Course No.:	EXTN -122	Credit:	3(2+1)	Semester-II
Course title:	Fundamentals of Agricultural Extension Education			

Teaching Schedule

a) Theory

Lecture	Topic	Weightage (%)
1	**Education:** Meaning, definition and types – Formal, informal and non formal education	2
2, 3, 4	**Extension Education-** Meaning, definition, need, scope and process; history, objectives, philosophy, principles and approaches.	10
5, 6	**Extension Programme Planning-** Meaning, process, principles and steps in programme development	5
7, 8	**Extension systems in India:** ▪ Extension efforts in pre-independence era : Sriniketan, Marthandam, Firka Development Scheme, Gurgaon Experiment ▪ Post-independence era : Etawah Pilot Project, Nilokheri Experiment ▪ Present extension System : Department of Agriculture : Structure, Function	5
9, 10	**Various extension/ agriculture development programmes launched by ICAR/ Government of India :** Introduction, Objectives and Salient Achievements ▪ Intensive Agricultural District Programme (IADP) ▪ Intensive Agricultural Area Programme (IAAP) ▪ High Yielding Varieties Programme (HYVP) ▪ Institution-Village Linkage Programme (IVLP) ▪ Operational Research Project (ORP) ▪ National Agricultural Technology Project (NATP) ▪ National Agricultural Innovation Project (NAIP) ▪ Rashtriya Krishi Vikas Yojana (RKVY).	10
11, 12	**New trends in agricultural extension:** Meaning , Objectives, Salient features ▪ Privatization in extension, ▪ ICT in Extension education - Cyber extension/ e-extension, ▪ Market-led extension, ▪ Farmer-led extension,	5
13	**Rural Development:** Concept, meaning, definition, objectives and genesis	5
14, 15, 16	**Various rural development programmes launched by Government of India** : Introduction, Objectives and salient features ▪ Swarnajayanti Gram Swarojgar Yojana (SGSY)	10

Lecture	Topic	Weightage (%)
	▪ Indira Awas Yojana (IAY) ▪ Mahatma Gandhi National Rural Employment Guarantee Act ▪ Prime Ministers' Rozgar Yojana (PMRY) ▪ District Rural Development Agency (DRDA) ▪ Integrated Watershed Development Programme (IWDP) ▪ Providing Urban Amenities in Rural Area (PURA) ▪ Rashtriya Mahila Kosh – (National Credit Fund for Women) ▪ Mahila Arthik Vikas Mahamandal (MAVIM)	
17	**Community Development. :** Meaning, definition, concept, principles and philosophy	3
18	**Democratic Decentralization (Panchayati Raj) :** Meaning, Constitution and functions	2
19	**Extension administration and management:** Meaning and concept, principles, functions and differences	3
20	**Evaluation in Extension** : Meaning, definition, types of evaluation, monitoring and evaluation	2
21, 22	**Transfer of technology programmes :** Lab to Land programme (LLP), National Demonstration (ND), Front Line Demonstration (FLD), KrishiVigyanKendras (KVK), Technology Assessment and Refinement Programme (TARP) of ICAR	5
23, 24	**Capacity building of extension personnel and farmers** : Meaning, Training and Education, Types of training, Training institutes in India, Concept of Human Resource Development	5
25, 26, 27	**Extension Teaching Methods and Audio-Visual Aids** : Meaning, definition, importance, classification, media mix strategies; Factors affecting selection and use of methods and aids	10
28, 29	**Communication: Meaning and definition;** elements, selected models and barriers to communication	10
30	**Agriculture journalism** : Meaning, definitions, news writing	3
31, 32	**Diffusion and adoption of innovation:** Concept and meaning, Attributes of innovation, Innovation decision process, adopter categories.	5
	Total	**100**

Suggested Readings

1) Dahama, O.P. and Bhatnagar, O.P. 1980. Education and Communication for Development. Oxford &lBH Publishing Co. Pvt. Ltd., New Delhi.

2) Dudhani, C.M.; Hirevenkatgoudar, L.V., Manjunath, L.; Hanchinal, S.N. and Patil, S.L. (2004). Extension Teaching Methods and Communication Technology, UAS, Dharwad.

3) Kamat, M.G. (1985). Writing for Farm Families. Allied Publishers, New Delhi.

4) Kelsey, L.D. and Hearne, G.C. (1963). Cooperative Extension Work, Comstar Publishing Associate, New York.

5) Mehta, D.S.(1981). Mass Communication and Journalism in India. Vikas Publication, New Delhi.

6) Ray, G.L. (1991). Extension Communication and Management. Noya Prakash, Calcutta.

7) Reddy, A.A 2005 Extension Education. Sri Lakshmi Press, Bapatla.

8) Rogers, E.M. 2003. Diffusion of Innovations. Free Press, New Delhi.

9) Samanta, R.K. (1990). Development Communication for Agriculture. BR Publishing Corporation, Delhi.

10) Sandhu, A.S. (1993).Textbbok on Agricultural Communication : Process and Methods. Oxford and IBH Publishing Pvt.Ltd., New Delhi.

11) Singh, A.K., Lakhan Singh, R. and Roy Burman (2006). Dimensions of Agricultural Extension. Aman Publishing House, Meerut

EDUCATION

Meaning, definition and types – Formal, informal and non formal education

Definition of Education:

Education is the process of bringing desirable change into the behavior of human beings.

It can also be defined as the process of imparting or acquiring knowledge and habits through instruction or study.

The modern definition of education is the production of desirable changes in human behavior- in knowledge (things known), attitudes (things felt) and skills (things done), in all of them or in one or more of them.

Knowledge: It includes facts, concepts, principles and relationship

Knowledge or cognitive e.g.: Extension worker educates a farmer on cultivation practices in sweet corn (change in knowledge).

Attitude: An attitude can be loosely defined as a feeling towards some object, person, and situation or idea.

Attitude or affective e.g.: Extension worker changes the negative attitude of a women farmer and makes them adopts Mushroom cultivation (things felt).

Skills: Ability to do things.

Skills or psychomotor: Extension worker improves skills of a cotton farmer on stem application of pesticide (things done).

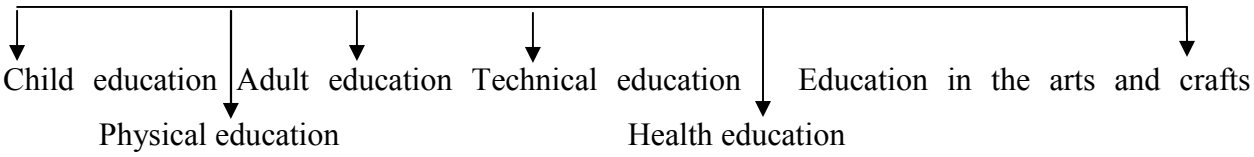
When learning is progressive towards goals that have been established in accordance with a philosophy which has been defined for, and is understood by the learner, it is called education.

The behavioral changes must be directed towards a desirable end. They should be accepted socially, culturally and economically and result in a changes in knowledge, skill, attitude and understanding.

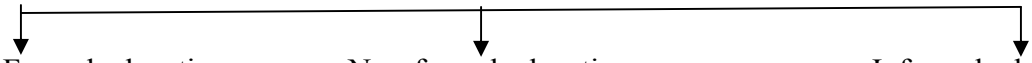
Thus in education, the greatest emphasis should be placed on the behavioral components of an individual

TYPES OF EDUCATION

With the development of society, Types of education



Education is the Humanities and social sciences



1. **Formal education**

Formal education is basically an institutional activity, uniform and subject oriented, full time, Sequential, hierarchically structured, leading to certificates degrees and diplomas.

eg: Education in schools & colleges

Characteristics of Formal Education:

- Hierarchically structured
- Full time education.
- Technical and professional training.
- A variety of specialized programmes.
- Running from primary school through the university.
- Chronologically graded education system.

2. **Non-formal education**

Any organized education activity outside the established formal system whether operation separately or as an important feature of some broader activity that is intended to serve Identifiable learning clienteles and learning objectives

eg: Extension Education. Extension worker improves the skills in cotton farmers on stem application of pesticides

- It is flexible.
- It is life, environment and learner oriented
- It is diversified in content and method.
- It is non-authoritarian
- It is built on learner-participation
- It organizer human and environmental potential
- It enhances human and environmental potential.

3. **Informal education**

The truly lifelong process whereby every individual acquires attitude, values, skills and knowledge from daily experience and the educative inferences and resources in his or her environment from family and the educative inferences and resources in his or her environment

from family and neighbors, form work and play, from the market place, the library and the mass media.

eg: Little baby, as she grows up, learns how to recognize her parents and how to eat

- Informal education is the least controlled, that's why this type of education cannot be excluded of somebody's life.
- It consists of accidental, unclear, quantitative information.
- It usually has a quantitative aspect that a qualitative one
- Informal education refers even to emotions, feelings, beliefs, superstitions etc.
- It offers responsiveness ready response when interact with environment.
- It offers possibility to freely act in unknown situation.
- It offers freedom of self-formation.

Difference between Formal education and Extension Education

Sr	Formal Education	Extension Education
1	Teaching is largely confined to the premises of the institution.	Teaching is largely outside the four walls of the institution
2	Students study subject	Learners study problem
3	Authority rest with the teacher	Authority rest with the farmers
4	Class attendance is compulsory	Participation is purely voluntary
5	Teaching is largely vertical	Teaching is largely horizontal
6	The student must adopt themselves to the fixed curriculum offered	It has no foxed curriculum or course of study, the learners helps to formulate the curriculum
7	The learners are homogeneous with common goals	The learners are heterogeneous and have diverse goals
8	It is rigid	It is flexible
9	It is more theoretical	It is more practice
10	Degree or diploma are offered	No degree or diploma are offered
11	Strict norms of institution & no choice for the learners	Freedom and choice of subject matter left to the learners
12	Knowledge flows from teacher to learner	The extension agent teaches a great deal through local leaders

Difference between Formal and Informal Education

Sr	Formal Education	Informal Education
1	Educational growth of children and youth for their future career	It signifies working with adults and youth in actual life situation.
2	Participation is compulsory	Participation is voluntary
3	No variations in learners age, educational level, experience, interest etc.	Variations in age, educational level, experience, interest, intensity of need etc.
4	No flexibility in plan of teaching	Flexibility of plan in teaching
5	It is imparted in class room	No class rooms and imparted in actual life situation
6	Have prescribed books, fixed periods and examinations and having fixed curriculum.	No any prescribed books, fixed periods and examinations and no fixed curriculum.
7	In this education the teachers alone instructs the students.	In this education the teachers also learn from those he teaches.

EXTENSION EDUCATION-

Meaning, definition, Need, Scope and process; history, objectives, philosophy, principles and approaches.

Extension – Meaning

The word 'extension' is derived from the Latin roots, 'ex' – meaning 'out' and 'tensio' meaning 'stretching'. Stretching out is the meaning of extension.

The term Extension originated in England in 1866 with a system of university extension which was first taken by Cambridge & Oxford Universities. The term 'Extension Education' was first used in 1983 by Cambridge University.

Education is an integral part of extension. The basic concept of extension is that it is education. Extension means that type of education, which is stretched out, to the people in rural areas, beyond the limits of the educational institutions to which the formal type of education is normally confined.

Definitions:-

Extension is an out of school system of education in which adults & young people learn by doing.(Kelsey & Hearne)

Extension is an education & its purpose is to change the attitude & the practice of the people with whom the work is done. (Ensminger).

Extension Education is a process of teaching rural people how to live better by learning ways that improve their farm, home, and community.

Extension education is an applied social science consisting of relevant content derived from physical, biological and social sciences and in its own process synthesised into a body of knowledge, concepts, principles and procedures oriented to provide non-credit out of school education largely for adults. - Paul Leagans (1971).

Extension is an out of school education & services of the member of the farm family & others directly or indirectly engaged in farm production enable them to adopt improved practices in production, management, conservation & marketing. (Agril. Commission)

Extension Education is a defined as an educational process to provide knowledge to the rural people about the improves practices in a convincing manner & to help them to take decisions within their specific local condition.

Extension process is that of working with rural people through out of school education along those lines of their current interest and need which are closely related to

gaining a livelihood improving the physical level of living of rural families and fostering rural community welfare.

