table.

- Column (1): Record the day on which harvesting of and sales from the enterprise took place.
- Column (2): Record the date on which harvesting of and sales from the enterprise took place.
- Column (3): Only the details of harvesting should be entered in this column. (4 sub-columns)
- (3a): Record the unit of harvest (kg, standard box, etc.).
 - (3b): Record the number of units harvested.
 - (3c): Record the average weight per unit harvested (kg of standard box, etc.)

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- (3d): Record the total weight harvested in kg (Column (3b) x Column (3c)).
- Column (4): Only the details of sales should be entered in this column. (6 sub-columns)
- (4a): Record the unit of sales (kg, standard box, etc.).
- (4b): Record the number of units sold.
- (4c): Record the average weight per unit sold (kg of standard box, etc.)
- (4d): Record the total weight sold in kg (Column (3b) x Column (3c)).
- (4e): Record the amount of NIS received per unit
- (4f): Record the total amount of NIS received by selling all the units (Column (4d) x Column (4e)).

8.5 Farm Business Analysis

Data collected through the different types of records maintained by farmers provide the basic information to carry out several types of farm business analysis. These include the gross margin analysis, partial budget, farm budgets, sensitivity analysis, labor and cash flows, net farm income estimation and introducing whole farm planning.

Gross margin analysis, one of the easiest types of financial analysis for small farmers for finding out the 'profitability' of his enterprise, is explained briefly here.

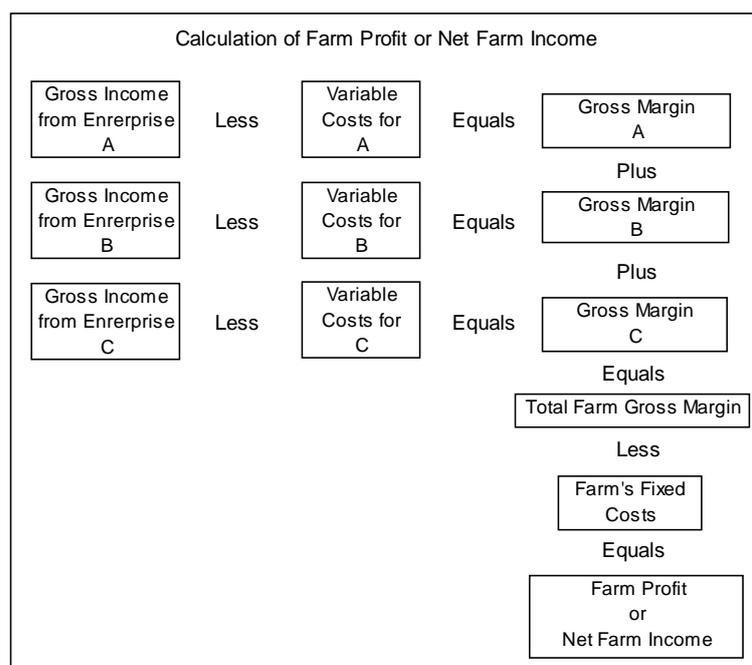
Gross margin is the gross income (value of production) less variable costs expressed, in the case of crops, terms of a unit land area (dunam or hectare). It is calculated for specific enterprise.

Gross income or value of production is production expressed in monetary terms (NIS). It includes the product sold, estimated value of product consumed by family, given away, bartered and stored in farm house. The steps in the calculation are illustrated in the Table 8.1.

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Table 8.1 Calculation of a Gross Margin for an Enterprise

Item	Size of Plot (D) dunam			
	Units	No. of Units	NIS/Unit	Total NIS
Gross Income:				
Crop sold				a
Crop not sold				b
Total Gross Income				GI = (a+b)
Variable Costs:				
Non-labor (input) costs:				
Seedlings				c
Fertilizer				d
Polythene				e
Total non-labor (input) costs				IC = (c+d+e)
Labor Costs:				
Hired	hour	H		HL
Family	hour	F		FL
Total Variable Costs:				
Total including family labor				VC=(IC+HL+FL)
Cash Costs				CC=(IC+HL)
Gross Margins:				
For plot (imputed)				GMP=(GI-VC)
Per 1dunam (imputed)				GMD=(GMP/D)x1
Per labor hour				GML=(GI-IC)/(H+F)
Per NIS cash cost				GMC=(GMP+CC)/CC



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CHAPTER 9 PLANNING AND EVALUATION

An extension program is a clearly defined written statement of situation, objectives, problems and solutions and forms the basis for extension plans. For the farmers, it shows what they can expect from the extension service and how effective the agent is. The program provides the Extension Agent a firm basis for planning extension activities on a monthly or weekly basis and for anticipating well in advance what resources will be needed. Senior extension staff and supervisors can use programs to assess agents' performance, to offer advice and training for improvement and to justify requests for additional staff, equipment and funds.

A written program can also be useful for other agencies to coordinate their activities with that of the Extension Agent, if it is made available to those concerned, as well as to a new Agent who is brought to the particular area due to staff changes so that he could carry on from where his predecessor finished, thereby ensuring the continuity of activities.

9.1 Planning Approaches

Organizations involved in agricultural development may adopt different planning procedures, particularly with regard to the extent to which the plans are made at national, regional or local level. In general, two different forms of program planning can be recognized.

9.1.1 Top-down Approach

The Agent is simply expected to implement plans made at national level. He may, for example, be given a target number of dunams to be planted with improved seeds, a specified number of farmers' groups to setup, etc.

9.1.2 Bottom-up Approach

Farmers, with their Extension Agents, make plans for developing local agriculture on the basis of local needs and potential, and then make requests for specific assistance from national and regional authorities.

Successful extension programs should include both planning approaches. National policies and programs provide a framework within which the Agent plans his local programs, and they establish priorities, which he must follow. If the national priority is to increase production of arable food crops rather than livestock products, the Agent will give the former a higher priority in his own program. National programs also make funds and inputs available for particular kinds of activity, which will influence the Agent in his local planning decisions. But agricultural improvement comes from the willing action of farmers as they try to increase their own output and living standards. Local needs, therefore, provide the motivation for agricultural development, and must be taken into account in the planning of local extension programs. Even in cases where the Agent's freedom of decision is limited by national policy and

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directives, he must still prepare a program that will enable him to fulfill those directives within his area.

In planning his extension program, the Extension Agent should, therefore balance national and local requirements. On the one hand, he should take note of national objectives, but on the other hand, he should also work with local people so that the program that emerges is theirs, and reflects their needs and what they want to see happen in the area and on their farms. The local involvement in planning is an important part of the educational process of extension. It stimulates a close analysis of farming problems and helps to build up motivation and self-confidence in using local resources to tackle them.

9.2 Steps in Program Planning

Five distinct stages identified in program planning are situation analysis, setting objectives, developing program and implementing.

9.2.1 Situation Analysis

Before an extension program can be drawn up, the existing situation must be first analyzed. Farming problems and their causes must be understood and the natural, human and other resources of the area identified. This stage involves three stages.

a) Collecting data

The Extension Agent will require information in order to have a good understanding of the situation with which he is dealing, for example, on social structure and local culture, education and literacy levels, farming systems, size of farms, local channels of communication, transport facilities, local credit systems, marketing, etc. Through constant interaction with the farming community, the Extension may already have much of the information required at his finger tips. Nevertheless, some of sources and techniques through which the he can collect additional or required data and information are presented below.

- i) Individual techniques: Individual techniques involve collecting data from farmers one at a time and include several methods.
 - Face-to face interviews
 - Key informant interviews – people who are considered experts in the community because of their position of influence.
 - Questionnaires – detailed social and economic surveys require complex questionnaires and statistical analysis, and are best left to professional researchers. But simple questionnaires can be used in this fact finding exercise and it is helpful if the extension organization provides a standard list of questions as a guide to the Agent. One way in which farmers can be brought into the planning process at this early stage is for them to do

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some of the fact-finding themselves, using simple check-lists and questionnaires, for example, to catalogue natural resources of the area.

