

ARD- Agri Extension

Agriculture Extensions: Its importance and role, methods of evaluation of extension programmes, Role of Krishi Vigyan Kendra's (KVK) in dissemination of Agricultural technologies.



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1 Extension Programme

The word 'programme' has several distinct meanings in the dictionary. It means a proclamation, a prospectus, a list of events, a plan of procedure, a course of action prepared or announced before hand, a logical sequence of operations to be performed in solving a problem. When used by an organization, it means a prospectus or a statement issued to promote understanding and interest in an enterprise. According to

Kelsey and Hearne (1949), an "extension programme" is a statement of situation, objectives, problems and solutions'.

Leagans (1961) says that an "extension programme" is a set of clearly defined, consciously conceived objectives or ends, derived from an adequate analysis of the situation, which are to be achieved through extension teaching activity'.

we can define an extension programme as a written statement of situation, objectives, problems and solutions which has been prepared on the basis of an adequate and systematic planning effort and which forms the basis of extension teaching activities in a specific area, for a given period.

Features of Extension Programme Planning

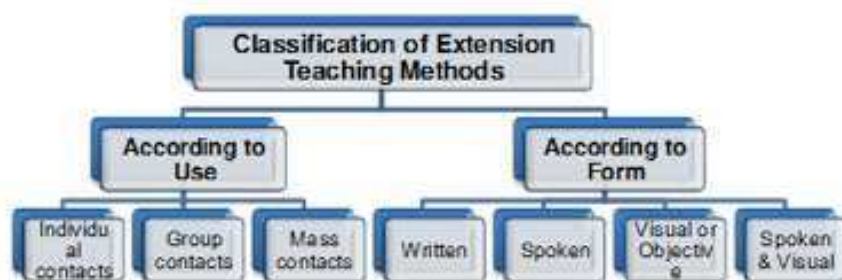
1. Extension programme planning is a process
2. Extension programme planning is a decision-making process
3. Extension programme planning requires advance thinking
4. Extension programme planning requires skill and ability on the part of planners
5. Extension programme planning is built on basis of content
6. Extension programme planning is a social action process
7. Extension programme planning is a collaborative effort
8. Extension programme planning is a system
9. The end-product of extension programme planning is an extension programme

2 Extension Teaching Methods

- **Extension** is an educational process for bringing about the maximum number of desirable changes among the people, which involves both learning, & teaching and needs some tools or methods commonly known as extension-teaching methods. It is, therefore, necessary here to understand what is meant by learning, teaching & extension methods.
- **'Learning'** is the process by which an individual, through his own activity, attains a change in his behaviour. It is an active process on the part of the learner. The essential role of an extension worker is to create effective 'learning situations'. An effective learning situation requires the following essential elements:

- An instructor (an extension worker, e.g. an extension officer or a village-level worker).
- Learners (the farmers, the farm women & the youth).
- Subject-matter (the recommended improved practices, such as the seeds of high-yielding varieties, fertilisers, balanced diet, etc.)
- Teaching material, such as a flannel-board, a black-board, charts, models, samples, slides, film strips, etc.
- Physical facilities, such as sitting accommodation, good visibility, etc.

Extension-teaching methods: The extension-teaching methods are the tools & techniques used to create situations in which communication can take place between the rural people & the extension workers. They are the methods of extending new knowledge & skills to the rural people by drawing their attention towards them, arousing their interest & helping them to have a successful experience of the new practice. A proper understanding of these methods & their selection for a particular type of work are necessary.



1. According to Use

One way of classifying the extension methods is according to their use & nature of contact. In other words, whether they are used for contacting people individually, in groups or in masses. Based upon the nature of contact, they are divided into individual, group & mass-contact methods.

Individual-contact methods. Extension methods under this category provide opportunities for face-to-face or person-to-person contact between the rural people & the extension workers. These methods are very effective in teaching new skills & creating goodwill between farmers & the extension workers.

Group-contact methods. Under this category, the rural people or farmers are contacted in a group which usually consists of 20 to 25 persons. These groups are usually formed around a common interest. These methods also involve a face-to-face contact with the people & provide an opportunity for the exchange of ideas, for discussions on problems & technical recommendations & finally for deciding the future course of action.

Mass or community-contact methods. An extension worker has to approach a large number of people for disseminating a new information & helping them to use it. This can be done through mass-contact methods conveniently. These methods are more useful for making people aware of the new agricultural technology quickly. Important extension-teaching methods under these 3 categories are listed in the following chart.

Classification of extension-teaching methods according to their use		
Individual contacts	Group contacts	Mass contacts
Farm & home visits	Method demonstration & result demonstration	Bulletins
Office calls	National demonstration leader-training meetings	Leaflets
Telephone calls	Conferences & discussion meetings & workshops	Circular letters & radio
Personal letters	Field trips	Television, exhibitions, fairs, posters

2. According To Form : Extension-teaching methods are also classified according to their forms, such as written, spoken & audio-visual. Some of the important methods under each of these 3 categories are given in Chart

Classification of extension-teaching methods according to their form		
Written	Spoken	Objective or visual
Bulletins	General & special meetings	Result demonstration
Leaflets, folders, News articles	Farm & home visits	Demonstration posters
Personal letters	Official calls	Motion-picture or movies, charts
Circular letters	Telephone calls, radio	Slides & film-strips, models, exhibits

2.1 Individual Methods

- 1. Farm and Home visit:** It is a face-to-face type of individual contact by the extension worker with the farmer and/or the members of his family on the latter's farm or at his home for one or more specific purposes connected with extension.
- 2. Field Trial:** This is the first stage which any new improved variety of seed, fertilizer, pesticide or any new practice for that matter, must pass through, before it is taken to the stage of result demonstration or method demonstration and before advocating its large scale adoption. This is not an Extension Method in the strict sense of the term. However, the need of sort of adaptive research as a prerequisite for successful extension work has been widely recognized. So, it is essential for extension workers to understand the important features of this method. It must be remembered that unlike trial plots which are laid out systematically to satisfy the requirements for statistical analysis, the observation plots are designed to give rough and ready, nevertheless, reliable indications about the performance of a new variety or practice. In the case of Minikit trials the small sized observation plots are laid out simultaneously in a wide geographical area comprised of several agro climatic zones. It is a method by which the suitability or other wise of a new practice to a given locality under farmer's conditions, is determined. The new practice may

mean (i) the introduction of a practice not existing hitherto; e. g. planting sesbania along paddy field bunds or (ii) the introduction of an improvement over local practice; e. g., replacing cultivation of open pollinated maize with hybrid maize, or (iii) replacing an already established improved practice with a more improved new practice; e. g., Adoniscum cotton replacing Laxmi cotton which had replaced H1 cotton earlier. The new practice may be a varietal, manurial or cultural improvement, or a combination of two or more of these types of improvement.