Need of the Extension Education

- To bridge the gap created by advising means of adjustment in the environment.
- To demonstrate new agricultural technologies to the farmers for the purpose of raising their yield.
- To educate the people / farmer about agriculture, industry, home science, veterinary science or public health.
- To understand & find out the solution for the rural problems.
- To contribute to the national development programme.
- Transfer of technology to the beneficiaries.

Objectives: - objectives are the expression of the ends towards which our efforts are directed.

Principle: - is a statement of policy to guide decision & action in a consistent manner.

Or

A principle is a fundamental truth & a settled rule of action.

Objectives of Extension Education:-

- The fundamental objective of extension education is to raise the standard of living of the rural people by helping them in using their natural resources in the right way.
- It should also help in providing minimum health, recreational, and educational facilities for improving family living conditions in the village.
- To increase the net income of farmers by more production and proper marketing system.
- To raise the standard of living of rural people.
- Development of rural areas.
- To increase the facilities for social, cultural and entertainment programmes for rural people.
- To develop rural leadership.
- To develop the feeling of self-dependence among rural people.
- To provide educational and health facilities in rural areas.
- To train rural youth for development works.
- To help farmer in processing & marketing his products.

Philosophy of Extension Education

Philosophy:

Philosophy is a body of general principles or laws of a field of knowledge; it provides guidelines for performing the activities in life in a particular way.

Different individuals have different philosophies of life, e.g. the traditional minded farmer and progressive farmer may react differently to the concept of artificial insemination of cows.

Philosophy of extension education includes the principles or guidelines with which to shape or mould the developmental programmes relating to that field.

It provides to extension worker the basis for working out the programmes and the policies to be adopted in extension work.

The basic philosophy of Extension is **how to do** not what to do.

The philosophy of extension is explained in the following statements:

1. Extension has a philosophy of culture:

a. It respects culture of people.

b. It brings about cultural change through cultural development.

2. Extension has philosophy of social progress:

a. Its works is based on needs and desires of the people

b. It facilitates change and help people to adjust with them.

3. Extension has philosophy of education for all:

a. Disseminates useful knowledge to all people.

b. Regardless of personal, social and economic characteristics.

4. Extension has philosophy concerning teaching:

a. It teaches by doing:

i) Hearing – doubtful

ii) Seeing – possibly doubtful

iii) Do – believe

b. It reaches people to practice them.

c. Teaching is inadequate till the knowledge is put into practice.

5. Extension has philosophy of leadership:

a. Teaches, educates, and stimulates people through local leaders.

b. Utilizes assistance of voluntary leaders.

c. Locates, trains and uses functional leaders.

d. Extension trusts in what it can get others to do.

6. Extension has philosophy of local responsibility:

a. Encourages people to contribute increasingly in their own affairs.

b. Prepares suitable leaders to determine programmes and plans.

7. Extension has philosophy about truth:

a. Sells only proven facts.

b. Realize that going beyond truth will loose people's faith in extension.

c. Continuously seeks new truth as today's whole truth may be tomorrow's partial truth.

8. Extension has philosophy of democracy:

a. Functions only with voluntary co-operation of the people.

b. Co-operation with the individuals, groups and institutions interested in common welfare.

c. Selects and solves the problems based on the felt needs through group action.

d. Democratic in organization.

9. Extension has philosophy of a dignity of individual and his profession:

a. Believes that each individual is endowed certain inalienable rights.

b. Dignifies the farm, home and family.

c. Holds that changed man is more important than the changed practice.

10. Extension personnel have philosophical characteristics:

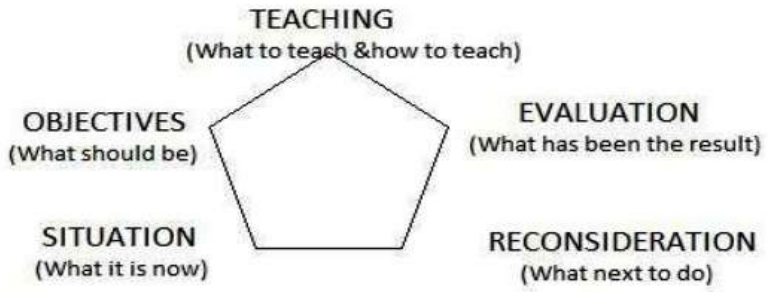
a. Extension personnel have the right attitude, integrity and high sense of service.

b. Extension personnel have deep faith that man does not alive with bread alone.

Extension Educational Process

An effective extension educational programme involves five essential and interrelated steps. This concept of the extension educational process is intended only to clarify the steps necessary in carrying out a planned educational effort. It does not imply that these steps are definitely separate from each other. Experience shows that planning, teaching and evaluation take place continuously, in varying degrees, throughout all phases of extension activities.

EXTENSION EDUCATION PROCESS



The Extension Education Process

First step: The first step consists of collection of facts and analysis of the situation. Facts about the people and their enterprises; the economic, social, cultural, physical and technological environment in which they live and work. These may be obtained by appropriate survey and establishing rapport with the people.

The responses obtained are to be analyzed with the local people to identify the problems and resources available in the community. For example, after a survey in a community and analysis of the data, the problem was identified as low income of the farm family from their crop production enterprise.

Second step: The next step is deciding on realistic objectives which may be accomplished by the community. A limited number of objectives should be selected by involving the local people. The objectives should be specific and clearly stated, and on completion should bring satisfaction to the community. Objectives should state the behavioural changes in people as well as economic and social outcomes desired.

In the example, the problem was identified as low income from the crop production enterprise. A deeper probe into the date revealed that low income was due to low yield of crops, which was attributed to the use of local seeds with low yield potential, application of little Fertilizer and lack of protection measures. By taking into consideration the capacity and competency of the people in the community and the availability of resources, the objective was set up to increase the crop yield by 20 per cent within a certain period of time. It was estimated that the increased yield shall bring increased income, which shall enhance the family welfare.

Third step: The third step is teaching, which involves choosing what should be taught (the content) and how the people should be taught the methods and aids to be used. It requires

selecting research findings of economic and practical importance relevant to the community, and selection and combination of appropriate teaching methods and aids.

Based on the problems identified in the particular example, technologies like use of HYV seeds, application of fertilizer and plant protection chemicals were selected as teaching content. Result demonstration, method demonstration, farmers' training and farm publications were chosen as teaching methods, and tape recorder and slides were selected as teaching aids.

Fourth step: The fourth step is evaluating the teaching i.e, determining the extent to which the objectives have been reached. To evaluate the results of an educational programme objectively, it is desirable to conduct a re-survey. The evidence of changed behavior should be collected, which shall not only provide a measure of success, but shall also indicate the deficiencies, if any.

In the example, the re-survey after the fixed period of time, indicated that the crop yield had increased by 10 percent. It, therefore, indicated that there was a gap of 10 per cent in crop yield in comparison to the target (objective) of 20 per cent fixed earlier. The re - survey also indicated that there had been two important deficiencies in carrying out the extension educational program, such as, there was lack of proper water management and the farmers could not apply the fertilizer and plant protection chemicals as per recommendation due to lack of funds.

Fifth step: The fifth step is re-consideration of the entire extension educational programme on the light of the results of evaluation. The problems identified in the process of evaluation may become the starting point for the next phase of the extension educational programme, unless new problems have developed or new situations have arisen.

After re-consideration of the results of evaluation with the people, the following teaching objectives were again set up. For example, they were, training the farmers on proper water management practices and putting up demonstrations on water management. The people were also advised to contact the banks for obtaining production credit in time to purchase critical inputs.

Thus, the continuous process of extension education shall go on, resulting in progress of the people from a less desirable to more desirable situations.

Principles of Extension Education:-

1) Principle of interests and needs
2) Grass-roots principle
3) Principle of cultural differences

4) Principle of cultural change
5) Principle of cooperation and participation
6) Principle of learning by doing
7) Adaptability principle in the use of extension teaching methods
8) Principle of leadership
9) Whole family principle
10) Principle of trained specialist
11) Principle of satisfaction
12) Principle of evaluation

1) Principle of interests and needs: To be effective, extension work must begin with the interest and needs of the people. Many times the interests of the rural people are not the interests of the extension worker. Even though he sees the needs of the people better than they do themselves, he must begin with the interests and needs as they (the people) see them. In this way only can the extension agency mould the needs and interests of the people into realistic needs. Needs that can satisfy the individuals, groups, community and national interests, needs that can be fulfilled with the available resources should be fulfilled first.

eg: Extension work is successful if it is according to people's needs- Demonstration on cotton cultivation in low lying areas

eg Extension work fails if it is not according to people's needs- Demonstration on grapes cultivation in low lying areas

2) Grass-roots principle: For extension work to be effective and real, it has to be synthesis of democracy obtained at the level of the family and more particularly at the village level. Things must spring from below and spread like grass. At the same time, modern science calls for an advanced stage of organization of wiser coordination of thinking and action than is feasible in a single family or a single village. Aim of extension should be on local or existing situation. Programmes should start from grass root level.eg: Extension worker should train illiterate farmers initially on marketing aspects rather than training on complicated topic like WTO or GATT.

3) Principle of cultural differences: Cultural differences exist between Extension worker and farmer. In order to make extension programmes effective, the approach and procedure must be suited to the culture of the people who are taught. Different cultures require different

approaches. A blueprint of work designed for on part of the globe cannot be applied effectively to another part, mainly because of the cultural differences. These differences can be perceived in the way of life of the people, their attitudes, values, loyalties, habits and customs.

eg: A demonstration on Mushroom recipes should not be conducted in a village where Mushrooms are not eaten.

4) Principle of cultural change: The cultures undergo changing while performing extension work. The change is also possible without extension work as it is necessary fro growth and development of the society. The extension worker must gain the confidence of rural people so that they could believed that, what extension agents says, it is for their benefit. It has relevance to their life. When people will see the beneficial results of improved technology, they will share their problems with extension worker to find out solution. Hence, the extension worker has to work with changing situation to help the people.

5) Principle of cooperation and participation: The participation of the people is of fundamental importance for the success of any educational Endeavor. People must share in the development of a programme and must feel that it is their own programme.

eg : Success of Annahazare water shed in Ralaegoan sidhi is due to peoples participation

6) Principle of learning by doing: Learning by doing involves use of maximum number of senses, hence it is very effective in changing behavior.

eg: Demonstration on soft wood grafting on mango is very effective than lecture method. In extension work, farmers should be encouraged to learn new things by doing and by direct participation.

7) Adaptability principle in the use of extension teaching methods: No single extension teaching method is effective under all situations. The use of teaching methods must have flexibility to be adapted to the members of a community who differ in age, education, economic status, sex and proneness to change etc. Extension agents have found that they need a large number of teaching methods out of which they can select and revise the one effective for the purpose and best suited to the culture of the people.

eg: LCD power point presentations are not to be used in a interior village where electricity is uncertain, instead posters, charts, live samples can be used.

8) Principle of leadership: A good rule in extension work is never do anything yourself that you can get someone to do for you. The involvement of leaders in extension programmes is the

one single factor that determines the success or failure of those programmes. Local leaders are the guardians of local thought and action and can be trained and developed to best serve as interpreters of new ideas to the villagers.

eg; Farmers gets easily convinced about latest technology if it is adopted by a local leader than taught by a extension worker.

9) Whole family principle: The family is the unit of any society. All the members of the family have to be developed equally by involving all of them. This is because of the following reasons: The extension programme effects all members of the family, the family members have great influence in decision-making, it creates mutual understanding, it aids in money management, it balances farm and family needs, it educates the younger members, it provides an activity outlet for all, it unifies related aspects, such as the social, economic and cultural issues of the family, it assures family service to the community and society

10) Principle of trained specialist: Extension is the bridge between scientist and farmer. Extension worker has to keep himself touch with recent findings of the research in all branches of science. Without trained specialist, extension work cannot thrive. These specialists are the link between research and application of researcher on farmer's field. The specialist should have a broad outlook and should know other subject matter of the whole family and making his special contribution.

11) Principle of satisfaction: Satisfaction of the people is very essential in extension work. Unless the people are satisfied with the end product of any programme, it is not going to be able to run. They must continue to act out of their own conviction and that is possible only when they derive full satisfaction through adoption of innovations well suited to their needs and resources.

eg: If an farmer is satisfied by seeing strawberry cultivation in a exposure visit he tries to adopt it.