- Direct observations
- ii) Group techniques: Group techniques allow the participants to interact with one another during the fact-finding exercise. Information can be collected in writing or orally in a group setting.
- Focus group interviews: It is a technique in which a group of people, who possess certain characteristics, for example farmers, provide data of a qualitative nature in a focused discussion. The method could be simplified to suit the purpose of the Extension Agent. Each group may consist of 6 – 8 people who discuss a common topic under the direction of the Extension Agent, assisted by a suitable person selected from the farming community to record notes of the discussion.
 - Informal group method: This category includes gathering information at group meetings and social gatherings.
 - Rapid rural appraisal and participatory rural appraisal: These are multidisciplinary approaches usually conducted by external groups and may not be within the purview of individual Extension Agents

iii) Secondary Sources

Sources such as reports on soil classification and land use surveys, water and soil analysis, farm management studies, socio-economic surveys and previous programs etc., can provide a lot of useful background information to the Extension Agent.

b) Analyzing the Data

Data and facts do not speak for themselves. It is necessary to ask why things happen in the way they do. If the farmers report that the yields have declined in recent years, the Extension Agent must look for other information that would suggest an explanation. Is it because of low rainfall, declining soil fertility, or poor seeds? The Agent must be able to separate fact from opinion and guess work. He may obtain conflicting information from two sources, but must judge which is more reliable.

c) Identifying Problems and Potential

It should now be possible to decide what the main problems facing the farmers in the area are, and what potential there is for agricultural improvement. This is where the agent's technical knowledge becomes important. Farmers may know what their problems are, but the Agent can bring his own perception of local problems based on a more scientific understanding of farming. He will

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be able to explain problems more fully and relate them to processes which farmers may not realize are in any way connected. Because of his knowledge and experience, he will have more suggestions to make how the resources of the area could be used more productively.

Throughout the situation analysis, the Extension Agent should avoid either, relying totally on his own expertise when interpreting facts and identifying problems, or leaving it entirely up to farmers to define local needs and possibilities for change. It should be a joint effort, with Agents and farmers bringing their own experience and knowledge together to reach a full understanding. If farmers are not involved fully in these activities, the Extension Agent runs the risk of misinterpreting the facts, wasting time in analysis, and almost certainly, of failing to gain the full support of farmers for the program.

A full situation analysis is not needed every year. The basic facts about the area and the people will, in most situations, not change very much from year to year. However, the Agent should review basic information each year and decide which part of it needs to be upgraded.

9.2.2 Setting Objectives

Once the existing situation has been analyzed, decisions can be made about the changes that should be brought about through an extension program. The key questions are how will local problems be solved and how will local potential be developed. Solutions will require clear, realistic objectives which should be set in three stages.

a) Finding Objectives

In looking for solutions to local problems, the Extension Agent should distinguish between technical solutions, involving improved inputs or simple changes in husbandry practices, and solutions which involve institutional changes, such as improved credit and marketing systems. Solutions involving institutional changes may require action by other agencies and at higher levels. While the Agent should certainly suggest such solutions to those responsible, there may be little that can be done locally in isolation.

The sources of ideas for developing an area's potential include:

- i) The Extension Agents own technical knowledge
- ii) Indigenous knowledge systems of the farmers
- iii) Farmers and Agents from other areas, who have tackled similar problems successfully,
- iv) Expert knowledge of Subject Matter Specialists,
- v) Applied and adoptive research which test new ideas under farm conditions,

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- vi) National priorities and directives, and
- vii) Projects which make funds available for particular activities.

b) Selecting Solutions

When selecting from among the range of solutions and possible improvements, Extension Agent and farmers should ensure that the proposed solutions conforms to the five conditions stated below.

- i) Acceptable to farmers in the area.
- ii) Technically sound and tested by research and experience elsewhere.
- iii) Consistent with national policy, and with the local activities of other agencies.
- iv) Feasible within the time and with resources available to farmers and the extension service.
- v) Within the scope of the Extension Agent's ability and job description.

The agent may find that some problems will have no feasible or acceptable solution that can be implemented locally within the period of the extension program. They may require legislation, action by other levels and by other agencies, or more research. The Agent should lessen the effect of such problems where possible and act as a channel for putting forward the case for changes to those who have the power to make them.

c) Stating Objectives

It should now be possible to state the objectives of the extension program are to be. But because his time and resources may be limited, the agent must decide which objectives have a higher priority than others. In doing so, he should consider national and Departmental priorities and the size and distribution of the benefits that will arise from a given input of time and resources.

Objectives are expression of the ends towards which our efforts are directed. In stating the objectives, it should be expressed in terms of measurable quantities such as amounts and numbers, wherever possible. Statements such as 'increased use of authorized safe chemicals' is too general and does not adequately clarify the program objective. Instead, the objective of the particular program stated as 'increase the land area in which authorized safe chemicals are used from 10% to 50%' is far more significant as it give the Agent a target to work toward, and a standard against which the effectiveness of the program can be judged at the end of the year.

The objectives of an annual extension program will state what would have been achieved by the end of the program. These statements can be broken down into intermediate steps to be taken during the year in order to achieve the program

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objectives. Again the Extension Agent will have to make choices, selecting the most appropriate steps from several possibilities.

9.2.3 Developing Extension Program

As the Extension Agent breaks down each program objective into specific steps, he will in effect be preparing the schedule of extension activities for the program period. He will decide what knowledge and skills the farmers will need; what additional technical information will be required from specialists and researchers; what extension methods should be used; and what resources and support he will need from his own and other agencies. The simplified example in the Table 9.1 below shows how an Extension Agent can develop an extension program into a schedule of field-level activities.

Table 9.1 An Extension Program (sample)

Problem	Local shortage of staple food
Potential	Some local farmers have increased corn yield by 30 – 40 percent by using improved seed and animal manure. Most farmers have plenty of manure, but do not use it.
Solutions	A. Increase size of small farms and introduce labor saving techniques. <i>Not feasible; no access to additional productive land</i> B. Encourage larger, mechanized farms to grow more food crops <i>Not feasible; poorer farm families could not buy food</i> C. Enable smaller farmers to increase yield <i>Feasible, using improved varieties and tested crop production techniques.</i>
Preferred Solution C	
Objective	Raise yields by 30 percent on 20 percent of the farms in the area in the first year.
Intermediate Objectives	<ul style="list-style-type: none"> o 50 percent of the farmers will learn of the benefits, and will acquire the skill, of using manure o 50 percent of the farmers will learn the benefits of new varieties, o 20 percent of the farmers will plant improved varieties
Plan of Work	<ul style="list-style-type: none"> o Establish demonstration plots on ten farms. o Hold public meetings with A/V presentations in ten villages to show the benefits of new varieties and improved husbandry. o Hold method demonstrations of manuring and correct spacing at the appropriate time. o Visit farms during planting season o Hold result demonstrations on selected plots to encourage more farmers to try the new varieties and practices next year.
Support Needed	<ul style="list-style-type: none"> o Subject Matter Specialist to speak at public meetings, attend demonstrations and answer farmers' questions. o Adequate supply of seeds, at right time at the local stores o Hand-out giving particulars on varieties, cultural practices and yield data for distribution among farmers.

When the planning is completed for other program objectives, the Extension Agent can compile all the plans into an overall annual work plan. He may find that he cannot possibly do everything that all the individual plans require, so some of

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the lower priority objectives may have to be dropped, or scaled down. The annual work plan does not specify what the Agent will be doing on each day during the year, but it should indicate when each extension activity will begin and end, and what resources will be needed for each.

9.2.3 Implementation

The plan of work designed in the final annual extension program of the Extension Agent is an outline of activities so arranged as to enable efficient execution of the program. To implement the program, the Extension Agent carries out the activities specified in the work plan. His detailed monthly or weekly plans will take account of progress and problems encountered in the previous periods. For example, the timing of some activities may have to be changed, or additional method demonstrations may be planned if more farmers than expected want to take part. An extension program should be flexible enough to allow the Agent to respond to circumstances in this way.

The implementation of the extension plan could be greatly assisted through regular performance appraisal meetings between the supervisor (Subject Matter Specialist) and the (employee) Extension Agent.

9.3 Evaluation

Evaluation is the process by which the effectiveness of extension is assessed. Extension programs are subjected to evaluation for several purposes, the major ones may be to:

- a) ascertain for the extension organization how well the Extension Agents perform
- b) satisfy the government that public money spent on extension is being used effectively, and
- c) permit the Extension Agent to learn from what has happened.

Evaluation is a waste of time unless the results have an influence on extension decisions.

9.3.1 Levels of Evaluation

The extension programs can be evaluated at several levels. All programs must have in-built system of evaluation to know how well the work is done. It should be a continuous process not only to measure the end result but also to ensure that all the steps are correctly followed.

- a) Activity Level

The Extension Agent can evaluate each extension activity, such as demonstrations, talks, meetings, which were all built into the extension program for a specific purpose. He should try to check, wherever possible, not

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only how well the activity itself was conducted but whether the purpose was achieved. This will usually involve finding out whether the extension activity led to any changes in one or more of the following:

- i) awareness of a particular idea, possibility or problem,
- ii) motivation to act in a particular way,
- iii) knowledge about new farming practices,
- iv) skills needed to adopt a new practice,
- v) behavior by farmers and their families.

Changes in behavior, unlike other attributes, will not happen at once and the Extension Agent has to allow sufficient time before checking these.

b) Intermediate Level

An intermediate level of evaluation is provided by the extension program itself. The Extension Agent will be constantly reviewing and evaluating his progress during the year.