3. **Result Demonstration:** A result demonstration is a method of teaching designed to show by example the practical application of an established fact, or group of related facts. In other words, it is a way of showing people the value or worth of an improved practice whose success has already been established on the research station, followed by district trials or observation plots.

- In this method the new practice is compared with the old one on ryot's holdings so that the villagers may see and judge the results for themselves. Such demonstration requires a substantial period of time and records need to be maintained. It is in no sense an experiment or a trial except perhaps in the mind of the co-operator (demonstrator).
- The result demonstration may (i) deal with a Single practice, such as the use of improved strains of paddy seed; or (ii) it may be concerned with a series of related practices as in the case of Japanese method of paddy cultivation; or (iii) in some instances it may include the entire farm, as in the case of balanced farming. (i.e. Whole Farm Demonstration). The result demonstration may be (i) varietal (ii) manurial (iii) cultural (iv) combination of two or more of the afore-said three types, or (v) Composite demonstration in which all the essential improved practices in respect of any crop are included as a package of improved practices.

Principles of result demonstrations

There are two common sense principles underlying this method.

(a) What a farmer himself does or sees, he will believe.

(b) What is good for one person will have general application to others (under similar conditions).

Objectives or Purposes

1. To show the utility and feasibility of a recommended practice under village conditions.
2. Chiefly to establish confidence on the part of the farmer as well as the extension teacher.

4. **Group Discussion:** Definition: It is that form of discourse which occurs when two or more persons, recognizing a common problem exchange and evaluate information and ideas, in an effort to solve that problem. Their effort may be directed towards a better understanding of the problem or towards the development of a programme of action relative to the problem. Discussion usually occurs in a face – to – face or co-acting situation, with the exchange being spoken. And when more than two people are involved, it usually occurs under the direction of a leader.

The technique of a problem – solving group discussion consists of the following six steps based on the “reflective thinking” pattern.

- a. Recognition of the problem as such by the group.
- b. Definition of the problem, its situation and diagnosis.
- c. Listing of as many solutions as possible.
- d. Critical thinking and testing of these hypotheses to find the most appropriate and feasible solution or solutions.
- e. Acceptance or rejection of the solution or solutions by the group.
- f. Lastly, considering how to put the accepted solution into practice.

5. **Method demonstration:** Meaning: It is a relatively short – time demonstration given before a group to show how to carry out an entirely new practice or an old practice in a better way. It is not concerned with proving the worth of a practice but how to do something; e.g.,: pruning grape vine, seed treatment. It is definitely not an experiment or trial but a teaching effort. A result demonstration is conducted by the farmer (demonstrator) under the supervision of the extension worker to prove that the recommended practice will work locally whereas the method demonstration is given by the extension worker himself or a trained leader for the purpose of teaching a skill to a group.

- In the role of a skilled technician the extension worker or leader shows the step-by-step procedure in the operation, explaining each succeeding step as he proceeds.
- The learners watch the process, listen to the oral explanation, and ask questions during, or at the close of the demonstration to clear up points about which there is uncertainty.
- The members of the group repeat the demonstration in the presence of the others. This helps to fix the process in the minds of the audience and increases confidence in their ability to master the technique.
- The method demonstration is the oldest form of teaching long before language was developed, men taught their children how to hunt, how to cultivate etc., through method demonstration. In the jungle, the tiger cub learns to hunt by following and playfully mimicking the tigress.

Objectives or purposes

- To enable the people to acquire new skills.
- To enable people to improve upon their old skills.

- To make the learners do things more efficiently, by getting rid of defective practices.
- To save time, labour and annoyances and to increase satisfaction of learners.
- To give confidence to the people that a particular recommended practice is a practicable proposition in their own situation.

6. **Field Trips:** It is a method in which a group of interested farmers accompanied and guided by an extension worker, goes on a tour to see and gain first-hand knowledge of improved practices in their natural setting (whether on research farms, demonstration farms, institutions or farmers fields). It is a series of field and demonstration meetings arranged in a sequence. It is very difficult to convince the farmers with oral explanation and they will not believe unless they see and interact with the farmers those who have adopted the recommended practices. It is well said that SEEING IS BELIEVING. This method satisfies and motivates the farmers who are not convinced and believe in the said concept.

7. Circular letter

- Specific needs and interests must be highlighted
- Thought provoking beginning is advisable
- Printing/cyclostyling must be neat
- Personal touch- personal references adds value to the contents
- Single purpose-for each subject matter/ problem and separate circular letters must be prepared on a series basis.
- Highlight the seriousness of the problem. It should answer all possible doubts.
- Enumerate what the audience can contribute to alleviate the problem
- Use a courteous conclusion
- At the end of the circular, the contact address may be furnished to clarify further on the subject.

8. **Small Group Technique:** Small group techniques are the means or methods used ingroup situation to bring about group act. There are time-tested techniques like lecture, debate, forum, dialogue, symposium, brain storming, etc through which group actions may be accomplished.

I. Lecture

It is normally used in formal situations. It requires thorough preparation on the part of the person who delivers the lecture.

II. Symposium

Symposium is a group of talks, speeches or lectures presented by several individuals on various phases of a single subject problem. The identified problem must have effective components amenable for the sessions.

A moderator often controls time and subject matter. Properly used, the talk should not exceed 20 minutes and the total time should not exceed one hour. In a symposium, the audience may or may not participate.