12) Principle of Evaluation: - The evaluation of extension work in an unbiased way is necessary. Evaluation gives an idea whether the extension work is going in right direction or not. The corrective measures should be adopted it the direction of work is wrong. Extension work is of educational in nature. Its effectively can be measured by measuring the changes in people resulting from teaching process. It is necessary to determine the teaching results by scientific way. The result of such evaluations would help extension workers in improving quality of programmes in future.

13) Principle of applied science and democracy:- Agriculture science is an applied science and has two way process. It carries the findings of research to the farmer and feedbacks of the problems to the scientist to find out solutions. In democracy, freedom of through and unbiased objectives approach of scientists, is used in the solutions of problem. The result of research gives a factual basis for the correction of common superstitions and unfounded beliefs that arouse in the past from inaccurate observations.

Axinn (1988) identified 8 different approaches to extension work. These are briefly summarized below:

1. **The general agricultural extension approach:-** The purpose is to help farmers increase their production. Planning is done on a national basis by the central government "which knows better than farmers". This is a typical case of top-down planning. Field personnel tend to be large in number and high in cost, with the central government bearing most of the cost. The rate of adoption of important recommendations and increases in national production are the measures of success. A survey of agricultural extension programmes indicated that agricultural extension generally was part of the Ministry of Agriculture, with field extension officers at the bottom of the hierarchy and a minister at the top (FAO, 1971). This approach lacks a two-way flow of information. It fails to adjust messages for each different locality. Only farmers who seek advice benefit and these tend to be large-scale wealthier farmers. This approach does provide farmers with information on a number of production alternatives from one single source.
2. **The commodity specialized approach: -** All functions related to a particular commodity are grouped together, including extension, research, input supply, output marketing, and prices. Planning is controlled by a commodity organization for the purpose of increasing production of a particular commodity. Highly trained scientific personnel equipped with expensive vehicles and field scientific apparatus are employed. Techniques recommended must produce financial benefits for farmers, and be demonstrable on a farmer's own field. New inputs must be accessible, a credit scheme established, and the ratio between farm-gate inputs and commodity prices considered. Technology tends to be appropriate and distributed in a timely manner because it focuses on a narrow range of technical concerns. Interests of farmers, however, may have less priority than those of commodity production organizations.
3. **The training and visit approach: -** The purpose of the training and visit approach (often called T & V) is to induce farmers to increase production of specified crops. Planning is

controlled centrally and field personnel tend to be numerous and dependent on central resources. There is a rigid pattern of visits to farmers and in-service training of field staff. Success is measured in terms of production increases of the particular crops covered by the programme. The training and visit approach is another top-down approach. The emphasis is on disseminating unsophisticated, low-cost improved practices, and teaching farmers to make best use of available resources. There is pressure on the government to reorganize into a more integrated service, and to send extension officers into the field to meet with farmers. It provides closer technical supervision and logistic support, but at a high cost. Actual two-way communication is lacking and there is little flexibility.

4. The agricultural extension participatory approach:-This approach assumes that farmers are skilled in food production from their land, but their levels of living could be improved by additional knowledge. Active participation by farmers themselves is necessary and produces a reinforcing effect in group learning and group action. Much of the work is through group meetings, demonstrations, individual and group travel, and local sharing of appropriate technologies. Success is measured through numbers of farmers actively participating, and the continuity of the programme. There is much to be gained by combining indigenous knowledge with science. Expressed needs of farmers are targeted. The system requires that extension workers, who are also animators and catalysts, stimulate farmers to organize for group efforts. Local people evaluate their own programmes and play a role in establishing research agendas.

The agricultural extension participatory approach costs less, fits needs well, and is more efficient. However, it is more work for extension agents to organize and motivate farmers. It requires agents to live and to socialize with farmers. Where a government job is seen as a reward for good friends, the "hardship" implied by this approach dooms it to failure. The agent will be there only "part time" and have no personal stake in the outcome.

5. The project approach: - This approach uses large infusions of outside resources for a few years to demonstrate the potential of new technologies. Control is at the central government level and there are often considerable financial and technical inputs from an international development agency. Short-term change is the measure of success. In the aquaculture project in Nepal, for example, a loan from the Asian Development Bank was used by the Ministry of Agriculture to support extension work by fisheries officers in many different locations throughout the country. They were able to introduce pond fisheries through an effort which

combined the project approach with the specialized commodity approach. One problem with this approach, however, is that a flow of ideas outside the project rarely occurs.

6. The farming systems development approach: - This approach assumes that technology which fits the needs of farmers, particularly small-scale farmers, is not available and needs to be generated locally. Planning evolves slowly and may be different for each agro climatic farm ecosystem. This approach is implemented through a partnership of research and extension personnel using a systems approach. Analyses and field trials are carried out on farmers' fields and in homes. The measure of success is the extent to which farm people adopt technologies developed by the programme and continue to use them over time. Control of the programme is shared jointly by local farm families, extension officers and researchers. Advantages of this system include strong linkages between extension and research personnel, and the commitment of farmers to using technologies they helped to develop. Costs can be high, and results can be slow in coming.

7. The cost sharing approach:-This approach is based on local people sharing part of the cost of the extension programme. Control and planning is shared by various entities and is responsive to local interests. Success is measured by farmers' willingness and ability to provide some share of the cost, be it individually or through local government units. Problems may arise if local farmers are pressured into investing in unproven enterprises.

8. The educational institution approach: - In the educational institution approach, planning is controlled by those determining the curriculum of the educational institution. Implementation is through non formal instruction in groups or individuals through a college or university. Attendance and the extent of participation by farmers in agricultural extension activities are the measures of success. Ideally researchers learn from extension personnel who, in turn, learn from farmers. However, this rarely occurs in practice. The advantage of this approach is the relationship of specialized scientists to field extension personnel.

AGRICULTURAL EXTENSION: MEANING, DEFINIOTIONS AND DIMENSIONS

Definitions:-

Agricultural Extension is the application of scientific research and new knowledge to agricultural practices through farmer education.

The process of extension education when applied to subject matter of agriculture, it is known as agricultural extension.

It is a process of transfer of agricultural technology to bring desirable change in the individual or community.

Task of Agricultural Extension

- It includes timely supply of required quantity of inputs.
- There is increasing production through double /multiple cropping and productivity through improved technology
- There is firm linkage between scientist and farmer and feedback from farmers to scientists
- It is professional method and professional extension workers are engaged.
- It is non formal education process and emphasis on transfer of technology.
- It includes behavioral changes in farmer
- The proven methods of communication are used for speedy adaption and diffusion of innovations.

Scope of Agricultural Extension

The following nine areas of programme emphasis indicate the scope of Agricultural Extension work:

1. Efficiency in agricultural production.
2. Efficiency in marketing, distribution and utilization.
3. Conservation, development and use of natural resources.
4. Management on the farm and in the home.
5. Family living.
6. Youth development.
7. Leadership development.
8. Community development.
9. Public affairs.

EXTENSION PROGRAMME PLANNING-

Meaning, process, principles and steps in programme development

Definition:-

Programme is proclamation, prospectus, listing of events to be done in chronological fashion.

Programme is Total educational job being done in particular settings.

Planning is designing a course of action to achieve desired ends.

Planning is a process, which involves studying the past, and present in order to forecast the future and in the light of that forecast determining the goals to be achieved and what must be done to reach them.

Project is a specification of work to be done or procedure to be followed in order to accomplish a particular object.

Extension Programme is a statement of situation, objectives, problems and solutions.

Programme Planning is a decision making process involving critical analysis of the existing situation and the problems, evaluation of the various alternatives to solve these problems and the selection of the relevant ones, giving necessary priorities based upon local needs and resources by the cooperative efforts of the people both official and non-official with a view to facilitate the individual and community growth and development.

Programme Planning is a continues series of activities operations leading to the development of a definite plan of action to accomplish particular objectives.

Problem is condition that the people after study with or without outside help, have decide needs changing

Solution is a course of proposed action to change an unsatisfactory condition to one that is more satisfying.

Plan is predetermined course of action.

Plan of work is an outline of activities so arranged as to enables efficient executing of the progrmme .

Calendar of work is a plan of activities to be undertaken in a particular time sequence.

IMPORTNACE OF PROGRAMME PLANNING

Rural development work is basically a joint effort of many agencies. It is essential to coordinate the activities of various agencies involved in the work. Programme planning helps in

understanding the statement of purpose both by the extension workers and the people. The reasons for having a programme may be specifically stated as follows (Kelsey and Hearne, 1967).

(1) To ensure careful consideration of what is to be done and why.
(2) To furnish a guide against which to judge all new proposals.
(3) To establish objectives towards which progress can be measured and evaluated.
(4) To have a means of choosing the important (deep rooted) from incidental (minor, less important) problems and the permanent form temporary changes.
(5) To develop a common understanding about the means and ends between various functionaries and organizations.
(6) To ensure continuity during changes in personnel.
(7) To help develop leadership.
(8) To avoid waste of time and money and promote efficiency.
(9) To justify expenditure and to ensure flow of funds.
(10) To have available in written form a statement for public use.

PRINCIPLES OF PROGRAMME PLANNING

Principals are the fundamental truths and settled rules of action. There are some basic principals which are generally applicable before starting any extension programme. These are as follows:

1. **Extension Programmes should be based on an analysis of the past experiences, present situation and future needs.** For programme determination adequate information about the people and their situation has to be collected. The present situation is to be analyzed and interpreted on the basis of past experiences, by taking local people into confidence. This shall help in arriving at the future needs.

2. **Extension programmes should have clear and significant objectives, which could satisfy important needs of the people**. **The ultimate objective of programme building is to satisfy the needs of the people.** For this purpose, significant objectives pertaining to important needs of the people should be selected and clearly stated. The emphasis shall be on what is attainable rather than on what is ideal, although one should not lose sight of the later.

3. **Extension programmes should fix up priority on the basis of available resources and time.** The rural people, particularly in the developing countries, have a multitude of problems.

All problems cannot be taken up at a time for solution, because of the limitations of trained personnel, availability of funds, facilities and other resources. Time is also a limiting factor as both the people and the funding agencies cannot wait for an indefinite period of time to get the results. Considering all these parameters, it is essential to fix up priorities in the programme.

4. **Extension programmes should clearly indicate the availability and utilization of resources.** All extension programmes should clearly state where from the funds, facilities, supplies and the needed personnel shall be made available and how these shall be utilized. This shall make the programme practical and workable.

5. **Extension programme should have a general agreement at various levels.** Programmes prepared at various levels such as village, district, state and national levels should conform to each other and shall not work at cross purposes. Similarly, extension programmes of a particular department should not be in conflict or contradiction with the extension programme of another department.

6. **Extension programme should involve people at the local level.** Extension programmes are implemented at the local level. Local people should, therefore, be involved all through, from programme formation to programme implementation.

7. **Extension programmes should involve relevant institutions and organizations.** Extension programmes cannot be implemented in isolation. It requires the support of many institutions and organizations. The programme should broadly indicate the institutions and organizations to be involved and how they shall contribute in attaining the programme objectives.

8. **Extension programme should have definite plan of work**. The plan of work may be separately drawn up or incorporated in the programme. The programme should broadly indicate how it will be executed. Unless the plan of work is drawn up, the programme remains a theoretical exercise.

9. **Extension programmes should provide for evaluation of results and reconsideration of the programme.** Extension programme is not a static outline of activities. The programme should make provision for periodical monitoring and evaluation of results to judge its progress. On the basis of the findings of evaluation, the programme should be suitably modified to facilitate its reaching the objective within the stipulated period of time.

10. **Extension programmes should provide equitable distribution of benefits amongst the members of the community.** It has been found that, in a community generally the resource rich persons benefit more in comparison to the resource poor, from the implementation of extension programmes. The gap between rich and poor is getting widened. As this may generate social disparity and social tensions, the planning of extension programmes should give adequate emphasis on the weaker sections of the community.

STEPS IN EXTENSION PROGRAMME PLANNING

1. Collection of facts

It is the starting point of programme planning process. Pertinent data may be collected from the available records and survey of the area. Information relating to the people, their enterprises, levels of technology, facilities and constraints, values etc. relevant to programme building may be collected. Information may also be collected from Panchayats, Cooperatives and other organizations in the area.