Two questions are important here. Did the extension activities take place in the planned sequence and at the right time? Did these activities lead to the expected results? If the answers are negative, the Extension Agent should try to understand why. Perhaps he was over-ambitious about how many extension activities he could undertake, or may be he did not receive the support he needed from other agencies. Whatever the reason, the Extension Agent will be able to learn from the evaluation process. He should be able to make more realistic plans in the future to ensure that the necessary support and inputs are provided.

c) End Level

At the end of the year, a more thorough evaluation should be carried out in which the Agent identifies how fully each objective has been achieved. This is an important step, the evaluation of which could be made easier if the extension program had clear, precise objectives. Whether the objectives were achieved or not, it is important to ask why things turned out in the way it did. Was the outcome of the program good enough? Was it better or worse than expected? Could more have been achieved? It is by analyzing the answers to this question that the Extension Agent can learn from the past.

d) General Level

At the most general level, the effect of extension on agricultural production, family incomes and standard of living can be evaluated. An improvement in family living standards is usually an important ultimate goal of rural extension and it is, therefore, important to ask whether any improvement has occurred. Evaluation of this kind involves detailed socio-economic analyses, the results

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of which can be related to the extension inputs and activities during the program.

However, extension is not the only factor that leads to higher production and living standards; changes in prices and in the availability of inputs are two of the many additional factors that affect the level of crop and livestock production. Separating the effects of these various factors is a complex task and best left to research and evaluation staff. Nevertheless, the Extension Agent should be aware of these economic changes and regularly ask himself how much his extension activities are contributing to the economic well-being of farmers and their families. He should also observe who is benefiting from extension, whether it is shared by the broad cross-section of the farming population, for example, or is limited to few particular individuals or groups.

9.3.2 Sources of Data

There are several ways to collect information for evaluation at the village level.

a) Extension Agents Reports

It is usually the practice that the Extension Agent is required to submit regular reports to the Subject Matter Specialist or the supervisor. The Extension Agent may prepare a detailed plan of work for the specified period showing his daily activity plan and how it fit to his annual extension program. Information in these reports may be used as a basis for periodic evaluations.

b) Subject Matter Specialist/Supervisor

It is not easy for an Extension Agent to assess how well he conducts an extension activity; in particular, he cannot see himself through the eyes of the farmers who attend. It is useful, therefore, to have constructive comments from a supervisor or colleague. This could be combined with regular performance appraisal meetings to collect information for analysis.

b) Discussions

Discussions with farmers after the extension activity will reveal their immediate reactions.

c) Questionnaires

Simple check-lists and questionnaires can be used when the Extension Agent has the time and opportunity to carry out a more formal evaluation of extension activities. By asking a sample of farmer's questions on facts, before and after, say a demonstration, the Extension Agent can assess its impact on farmer's knowledge.

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d) Observation

Where changes in farming practice are concerned, observation is an accurate source of information. The Extension Agent can see whether or not his advice is being adopted on farms in the area.

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CHAPTER 10 SOME TRANDS AND CHALLENGES

10.1 Systems Perspective

In the complexity, diversity and vastness of extension work, it may be useful to think of extension in terms of a system. A system is essentially a set of assemblage of things interconnected or interdependent, so as to form a complex unity.

One systems approach identifies an agricultural knowledge system consisting of four components set in a larger context. The components are technology generation, technology transfer (knowledge and input transfer), technology utilization and agricultural policy. These components are analyzed under two headings, micro-factors and institutional factors. The macro factors include agro-ecology, political-economic, socio-cultural, policy, and infrastructure, while the institutional factors include research, education and training, input supply, credit and farmer organizations/NGOs.

10.2 Extension as a Commercial Service

Commercial extension is a rather recent phenomenon and typical of either industrialized forms of agriculture or the most modern sector of an otherwise traditional agriculture. It may be either part of the marketing strategy of input supply firms, agro-processors/exporters or a specialized consultancy service demanded by an agricultural producer. In both cases, the goal of the organization or of the individual is profit earning, which in tern is tied closely with customer satisfaction. It is argued that those who can afford should actually pay for advisory services. In the case of commercial input suppliers, the solution would be fairly simple as the costs of extension are included in the product price, as are the cost of research and advertisement. For others such as rural credit banks, processors and exporters, who may use their own extension personnel, such price adjustments may not come as easy.

As a general trend, it is observed that public extension in the industrialized countries is under pressure to introduce cost sharing or altogether commercialize extension work.

10.3 Sustainable Agriculture

Sustainability is the successful management of resources to satisfy changing human needs, while maintaining or enhancing the quality of environment and conserving natural resources. Intensive cultivation of land without conservation of soil fertility and structure, irrigation without water testing, indiscriminate use of pesticides and agro-chemical are some of the causes for degradation of the environment resulting in desertification, soil salinity and toxicity hazards.

These concerns lead to the conclusion that unless considerations of ecological sustainability coupled with those of economic efficiency in both development and dissemination of technology, the future of agriculture will be gloomy. The concept of sustainable agriculture involves the evolution of a new approach to agriculture which

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is rich in technology and information but much less intensive in energy use and market-purchased inputs. The term sustainable agriculture thus implies regenerative practices which optimally use locally available resources and natural processes, such as nutrient recycling; build on bio-diversity; regenerate and build up natural resources; and limit the use of external inputs of agro-chemicals, minerals and non-renewable energy.

A necessary condition for sustainable agriculture is that large number of farming households must be motivated to use coordinated resource management. This could be for pest management, nutrient management, aquifer and water management, coordinated livestock management, etc. The success of sustainable agriculture, therefore, depends not just on the motivations, skills and knowledge of individual farmers, but on action taken by groups or communities as a whole. This makes the task a more challenging one and the main issues relevant to extension are shown in Table below.

Table Extension Issues in Sustainable Agriculture

	Issue	Explanation
1	Visibility	An important role of extension is to make visible the state of environment and the extent to which the present farming practices are untenable. The feasibility of sustainable practices can be demonstrated and farmers can be empowered to monitor the situation on their own farms.
2	Knowledge	The location-specific nature of sustainable agriculture implies that extension must make use of farmer's knowledge and work with them. Often, indigenous practices which have been ignored under the impact of chemical farming can be fruitfully revived. Indigenous technology development and farmer experimentation can be an important 'entry point' for introducing sustainable farming practices.
3	Learning	Instead of 'transferring' technology, the Extension Agent must help farmers 'walk the learning path'. Extension Agents must strive to understand the learning processes, provide expert advice when required, convene and create learning groups and help farmers to overcome the hurdles in their profession.

10.4 Farmers Field Schools (FFS)

During the 1970s, it became apparent that pest resistance and resurgence caused by the indiscriminating use of insecticides posed an immediate threat to the gains of the 'green revolution' which doubled average rice yields in Asia. Over the ensuing years, a number of approaches were tried to bring Integrated Pest Management (IPM) to small farmers, particularly rice farmers in Asia, with mixed results. In 1989, IPM program on rice was launched as a conscious decision by the Indonesian Government,

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which is said to be the first large scale systematic attempt to introduce more sustainable agricultural practices as a national, public sector effort. The project was funded jointly by the Government, USAID and WB, and the Farmers Field School (FFS) approach to promote IPM and farmer empowerment was designed and technically supported by the FAO experts. The principles and concept of FFS are also known by several other terms such as ‘Farmer Learning Groups’, ‘IPM Club’ and ‘Farmer Study Group’, etc.

The term Farmers Field School (FFS) came from the Indonesian expression ‘Sekolah Lapangan’ meaning field school. It is a group-based learning process where farmers carried out experimental learning activities that helped them to understand the ecology of their rice fields. These activities involve simple experiments, regular field observations and group analysis. The knowledge gained from these activities enable participants to make their own locally specified decisions about crop management practices. This approach represents a radical departure from the earlier agricultural extension programs, in which farmers were expected to adopt generalized recommendations that had been formulated by specialists from outside the community. Basic concepts common to FFSs across many countries are shown in Table 10.1. The activity flow of IPM programs in a typical FFS is presented in Table 10.2.