III. Panel discussion

A group of speaker's usually 2-8 participants as panelist in a supposedly informal conversation on a topic for the benefit of listeners constitute the panel discussion.

It may be described as an informal committee discussion overheard by an audience. The form of discussion is conversational (i.e.) no speeches by members or by moderator

should be permitted. A leader as a moderator or chairman introduces the speakers to the audience and encourages less talkative by administering effective questions.

IV. Debate

Debate is a series of lectures for and against on a given topic by knowledgeable persons. The normal pattern is to have two teams on affirmative and negative side of the issue. The number of persons on both the sides should be equal. Each team will have a leader supported by his team members and there will be a chair or moderator who presides over the discussion.

V Forum

Question – answer period - It is a discussion period that may follow any one of the above methods of presentation. It consists of question period in which members of the audience may ask questions or make brief statements. The forum provides an opportunity for the audience to clear up obscure points and to raise questions for additional information. It also gives individuals an opportunity to state briefly their understanding of a point and see whether they have interpreted correctly the material presented. It is primarily a means of understanding information.

VI Buzz Sessions (Phillips 66 format) - With large groups when there is limited time for discussion, the audience may be divided into smaller units for a short period. This is called “buzz session” or ‘huddle system’ or “Phillips 66”. Groups of 6 to 8 persons get together after receiving Instructions to discuss about a specific issue assigned. The secretary of each small group will report the findings or questions to the entire audience when they are reassembled. This is actually a device to get more people to participate in a forum than would be the case otherwise.

VII Workshop It is essentially a long meeting from one day to several weeks, involving all the delegates in which the problems being discussed are considered by delegates in small private groups. There must be a planning session where all are involved in the beginning. There must be considerable time for work sessions. There must be a summarizing and evaluation sessions at the close. In the workshop method, the participants share their ideas, experiences and skills and on this basis produce something in the end a report or a programme for future action, a publication, a visual or any other material objects.

VIII Brainstorming Brainstorming is a specialised form of discussion method that can be used in a training situation. It is potentially an active teaching mode but its efficiency depends on what we do and skill of the participants in arranging and conducting it. Brainstorming refers to the rapid generation of ideas, initially not critical and evaluated about a topic or concern in a given period. The poured in information is later sorted, synthesised and discussed. It helps to identify problems.

IX Seminar: It is one of the most important forms of group discussion and is more formal in nature. The seminar enables a study in depth to be made in specific areas under the guidance of experts. The discussion leader introduces the topic to be discussed. In seminar, the discussion papers prepared by the participants on the basis of their study and research are presented. Members of the audience discuss the subject to which ready answers are not available. A seminar may have two or more plenary sessions. This method has the advantage of pooling together the opinions of a large number of

persons. At the end some conclusions and recommendations are arrived at, for future action.

X Conference: Pooling of experiences and opinions among a group of people who have special qualifications in an area.

XI Dialogue: Dialogue is a discussion carried on in front of a group by two knowledgeable persons capable of thoughtful communicative discourse on specific subjects.

XII Role play

Learner involvement is a critical factor in successful teaching. People learn more effectively not by being taught in conventional way but in participating mode. Role-play encourages active involvement of learners. It combines effective learning with an enjoyable experience.

2.2 Mass Contact Methods

Campaigns: It is an intensive teaching activity undertaken at an opportune time for a brief period focusing attention in a concerted manner on a particular problem, with a view to stimulate the widest possible interest in a community, block or other geographical area. Campaigns are launched only after a recommended practice has been found acceptable to the people as a result of other extension methods like method or result demonstrations etc. Co-ordinated communication and educational efforts are often called as campaigns. A campaign may take many forms (sales campaign, political campaign or image type campaign) but the kind used most widely in extension is the self help campaign. It is intended to provide information and education which people can use to improve their lives.

Exhibitions: Exhibitions are the mass communication media. These inform, educate and entertain the masses. They are of educational value but the maintenance of the exhibition is relatively a costly and difficult venture. However, careful planning and execution can achieve the objectives of educating the viewers who learn a lot from these exhibitions.

Kisan Melas: Kisan mela is an organized educational activity for involving and educating farmers by bringing together the farmers, scientists, extension workers, input agencies, developmental departments and non-governmental agencies on agriculture or allied aspects at a Research Station or an agriculturally important educational center, where the farmers can see, interact and gain firsthand knowledge about the latest technologies and developments in agriculture and allied aspects. It integrates several educational activities specifically directed to the farmers of a region, state or country.

Radio: The Madras Presidency Club pioneered radio broadcasting in India in 1924. The club worked a broadcasting service for three years, but owing to the financial difficulties, gave it up in 1927. In the same year, some enterprising businessmen in Bombay started the Indian broadcasting Company with stations at Bombay and Calcutta. This company failed in 1930. In 1932 the government of India, took over the broadcasting. A separate

department of known as Indian Broadcasting service was opened. Later it was designated as 'All India Radio' and was placed under a separate Ministry - the Ministry of Information and Broadcasting. Broadcasting in India is a national service, developed and operated by the Government of India. All India Radio (also known as Akashvani) operates this service, over a network of broadcasting stations located all over the country.

Television: A Powerful Communication Medium, Television is one of the most powerful audio-visual media of mass communication, which combines all the benefits of other mass media such as radio, newspaper and film.

Flash card

- One message in each card
- Invariably all cards must possess pictorial /symbolic representation of message
- The letters / pictorial representation etc. in each card must be visible to all.
- Organise the cards in proper sequence and number them
- Rehearse the presentation
- Give local examples
- Be enthusiastic and develop a story
- Summarise

Posters

Each letter in the word 'POSTER' must carry the following meaning

- P - Part of the programme
- – Objective
- S – Single idea, simple words/pictures
- T – Tells the story at a glance
- E – Effect on Audience
- R – Results and Evaluation

Hoardings

- There must be only one single and significant idea.
- The key point must be appealing to all farmers.
- It should be placed in such a way that viewers from two sides can look and observe.
- The hoarding must be installed at the point where the block/division limit starts so that the major crop/recommendation to be covered in the area by the extension agency may be highlighted in the hoarding.