2. Analysis of situation

The data and information collected are then analyzed with the local people. This shall help in understanding the situation in its proper perspective.

3. Identification of problems

A proper analysis and interpretation of the data shall help in correctly identifying the problems. There may be many problems, but only the urgent and significant ones, which may be

solved with the available resources and within the limits of time, should be selected. Selections of a large number of problems, which cannot be properly managed, lead to a failure of the programme and generate frustration among the people.

4. Determination of objectives and goals

The objectives are then set forth on the basis of the significant needs identified. The objectives should be direct and stated in clear terms.

To make the objectives realistic and actionable, there is need to state them in terms of specific goals. In the determination of goals it may be necessary to again go through the data and information analyzed; to find out what could actually be done in the existing situation, with the available resources and time, which will be compatible and with which the people shall cooperate. It is necessary to discuss with the local people and local institutions, which shall also legitimize the programme planning process.

5. Developing plan of work and calendar of operations

The plan of work should be in written form and shall indicate who shall do what job i.e. what the change agent system and the client system shall do; which institutions, organizations, service departments shall be involved; what will be the financial requirement and how it shall be met; what arrangements shall be made for marketing of the produce, training of the farmers and so on. The plan should have all the essential details and no important point should be left out.

The calendar of operations shall be prepared on the basis of the plan of work and shall specify when a particular work shall be done, preferably mentioning date and time; how much quantity of different inputs including credit shall be required and when these must be made available; when, where and for how many days the farmers and farm women shall be trained, who are the specialists to be involved in training and preparing the handouts, when the publications shall be ready for distribution etc. That is, the calendar of operations shall specifically state how and when all the significant activities shall be performed. This should be at least for one season or for a period of one year. In that case, they may be termed as ‘seasonal plan’ or ‘annual plan’.

6. Follow through plan of work and calendar of operations

This is not a routine type of work as many people may think. Training of participants, communication of information, conducting method demonstrations, making regular visits and monitoring are some of the important functions the extension agent shall perform at this stage.

The work shall include solving unforeseen problems and taking corrective steps where needed. The performance of the extension agent and the organizational support received at this stage may make the difference between success or failure of a programme. Obtaining feed back information as to what is happening to the farmers after introduction of new technology is extremely important at this stage.

7. Evaluation of progress

Evaluation is the process of determining the extent to which we have been able to attain our objectives. All programmes must have an inbuilt 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. Evaluation may be formal or informal, depending on the importance of the programme and also on the availability of trained manpower, funds, facilities and time.

Programme evaluation involves the following three essential steps –

i) Setting up of some standards or criteria in relation to the objectives.
ii) Collection of information.
iii) Making judgment, and drawing some unbiased and valid conclusions.

8. Reconsideration and revision of the programme

On the basis of the results of evaluation, the programme should be reconsidered and revised, if needed. This reconsideration should be done not only with the participants; but also with the scientists, administrators in extension organization and local bodies like Panchayats, etc.

Reconsideration shall help in making necessary corrections and modifications in the programme. In reconsideration, emphasis should be on the removal of technical defects if any and how to obtain more cooperation and involvement of the participants and various organizations. The purpose of such an exercise is to make the extension programme more effective by removing the defects.

EXTENSION SYSTEMS IN INDIA:

- Extension efforts in pre-independence era : Sriniketan, Marthandam, Firka Development Scheme, Gurgaon Experiment
- Post-independence era : Etawah Pilot Project, Nilokheri Experiment
- Present extension System : Department of Agriculture : Structure, Function

Developmental programmes-pre-independence era

In 1947 before achieving freedom in India, many programmes have started which are mainly as follows. Looking at a vast country like India, during British rule, some selected social workers had started some programmes of rural development. For the clarity in study, we can divide these

Development Programmes in two parts.

First-Pre-Independence Programmes (1866 - 1947) and

Second-Post-Independence Programmes (1947 - 1952)

Pre-independence programmes

1. SHRI NIKETAN PROJECT (1921)

Early effort at rural development was initiated **by Shri. Rabandranath Tagore** in **1908** by establishing youth organization in the Kaligram Progana of his Zamindari, He tried to create a class of functionary workers who could learn to identify themselves with the people. In 1921 he established a Rural Reconstruction Institute at Shantiniketan in West Bengal. A group of eight villages was the centre of the programme. This project, co-incidentally, had many elements of extension education in both spirit and action. Activities like demonstration on scientific methods of agriculture, training of youths, adult education and health co-operatives were important aspects of the work aimed to make a group of villages self-reliant. This was a very comprehensive programme combining culture, health, education and economic aspects of village life together. Concept of village level workers and regeneration of village organization were put to work. This project was closely guided by Mr. Leonard Elmhirst, an Englishman trained in economics from USA.

Objectives of the Programme:

- To create a real interest in people for rural welfare work.
- To study rural problems and to translate conclusions into action.

- To help villagers develop their resources and to improve village sanitation.

Activities:

- Survey of selected Villages
- Demonstration of improved practices
- Arranging campaigns for the eradication of Malaria, T.B., and other infectious diseases.
- Development of cottage industries.
- Weaver's cooperatives were organized
- Night schools for male and female.
- Establishment of social welfare centre in each village.
- Establishment of cooperative societies.
- Establishment of community centers.
- Mobile library for rural people.
- Organization of village Scout called *Brati Balika*
- Management of pure drinking water.
- Village sanitation works.

Shortcomings:

- The institute could not get much help from the government.
- It could not conduct research as planned by R. N.Tagore.
- The work remained limited to eight villages only.
- The project was idealistic but the practical aspect of the project was neglected.

2. GURGAON EXPERIMENT (1920)

Mr. F.L. Brayne Deputy Commissioner has started the rural upliftment movement in 1920 in Gurgaon district of Haryana state. and he began this project of in his district, which became famous as "Gurgaon Project". According to him the main principle of this experiment was rural development on practical basis. This was the 1st programme started on a mass scale for rural upliftment by state in Gurgaon district.

Objectives:

1. To bring villagers out of old grooves by convincing them that improvement is possible
2. To kill their fatalism demonstrating disease and insect control through scientific means.
3. To deal with whole life of the villagers

4. The work should be started in whole district at a time.

5. Development work should be taken at campaign level.

Method of work:

- Propaganda was done by drama and music.
- Guides were appointed to organise the programme at village level.
- The teacher of village schools used to teach food production.

Areas of work:

1) Agricultural development & increasing
2) Health improvement.
3) Village sanitation.
4) Social improvement (Reforms).
5) Reforms in rural institutions
6) Emphasis on women education.
7) Organization of cooperative societies.
8) Coordination and publicity.
9) Home development works.
10) Controlling extra expenditure.

Although this project got some success, yet this scheme could not survive for a long time because this project was also based upon the sentiments of F.L. Brayne and when he was transferred, gradually this programme also stopped.

3. MARTHANDAM PROJECT (1921)

This programme was started in 1921 by Dr. Spencer Hatch, an American Agricultural expert. In Trivendrum at some places, people used to cultivate only paddy and coconut. To overcome this weakness, it was thought that some developmental work should be done, so that the Christian faith could spread. Consequently Dr. Hatch made agreement with Y.M.C.A. and Christian Church Association for his work and initiated this project in neighboring village Marthandum. From the demo centre at Marthandam, about 100 villages were covered through YMCA centers. It was having a 3 fold programme - development of spirit, mind and body. But later it evolved a fivefold programme-development of the physical, spiritual, mind, economic and social aspects of life.

Objectives:

- Self help and cooperation.
- Helping people to help in their own work.
- Opening the demonstration centers.

Method of work

- Before launching the programme, surveys are made to know the needs of that area and on the basis of their needs the programmes were introduced.
- The rural dramas, rural exhibition, inter-rural competition, demonstration were also organized to attract the people
- Religious programmes were also organized for developing the religious feelings.
- All-round development of rural life and individual's progress were the subjects of importance in the programme i.e., Farming, rural industry, cooperation and development of Panchayat were initiated.
- For bringing economic development among the rural people, many programmes as soap making and the educational programmes etc. were organized.
- 6 weeks Short training courses to villagers and school teachers.

Main Shortcomings:

- Project was inadequate funds and government help.
- The activities were mainly organized bat Mathandum. About hundred villages were covered through YMCA. But the workers did not stay in villages.
- The religious bios of the institution were also a reason of hindrance in activities.

4. SEVA GRAM (1920)

Mr. M.K. Gandhi (Mahatma Gandhi) started this programme in 1920 at Sewagram. Later it was extended to Wardha in 1938 after 2nd non-cooperation movement. This programme was totally based on the concept of "Helping the people to help themselves".Mahatma Gandhiji is a great social worker. He knew very well that as long as people are suppressed, their society and their nation cannot progress. For ending this suppression, he began this welfare project "SEVA GRAM" by establishing his Ashram in Wardha. The programme mainly focuses on prevention of the economic and social suppression of the people and creating feeling of patriotism among them. M. Gandhi also insisted that all extension workers should have 3 principles in practice viz., self purification, self reliance and self exemplary conduct. For

fulfilling this objective, Gandhiji made this programme which became famous as "Gandhian Constructive Programme".

The main objectives of this project were as follows:

- To use khadi clothe.
- To initiate programmes on sanitation, women welfare, health, economic help and social harmony in the village.
- To uplift the backward classes.
- Primary and adult educational programmes
- The programme of economic help.
- To improve the conditions of poor people
- To popularize the mother tongue and other national dialects.
- To serve the under privileged villagers.
- To make the villagers self sufficient and self reliant.
- To develop the power and courage in rural people.

For Gandhi, independence of country would be meaningless without eco development. For making his programme successful and effective, he established All India Village Industry Association, All India Spinners Association, Hindustani Education Association and Kasturba Gandhi Association etc. Other activities are:

1. **Economic equality**:

(a) Equal distribution of wealth.

(b) Eliminate middle men and exploiters.

(c) Use of khadi clothes

2. Education: Basic education through "learning by doing and earning while learning"

3. Social equality

(a) Removal of untouchability

(b) Equal opportunity for women

(c) Community unity.

(d) Hindu-Muslim equality

Principles

1. Self help

2. Dignity of labour e.g. Sharamdan, etc.

3. Self respect

4. Truth and non-violence

Gandhaji's constructive programme was not fully successful because hand made products were dominated by machine made products which attracted common man more. The single cause of failure of Gandhiji's programme was Industrialization in the country.

Post-independence era programmes

1. FIRKA VIKAS YOJANA OR FIRKA DEVELOPMENT PROGRAMME (1946)

It is a Government sponsored programme and aimed at attainment of Gandhian ideal of "Gram Swaraj". It was launched in the last quarter of 1946 in 34 Firkas throughout Madras state. It was extended to another 50 additional Firkas at the rate of two Firkas per district on April 1950.

The selection of Firkas based on consideration of general backwardness of area and initiating possibility of production of handloom cloth and other cottage industries.

The collector was the incharge of the scheme. He was assisted by Rural Welfare Officer of the rank of Naib Tahasildar, who was Incharge of 2-3 firkas. Under Naib Tahasildar, there were 5-10 Gram sevakas. Each firka was divided into 5-10 groups of villages and village level worker was the incharge. Each firka or group of firkas was provided with special staff such as Agricultural field man, Demonstration worker, PWD supervisor and minor irrigation overseers. In each firka there was Development committee, consisting of officials and non officials to associate people with implementation of programme. At state level there was state Rural Welfare Board comprising heads of department, influential and constructive social workers.

Objectives:

1. Preparation of short term plans for the development of rural communication, water supply.
2. Long term plan to make the area self sufficient through agricultural, irrigational and livestock improvements.
3. Formation of panchayats and organization of cooperatives.
4. Introduction and development of Khadi and Cottage Industries.
5. All-round development of rural people

2. ETAWAH PILOT PROJECT: 1948

The ideal of this project was conceived and born in 1947. Actually this projected was put into action in September, 1948 with headquarter a Mahewa village about 17 miles from

Etawab (U. P.) First 64 villages which were then increased to 97 were covered under it. **Lt. Col. Albert Mayer** was the originator of this project. He started this project with the aim of introducing work on the rural reconstruction front. The Government of U.P. helped him in setting up machinery at district level and with extra staff for the project.