Table 10.2 Basic Concepts of FFS

	Concept	Description
1	Adult non-formal education	FFS assumes that farmers already have a wealth of experience and knowledge. It also assumes that there may be misconceptions and bad habits learned during intensification programs (little knowledge of natural enemies, basic fear of any insect that is seen in the field, etc). Therefore, the FFSs are oriented to providing basic agro-ecological knowledge and skills, but in a participatory manner so that farmer experience is integrated into the program.
2	Technically strong facilitator	The FFS is usually initiated by an extension staff member of the extension organization, farmers’ organization or NGO. But in all cases, the person must have certain skills. Most important is that the person is killed at growing the crop concerned. In most countries, the extension staff have never grown crops ‘from seed to seed’ and most often lack confidence. For this reason, most IPM programs have begun with training field staff in season-long courses which provide basic technical skills for growing and managing an IPM crop. In these so called ‘Farmer respect course’, field staff come to realize how difficult farming is, and why farmers do not immediately ‘adopt’ their ‘extension messages’. Facilitation skills and group dynamics/group building methods are also included to strengthen education process in the FFSs.
3	Based on crop phenology and time limited	The FFSs and season long training for trainers are based on the crop phenology; seedling issues are studied during the seedling stage, fertilizer issues are discussed during high nutrient demand stages, and so on. This method allows to use the crop as a teacher, and to ensure that farmers can immediately use and practice what is being learned. The educational benefits of meeting when problems are present

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		(learner readiness), and on a recurrent basis have been studied and shown to be much more effective than intensive courses. Also the courses are delimited by the crop cycle. There is a definite beginning and end.
4	Group study	Most FFSs are organized for groups of about 25 persons who share common interests and can support each other, both with their individual experience and strengths, and to create a 'critical mass'. As individuals, trying something new is often socially inappropriate, but with group support, it may become acceptable. The number of 25 persons is roughly the number that can comfortably work together with one facilitator. Usually these 25 are sub-divided into groups of five persons so that all members can better participate in field observations, analysis, discussion and presentations.
5	FFS site	The FFSs are always held in the community where farmers live so that they can easily attend weekly and maintain the field school studies. The location may be a farmer's house or even beneath a convenient tree that is close to the learning plots. The Extension Agent travels to the site on the day of the FFS.
6	Building groups	One of the jobs of the facilitator is to assist the FFS to develop a support group so that the participants can support one another after the FFS is over. This is done by having elected officers (head, treasurer and secretary) and group identity.
7	Basic science	FFSs try to focus on basic processes through field observations, season long research studies, hands-on activities. It has been found that when farmers have learned about basics, combined with their own experiences and needs, they make decisions that are effective. When farmers have this basic knowledge, they are better clients for research and extension systems because they have more scientific questions and demands.
8	Study fields (non-risk)	The FFS has a small (usually about 1000m ³) field for group study as the core of the FFSs. The field is essential for a FFS because farmers can carryout studies without personal risk allowing them to management decisions that they may not otherwise attempt in trials on their own farms. This provides the farmer a way of testing a new method themselves before applying it to their own fields. The arrangement of this field varies based on the local conditions. Some villages may have communal lands that can used free, some villages may request on inputs, others may request compensation in case of lower yields in experiments, etc. It is important to remember, however, that this land is to be maintained by the group – not by facilitator alone – and is not a typical 'demo-plot' as traditionally used in many programs.

Table 10.2 IPM Activity Flow in an FFS

	Activity	Description
1	Test and validate	FFS method proposes that no technology will necessarily work in a new location, and therefore must be tested, validated and adopted locally. Thus, IPM methods are always tested in comparison with conventional practices. The end result is that beneficial aspects of

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		IPM are incorporated into existing practices.
2	Hands-on learning activities	Besides season-long field studies, the FFSs also use other hands-on learning activities to focus on specific concepts. Examples of such activities are the 'zoos' in which insects and disease life cycles can be observed more easily on potted plants, controlled testing of pesticide toxicity with chicks, etc. These methods provide ways for farmers to continue studying after the FFS as well as to use the same methods to help other farmers to learn about IPM as well.
3	Evaluation and certification	All FFSs include field based pre- and post-tests for the participants. Farmers with high attendance rate and who master the field test skill tests are awarded graduation certificates. For many farmers, the FFS is the first time that they have graduated from any school or received a certificate in recognition of their farming skills, a point of great pride to many families.
4	A process, not a goal	FFSs are a method to provide farmers with a learning environment so that they can achieve the goal of reducing inputs, and increasing yields and profits. In some programs, the number of FFSs or expansion of the program becomes the overwhelming target and success criteria that the quality suffers and the initial goals are not met.
5	'Work self out of a job'	The facilitator in a FFS attempts to work himself out of a job but building the capacity of the group. Indeed, many FFSs take over the job of the extension facilitator by doing farmer-to-farmer training and other local activities to strengthen other members of the community.
6	Follow-up	All FFSs normally have at least one follow-up session, the intensity of which will be determined by the motivation of the FFS participants, time constraints of participants and facilitator, and to some extent on funding. Follow-up has been known to function as little monthly session for farmers to discuss their own problems in implementing IPM to as much as farmers running to a complete FFS for other farmers. Often farmers agree to repeat the FFS process for one more season to verify findings, or to repeat the process of FFS on a new crop to learn IPM for the next crop. Some groups begin to form associations, people's organizations, and clubs that are officially or unofficially organized and carry on studying as a group. The facilitators usually becomes less central in the process if ha has done a good job, more often providing some technical backstopping and stimulation for the group.
7	Local funding goal	Some of the FFS activities focus on future planning and fund raising. There is an explicit goal for groups to become independent and seek local support separate from national funding.

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CHAPTER 11 WORKING WITH GROUPS

11.1 Introduction

Group approaches to extension were considered by the FAO as early as 1990, as a potential solution to establish an efficient agricultural system that is capable of balancing the needs of the farming community with the available personnel and other resources. Studies by Sen and Garforth (1996), Roling (1988), and others have confirmed that organized homogenous farmer groups benefited significantly from technology transfer, shown by high adoption rates, which reached all segments of the community. In comparison, the other 2 treatments, namely, single farmers and whole community, performed poorly.

Extension planners world over have to come to recognize the advantages of working with groups for agricultural extension. There are a number of reasons for emergence of this interest on group approaches, the major attributes being i) efficiency, ii) effectiveness, iii) collective action and iii) equity. These are explained in Table 11.1 below. The extension policies of MOA too, have undergone change in the recent times, where a concerted effort is being made to introduce new extension strategies based on participatory approaches that will complement the more traditional approaches. These include the Farmer Field Schools (FFSs) and Demonstration and Agricultural Research Farms (DARFs).

Table 11.1 Attributes of Group Extension Approaches

Attribute	Description
Efficiency	Group approaches can potentially provide greater coverage of the target population than would normally be possible by working with individual farmers.
Effectiveness	The location-specific nature of sustainable agriculture implies that extension must make use of farmer's knowledge and work with them. Often, indigenous practices which have been ignored under the impact of chemical farming can be fruitfully revived. Indigenous technology development and farmer experimentation can be an important 'entry point' for introducing sustainable farming practices.
Collective action	Many of the new ideas and practices being advocated by extension services may require decision at a higher level than the individual farm. Such ideas have a better chance of being accepted if they are presented to a group of farmers rather than to an individual farmer. Example: IPM
Equity	A group approach of extension has the potential to distribute the benefits equitably to all categories of farmers in the community. It also figure prominently in programs to increases equity and access for women farmers.

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11.2 Group

Small group may be defined as one having 3 – 15 members communicating freely and openly with each other and having a common purpose or goal that they work together to achieve. People generally associate in groups because of i) common ancestry, ii) shared territory in common, iii) similar body characteristics, and iv) common interest. Groups are formed to satisfy human needs: physiological, psychological or both, and to promote discipline, loyalty, group responsibility, and group pressure.

11.2.1 Classification of Groups

Although there is no complete classification of groups, different types of groups can be recognized based on the main group attributes or characteristics. These types are briefly described under different categories below.

Table 11.2 Classification of Groups

Type	Classification	Description
1	Primary groups	Characterized by intimate face-to-face interaction, informal personal relationships and a definite “we-feeling” on the part of the members. Primary groups have some permanency, are small in size and have a responsibility to socialize the individuals. Example: family
	Secondary groups	Characterized by formal, contractual, utilitarian and goal-oriented relationships. Secondary groups are large in size, have little face-to-face communication and maintain more or less anonymous relationship. Examples: Club, Cooperative society, Political party.
2	Formal groups	Formal groups are organized, have a membership roll, definite roles, procedures of operation and rigidly enforced behavior of its members. Examples: Registered farmer groups, Cooperative societies.
	Informal groups	Informal groups are not formally organized, and rules and regulations are not rigidly enforced. Examples: Farmer groups, Play groups, Friendship groups.
3	Involuntary group	Individuals who form the membership in involuntary group do not have any choice or are not required to put any effort. Examples: Membership by birth or residence such as family, neighborhood, community, etc.
	Voluntary group	Individuals who form the membership in voluntary group have some deliberate choice or put in some conscious effort. Examples: Cooperative society, Youth club.

11.2.2 Advantages and Limitations of Group

a) Advantages

From the agricultural extension view point, there are a number of advantages in working with groups rather than with farmers individually or with the general community. The main advantages are listed below.