Film show

- Preview the film

- Note the main teaching points, difficult words etc. that are to be clarified to the audience.
- Relate the lesson to their own self-interest.
- Write questions on the chalkboard if possible, and explain that these questions will be answered in the film.
- Obsolete information should be avoided by supplementing with latest information
- Select the film, which is relevant to the area/people.

3 T and V system

Training & Visit System (1979) It was felt that sustained high levels of agricultural production and incomes could not be possible without an effective agricultural extension service supported by agricultural research that is relevant to farmers' needs.

With this concept Daniel Benor, the World Bank expert developed the Training and Visit (T and V) system for extension services to a wide range of agricultural and administrative environments in developing countries.

This scheme was aided by World Bank. Objective The purpose of T and V system of agricultural extension is to build a professional extension service that will be capable of assisting farmers to raise production and increase their incomes and of providing appropriate support for agricultural development. A key means to this end is the creation of a dynamic link between farmers, professional workers, and researchers.

3.1 Combination of (Media mix) teaching Methods

Use of Audio-Visual Aids: There are numerous audio-visual aids that you could use in your lessons. This unit will focus will on selected audio-visual aids that are normally available in your school. Some of these aids could be made by you. However, the focus of this unit will not be on how to make these aids but on their use.

Types of media and their uses

a. Overhead Transparencies: Used for displaying charts and graphs. High visibility for large groups. Showing summaries, sequences, relationships, and process steps.

b. Flip Charts: Used for small groups (under 20). Ad lib charting and graphing. Showing summaries and sequences. Listing, recording, outlining. Developing charts. Instructions. Reinforcing group contributions.

c. Blackboards/Whiteboards: Spontaneous presentations. Listing/recording. When no other media is available.

d. Slides: Displaying high quality artwork. Displaying a series of photos. Demonstrating- a "hands-on" process. Creating a mood, or inspiring.

e. Videotapes and Films: Demonstrating a process. Creating a mood, or inspiring. Presenting* testimonials. Supplementing presentation ideas.

f. Written Handouts: Providing background information. "Sending home" your ideas. Reminder of follow-up activities. Providing a record of presentation. Weighting a variety of alternatives. Clarifying abstract or complex topics.

Slides, Video and Films: Slides, videotapes, and films are included in the same category because they all require professional preparation. These media can have a very dramatic effect if properly selected.

Written Handouts: When providing written text, remember that you won't be there to explain or remind the target group of what you mean. Written communications should be as brief as possible, but they must also be meaningful to the reader, whether they are read a week before your presentation or a year after.

4 Evaluation of extension Programme

- Extension programmes are mostly funded with **public money** and are planned and **implemented by an organization**, which in most cases is a department of a government. In order to justify the appropriation of public funds and continuing support from the people, it is necessary that their management as well as impact be properly and adequately evaluated from time to time. How, to evaluate management, achievements and failures of these programmes has been a challenge to extension workers right from the time when planned extension programmes were introduced.
- The word 'evaluation' has its origin in the Latin word "valere" meaning to be strong or valiant. Its dictionary meanings are the determination of the value, the strength or worth of something, an appraisal, an estimates of the force of or making a judgement of something.
- Evaluation is a co-ordinated process carried on by the total system and its individual subsystem. It consists of making judgements about a planned programme based on established criteria and known, observable evidence (Boone, 1985).
- **Evaluation** as applied to the field of extension education, may be defined 'It is a method for determining how far an activity has progressed and how much further it should be carried to accomplish objectives'. Thus to an extension worker evaluation means determining the results of his extension programmes in order to know the extent to which objectives have been achieved and why and what changes would be needed in case the programme is planned again, or in its implementation.
- Tyler (1950) developed two basic notions regarding educational evaluation, which equally apply to extension evaluation. These notions are that the process of evaluation
 - (i) is essentially a process of determining behaviour of the people covered under the programme and

- (ii) the process of determining the degree to which these behavioural changes are actually taking place. Thus extension evaluation may be said to be a process for determining behavioural changes of people resulting from extension programmes.

Once evaluation became an integral part of the extension education process, extension managers started applying this process to evaluate programme planning, management and implementation aspects of extension programme.

4.1 Nature of Evaluation

Nature of evaluation

Evaluation is not measurement: Evaluation is an integral part of extension education. All aspects of extension work need evaluation. Evaluation does not mean mere measuring of achievements, which is usually done after the programme is executed. Extension being an educational process, it is necessary to evaluate management of the programme and methods used, achievements accomplished in line with the objectives and also to determine the reasons for success or failure.

Evaluation is not exactly scientific research: When we think of evaluation as a process of collecting information as a basis for making decisions, forming judgements and drawing conclusions, we realise it has much in common with scientific research. But there is a great difference between our casual everyday evaluation and scientific research. However, the difference is a matter of degree rather than kind. Casual everyday evaluation can be placed at one end of the scale and scientific research at the other end. There are five locations on the scale with no sharp lines of distinction, i.e., casual everyday evaluation, self-checking evaluation, do-it yourself evaluation, extension evaluation studies and scientific research.

1	2	3	4	5
Casual everyday evaluation	Self-checking evaluation	Do-it yourself evaluation	Extension evaluation studies	Scientific research