Objectives:

1. To develop the mental power of people.
2. Arousing their interest and initiative.
3. To awaken the desires of rural people and to make them laborious.
4. The develop agriculture and animal husbandry.
5. Development of Panchayat
6. To development the feeling of self-confidence, co-operation and mass participation.
7. To seek the possibility of transferring this project elsewhere in the country.
8. To make villagers sanitation minded.
9. To measure the extent of agriculture development in terms of social improvement, initiative and self confidence.
10. To buildup the sense of community living.
11. To build up a spirit of self help in villagers.

3. NILOKHERI PROJECT:

In 1948, Shree S.K. Dey prepared this project for the purpose of providing shelter for 7000 immigrants from Pakistan. The name of this project was "Majdoor Manzil". Later, S K Dey became the Union Minister of Community Development in 1965. It was built around the vocational training centre that was transferred from Kurukshetra in July 1948

Objectives:

1. Self sufficiency for rural cum urban township in all essential requirements of life.
2. Making provision of work and professional training for the people according to their experience.
3. To eliminate middle men.
4. To make 700 acres of Swampy land cultivable.

Activities: Polytechnic training for B.D.O. and S.E.O. and V.L.W, Housing and marketing facilities. Management of schools, hospitals, recreation centers and cooperative credit facilities and small scale industries were run on cooperative basis.

VARIOUS EXTENSION/ AGRICULTURE DEVELOPMENT PROGRAMMES LAUNCHED BY ICAR/ GOVERNMENT OF INDIA:

Introduction, Objectives and Salient Achievements

Agricultural Development Programmes				
1	**IADP**	Intensive Agricultural District Programme	1960-61	Package programme, to increased agricultural productivity that lead to economic growth
2	**IAAP**	Intensive Agricultural Area Programme	1964	Extend the benefit of improved tech. in agri. in large areas at less cost and reduced staff strength
3	**HYVP**	High Yielding Varieties Programme	1964-65	Highly input intensive, attained self sufficiency sopped import grain resulting green revolution
4	**I V L P**	Institution Village Linkage Programme	1995-96	Based on scientist farmer participatory mode tech. intervention in small prod. System
5	**ORP**	Operational Research Project	1974	To test performance of new research on farmers field on operational level under their existing recourses
6	**N A T P**	National Agriculture Technology Project	1998	Location specific, demand driven TOT to farmers with research.– extn. – farmers - linkages
7	**NAIP**	National Agricultural innovation Project	2006	Promote research in the prod. To consumption mode, provide livelihood security in selected disadvantages regions,
8	**RKVY**	Rastriy Krishi Vikas Yojana	2007	Provide incentive to the state to achieve 4%groeth rate in agril. & allied sector in 11 plan

1. Intensive Agricultural District Programme (IADP):-

- It was felt that the increase in agriculture production under the community development programme was for less than necessary to feed the rapidly increasing population of this country.
- To tackle this urgent problem the government in collaboration with Ford Foundation launched the intensive agricultural district programme (1960-61) which is popularly known as the **package programme**.

- The significant feature of this programme is that the cooperative institutions have become the agency for distribution of credit and supply of agricultural inputs which were essential for implementing the programme.
- The district selected throughout the country under this programme are pali, thanjavur, West-Godavari, Shahabad, Raipur, Aligarh, Ludhiana, Aleppey, palght, Mandga, Surat, Sambalpur, Bardwan, Bhandeva and Cochar.

Objectives:

1. To increase the income of the cultivator and his family.
2. To increase the economic resources and potential of the village.
3. To create employment facilities.
4. To demonstrate the most effective ways of expansion of the national food production technology by co-operative efforts between officials and not-officials, villagers and individual cultivators.

Criteria for selection of the district for IADP:

a. Districts have adequate supply of water.
b. Should have minimum natural hazards.
c. They have well developed village industry.
d. They have maximum potential to increase agricultural and animal production

The Distinctive features of IADP :-

1. To provide factors of production simultaneously, timely and adequately
2. Essential inputs like fertilizers, etc. to be made available 100 per cent of the requirement.
3. Credit to be provided to any farmer who joins the programme and has the potentials of the requirement.
4. More agricultural and cooperative staff to be posted
5. Provision of composite demonstrations instead of single factor demonstrations.
6. Periodical training of staff.
7. Analysis and evaluation.

The various activities under taken by IADP were:

1. Adequate and timely supply of credit and inputs (seed and fertilizers etc)
2. Provision of services such as market, storage and transport.
3. Emphasis on food and cash crops, livestock etc

4. Strengthening of cooperatives and panchayats

above efforts were made sincerely, but IADP suffered from the following limitations

Limitations:-

1. Educational approach to reach the cultivators was lacking
2. Poor trainings to staff
3. Staff was not clear about the methods of reaching the cultivators.
4. Posting of staff was not adequate
5. Workshop, seed testing and soil testing laboratories were not functioning to the required level and
6. Transport and land development programmes were not progressing satisfactory

2. Intensive Agricultural Area Programme (IAAP)

Intensive Agriculture Area programme (IAAP) was launched in 1964-65. The core philosophy of the IAAP was that "**much greater emphasis should be given to the development of scientific and progressive agriculture in an intensive manner in the areas which have High production potentials".** The idea was to cover at least 20% of the cultivated area of the country. The emphasis was on import crops such as Wheat, Rice, Millets, Cotton, Sugarcane, Potato, Pulses etc. The Intensive Agriculture Area programme (IAAP) paved the way for Green Revolution in the country.

3. High Yielding Varieties Programme (HYVP)

- HYVP is launched in 1966, which helped the country in attaining self-sufficiency in food.
- The technological development did not remain confined to the introduction of high yielding crop varieties alone.
- These were combined with the application of high analysis and balanced fertilizer, irrigation, plant protection, improved implements etc, which made a 'green revolution' possible in the country.
- The pervasive influence of high yielding technology spread to other areas of farm production such as animal production, such as animal production, fishery, sericulture, social forestry etc. Punjab, Haryana and Western parts of UP were initially selected for the phased launching of this strategy.

- The cultivation of HYV since 1966-67 had resulted in a substantial increase in food grains production. Wheat production was doubled. Rice production also had a substantial increase, though not as much as in the case of wheat.
- The target of coverage of 2.5 crore hectares of area under HYVs of cereals and millets under fourth five year plan was exceeded. The coverage was more than four crore hectares

Objectives:

1. To boost up agricultural production by using high yielding varieties with appropriate inputs.

2. To cover maximum areas with high yielding varieties of five crops i.e. Rice, Wheat, Jowar, Bajara & Maize.

3. To make necessary arrangements for inputs like fertilizer, pesticides, plant protection equipments & credits on the basis of proper need assessment.

4. Attaining self sufficiency in cereal foods by the end of 1970-71.

Salient features

1. Supply of inputs like seed, fertilizer & pesticides.

2. Supply of credit to the cultivators.

3. The programme was initiated in the areas having necessary organizations & other facilities as essential pre- requisite.

4. Demonstration was started with existing staff.

5. Necessary training to the staff was provided.

6. High Yielding varieties are not high yielding but also early maturing, photo- intensive, non- lodging & suitable under multiple cropping fertilizers responsive.

4. Institution-Village Linkage Programme (IVLP):-

- It is an innovative programme initiated by the Indian council of Agricultural Research (ICRA) on a pilot basis form 1995-96.
- To help scientists to have direct interaction with the farming community so that appropriate technologies are developed for farmers.
- Here research, extension and farmers establish firm links by carrying together the assessment and refinement functions in the technology development and dissemination process.

- This helps the research system to generate a cafeteria of technologies, which are more productive in small production system, more profitable in commercial production system and gender sensitive for removal of drudgery of farm women.

Objectives:

1. To introduce technological interventions with emphasis on stability and sustainability along with productivity of small farm production system.

2. To introduce and integrate the appropriate technologies to sustain technological interventions and their integration to maintain productivity and profitability taking environmental issues into consideration in a comparatively well defined farm production systems.

3. To introduce and integrate the appropriate technologies to increase the agricultural productivity with marketable surplus in commercial on and off farm production system.

4. To facilitate adoption of appropriate post-harvest technologies for conservation and on-farm value addition of agricultural products, by products and wastes for greater economic dividend and national priorities.

5. To facilitate adoption of appropriate technologies for removal of drudgery increased efficiency and higher income of farm women.

6. To monitor socio-economic impact of the technology intervention for different farm production system.

Salient features:

1. Conducting on farm research on the field of farmers.

2. Developing linkage between scientist & farmer for actual adoption of technology.

3. Incorporating modifications in the technology on the basis of experience & need of the farmer

4. Assessing feasibility & appropriateness of technologies to the farming system according to micro farming situation.

5. Operational Research Project (ORP):-

ORP was initiated in 1975 to identify technological as well as socio-economic constraints and to formulate and implement a combination of technology modules on area/watershed/target group basis.

The performance of the new technology is to be tested on farmers‟ fields at operational level under the existing resources and socio-economic and cultural conditions to address the

common agricultural problems affecting the existing farm production system on community basis.

Objectives:-

1. To test, adopt and demonstrate the new agricultural technology on farmer's fields in whole village or in a cluster of few technologies and their pace of spread among the farmers.
2. To determine the profitability of the new technological,
3. To identify the constrains both technological, as well as socio-economic which are barriers to rapid change.
4. To demonstrate group action as a method of popularizing the modern technologies at a faster rate.

6. National Agricultural Technology Project (NATP):-

- This project was launched by the ICAR 30th June, 1998 with a support of World Bank to strengthen & complement the existing resources.
- N A T P was the world biggest World Bank assisted agriculture project.

Objectives:

1. To accelerate the flow of technology from research & research & extension to farmer.

2. Improve the dissemination of location specific & sustainability enhancing technologies.

3. To address key constraints which limit the use of public sources

4. To improve the relevance of technology generation, refinement, assessment and transfer & process of programme

5. To improve technology to contribute towards key national objectives i.e. food security, economic growth, equity.

6. Step up the privatization of certain technology transfer activities.

7. Decentralize technical and decision making authority to the district level.

Salient Features:

- Pilot testing new institutional arrangements for technology dissemination at the district level and below through establishment of district Agricultural Technology Management Agency (ATMA).
- Moving towards integrated extension delivery.
- Bottom up planning procedures for setting the Research Extension agendas.

- Addressing Increasing use of information technology for effective dissemination. Gender concern in agriculture.

NATP has three major components

1. Development of ICAR organization & Management system.
2. Support of Agro-Ecosystem Research
3. Innovations of Technology Dissemination

Agricultural Technology Management Agency (ATMA)

- ATMA is a society of key stake holders engage in agricultural activities for sustainable agricultural developmental in the district
- The registered office of ATMA is located in the premises of district collector.
- A Centrally sponsored scheme 'Support to State Extension Programmes for Extension Reforms' was launched by the ICAR in 1999.
- This scheme is a major initiative towards revitalizing agricultural extension in the States to make the extension system decentralized and demand driven
- ATMA is managed by Project Director at district level.

Objectives of ATMA

1. To decentralized decision making at district level
2. To identify location specific problems /needs of the farming community
3. To increase farmers inputs into resources allocation & programme planning
4. To set up priorities for sustainable development
5. To prepare production based activities plans to be carried out by farmer
6. To execute plan through the line departments, training institutions, farmers organization, NGOs and allied institutions.
7. To promote coordination & collaboration between various state funded technical department
8. To facilitate empowerment of farmer through association
9. To facilitate market interventions fro value addition to farm produce.

ATMA networking:

- It would have linkage with all the line departments, research organizations, NGOs, and agencies associated with agricultural development in the district.

- Research and Extension Units within the project districts such as ZRS or substations, KVKs and the key line departments of Agriculture, Animal Husbandry, Horticulture and Fisheries etc. would become constituent members of ATMA.

ATMA Governing Board:

The ATMA Governing Board is a policy making body and provides guidance as well as review the progress and functioning of the ATMA.

The composition of the ATMA Governing Board is as follows.