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- i) Facilitates sharing of knowledge, experience and resources thereby strengthening the learning process of the group members and develop their capabilities.
- ii) Enables the Extension Agent to have face-to-face contact with number of people at a time.
- iii) Enables the Extension Agent to reach a select part of the target farmers, e. g, milk producers group, GAP certified group, etc.
- iv) Offer more opportunities for interaction and feedback.
- v) Improves accessibility by linking up with the Extension Agent on pre-arranged visit schedule.
- vi) More cost-effective delivery of extension services to farmers, especially small farmers as Extension Agents can reach more farmers by working with groups at no increase in cost.
- vii) Can help to reduce costs of accessing inputs through bulk sale discounts from suppliers and sharing of transport costs.
- viii) Can help to reduce costs of marketing and selling through sharing of storage, processing, transport and selling costs.
- ix) Opens up an opportunity for greater credit access from financial institutions at reduced individual expense against group savings/credit accounts.
- x) Programs are more likely to be sustained after outside funding and support are reduced or withdrawn.

b) Limitations

There are a few disadvantages in working with groups in agricultural extension. These arise mainly in comparison with other methods of agricultural extension or the way in which the group itself is functioning. Some of the limitations are listed below.

- i) Wide diversity of interest of group members may create a difficult learning situation.
- ii) Vested interest, power groups, and village factions may hinder free interaction and decision making by group members.
- iii) Holding the meetings may come to be regarded as an objective itself.
- iv) If not watched carefully, groups may lead to reinforcement of existing patterns of discrimination and disadvantages within rural communities.

11.3 Peoples Participation

Group approaches to extension rely on active participation of the community as a whole or in aggregates. People's participation may be defined as a process of giving priority to local people's perspective in identifying and analyzing their problems and opportunities, and improving the situation through their self-mobilization. It is discovery learning processes, which do not define the problems and solutions for the people, but makes things visible so that the people could define their own problems

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and develop their own solutions. The focus is on the ‘insiders’, i.e., local people’s perspective rather than on ‘outsiders’, i.e., the Extension Agents, etc. People’s participation is contrary to ‘I know what they require’ type of bureaucratic approach.

11.3.1 Classification of Groups

The levels of participation by the people in activities aimed at improving their current situation, described by Pretty (1994), is presented below.

Table 11.3 Levels of Participation

Level of Participation	Description
Passive participation	It is a unilateral announcement by an administration without listening to people’s response. People participate by being told what is going to happen or has already happened. The information being shared belongs only to external professionals.
Participation in information giving	People participate by answering questions posed by extractive researchers using survey methods. People do not have the opportunity to influence proceedings, as the findings of research are neither shared nor checked for accuracy.
Participation by consultation	People participate by being consulted. The external agents define both problems and solutions and may modify these in the light of peoples’ responses.
Participation by material incentives	People participate through provision of some on-farm facilities like land, labor, irrigation, etc., in lieu of certain external inputs like seeds, fertilizer, pesticides and even cash incentives, etc. If these are for on-farm trials, there is less of involvement and sharing of knowledge by the people. The people may not prolong their participation as the incentives end.
Functional participation	If the above mentioned arrangement is for conducting on-farm demonstrations, there is more of a functional involvement and more sharing of knowledge by the people with the external agency. People may also participate by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organization. Example: self-help group.
Interactive participation	People participate in joint analysis, which leads to action plans and formation of new groups or strengthening existing groups. It tends to involve multidisciplinary methodologies that make use of systematic and structured learning processes. The groups take control over local decisions so that the people have a stake in applying practices. Example IPM
Self-mobilization	People participate by taking initiative independent of external institution to change systems. They may depend on external institutions for resources and technical advice they need, but retain control over how resources are used.

Many development interventions have been seen to create a sort of dependence syndrome. With active involvement of the local people, it is possible not only to break up the mentality of dependence, but also increases their awareness, self-confidence, and control of the development process.

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The term participation should, therefore, not be accepted without ascertaining the level of participation. If the objective is to achieve sustainable development, then nothing less than functional participation would suffice.

11.3.2 Conditions for Participation

Participatory approaches instill the community with a sense of ownership of development activities, and for this to materialize, 2 key conditions need first to be in place.

- a) Real motivation and enthusiasm within the community
- b) Effective community groups/organization(s) which can support the process and take it forward

11.3.3 Non-participation

Sometimes people may not wish to participate in group activities. There can be several reasons behind non-participation. Some possible reasons are listed below.

- a) Peoples' indifference

People may not consider participation as important and develop an indifferent attitude towards it.

- b) Deliberate non-participation

People may deliberately choose not to participate in the event of past non-favorable experience or present incompatible situation.

- c) Professional's indifference

Extension Agents may lack the orientation and training to facilitate peoples participation.

- d) Preventing participation

Power-holders in the community may perceive free participation of the people as a threat to their power-position. So, they may adopt various means to prevent people from participation.

11.4 Facilitation

Facilitation attempts to remove difficulties and obstacles and create the environment for the group to improve i) productivity, group motivation, commitment, and confidence, ii) climate for radical change, and iii) group dynamics. A facilitator is someone who helps a group of people understand their common objectives and assists

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them to plan to achieve them without taking a particular position in the discussion. He should ensure that the group works as a constructive and cohesive unit and towards this end his main tasks may be looked at from 3 perspectives, namely, leadership, referee and neutrality.

Table 11.4 Main Attributes and Tasks of a Facilitator

Attribute	Tasks	Description
Leadership: To provide a focus for the group when the leader fails to fulfill their role	Stimulate	Encourage constructive dialogue between the group members.
	Support	Bring out information from members of the group who are concerned with their own thoughts and feelings and encourage new ideas to emerge
	Participate	Promote new discussion when the group is interacting poorly or in the wrong direction.
	Team building	Form a cohesive, interactive and productive team,
Referee: To regulate in order to maintain order of the group discussion, discouraging members from talking at the same time or dominating the floor	Protect members	Ensure that all contributions to the discussion are treated equally and no one is rebuffed for their input
	Deal with problems	Control problem people within the group allowing everyone to participate freely.
	Keep to time	Adhere to the meeting timetable thus ensuring completion of the agenda.
Neutral: To take a detached look at the discussion viewing each point on its merits	Encourage feedback	Promote discussion of each point raised by all members of the group
	Facilitate	Be neutral to the discussion taking a pragmatic view of all points raised. Concentrate on the group as well as the contents of the discussion

11.5 Group Formation

There are a number of reasons for people to form groups. They may be ordered by the authorities to form groups. On the other hand, they may voluntarily seek group formation for reasons such as security, social, esteem, proximity, attraction, etc.

A group may be organized at any time when some individuals feel that i) there is a need that cannot be satisfied individually, ii) there is no group already in existence to meet that need, iii) the existing groups cannot serve their interests, and iv) similar groups are not available in the locality. A group may be organized with or without a stimulus from outside.

On organizing groups for action, the needs, interests and goals of the individuals are to be made secondary or subservient and channeled to the needs, interests and goals of the group. A minimum amount of cooperation amongst the members is essential to hold the group together and act as a unit.

Group formation is ideally done by farmers themselves. This process can be facilitated by locally identified and specially trained Group Promoters, who assist the

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group development process and act as intermediaries between the groups and outside providers of services. Some basic rules of group formation are:

- a) Encourage group action:
 - i) Do not impose anything; groups should be based on farmer needs not those of outsiders.
 - ii) Work with farmers to identify their problems and prioritize them.
 - iii) Help them assess their group self-help capacities, their strengths and resources for solving those problems.
 - iv) Assist in identifying areas for group action only where the benefits outweigh the costs.

- b) Encourage group action:
 - i) Go slowly- forming healthy groups takes time. Work to gain the people's confidence and trust. Listen and show them respect.
 - ii) Call village meetings. Discuss food security issues and identify how a group approach might be used to help solve those problems.
 - iii) Discuss goals and expectations. Remind people that the advantages of group action are realized through hard work, self-sacrifice and a clear focus on realistic group objectives.
 - iv) Focus on individual profitability. Group action must make economic sense to each farmer. Individual incomes earned through the group earned should exceed expenses.
 - v) Assess all the benefits and costs of cooperation. Ask the people what they will gain from participation and what will it cost in terms of self-sacrifice. Do all the benefits outweigh all the costs?

- c) Establish group
 - i) Encourage small groups (5-20 members). Farmers learn more quickly in small groups than in larger ones. There is more trust and information is shared more freely.
 - ii) Ensure that group members share a common bond homogeneous (members should have similar interests and backgrounds). A common bond means less disputes and more efficient learning.
 - iii) Promote groups that are voluntary and democratic. Members should decide through majority vote, or consensus, who joins the group, who will lead them, what rules to follow, and what activities they will undertake.
 - iv) Help the group choose a name for itself. Names are important. They help build a group's identity and promote member solidarity.
 - v) Assist it in setting realistic objectives. Group members must reach consensus on what will be done, by whom and when.