4.2 Types of evaluation

Types of evaluation

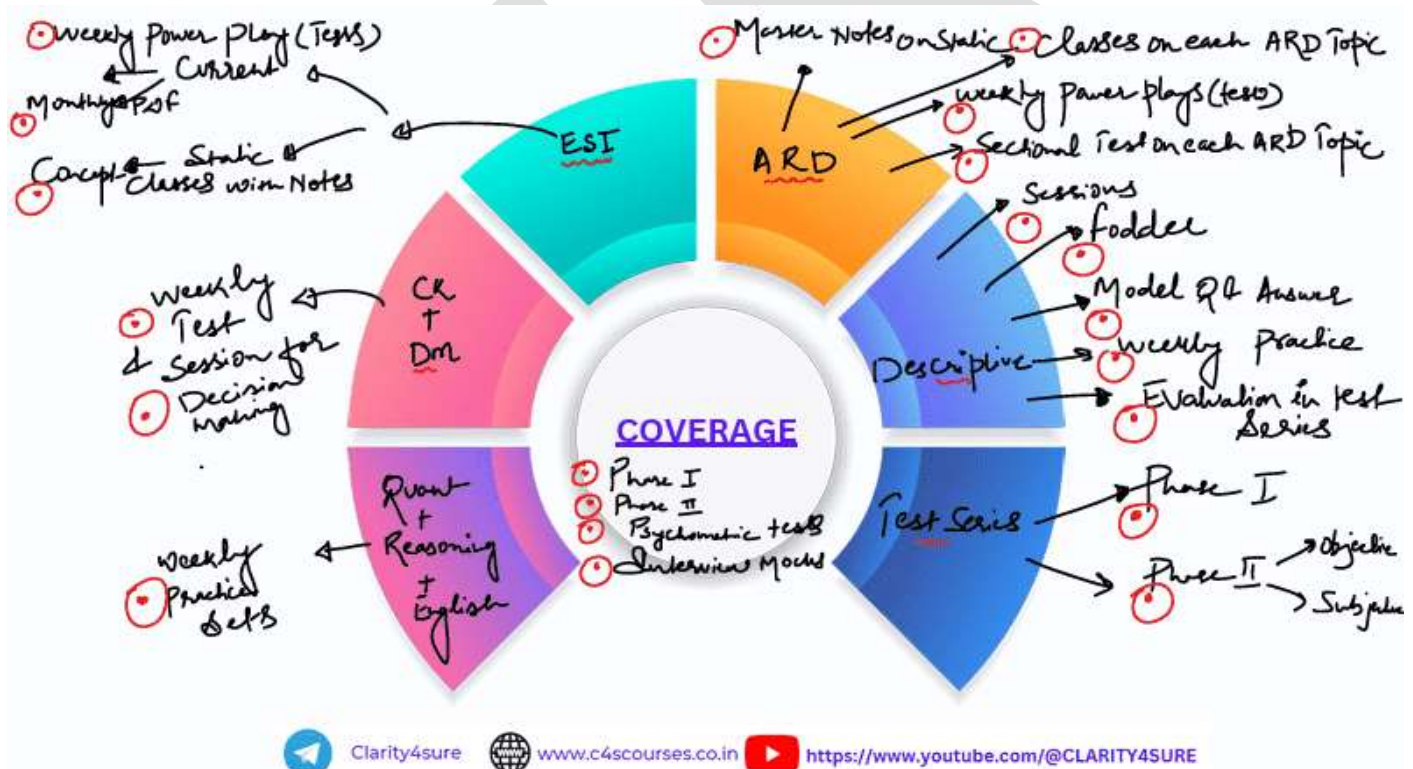
- **Self-evaluation:** This is to be carried out by every worker as a matter of routine. This requires the self-critical attitude which is so essential for extension work. By this self-critical attitude, the chances of an extension worker growing and continuously improving his professional competency become greater.
- **Internal evaluation:** Evaluation carried to by the agency responsible for the planning and implementation of the programme. Some of the other methods for internal evaluation are: systematic use of diaries and reports of workers, planned visits of staff members to work spot, use of special questionnaires and proforma for observation and inquiry etc.
- **External evaluation:** Evaluation conducted by a person or a committee outside the area of operation. One of the strong features of the Indian Community

Development Programme is that simultaneous with its start an independent agency, namely the Programme Evaluation Organization, was established.

Also, Evaluation can also be classified into (i) concurrent and (ii) ex-post facto evaluation.

4.3 Extension Evaluation Process

There are several models of evaluation available in the literature. However, a very simplified version of most of these models may be quite workable for evaluating extension programmes since, as Bhatnagar (1987) has pointed out, any extension evaluation process has to be based on certain assumptions. For example, if some inputs are provided in the form of a programme, specific outputs can be expected and if these outputs happen, then the purpose of the programme can be achieved; if the purpose is achieved, then the development goal is realised. This means that evaluation has to be so designed that the quality types and adequacy of the input measures, outputs and their impact in achieving the programme objectives have to be evaluated systematically.



Steps involved in an extension programme evaluative process may be as follows:

- i) Formulate evaluation objectives-** Specific objectives to be achieved through the evaluative process must be clearly and adequately identified and started. All further efforts should be knit around these objectives.
- ii) Classify programme objectives** - It is assumed that each extension programme, when formulated and implemented, will have specific well-defined objectives. Since evaluation is basically a process of determining the extent to which various extension teaching activities were organized and managed and the extent to which they contributed to

achieving the goals, programme objectives must be clearly understood and if necessary, further broke down into measurable terms. This is a crucial step as all further efforts will be directed towards collecting evidence related to these objectives.

iii) **Identify indicators** - To identify indicators or the kind of evidence necessary to evaluate achievement in relation to specified programme objectives, it is necessary that specific beneficiaries of the programme be identified, the kind of behavioural changes expected in them be clearly stated, and the kind of learning experiences expected to be provided to them spelled out, together with the level of management to be achieved for provided those learning experiences are specified. Once this is done, identification of specific indicators to measures the achievements will not be difficult.

iv) **Decide the kind of information needed** - Once the indicators for evaluating the management and performance of a programme have been indicated, specific information to be collected may be worked out. Since there is usually more information than an extension worker can collect, he has to be very discriminating about the kind and amount of information that should be collected. Timing for collection of information may also need to be specified.

v) **Sampling** - The purpose of sampling is to take a relatively small number of units from a population in such a way that the evidence collected from them becomes representative evidence of the entire population. Although there are several sampling methods, perhaps stratified sampling procedures may be most suitable for extension evaluation studies as they allow inclusion of all interested groups and ensure enough heterogeneity in the sample.

vi) **Decide the design of evaluation** - An ideal design of evaluation may be an experimental one. This would allow separating the effect of the programme from other factors, by setting control and treatment groups. Several experimental designs, such as one-group pre-test-post-test design, static groups comparison, pre-test, post-test control group design, Solomon four-group design, longitudinal study design, etc. are available in literature and can be used. However, in actual practice, extension programmes are seldom run in a way that allows an experimental design of evaluation. In Pilot Projects, it might be possible to use an experimental design of evaluation. By and large, a survey method is used. This method can be used for evaluating ongoing progress or as an ex-post facto evaluation of the programme after it has completed its tenure.

vii) **Collection and analysis of evaluation evidence** - There are many methods for collecting information for evaluative purposes, such as the mail questionnaire, personal interview, distributed questionnaires, group interviews, case studies, systematic field observations, systematic study of secondary data etc. Selection of the right kind of data collection method will depend on the objectives of the evaluation, kind of information needed, time and resources available and the type of respondents from whom information is to be collected.