- Chairman: District Magistrate/Collector
- Vice-Chairman: Chief Executive Officer (CEO)/Chief Development Officer (CDO)

Members:

1 Joint Director/Deputy Director Agriculture

2 A representative from ZRS/KVK,

3 One farmer representative,

4 One livestock producer,

5 One horticulture farmer

6 Representative of Women Farmers Interest

7 One SC/ST farmer representative,

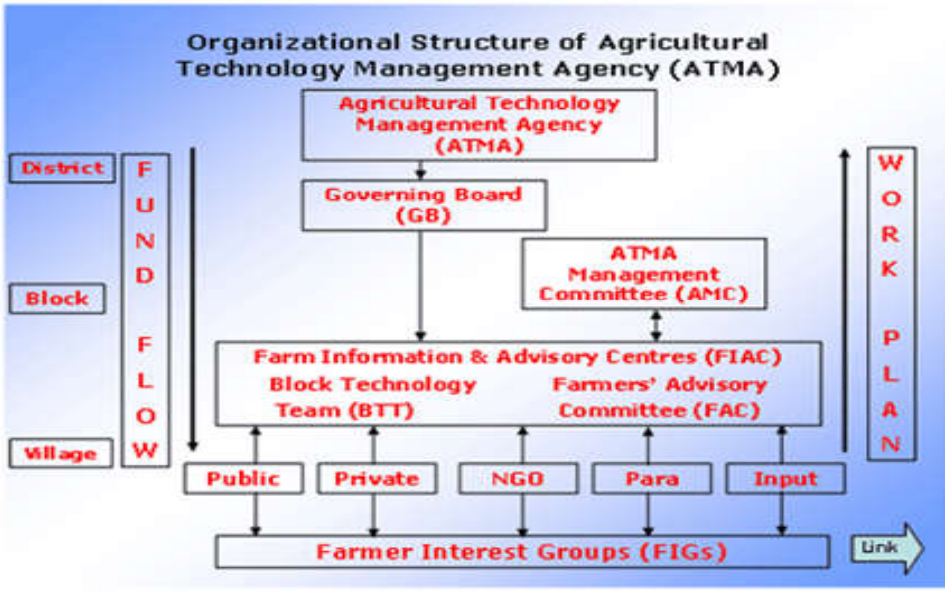
8 A representative of NGO,

9 Lead Bank Officer of the district,

10 A representative of District Industrial Centre

Note

- Sub-divisional Agricultural Officers are nominated as members.
- On the basis of local requirement other members may be nominated.



Key functions of ATMA Governing Board

1. Review and approve Strategic Research and Extension Plan (SREP) and annual work plans that are prepared and submitted by the participating units.

2. Receive and review annual reports presented by the participating units, providing feedback and direction to them as needed, for various research and extension activities being carried out within the district.

3. Receive and allocate project funds to carry out priority research, extension and related activities within the district

Advantages

1. ATMA is more effective in technology generation as it encourages location-specific solutions, keeping the resources of the farmers in mind.

2. As ATMA ensures a greater coordination among sister departments, it helps in better management of farms by the farm families.

3. Participation is the basic principle of ATMA. Involvement of women in both ATMA Governing Board and Management Committee would bring about women empowerment.

4. ATMA seeks a greater linkage with research and extension.

5. ATMA provides a single window extension system by creating FIAC at the block level. Farmer can get any advice and suggestions from there only.

6. ATMA has an effective feedback mechanism.

6. Agricultural Technology Information Centre (ATIC)

The Agricultural Technology Information Centre (ATIC) is a "single window" support system linking the various units of a research institution with intermediary users and end users (farmers) in decision making and problem solving exercise.

Agricultural Technology Information Centre are started in 1998-99 under NATP, sponsored by World Bank & implemented through more than forty ICAR & SAUs.

Objectives

- To build up required confidence among farmers and to strengthen linkage between the institute and the farmers.
- To provide diagnostic and advisory services such as soil testing, plant health clinic, and disease identification and veterinary services etc.

- To sale and distribute improved products emerging as a result of research being done at the institute like seed, plants, livestock, breeds, fish seeds, poultry trains and processed products etc.
- To provide an overview of improved technology through published literatures and other communication materials.
- To overcome technology dissemination loss and to provide direct access to farmers to improved expertise as well as products of technology.
- To provide an opportunity to different divisions as well as the centers to have resource generation through sale of their technologies.

The important criteria of Agricultural Technology Information are

- availability (or accessibility) of new technologies;
- relevance of new technologies;
- responsiveness of new technologies to the needs of different categories of farmers; and
- sustainability of such unit within the overall institutional system

ATIC'S are located in 21 states viz.,

Andhra Pradesh (1), Andaman & Nicobar(1), Assam(1), Bihar(1), Gujarat(1), Haryana(2), Himachal Pradesh(3), Jammu & Kashmir(1), Karnataka(3), Kerala(5), Madhya Pradesh(3), Maharashtra(5), Meghalaya(1), New Delhi(1), Orissa(1), Punjab(1), Rajasthan(2), Uttaranchal(1),Uttar Pradesh(3), West Bengal(1), Tamilnadu(2).

Maharashtra Agricultural Technology Information Centre (ATIC),

1. Konkan Krishi Vidyapeeth, Ratnagiri (dist.), Dapoli - 415 712, ,

2. Agricultural Technology Information Centre(ATIC), Directorate of Extension Education Mahatma Phule Krishi Vidyapeeth (MPKV), Ahmednagar, Rahuri - 431 722, Maharashtra

3. Agricultural Technology Information Centre(ATIC), Central Institute for Cotton Research (CICR), Nagpur,Maharashtra

4. Agricultural Technology Information Centre(ATIC), Marathwada Agricultural University (Mau), Parbhani - 431 402, Maharashtra

5. Agricultural Technology Information Centre (ATIC), Dr Punjabrao Deshmukh Krishi Vidyapeeth (PDKV), Akola - 444 104,

7. National Agricultural Innovation Project (NAIP):-

The Government of India has launched the National Agricultural Innovation project with a credit support of the World Bank. The project will run up to June 2012. The ICAR is operating the Project.

The overall objective of the project is to facilitate accelerated and sustainable transformation of Indian agriculture for rural poverty alleviation and income generation by the application of agricultural innovations through collaboration among public research organizations, farmers' groups, NGOs, the private sector and the civil societies and other stakeholders.

The India National Agricultural Innovation Project contributes to the sustainable transformation of Indian agricultural sector to more of a market orientation to relieve poverty and improve income. The specific aim is to accelerate collaboration among public research organizations, farmers, the private sector and stakeholders in using agricultural innovations.

The project has four objectives.

1. Strengthens the Indian Council of Agricultural Research (ICAR) as the catalyzing agent for managing change in the Indian National Agricultural Research System (NARS) by focusing on:
    - Information, communication and dissemination system;
    - Business planning and development;
    - Learning and capacity building;
    - Policy and gender analysis and visioning;
    - Remodeling financial management and procurement systems; and
    - Project implementation.
2. Funds research on production-to-consumption systems.
3. Funds research on sustainable rural livelihood security.
4. Supports basic and strategic research in the frontier areas of agricultural science features

Salient Features:

- The project will have a strong and transparent governance strategy for efficient working.
- Institutional and implementation arrangement will be fully streamlined to follow modern financial management, procurement system, knowledge management, and a results framework and monitoring which will ensure continuous progress and achieving the expected output.

- Systematic economic and financial analysis will be pursued along with close monitoring of environmental and social safe guards.
- Another major component of the project is a strong institutional learning and capacity building plan for self-renewal of National Agricultural Innovation System.
- The plan includes comprehensive training need assessment, harnessing modern ICT in knowledge and education dissemination management for agriculture, capacity building to deal with globalize agricultural market and economy, capacity building for visioning and foresight etc.

8. Rashtriya Krishi Vikas Yojana (RKVY):-

Rashtriya Krishi Vikas Yojana (राष्ट्रीय कृषि विकास योजना) is a special Additional Central Assistance Scheme which was launched in **August 2007** to orient agricultural development strategies, to reaffirm its commitment to achieve **4 per cent** annual growth in the agricultural sector during the **11th plan**. The scheme was launched to incentivize the States to provide additional resources in their State Plans over and above their baseline expenditure to bridge critical gaps.

Sponsored by	Central Government
Funding Pattern	100% funded by centre
Ministry/Department	Agriculture Department
Beneficiaries	Individual, Family, Community, Women,
Benefit Type	Material, Loan, Subsidy,
Eligibility criteria	To all the farmer in the state
How to Avail	Agriculture Department (Nodal Department) or other allied sector (Fisheries Department, Horticulture, Animal Husbandry etc)

The main objectives of the scheme are:

1. To incentivize the states so as to increase public investment in Agriculture and allied sectors.
2. To provide flexibility and autonomy to states in the process of planning and executing Agriculture and allied sector schemes.
3. To ensure the preparation of agriculture plans for the districts and the states based on agro-climatic conditions, availability of technology and natural resources.

4. To ensure that the local needs/crops/priorities are better reflected in the agricultural plans of the states.

5. To achieve the goal of reducing the yield gaps in important crops, through focused interventions.

6. To maximize returns to the farmers in Agriculture and allied sectors.

7. To bring about quantifiable changes in the production and productivity of various components of Agriculture and allied sectors by addressing them in a holistic manner. Areas of Focus under the RKVY Integrated Development of Food crops, including coarse cereals, minor millets and pulses, Agriculture Mechanization, Soil Health and Productivity, Development of Rain fed Farming Systems, IPM, Market Infrastructure, Horticulture, AH, Dairying & Fisheries, Concept to Completion Projects that have definite time-lines, Support to Institutions that promote Agriculture and Horticulture, etc, Organic and Bio-fertilizers, Innovative Schemes

Sectors Covered

The RKVY covers all sectors such as Crop Cultivation, Horticulture, Animal Husbandry and Fisheries, Dairy Development, Agricultural Research and Education, Forestry and Wildlife, Plantation and Agricultural Marketing, Food Storage and Warehousing, Soil and Water Conservation, Agricultural Financial Institutions, other Agricultural Programmes and Cooperation.

NEW TRENDS IN AGRICULTURAL EXTENSION:

Meaning, Objectives, Salient features

1. Privatization in extension
2. ICT in Extension education - Cyber extension/ e-extension
3. Market-led extension
4. Farmer-led extension

Privatization in Extension

Definition:-

- Privatization of Agricultural Extension Service may be defined as the service rendered in the area of agriculture and allied sectors by extension personnel working the private agencies or organizations for which farmers are expected to pay a fee (or fee), and it can be viewed as supplementary and complementary to public extension services.

Privatization as a system of agricultural extension is gradually being adopted in Indian agricultural because of the following reasons:

1. Declining trend in government expenditure in public extension due to heavy financial burden;

2. Perception of public extension service as less effective in meeting the current needs of the farmers;

3. A shift in agriculture from subsistence level to commercialized agribusiness;

4. To meet the challenges of globalization and liberalization of the farm sector

5. Demand of the farmers for specialized knowledge, information and assistance.

Concepts about the privatization emphasizes three aspects, they are:

1. It involves extension personnel from private agency/organization

2. Clients are expected to pay the service fee (sometimes private extension may not expect fee from clients e.g. NGOs).

3. Act as supplementary or alternative to public extension service.

Characteristics of Private Extension system

1. **Objectives: -** Private extension mainly concern with maximum possible profit to the clients through advisory services. Private agencies survival depends upon nature of their performance, so try to become more efficient and effective in providing services. Their remuneration is obviously linked with increased income of the farmers.

2. **Target group:** - Private extension mostly concentrates on big farmers, farmers producing commercially and in favorable environment. They will not be interested in investing on small, marginal and resource poor farmers as they cannot pay for private extension high charges.

3. **Clients: -** In private extension system, clients are more committed and careful about extension services, because they are paying for the services. Clients make best use of the private extension workers time.

4. **Offerings: -** Profit oriented services included not only technology transfer but also supply of critical inputs. Offerings are based on seasonal needs and convenience of the farmers.

5. **Technologies: -** Private extension services transfers the location specific and demand driven technologies. Technologies are specialized and costly, but are profitable. Private extension ensures timely supply of inputs.

6. **Organizations:** - Private extension personnel become more accountable to clients and highly motivated because they are getting remuneration from their clients. They become professionally sound and will put efforts to upgrade their knowledge and technical know-how.

7. **Funding: -** Private extension service gets funds from framer's contribution and developmental agencies.

8. **Extension Service**: - Advisory nature of service. Extension becomes pursed inputs and it generates new income to farmers.

9. **Methods:** - Private consultancy mostly adopts personal contact methods, as group approach will reduce their chances of getting consultancy fee.