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vi) Urge groups to meet regularly. Frequent meetings are desirable during the early learning stage. Stress the need for regular attendance.

d) Aim at group self-reliance

For the benefits of group action to continue even after outside assistance ceases, the groups must become self-reliant and cohesive units. This requires training:

- i) Ensure that leadership develops and gets shared. A group should not depend too much on a single individual.
- ii) Highlight the importance of member contributions. Regular group savings are essential and should be encouraged. Member contributions to group activities help build a sense of group ownership and solidarity
- iii) Encourage simple record keeping. Records help the group remember what has been decided at meetings and keep track of contributions, income and expenses. They are essential for monitoring group business activities.

e) Scaling up

Small groups have their limits. Encouraging small groups to link up into larger inter-group associations, once they have achieved satisfactory self-reliance, say after 2-3 years, can further increase their marketing power and economies-of-scale.

But inter-group associations are more complex and difficult to manage than small groups and require different approaches and methods. New guidelines are needed.

f) Favorable policy environment

Farmer groups are best promoted where legal and policy conditions favor such forms of cooperation and when the government confines its role to that of a facilitator rather than a controller.

- i) The legal and policy environment should encourage rural participation and the formation of informal self-help groups.
- ii) Rural people should be allowed to organize their own group businesses and concerns.
- iii) The government should encourage the development of rural communication systems that facilitate information exchange and networking.
- iv) Assistance programs should aim at developing group self-help capacities. Too much financial assistance can create dependencies.

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11.6 Group Dynamics

As described earlier, group is a unit of two or more people in 2-way communication with each other. Because they interact and influence each other, groups develop a number of dynamic processes that separate them from a random collection of individuals. Group dynamics is the study of groups and group processes, which include norms, roles, relations, development, need to belong, social influence, and effects on behavior. The field of group dynamics is primarily concerned with small group behavior.

11.6.1 Norms

Norms are standards of behavior in a group that all members are expected to follow. They are not necessarily explicitly stated (like rules) or imposed on the group by the facilitator or external authority. Some of the attributes of the group norms may be described as follows:

- a) Reflect group values, e.g., the norm of making group decisions by consensus reflects somewhat different values than the norm of “majority rules.”
- b) Determine the way in which groups solve problems, make decisions, and do their work.
- c) Influence interactions between members and between the group and the facilitator.
- d) Define the parameters for acceptable behavior within the group and provide a sense of predictability in-group life (a norm that members will not verbally attack or threaten each other provides a sense of safety).

Group norms tend to cluster around different types of activity some of which are presented below.

Table 11.6 Clusters of Norms

Type of Activity	Example
Participation	Norms determine whether or not quiet members are encouraged to talk, whether monopolizes are tolerated, whether there is a value placed on only one person talking at a time, and whether members are expected to let someone know if they can't attend.
Decision-making	Norms govern whether decisions are made by consensus, by voting, by whoever shouts the loudest, or by everyone going along with what task leader suggests.
Mutual aid	Group norms may encourage development of mutual aid and support, or they may discourage this development.
Affective expression	Norms may encourage or discourage members expressing feelings about the group; this kind of expression may even be taboo

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11.6.2 Roles

A "role" is a recurring pattern of behavior and they occur in every kind of routine social structure. Roles in small groups can be formal or informal. Formal roles such as Chairperson, Secretary, Treasurer, are recognized by the group. Informal roles emerge in group interactions to serve the needs of the group.

Three types of group roles are recognized, i) task or task oriented roles, ii) maintenance or social maintenance roles, and iii) self-serving or dysfunctional roles. The functional roles, task and maintenance, helps the group to succeed, the former to achieve its target goals, and the latter to help the group to get along.

a) Task Roles

Task roles are group oriented and support accomplishment of its goals. Some of these task roles are described below.

Table 11.7 Task Roles

Task role	Description
Initiator	Many groups form because someone has an idea and brings a group together to work on it.
Orienter	Orientation to the task/problem is an essential starting point. People who can digest and explain the task/problem are a critical early resource.
Information Seeker	With the task understood, information about the task/problem and alternatives becomes critical. Asking good questions is important at this stage.
Opinion seeker	Recognizing and asking good questions about alternatives becomes important as the group needs to digest information.
Information giver	People who have useful information and alternatives to share are particularly important to a group at this point.
Elaborator	Some people have a particular skill for digesting information and putting things together in new ways.
Opinion giver	As a group develops information, it will often discover alternatives. Some people have a particular talent for sorting out alternatives and helping groups reach decisions
Coordinator	Once decisions are made, group efforts often need to be coordinated. Coordinator is a leadership role that can take two distinct forms: producer or director. The coordinator may not be formally recognized as a leader, but functions as one.
Recorder	Keeping track of a group's deliberations and decisions can be particularly important, especially as group membership changes.

Other roles that are identified as task oriented include, Procedure developer, Energizer, Diagnostician and Evaluator.

b) Maintenance Roles

Maintenance roles are relationship oriented and help group members to work together effectively. Some of these maintenance roles are described below.

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Table11.8 Maintenance Roles

Maintenance roles	Description
Encourager	People who explicitly listen and encourage others to contribute help a group to cohere. Active listening, in particular, is a precondition of being an effective elaborator or critic.
Gatekeeper	Most of the larger groups are composites of subgroups. Gatekeepers/liaisons interconnect these subgroups. Gatekeepers/bridges connect the group to other groups and the larger organization.
Harmonizer	Some people have a particular skill in diffusing conflicts and resolving tension within a group.
Compromiser	Some people have a particular skill in finding alternatives that resolve disagreements.

Other roles that are identified with maintenance oriented include, Game leader, Tension reliever, Group commentator, Follower, Standard setter.

c) Self-Serving Roles

Self-serving or dysfunctional roles leads to patterns of behavior which groups find challenging and, if not controlled, can cause groups to not cohere, feel dissatisfied and fail.

Table11.9 Self-Serving Roles

Self-serving roles	Description
Dominator	Ideas and information are great, but groups work best when everybody's ideas are heard.
Aggressor	Approaches to the group task are important, but groups work best when everyone keeps an open mind about alternatives. Aggressively promoting a particular point of view not only restricts options, but may turn the group off.
Blocker	Blocking the ideas of others can be even more damaging. Indeed, effective blocking can set up the pattern of self-censorship that leads to Groupthink.
Deserter	People who stop participating in a group damage the group's prospects for successfully completing the task.
Recognition Seeker	Groups that accomplish things together function best over the long term if they share the credit for their accomplishments. Individuals that seek to take credit for the group's accomplishment damage the group over the long term.

Other roles that have been identified as dysfunctional include: Special interest pleader, Joker, Playboy, Self Confessor, Help seeker.

It should be noted at this point that none of the functional roles are "necessary" to a groups success. Groups can succeed without leadership and without any individual taking the lead in idea generation. But all the roles focused on above are often useful.

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11.6.3 Integration or Cohesiveness

In a group, the members must remain together to ensure its stability. The force that acts on members of a group to make them remain in the group rests on the group integration or group cohesiveness. Factors that determine the group cohesiveness have been identified as follows.

a) Homogeneity:

Homogeneity usually results from common interests, shared values, similar characteristics, norms of behavior, consensus on operational procedures, etc. The extent to which the group is held together is determined by the extent to which the common interests are served satisfactorily.

b) Size of Group

Smaller groups usually exhibit informal and more intimate personal relationships among its members than a group having a larger membership.

c) Physical mobility

The physical movement of one or several individuals belonging to a group to another location which separates them from the group may weaken the integration and cohesiveness of a group. An example would be the case of farmers who do not own farmlands migrating between the permanent residences in townships and the farms during cropping season and off-season, respectively.

d) Effectiveness of Communication

Cohesion of a group is a function of the efficiency of communication among its members. When the motivation among members is high, they tend to direct their efforts in such a way so as to bring divergent attitudes into conformity with rest if the group.

11.6.4 Belongingness

Belongingness is the human need to be an accepted member of a group. Whether it is family, friends, co-professionals, or a sports team, humans have an inherent desire to belong and be an important part of something greater than themselves. The motive to belong is the need for "strong, stable relationships with other people." This implies a relationship that is greater than simple acquaintance or familiarity. The need to belong is the need to give and receive affection from others.