However, whatever the method used, a specific questionnaire or interview schedule or data recording sheet must be developed with care.

Once the data is collected, it must be tabulated, summarized and analyzed with adequate care. This step should not be rushed. To avoid delay, however, analysis may be done with the help of a computer.

viii) **Interpretation of the results in a proper way** - It is a very crucial as evaluation results can be missed also. Once tentative generalizations are arrived at, it may be appropriate and they are informally discussed among the interpreters as well as with programme planning and implementation officials, so that the results of evaluation are put in a proper perspective. The evaluation results must clearly state the achievements, failures and future adjustments needed. A written report of the evaluation findings should be prepared and made available to all concerned

5 Diffusion

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 that the messages are concerned with new ideas.

Elements in the diffusion of innovations: The four main elements in diffusion of innovations are

- innovation
- communication channels
- time
- social system.

6 KVK's

- The concept of Krishi Vigyan Kendra was framed by **Professor Swaminathan, Father of Agriculture Research of India**. Professor M S Swaminathan convinced Government of India that there is absolute necessity to develop Krishi Vigyan Kendra in each district of India with an objective to cater following Mandate and Activities for the farming community of the District
- **Based on the recommendation of the Education Commission (1964-66), discussion by the Planning Commission and Inter-Ministerial Committee, and further recommendation by the committee headed by Dr. Mohan Singh Mehta appointed by ICAR in 1973 the idea of establishment of Farm Science Centre (Krishi Vigyan Kendra) was developed**
- The first KVK was established in 1974 at Puducherry. The number of KVKs has risen to 731. The KVK scheme is 100% financed by Govt. of India and the KVKs are sanctioned to Agricultural Universities, ICAR institutes, related Government Departments and Non Government Organizations (NGOs) working in Agriculture.

- KVK, is an integral part of the National Agricultural Research System (NARS), aims at assessment of location specific technology modules in agriculture and allied enterprises, through technology assessment, refinement and demonstrations. KVKs have been functioning as Knowledge and Resource Centre of agricultural technology supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district and are linking the NARS with extension system and farmers.

6.1 KVK System: Mandate and Activities

- The mandate of KVK is Technology Assessment and Demonstration for its Application and Capacity Development.
 - To implement the mandate effectively, the following activities are envisaged for each KVK
1. On-farm testing to assess the location specificity of agricultural technologies under various farming systems.
 2. Frontline demonstrations to establish production potential of technologies on the farmers' fields.
 3. Capacity development of farmers and extension personnel to update their knowledge and skills on modern agricultural technologies.
 4. To work as Knowledge and Resource Centre of agricultural technologies for supporting initiatives of public, private and voluntary sector in improving the agricultural economy of the district.
 5. Provide farm advisories using ICT and other media means on varied subjects of interest to farmers

In addition, KVKs produce quality technological products (seed, planting material, bio-agents, livestock) and make it available to farmers, organize frontline extension activities, identify and document selected farm innovations and converge with ongoing schemes and programs within the mandate of KVK.

Results for NABARD Grade A 2023 by C4S				
Sl No.	Name	Stream	Have You taken any of the courses offered by Clarity ?	Final Selection
1	Prajakta Liladhar Meshram	Generalist	Yes	Yes
2	ARUN KUMAR BHARTI	Generalist	Yes	Yes
3	PUNITKUMAR NAIKAR	Generalist	Yes	Yes
4	B Lalmuansangi	Generalist	Yes	Yes
5	RAJASEKARAN T	Generalist	Yes	Yes
6	Avinash Horo	Generalist	Yes	Yes
7	DEVIREDDY NAGA SINDHU	Generalist	Yes	Yes
8	KOMPALA VENKATA RAMESH	Generalist	Yes	Yes
9	RAYUDU SAI PADMINI	Generalist	Yes	Yes
10	Ammana Spandana	Generalist	Yes	Yes
11	DS Khuvei Olyson	Generalist	Yes	Yes
12	NAZI FRAH	Generalist	Yes	Yes
13	Sathish Kumar T	Generalist	Yes	Yes
14	Diwanshi Rana	Generalist	Yes	Yes
15	Ayush Anand	Generalist	Yes	Yes
16	Romi Singh	Generalist	Yes	Yes
17	Arun Manhas	Generalist	Yes	Yes
18	Appaji Pundalik Naik	Generalist	Yes	Yes
19	Darshan GN	Generalist	Yes	Yes
20	Rishabh Verma	Generalist	Yes	Yes
22	Ananya M	Generalist	Yes	Yes
23	Akshay Nair Nambalal	Generalist	Yes	Yes
24	RIYANABEGUM I NAYKAR	Generalist	Yes	Yes
25	SIDDHARTH DUBEY	Generalist	Yes	Yes
26	Suraj Kumar Prajapathi	Generalist	Yes	Yes
27	Shivam dheeran	Generalist	Yes	Yes
28	DOLLY Lalchandani	Generalist	Yes	Yes
29	Pravin	Generalist	Yes	Yes
30	SAURABH SHAM JADHAO	Generalist	Yes	Yes
31	Kunal Atmaram Desale	Generalist	Yes	Yes
32	Thogata Nagaraju	Generalist	Yes	Yes
33	Ranajit Patil	Generalist	Yes	Yes
34	Shubham Bhalchandra Kotkar	Generalist	Yes	Yes
35	Suryanshi Nigam	Generalist	Yes	Yes
36	SOUNDAR RAJAN R	Generalist	Yes	Yes
37	Saurabh Singh	Generalist	Yes	Yes
38	Palla Srinivas	Others	Yes	Yes
39	Nancy Singh	Others	Yes	Yes
40	Haffis Mohammed	Others	Yes	Yes
41	Pramod Raj N R	Generalist	Yes	Yes
42	Surya Prakash.M.S	Others	Yes	Yes
43	Vishal kumar bharti	Generalist	Yes	Yes
44	Kallesh Amaresh Totad			
Telegram: @Clarity4sure Web: www.c4scourses.co.in				
*Total 51 Candidates have responded of their selection who were associated with Clarity in courses, rest names will be added after confirmation				
** The list includes name of candidates who were associated with any one of the course/guidance by CLARITY and they themselves have marked YES in GOOGLE FORM				
***We are not involved in marketing propaganda where a few institutes are picking name of candidates who have just only given mock interview with them and not involved in guidance or course				