Strategies for privatizing extension

1. Commercialization of extension services. Complex, demand driven technologies in the public extension system should be provided for particular cost.

2. Introducing contact extension system. Public extension system can make contract with registered private agricultural consultancy agencies to transfer the agricultural technology

3. Introducing share cropping system. Private/Public extension agents are provided with remuneration in the form of share crop. It will increase the extension personnel's accountability ad commitments to the service.

4. Giving partnership rights and more responsibility to private sector and NGOs. Private sector and NGOs are entering in a big way in recent years to provide agricultural consultancy. They may be given more responsibility in agricultural technology transfer.

5. Gradual withdrawal of public extension system. Gradual withdrawal can be done in two ways: area –wise and or commodity wise. Extension service reasonability in areas having favorable environment like high soil fertility, high irrigation potential, satisfactory infrastructure facility, commercial farming and commodities which provide high profit to farmers can be given to the private sector.

6. Creating and strengthening farmers groups and cooperatives. Through farmers groups and cooperatives, extension agents are appointed and the cost will be share by the members, for this purpose, existing village cooperatives clubs, mahila mandals, and water management committees are used. Private organizations such as the agricultural consultancy, commercial firms, agro based industries, input agencies organization etc. will enter the area of extension services

Problems of Privatization of Extension:

1. The consequence of privatization in user's fee, i.e. collection of cost from the beneficiaries.

2. The feasibility of charging fee for extension service raises a question on the paying capacity of the farmer.

3. In case the message does not yield the desired result, i.e. projected profit, the service will be rejected for future

4. Privatization does not care for sustainability; instead advocate exploitation of natural resources to the maximum extent.

5. Private extension concentrates big and progressive farmers and areas having favorable environment.

6. Private extension is less education oriented and more commercial in nature.

7. The human resources development role of organizing, motivating and guiding farmers for empowerment will be sidelined by the private extension agencies.

8. Private extension restricts flow of information among the fellow farmers.

Merits of Privatization:

1. Extension generates new income, extension become economic input.
2. Provides demand-driven service.
3. Increases the voice of farmers in the extension service.
4. Extension service becomes more cost effective with efficient and quality service.
5. Privatization complements or supplements the efforts of public extension.
6. Extension personnel become more clients accountable.
7. Private extension increases staff professionalism.
8. Clients (farmers) are more committed to service.

ICT in Extension education - Cyber extension/ e-extension

A few areas where ICT can play a transformational role are agricultural research and extension, location specific modules of research and extension, market extension, sustainable agriculture, participatory research, etc.

Information Technology can help in collecting, storing, retrieving, processing and disseminating a broad range of information needed by the farmers. A mix of strategic planning with knowledge management can give results to least-cost inputs, better storage facilities, improved transportation links and collective negotiations with buyers.

ICT also plays an important role in documenting both traditional and organic cultivation practices thus acting as a bridge between traditional and modern knowledge systems.

Cyber Extension

Cyber extension is extension of agricultural development with the help of Information and Communication Technologies over cyber space. Cyber space is an imaginary space behind networked computers through telecom means.

This kind of a strong information sharing network is made possible through power of networks, computer communications and interactive multimedia.

Tools of Cyber Extension

As Cyber Extension means Extension over cyber space, all the internet tools for developing and accessing Agricultural Information constitute the tools of Cyber Extension

1. Email
2. Expert systems providing information on pests and diseases

3. Internet browsing for extension information
4. Video conferencing
5. Call centers and Satellite communication networks
6. News and Discussion groups

Market Led Extension:-

- During last 50 years emphasis was given on **Production- Led- Extension.**
- But the farmers at individual's level are not realizing remunerative prices of their produce.
- They prone to sell their produce As Is Where basis.
- Globalization of the market demanded paradigm shift form production to market Led Extension.
- For the best realization of their investments, risks and efforts, a farmer has to develop market strategies for trade globally.
- Keeping this in view MANAGE started working on the concept of Marked Led Extension and beginning was made through Three day National workshop on Marked Led Extension at MANAGE during 18-20, December, 2001.

Market: - Refers to a place where the trading of goods takes place. The place can be a market yard or a street market.

Marketing: - Marketing involves finding out what customers want and supplying it to them at a profit.

Extension: - It is spreading/ reaching out to the mass.

Market Led Extension: - Marked Led Extension is the market ward orientation of Agriculture and economics coupled with extension is the perfect blend for reaching at the door steps of common man with extension person and market agencies.

Why Marked Led Extension?

- Increasing productivity is the traditional role of extension.
- Individual farmers not realize remunerative price
- Build the capacity of farmers to earn more
- The manufacturer is keen to get reliable suppliers in term of quality, timing and cost.
- Need for efficiency and innovation in both production and marketing.
- Translation of consumers demand in non-subsistence sector

- Marketing extension is complementary to other system
- Interdependence between rural credits, inputs and farmers organization.
- Farmers need to transform themselves from more producers' sellers in the domestic market to producer cum sellers in a wider market.

Paradigm shifts from Production Led extension to Market Led Extension

Aspects	Production Led extension	Market Led Extension
Purpose/ objective	Transfer of technologies	Optimum returns out of the investment
Expected results	Adoption of package of practices	High returns to investment
Farmers seen as	High producers	Farmers as an entrepreneurs Agriprenuers
Focus	Productivity/ yields seed to seed	Whole process as an enterprise. High returns Money to Money
Technology	Fixed package recommended for an agro climatic zone	Diverse baskets of practices that are location specific
Extensionists interactions	Messages, training, Motivation based on recommended technology	Joint analysis of the issues, varied choices for adoption, consultation
Linkages/ Liaison	Research – Extension – Farmers	Research – Extension – Farmers- Market
Extensionists role	Limited to delivery mode and feed back to research system	Enriched with market intelligence besides the TOT function. Establishment of marketing and agro-processing linkages between farmers groups, market and processors
Contact with farmers	Individuals	FIG/ Focused group/ SHG
Maintenance of Records	Not much importance as the	Very important as agriculture

	focus was on production	viewed as enterprise to understand the cost benefit ratio and the profits generated

Objective of Market – Led – Extension

- Conversion of Agriculture and allied sector into a profit oriented business
- Strengthening R- E- F linkages between various levels at various departments
- Strengthening market linkages to farmers – IT application in agricultural marketing
- Wider use for electronic mass media for Extension.

Functions of Market – Led – Extension

1. To provide advice on product planning
2. To gather marketing information
3. To secure markets for farmers
4. To advice on alternate marketing
5. To proved advice on improved marketing practices

Procedure of conducting Market-Led-Extension

For an effective market led extension, the following procedure should be followed by an extension worker in a stage wise manner

1. Audit of local recourses and facilities: This involves carrying out an investigation of the area/ region/ country. The extension officer should be thoroughly familiarized with both problems as well as opportunities. The extension officer can have a clear idea of the crops, the marketing system, the individuals and the problems of the area.

2. Determining what the market wants in terms of product now and in future: This is finding out of the market, what product or products are wanted and in what from.

3. The Marketing system: In this stage, the extension worker needs to understand product distributed system, Understanding how marketing system works, Marketing margins at various levels, Wholesalers and middlemen selection as trade partners, Information services, etc.

4. Decision making and agreeing on an action plan: - This involves deciding on what to do by choosing the best course of action.

5. Implementation of action plan: - The extension officer must advice the farmers at various stages of crop production besides marketing aspects like pre- production advice and production planning.

6. Review stage: - In this stage the progress will be compare with the action plan drawn. The deviations will be identified and analyzed for further modification of the action plan.

Role of Agricultural Extension Personnel in light of Market Led Extension

1. SWOT analysis of the market: Strengths (demand, high marketability, good price etc.), Weaknesses (the reverse of the above), Opportunities (export to other places, appropriate time of selling etc.) and Threats (imports and perishability of the products etc.) need to be analyzed about the markets. Accordingly, the farmers need to be made aware of this analysis for planning production and marketing.

2. Organization of Farmers' Interest Groups (FIGs) on commodity basis and building their capabilities with regard to management of their farm enterprise.

3. Supporting and enhancing the capacities of locally established groups under various schemes / programmers like watershed committees, users groups, SHGs, water users' associations, thrift and credit groups. These groups need to be educated on the importance, utility and benefit of self-help action.

4. Enhancing the interactive and communication skills of the farmers to exchange their views with customers and other market forces (middlemen) Market Led Agricultural Extension – Challenges and Opportunities for getting feedback and gain the bargaining during direct marketing ex. Rythu Bazars, Agri-mandi and Uzavar Santhaigal etc.

5. Establishing marketing and agro-processing linkages between farmers' groups, markets and private processors

6. Advice on product planning: selection of crops to be grown and varieties suiting the land holding and marketability of produce will be the starting point of agri-enterprise. Extension system plays an important role in providing information in this regard

7. Educating the farming community: to treat agriculture as an entrepreneurial activity and accordingly plan various phases of crop production and marketing

8. Direct marketing: farmers need to be informed about the benefits of direct marketing. In some of the states, RytuBazars in AP, Apni Mandis in Punjab and Haryan and Uzavar Santhaigal in Tamilnadu have shown success

9. Capacity building of FIGs in terms of improved production, post harvest operations, storage and transport and marketing.

10. Acquiring complete market intelligence regularly on various aspects of markets

11. Regular usage of internet facility through computers to get updated on market intelligence.

12. Publication of agricultural market information in news papers, radio and Television besides internet.

13. Organization of study tours of FIGS: to the successful farmers/ FIGs for various operations with similar socio-economic and farming systems as the farmers learn more from each other.

14. Production of video films of success stories of commodity specific farmers.

15. Creation of websites of successful FIGs in the field of agribusiness management with all the information to help other FIGs achieve success.

FARMER LED EXTENSION

Introduction:-

The present day agriculture is defined by key concept of stability, sustainability, diversification and commercialization. In the last decade, the agricultural situation in India had undergone a tremendous change in the light of liberation and establishment of World Trade Organization (WTO). India's signing of General Agreement on Trade and Tariff (GATT) in 1914 and joining of WTO has put our agriculture into a frame work of global market. Low productivity of crops added to less remunerative market prices of agricultural commodities are the major causes of worry. Thus, agricultural enterprise is found to be not very profitable although a large majority is depending on it. With the globalization of agriculture, major emphasis has been given on Production- led Extension.

Initially in India, through main thrust for development was laid on Agriculture, communication, education, industry, health and allied sector but later on it was realized that accelerated development can be provided only if governmental efforts are adequately supplemented by direct and indirect involvement of people at the gross root level.

Over time, extension provision has been supply- driven, with little direct consultation with the farmers to whom the extension technologies, information and associated services are intended. The linear model of technology transfer (researcher- extension- farmers) has been the dominant approach to agriculture and rural development, resulting in the delivery of technologies that have failed to alleviate farmers' problems. Clearly, more locally controlled organizations, governments and donors throughout Asia, Africa and Latin America have been experimenting

with a range of approaches to extension. These include the *campesino-a-campasino* movement of Central America, Farmers field schools in Southeast Asia, problem census approaches in South Asia and information facilitation progrmame in Africa.

Recently, farmer –led-extension approaches have come to be considered as appropriate for framers need. These approaches increase farmer's basic knowledge and ability to make their own choices and decision on particular technologies. Farmers assume a central role and become key players in technology identification, generation, adaptation and dissemination.

Farmers innovate due to necessity, to changing conditions and also simply as a result of curiosity. Innovations result from doing informal experiments on new ideas either from their own ingenuity or learned from other farmers, researchers, extensionists and other information sources like the mass media. However, research and extension normally pay little attention to the importance of local innovation for agricultural development.

Meaning of Farmer Led Extension (FLE):-

Farmer Led Extension is promising approach where in farmer leaders were utilized as extensionists to transfer the technologies they learned with a view to boost up the production. The FLE approach gives farmers the opportunity to share their experiences and practices through a method demonstration with fellow framers in the area.

Concepts of FLE:-

1. Farm Schools
2. Farmer Field Schools.

1. Farm School: - Farm school is a field where latest technology was demonstrated to progressive and interested farmers who undergo training for a certain period of time. Farm schools help in speedy dissemination and adoption of technologies through training of progressive farmers on the latest production technology.

The farm school was established by E. I. D. Parry and Co. near their sugar factory at Nellikuppam, South Arcot district of Tamilnadu.