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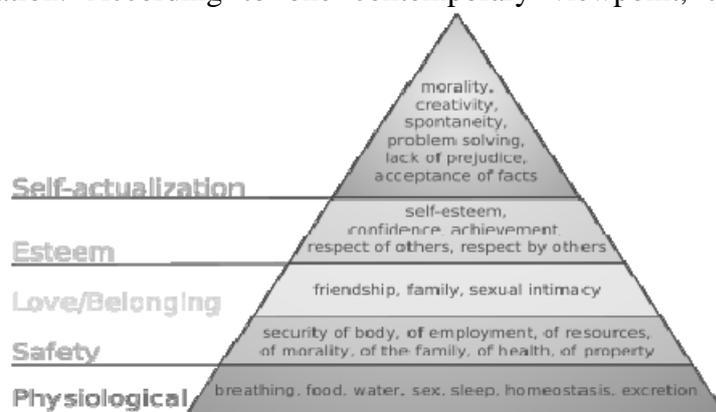
a) Psychological needs

Abraham Maslow suggested that the need to belong was a major source of human motivation. He thought that it was one of five basic needs, along with physiological, safety, self-esteem, and self-actualization.

These needs are arranged on a hierarchy and must be satisfied in order. After physiological and safety needs are met an individual can then work on meeting the need to belong and be loved. If the first two needs are not met, then an individual cannot completely love someone else.

Other theories have also focused on the need to belong as a fundamental psychological motivation. According to one contemporary viewpoint, all human beings need a certain minimum quantity of regular, satisfying, social interactions.

Inability to meet this need results in loneliness, mental distress, and a strong desire to form new relationships.



b) Evolutionary perspectives

One reason for the need to belong is based on the theory of evolution. In the past, belonging to a group was essential to survival. People hunted and cooked in groups. Belonging to a group allowed tribe members to share the workload and protect each other. Not only were they trying to insure their own survival, but all members of their tribe were invested in each other's outcomes because each member played an important role in the group. More recently in Western society, this is not necessarily the case. Most people no longer belong to tribes, but they still protect those in their groups and still have a desire to belong in groups.

c) Self-presentation

In order to be accepted within a group, individuals may convey or conceal certain parts of their personalities to those whom they are trying to impress. This is known as self-presentation. Certain aspects of one's personality may not be seen as desirable or essential to the group, so people will try to convey what they interpret as valuable to the group.

d) Group membership

Individuals join groups with which they have commonalities. In general, individuals seek out those who are most similar to them. People like to feel

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that they can relate to someone and those who are similar to them give them that feeling. People also like those that they think they can understand and who they think can understand them.

11.6.5 Belongingness

Social influence is defined as change in an individual's thoughts, feelings, attitudes, or behaviors that results from interaction with another individual or a group. Social influence is distinct from conformity, power, and authority. It is the process by which individuals make real changes to their feelings and behaviors as a result of interaction with others who are perceived to be similar, desirable, or expert. People adjust their beliefs with respect to others to whom they feel similar in accordance with psychological principles such as balance. Individuals are also influenced by the majority: when a large portion of an individual's referent social group holds a particular attitude, it is likely that the individual will adopt it as well. Additionally, individuals may change an opinion under the influence of another who is perceived to be an expert in the matter at hand.

11.6.6 Group Development

It takes time for a group to develop to a point where it can be effective and where all members feel connected to it. Several models have been developed by scientists working in this field of study to analyze group development process. Of these, Bruce Tuckman (1977) presented the most quoted model which identifies four stages that characterize the development of groups. Understanding these stages can help determine what is happening with a group and how to manage what is occurring. These 4 group development stages are known as forming, storming, norming, and performing as described below and the skills needed to successfully guide a group through these stages are described in the next section

a) Stage 1- Forming

This is the initial stage when the group comes together and members begin to develop their relationship with one another and learn what is expected of them. This is the stage when team building begins and trust starts to develop. Group members will start establishing limits on acceptable behavior through experimentation. Other members' reactions will determine if a behavior will be repeated. This is also the time when the tasks of the group and the members will be decided. People focuses on organizing the routines and is generally a comfortable stage, but not much actually gets done.

The behavior of the group members can be characterized as:

- i) Dependent on direction: Things like what a person's job is within the group and who is in charge are very important.
- ii) Members are polite: Letting people see your real identity is not very easy in group formation and false fronts are used to cover areas considered to be problems.

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- iii) Introduction and sharing of information: The basics of who is in the group. Information like where everyone is from, where they have served, MOS, etc..
- iv) Stereotyping individuals based on first impressions: Deciding what a person is like based on first impressions is the most common problem in the group formation. For most people, a first impression is lasting, whether or not it is correct.
- v) Conversations are about safe acceptable topics: These subjects may include weather, sports, duty stations, not normally race, religion, etc.
- vi) Avoid disclosure, feedback, and interpreting non-verbals: Questions like, “how do you feel about that statement?” or “Why are you frowning?” are not common during this phase. Also statements of personal feelings such as “I feel afraid” are seldom heard.

The time a group remains in this stage depends on the structure, task, and leadership.

b) Stage 2 - Storming

During this stage of group development, interpersonal conflicts arise and differences of opinion about the group and its goals will surface. If the group is unable to clearly state its purposes and goals or if it cannot agree on shared goals, the group may collapse at this point. It is important to work through the conflict at this time and to establish clear goals. It is necessary for there to be discussion so everyone feels heard and can come to an agreement on the direction the group is to move in. People will look for structural clarity and rules to prevent conflicts from persisting.

The behavior of the members of the group can be characterized as:

- i) Counter-dependent: This means that each group member strongly feels the need to take care of himself/herself during this stage.
- ii) Bid for power: Statements like “I think we should do it this way,” are very common.
- iii) Competitive: Trying to win every situation, or out argue on conflicting points
- iv) Rationalization: This is a thought process that ensures we feel that we are right regardless of what others may say.
- v) Close-minded: Not listening to others point of view and discounting their opinion as worthless.
- vi) Conflict/Hostility: Emotions run high during this stage. Individuals in total disagreement with the group are common.
- vii) Cliques are formed: People with like viewpoints tend to get together in an “us against them” type of attitude.
- viii) Unexpressed individual needs.

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- ix) Creativity suppressed: With so many ideas suppressed, the group gets little accomplished toward the task at hand during this stage.
- x) Try to reach resolution by vote, compromise, or arbitration.

c) Stage 3 - Norming

Once the group resolves its conflicts, it can now establish patterns of how to get its work done. Expectations of one another are clearly articulated and accepted by members of the group. Formal and informal procedures are established in delegating tasks, responding to questions, and in the process by which the group functions. Members of the group come to understand how the group as a whole operates. Individuals have to work hard to attain this stage, and may resist any pressure to change - especially from the outside - for fear that the group will break up, or revert to a storm.

The behavior of the group members can be characterized as:

- i) Independent and constructive: Group members are able to operate as a group on their own.
- ii) Real listening takes place: The mood is much more open-minded during this stage.
- iii) Attempts to gain and maintain control lessen: Individuals no longer try to control the movement of the group.
- iv) Progress toward objectives: The job starts to get done.
- v) Creativity begins: Group members trust each other enough to be expressive.
- vi) Roles identified.
- vii) The leader may become somewhat less identifiable or necessary to the group. The job of each member of the group will be defined more clearly.

d) Stage 4 - Performing

During this final stage of development, issues related to roles, expectations, and norms are no longer of major importance. Everyone knows each other well enough to trust each other and work together. The group is now focused on its task, working intentionally and effectively to accomplish its goals. The group will find that it can celebrate its accomplishments and that members will be learning new skills and sharing roles.

The group's behavior can be defined as:

- i) Independent.
- ii) High group morale and esprit.
- iii) Intense group loyalty.
- iv) Individual creativity is encouraged.
- v) Disagreement is OK.
- vi) No cliques.

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vii) Group adopts an identification symbol.

e) Stage 5 - Adjourning

This stage was added later by Tuckman to refer to the completion and disengagement, both from the tasks and the group members. Individuals will be proud of having achieved much and glad to have been part of such an enjoyable group.

The behavior of the group can be characterized as:

- i) Less task ability.
- ii) Regression to less productive behavior.
- iii) Separation, grieving behaviors.
- iv) Re-definition.
- v) Termination or mini-death.

11.7 Group Conflicts

Conflict in groups is a normal part of the group process. it isn't always bad. Conflict can be good for a group if it is managed appropriately. It has the potential to add important information, broaden the perspectives of the group, and serve as a positive contribution to the work. Although the outcome may be positive, there will be some stress and discomfort. Helping all group members understand basic conflict skills moves the group to a higher level of effectiveness, in which work gets done and relationships remain intact, even when there are disagreements and disputes.

11.7.1 Source of conflict

Conflicts happen in groups for many reasons. They can be categorized as follows.

- a) Data: Miscommunication, lack of information, different interpretations of data
- b) Relationships: Misperceptions or stereotypes, repetitive negative behavior
- c) Interests: Real or perceived competitiveness, procedural interests, differences in needs and priorities
- d) Values: Different ways of life (culture), ideology (beliefs , attitudes), religion
- e) Structural: Un-equal control, ownership, distribution of resources

Resolving of these sources of conflict needs different approaches and strategies. Some, such as those arising from the first 2, miscommunication and misinformation, and differences in needs and priorities may be relatively easier than those arising from the other 2 sources.