7 Functioning of KVK's

FUNCTIONING OF KVKs All KVKs are being **100% financed by Indian Council of Agriculture Research** in respect to Pay & Allowance, Travelling Allowance, Office Contingencies and Carry out On Farm Trials, Front Line Demonstrations, and Trainings. ICAR is also rendering full financial help to all KVKs to develop infrastructure facilities viz. Administrative Building, Soil laboratory, Training Hostel, Vehicle. Besides, as per demand and necessity of respective KVKs grants are being provided to develop further infrastructure facilities as and when required.

ICAR during the course of establishment of KVKs has streamlined that all KVKs will be **administratively controlled** by following organizations: • Research Institute of ICAR • State Agriculture University • NGOs

7.1 Function of KVK

- **Adaptation of cluster of village /watershed** based and adoption of village for conducting Agro-eco system analysis through PRA, identification and prioritization of problem on the basis of the causes in terms of severity, frequency and its extent.
- **Organization of gross root organization** viz, rural youths, progressive farmers, farmers led extension workers, SHGs, and motivation for establishment of F.Sc Club under KVK or Farmers Club under NABARD.
- **Conducting diagnostic team visit** to the farmers field and farmers visit to KVKs, and backward and forward linkage on regular basis.
- **Development of Annual Action plan** for conducting OFT, FLDs, training and on station trial etc.with facilitation of DEE, BCKV and ZDPD and its presentation in Zonal Work Shop and adaptation as per advice of Scientific Advisory committees.
- **Organization of capacity building need based training programme** in the field of Agriculture and allied activities in order to develop their capacity to know, to do, to learn by doing, and to the work in group.
- **Organization of Frontline Demonstrations** (components/full package) on paddy, wheat, maize, potato, vegetables, mango, cashewnut, poultry birds, agril implements, fish farming groundnut, mustards, sesamum, sunflowers ,green gram, red gram and black gram in the operational area with training, critical input support back up in collaborative mode of operation and conducting field days with extension functionary and feedback information.
- **Organization of training for extension** personnel, functionary, service providers and other stake holders on sponsorship or by own for emerging advances in agricultural research on regular basis.
- **Organization of Field Days, Seminar, Workshops, Kishan Mela**, Exhibitions, Ex-trainee, Progressive farmers, and innovative farmers meet observance and celebration of the day as well as conducting two numbers of SAC meeting as regular annual events.
- **Publication and distribution of Extension Bulletins**, scientific papers, manual, leaflets, charts, posters, folders etc.
- **Consultancy and facilitation service to District** line departments especially for wasteland development and participatory development of water harvesting structures as well as other stake holders for Agriculture and allied agricultural development projects and programmes.

- **Operation and maintenance of Agro-Service Centre** to provide easy accessible basic agricultural inputs and Assurance of service to the farming community by supply of quality critical inputs viz. seeds/breeds/planting materials/PPC/fertilizer/implements.
- **Scientific managements of progeny orchard**, demonstration units and Soil and water analysis lab, library, fish hatchery, Godown and farm for better out put.
- **Participatory planning and development of rural development programme** for host organization by convergence of different programme of state and national programme and projects.
- **Backward and forward linkage** with different institutions of NARS and others for adaptations of technology back up.
- **Exploration of Information Technology and Communications in Agriculture.**
- Keeping in mind with the aforesaid mandates and activities, all Krishi Vigyan Kendras are carrying out **ON FARM TRIALS** for location specific sustainable innovative technologies. All On Farm Trials are being conducted thrice in different blocks of the district in consecutive years with an intention to refine technologies during the course of three years.
- **Imparting training for Practicing farmer and farm women** regarding on Organic farming, promotion of Food production in waste land, efficient utilization up slope medium land by scientific cultivation of cereals, oil seeds pulses, vegetables, fruits, flowers etc, promotion and production of ducklings, goatary, poultry birds, promotion and production fresh water prawn and carp culture in small seasonal ponds.
- **Training for rural youth** on: i) Quality seed production ii) Agro-processing for small scale entrepreneurship development like etc.
- **As per mandate of ICAR, KVK is required to work in close association with all line departments of district viz. Agriculture**, Horticulture, Animal Science, Fishery, DRDC, Marketing. In this respect KVK is converging in following ways to cater the need of the farmers of district as well as to generate revenue/resource of their own:

Sl. No.	Funding Agencies	Area of Activities
1	ATMA	Short term research, Training, Publication, Farm School, Hatchery units
2	RKVY	Integrated Farming System, Augmentation of irrigation facilities, Infrastructure development
3	NABARD	Training, Model Village, Krishi Mela
4	DRDC	Training for SHGs, SGSY
5	FPI & Horticulture	Model Nursery, Poly House, green house

7.2 No. of KVK

As of July 2022

- There are **731 Krishi Vigyan Kendras (KVKs) in the country.**
- There are 38 KVKs under the control of State Governments, 66 under ICAR Institutes, 103 under NGOs, 506 under Agricultural Universities, 3 under Central Universities, 3 under Public Sector Undertakings, 7 under Deemed to be Universities and 5 under Other Educational Institutions.
- **UP has maximum KVK**

8 EXTRA FODDER FOR AGRI EXTENSION

Agriculture Extension

An agricultural extension service offers technical advice on agriculture to farmers, and also supplies them with the necessary inputs and services to support their agricultural production. It provides information to farmers and passes to the farmers new ideas developed by agricultural research stations.

There are three main categories of agricultural extension services in India. These are:

- **Technology transfer services:** Responsible for passing out advice, knowledge, and information to farmers.
- **Advisory Services:** Responsible for assisting farmers in case of particular issues they face.
- **Facilitation Services:** Responsible for supporting farmers to analyse their problems and develop their solutions accordingly.

Agriculture Extension Services in India: In India, Agricultural Extension Services are provided by the following bodies:

- **Public sector undertakings** such as Ministries of Agriculture or Rural Development,
- **Private sector bodies** such as agro-based dealers, crop science industry, seed and input companies, technology- providers, and buyers of agricultural products.
- **Non-profit or non-government** organisations, commodity boards, or farmer-based organisations.

Public Extension Services: The Public Extension System handles the Extension Services and Public extension system in India. These bodies are mainly- KVKs, State Agriculture departments, ICAR Organisations, Agriculture Universities, ATMA, and several other Central and State Government organisations.

Agriculture Technology Management Agency (ATMA): It is a multi-agency platform that stresses procedural and institutional reforms. It is a registered body that looks after technology dissemination at the district level. It links all the line departments, research organisations, non-governmental organisations, and agricultural development agencies in the district. ATMA's constituent members are- Research and Extension units, Departments of Agriculture, Animal Husbandry, Horticulture, Fisheries, etc.

ATMA-KVK (Krishi Vigyan Kendras (KVKs): linkage needs to be strengthened by creating functional inter-dependence as KVKs have an important role in the frontline extension system.

National Mission on Agricultural Extension & Technology (NMAET): It aims to ensure that farmers can easily avail themselves of seeds, pesticides, and machinery at affordable prices.

Functions of NMAET are:

- Promoting sustainable farm agriculture and capacity building among farmers, extension bodies, and other stakeholders through knowledge centres.
- Associating with knowledge generators for collecting and disseminating information to the beneficiaries through all channels.
- Development of disadvantaged groups of farmers who farm in difficult regions because, in these regions, the production is very low, which results in low macro yield.
- Connecting the mission to the grassroots level through effective mediums like farmers portal, Kisan call centres, etc.
- Providing on and off agricultural employment opportunities to youth via several interventions and programmes.

National Institute of Agricultural Extension Management: It is an autonomous body under the Department of Agriculture, Cooperation, and Farmers' Welfare. Its function is to assist state and central governments to strengthen agricultural extension management services.

Extension Education Institutes (EElis): This is in the higher order of the system that works on innovative and distinct agricultural or farming, poultry/livestock, etc., experiments. It ensures the capacity building of the respective areas.

State Agriculture Management and Extension Training Institute (SAMETI): These are an extended wing of MANAGE. They are part of the state-level institutional mechanism of the ATMA component of Sub-Mission on Agricultural Extension (SAME).

These institutes are responsible for capacity-building assistance, providing consultancy services related to project planning, appraisal, implementation, monitoring & evaluation, etc., and organising necessity-based training programmes.

Private Extension Services: Private Extension Services cover seeds, fertilisers, pesticides, machinery, credit, insurance, contract farming, export, advisory, etc. Moreover, several private companies like progressive farmers, farmers' organisations (CIGs, FPOs), and cooperatives are direct stakeholders under this system. In addition, Agri-entrepreneurs, input dealers, NGOs, private banks, private media, donor agencies, consultancy firms, etc., are other private players.

Agricultural Extension Services empowers the nation's farmers by providing them access to information, knowledge, technology, skills, risk & farm management practices across agricultural sub-sectors. Also, it helps them to understand the importance of the agricultural value chain so that the farmers can increase their net income sustainably.

Methods

There are several methods for extension work:

- **The individual/household approach** - This approach is most effective for activities to be undertaken by or within the full control of the individual farmer or household. Matters related to the individual farm should, as much as possible, be discussed with the whole family. If the whole family is involved, more problems are highlighted and more experience is brought to the discussion.
- **The group approach:** meetings, field days, demonstrations, support to groups - The group approach involves working with groups or the community at large. It is suitable when discussing matters related to the whole community (e.g. post-harvest grazing, protection and management of indigenous forests), and when there are activities to be undertaken by a group, e.g. group nurseries. It is also suitable when there is a need to address individual matters but more cheaply than can be done with the individual approach. The direct target group may be a women's group, a church organization, a co-operative society or the community in general. Extension work can also be carried out at meetings, either organized specifically to discuss agroforestry issues, or by making use of meetings that were already organized for some other purpose but where some discussion on agroforestry can be accommodated. Meetings are effective venues for receiving information from the community, for discussing issues of communal or individual interest and for spreading new ideas. **Field days and demonstrations are best organized on individual farms. There are two kinds of demonstration: result demonstrations and method demonstrations.** Result demonstrations show farmers the results of a practice that has been in use for some time and are intended to arouse the farmer's interest in the practice. They can also be used to compare older practices or techniques with new ones. Method demonstrations show farmers how a particular activity or task is carried out, e.g. how to plant a tree. This type of demonstration is among the oldest methods of teaching. It is an effective method since the farmers can practise, see, hear and discuss during the demonstration.
- **The school approach** - The school approach is being used by both Government ministries and NGOs. Schools can be approached through headmasters or teachers. The extension work can be in the form of lectures, support for 4K Clubs, or discussions held during parents' days. The pupils can be used as a channel for reaching the community and will also be influenced themselves, thus changing the behaviour and attitudes of the new generation. Pupils can also be used to trigger discussions in their families.
- **Mass extension methods** - Mass extension methods involve the use of the mass media, e.g. radio, posters, drama, television, newspapers, films, slide shows, to inform the public. Mass media are mainly used to create awareness.