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11.7.2 Managing Conflict

An important skill of the facilitator is to be comfortable with responses to negative group behaviors. He can learn to recognize and handle common behavior problems that may arise in group meetings. These behaviors may include the dominator, the side conversationalist, or quite participant. These are considered problem behaviors, because they distract from agenda and distract the attention of the group.

Facilitator's role is to help provide a safe environment where disagreement and conflict can surface and be put to use as a positive and creative force. Being confident and comfortable in working and being in groups where conflict is offering is an important skill that the facilitators should develop. In managing and resolving a conflict one should understand the responses of the members as individuals or as a group. In a conflict situation, 5 styles of responses can be recognized. As the first step, determine which of these four sources contribute most to the conflict.

Table 11.10 Response Types in a Conflict Situation

Response	Description
Competitive	High in assertiveness, low in cooperativeness. Competitive people want to win the conflict.
Accommodative	Low in assertiveness and high in cooperativeness. These group members are easy going and willing to follow the group.
Avoiding	Low in assertiveness, low in cooperativeness. Avoiding people are detached and indifferent to conflict.
Collaborative	High assertiveness, high in cooperativeness. These group members are active and productive problem solvers.
Compromising	Moderate in assertiveness, moderate in cooperativeness. Compromisers are willing to "give and take" to resolve conflict.

Some of the important considerations that would guide the facilitator when confronting a conflict affected group situation are listed below. It is intended to provide a facilitator with some ideas about the process for a group to use in conflict situations.

- a) Find a time when people can meet to focus only on the particular conflict and its solution.
- b) Establish ground rules set for the group (norms) and clarify the expectations of the members at the beginning of the group development stage.
- c) Make group members aware and acknowledge that conflict should focus on the issue being discussed and **not** the people involved (no personal attacks, one person speaks at a time, ask questions to understand)
- d) Allow each party (or those with common views) to describe clearly their understanding of the opposing view point in order to help build up the understanding and communication within the group.

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- e) If the disagreement becomes too intense, it may help to have group members to break, cool off and return to the conversation after some time.
- f) Develop listening skills, for both to facts and feelings, and convey that you are listening through body language and by restating and summarizing what someone has said. This approach may help to diffuse situations that have become tense or disruptive.
- g) Ask questions that encourage speakers to open up, allowing them to focus on what they are feeling, thinking and wanting to happen.
- h) Seek for shared interests among disputing parties and the group by asking relevant questions.
- i) State the desired outcome and shared interests. Ask for all possible solutions to the conflict.
- j) Try to narrow the range of solutions by asking which ones seem best bring the desired outcomes and meet the most number of shared interests.
- k) Test to see how willing the parties are to adopt one or a combination of the solutions. If an agreement does not come easily, ask what would have to change to make a particular solution acceptable.
- l) Write it down for the group records, so it can be reviewed when needed.
- m) Decide a timeframe for assessing how well the solution is working: evaluate and modify as needed.

11.8 Group Sustainability

In the group development stage (Forming-Storming-Norming-Performing), individuals are committed and the collective objectives are seen as important as their own. However, being committed to their own goals does not necessarily mean that they are committed to the team. Foundation of team building is commitment to the shared goal.

In a group, people may have their own individual objectives or even the same objective, e.g., improving farm gate prices of their products. A team is a group that works towards such single, common objective. In fact, they might have different individual objectives, but those objectives contribute to the higher collective one. In order to ensure the sustainability of the group to move forward and achieve its goals, building the group to work as a team will pay dividends.

11.8.1 Team Building

Team building is general term used a number of ways to describe i) developing working relationships in a group, ii) improving the performance of the team, and iii) improving motivation, communication, support and trust within a team.

Simple and effective methodology of team building involves the following steps.

- a) Establishing ownership of shared goals

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- b) Removing inhibitors/blockages to achievement of those goals.
- c) Introducing enablers (awareness, resources, information, processes, etc.) to help achieve those goals.
- d) Using team building processes in the correct sequence to gradually raise performance, akin to climbing a ladder one rung at a time.

11.8.2 Characteristics of a Well-Functioning Team

Team building is the process of improving collective performance through commitment to the shared goals. The main characteristics of a well-functioning team are listed below.

Table 11.11 Characteristics of a Well-functioning Team

Characteristic	Description
Awareness	Members are aware that the unity in the part of all members is ensured
Interpersonal relationships	Members have a chance to contribute, learn from and work with others
Ability	Members act together towards a common goal
Purpose	Members know what needs to be done next, by whom, and by when to achieve team goals.
Roles	Members know their roles in getting tasks done and when to allow a more skillful member to do a certain task.
Decisions	Authority and decision-making lines are clearly understood.
Conflict	Conflict is dealt with openly and is considered important to decision-making and personal growth.
Personal traits	Members feel their unique personalities are appreciated and well utilized.
Norms	Group norms for working together are set and seen as standards for everyone in the groups.
Effectiveness	Members find team meetings efficient and productive and look forward to this time together.
Success	Members know clearly when the team has met with success and share in this equally and proudly.
Training	Opportunities for feedback and updating skills are provided and taken advantage of by team members.

11.8.3 Techniques of Team building

Neither profit nor pleasure is the primary motivation for teamwork. Productive teamwork moves you toward challenge, through change, with more confidence. Working well on any team generates energy and enthusiasm for life. One does not have to be anything other than himself or herself, but be effective with people using common sense and a few fundamental principles.

Some tips to help jumpstart the team-building process in a group/community are addressed to below.

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Table 11.12 Tips for Team Building Process

Activity	Description
Establish clearly defined roles	Every member of the team should know the role they are expected to play as well as the roles of other team members. As a facilitator, it is his/her job to make sure that every employee clearly understand the role played by each member of the group.
Maintain open channels of communication.	Communication is the building block of an effective team. With that in mind, it is critically important for you to create and maintain open channels of communication with the group members and among the group members.
Develop a way to resolve conflicts.	Inevitably, your team will experience conflicts. Ignoring those conflicts will only cause them to grow until they become a major problem. So instead of ignoring them, develop conflict-resolution skills with group members and create a mechanism for them to address grievances if they can't resolve their conflicts on their own.
Model a positive attitude	Teams tend to adopt the attitude of their leader. If the leader is positive and upbeat, then team members will tend to be positive and upbeat as well. But if the leader demonstrates a negative or critical attitude, the team will suffer because of the attitude of the team members.
Celebrate achievements as a team.	Since every member plays an important part in the success or failure of the group activity, it only makes sense to celebrate the achievements as a team. The important thing is that every team member has the opportunity to celebrate a job well done.

11.8.4 Ice Breakers, Energizers, Games

These are activities that can be employed in team building to heighten the effectiveness the sessions when targeted to, i) the training, speaking, or facilitation topic, and ii) the needs of the learners or participants.

They help to make participants more receptive to listening and contributing, and may take various forms, but those that seem the most popular and effective are the ones that promote interaction, sharing, and team building.

To be effective, the content of ice breakers and energizers must be appropriate to the group and well timed. It should be short, so that the main business of the meeting is not affected, delivered at the beginning of the meeting or session, and then at appropriate times during the program. Energizers are used to wake up the brains during the sessions when the audience is not attentive.

There are numerous ice breakers, energizers and games developed to suit any occasion for a trainer or facilitator to select from, and as a trainer, the most appropriate ones must be selected to suit the audience that are complementary to the subject matter discussed.

AE-05	FARM RECORDS	
AE-05-01	GENERAL INFORMATION	
		Date _____
Location of the farm		
Address		_____
Distance to Extension Office		_____
Contact telephone number		_____
Household Information		
Name of farmer		_____
Age of farmer		_____
No. of years engaged in farming		_____
No. of occupants in household		_____
No. of dependents		_____
Farm Land		
Ownership		_____
Total area of farm land		_____
Area under green house		_____
Area of open farm land		_____
Soil quality		_____
Source of water supply		_____
Water quality		_____
Farm Labor		
Family members who assist in farming		_____
Hired farm hands		_____
Name of Extension Agent		_____

AE-05
AE-05-02

FARM RECORDS
SKETCH MAP OF FARM (Sample)



- Farm Boundry
- Plots
- Green houses
- P Pump station
- LS Livestock Shelter
- F.P Farm Pond
- F.S Farm shed / store
- XXX Fruit trees
- FA Farm Access Road

AE-05	FARM RECORDS				
AE-05-03	LAND UTILIZATION RECORD				
Location: _____					
Name of Farmer _____					
Land Use	Season				
Production Area					
Area in Green Houses					
Area in Open Field					
Area in Permanemt crops					
Total Productive Land Area					
Buildings					
Farm House					
Field Shed					
Stores					
Livestock Shelter					
Water pond					
Garden					
Idle Land					
Total Farm					

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