Objective of Farm Schools:-

- To establish a cost- effective system of on farm training to farmers in every village of the country.
- To doubled agricultural productivity and farm incomes by dissemination of advanced agricultural technologies for plant management and water conservation.

- To demonstrate that annual income of 50,000 or more can be achieved by application of advances agricultural production methods on irrigated land.

Anticipated Benefits:-

- Cost effective system for training 25 million farmers a year in advanced methods of agricultural production.
- Speedy transfer of technology by demonstrating advanced agricultural production practices on farmers lands in the village.

Strategy:-

- Establishment of 50,000 village based farm schools throughout the country, mostly as private institutions supported and supervised by government.
- All agro industries, KVK,s agricultural colleges and research institutes to set up village based farm schools on lands leased from farmers.
- Agricultural graduates and lead farmers to be certified as instructors and offered incentives for establishing private farm schools to train local farmers.
- Establish central and satellite farm production training institutes in each state to train and certify farm school instructors.
- Farmers to pay for training received on a per visit, per training session basis.
- Multimedia training materials to be developed for training farm school instructors and for farmer training.
- Computerized expert systems to be developed for crop selection, soil nutrition, identification and treatments of pests.
- Farm schools to be linked to Rural Knowledge Centers or Information kiosks to provide access to multimedia training materials, computerized expert systems, and web based technical and marketing information.

Issues to be addressed:

- Credibility of the farm school instructors
- Quality of training provided to farmers
- Cost of training to the farmers
- Training of the farm school instructors

Actions required by Government:

- Introduce farm management in addition to agriculture production as mandatory course for all agricultural graduates.
- Develop certification programmes for each major crop to verify the competency of agricultural graduates and / or lead farmers to provide consulting services.
- Establish centralized crop production training centers in each state for farm school instructors.
- Establish monitoring system to verify the quality of training provided by the farm schools
- Make enrolment in farm school programmes a condition for farmers to qualify for crop insurance.
- Provide incentives to farm schools for each farmer trained
- Provide bank loans for agricultural graduates who complete certification programmes to established farm schools, soil testing labs and Rural Knowledge Centers Programme.

Cost and Funding:-

- Establishment and operation of central farm training institutes to training farm school instructors to be funded by Government.

Farmers Field Schools:

- Farmer Field School (FFS) is non-formal educational activity.
- All learning is a group activity and field based.
- Empowers farmers to solve their field problems by themselves.
- Fosters participation, interaction and joint decision making.
- Farmers learn by carrying out activities through constant observation
- The Farmer Field School is a form of adult education, which evolved from the concept that farmers learn optimally from field observation and experimentation.
- It was developed to help farmers tailor their Integrated Pest Management (IPM) practices to diverse and dynamic ecological conditions
- In regular sessions from planting till harvest, groups of neighboring farmers observe and discuss dynamics of the crop's ecosystem. Simple experimentation helps farmers further improve their understanding of functional relationships (e.g. pests-natural enemy population dynamics and crop damage-yield relationships). In this cyclical learning process, farmers develop the

expertise that enables them to make their own crop management decisions. Special group activities encourage learning from peers, and strengthen communicative skills and group building.

- IPM Farmer Field Schools were started in **1989 in Indonesia** to reduce farmer reliance on pesticides in rice.
- Policy-makers and donors were impressed with the results and the program rapidly expanded.
- Follow-up training activities were added to enhance community-based activities and local program ownership. Eventually, IPM Farmer Field School programs for rice were carried out in twelve Asian countries and gradually branched out to vegetables, cotton and other crops.
- From the mid-nineties onwards, the experience generated in Asia was used to help initiate IPM Farmer Field School programs in other parts of the world.
- New commodities were added and local adaptation and institutionalization of these programs was encouraged.
- At present, IPM Farmer Field School programs, at various levels of development, are being conducted in over 30 countries world wide
- These diverse programs have generated a variety of data on the impact of the IPM Farmer Field School.
- Such data generally are presented in project reports that have a limited circulation.
- Impact studies that are published in official literature tend to focus on specific aspects of impact.
- Impact studies varied in focus, approach, methodology and robustness. Some lack description of methods.
- The nature of impact studies typically varies with the developmental stages of programs.
- Pilot projects often compared pesticide use and yields or profits of field plots grown with IPM practices and those under regular farmer practice, to demonstrate the merit of the approach.
- More advanced projects evaluated the adoption of IPM practices, studied expertise or recorded the developmental impacts resulting from farmer empowerment.

Principles

1. **"Grow a healthy crop"** allows plants to recover better from environmental or pest injury, avoids nutrient deficiencies related with pest attack (insects and disease), and promotes natural

defences to many insects and diseases inherent in plants. Proper crop and plant management methods used [Academic term: cultural controls].

2. **"Conserve natural enemies"** provides free biological control of insects and diseases. Parasites, predators and pathogens have long been recognized to control pest insects, but recent research shows microbial antagonists, and competitors of plant diseases are also important. Vertebrate natural enemies are also essential for control systems. Conservation usually implies avoiding inappropriate pesticide applications (herbicides, fungicides and insecticides all have impact on insect and disease natural enemies) or improving soil organic matter necessary for beneficial soil micro-organisms. Natural enemy habitat protection and development are more active methods of conserving natural enemies (e.g. owl houses, mulching for spiders, and floral nectarines for parasites). Inoculation or inundation of reared natural enemies may be possible under special circumstances but usually only after conservation efforts have already been implemented. [Academic term: biological control].

3. **"Observe crops regularly"** means informed decision making for appropriate interventions to be made quickly for water, soil, and plant management. Inputs used are based on an ecologic economic assessment. [Academic term: Input analysis].

4. **"Farmers become experts"** in their own fields is crucial for long term management of soils, pests and crops. Expertise implies a basic understanding of the agro-ecological system, and decision making processes. Simple rules and directives may provide short term benefits but cannot sustain long term local developments.

Basic Concepts

1. **Adult non-formal education:** Field Schools assume that farmers already have a wealth of experience, and knowledge. It also assumes that there may be misconceptions and bad habits learned during intensification programmes (e.g. little knowledge of natural enemies, basic fear of any insect that is seen in the field, etc.). Therefore the field Schools are oriented to providing basic agro-ecological knowledge and skills, but in a participatory manner so that farmer experience is integrated into the programme. For example, when observing in the field, facilitators will ask farmers what something is such as a natural enemy and ask who know what it might eat. Farmers give their response, and the facilitator adds his/her knowledge. If there is a disagreement between anyone, the facilitator and participants will set up simple studies to find the correct answer. In one field school farmers were discussing whether a certain lady beetle was

a predator of pests or a pest of the plant. One farmer bet another on their choice. The facilitator showed how to put the lady beetle in a jars - one jar with pest prey and the other with leaves. The result was that the lady beetle ate the insects and the loser had to carry the winner around the village on his back! In fact there are both kinds of lady beetles but one type is 'hairy' and the other not. This was seen by the farmers.

2. **Technically strong facilitator:** The field school is usually initiated by an extension staff member of the government, farmers' organization, or NGO. But in all cases the person must have certain skills. Most important is that the person is skilled at growing the crop concerned. In most countries, the extension staffs have never grown crops 'from seed to seed' and most often lack confidence. For this reason, most IPM programmes have begun with training field staff in season-long courses which provide basic technical skills for growing and managing an IPM crop. Some people have called this the "Farmer respect course" in that field staff comes to realise how difficult farming is, and why farmers do not immediately "adopt" their "extension messages". Facilitation skills and group dynamic/group building methods are also included in this season to strengthen the education process in the field Schools. An uncertain trainer is a poor trainer. A confident trainer can say "I don't know - let's find out together" much easier when the inevitable unknown situation is encountered in the field.

3. **Based on crop phenology and time limited:** The field Schools and season long training for trainers are based on the crop phenology; seedling issues are studied during the seedling stage, fertiliser 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. Meeting on a weekly basis means that farmers are participating in a course for a whole season, but from an administrative/financial point of view, the same 40 hours as in an intensive one week programme. The educational benefits of meeting when problems are present (learner readiness), and on a recurrent basis have been studied and shown to be far more effective that intensive courses. Also the courses are delimited by the crop cycle. There is a definite beginning and end. The present system of many extension programmes of unending two week cycles removes focus, and excitement. field schools may extend beyond one season if groups agree, but rarely can be effective when less than the phenological cycle of the crop.

4. **Group study:** Most field Schools are organised for groups of about 25 persons with common interests 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 (e.g. reducing sprays, cover crops), but with group support, trying something new becomes acceptable. The number of 25 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. **Field School Site:** The field Schools are always held in the community where farmers live so that they can easily attend weekly and maintain the field school studies. The extension officer travels to the site on the day of the field school

6. **Building groups:** One of the jobs of the facilitator is to assist the field school to develop as a support group so that participants can support one another after the field school is over. This is done by having elected officers (head, treasurer, and secretary), and group identity. The field school needs its own name - never the name of the founding organization! No hats, or shirts are given out. A budget may be prepared for this, but the group should make the design and have their own name on these. During the season, the field school includes group building exercises to build group trust and coherence. The field school may also include such activities as long-term planning (log frames), and proposal writing to find funding for activities groups decide to do together. Funding may come from a number of sources including from within the group itself, local shop owners, local governments, NGOs, or national programmes.

7. **Basic science:** Field Schools try to focus on basic processes through field observations, season-long research studies, and 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 extension and research systems because they have more specific questions and demands. They also are able to hold these systems accountable for their output and benefits. And finally they are able to protect themselves from dubious sources.

8. **Study fields [non-risk]:** The field school has a small (usually about 1000 m2) field for group study. This is the core of the Field Schools. This field is essential for a field school because farmers can carry out studies without personal risk allowing them to take management decisions that they might not otherwise attempt in trials on their own farm. This provides farmers a way of testing a new method themselves before applying it to their own fields. It also allows for more interesting research topics such as defoliation simulations in which leaves are removed.

The arrangement for this field varies based on local conditions. Some villages have communal lands that can be used for free, some villages may request on inputs, others areas 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 the facilitator alone - and is not a typical "demo-plot" as traditionally used in many programmes.

Characteristics:

1. **Farmers as Experts:** Learning by doing is the training approach used. Farmers learn by carrying out for themselves the various activities related to the particular farming practice they want to study and learn about. This could be related to annual crops, livestock/fodder production, orchards or forest management. The key thing is that farmers conduct their own field studies. Their training is based on comparison studies (of different treatments) and field studies that they, not the extension/ research staff conduct. In so doing they become experts on the particular practice they are investigating.

2. **The Field is the Primary Learning Material:** All learning is based in the field. The field is where the farmers learn. Working in small sub-groups they collect data in the field, analyse the data, make action decisions based on their analyses of the data, and present their decisions to the other farmers in the field school for further discussion, questioning, and refinement.

3. **Extension Workers as Facilitators Not Teachers:** The role of the extension worker is very much that of a facilitator rather than a conventional teacher. Once the farmer know what it is they have to do, and what it is that they can observe in the field, the extension worker takes a back seat role, only offering help and guidance when asked to do so. Presentations during meetings are the work of the farmers not the extension worker, with the members of each working group assuming responsibility for presenting their findings in turn to their fellow farmers. The extension worker may take part in the subsequent discussion sessions but as a contributor, rather than leader, in arriving at an agreed consensus on what action needs to be taken at that time.

4. **The curriculum is Integrated:** The curriculum is integrated. Crop husbandry, animal husbandry, horticulture, silviculture, land husbandry are considered together with ecology, economics, sociology and education to form a holistic approach. Problems confronted in the field are the integrating principle.

5. **Trainings Follows the Seasonal Cycle:** Training is related to the seasonal cycle of the practice being investigated. For annual crops this would extend from land preparation to harvesting. For fodder production would include the dry season to evaluate the quantity and quality at a time of year when livestock feeds are commonly in short supply. For tree production and such conservation measures as hedgerows and grass strips training would need to continue over several years for farmers to be able to see for themselves the full range of costs and benefits.

6. **Regular Group Meetings:** Farmers meet at agreed regular intervals. For annual crops such meetings may be every 1 or 2 weeks during the cropping season. For other farm/forestry management practices the time between each meeting would depend on what specific activities need to be done, or be related to critical periods of the year when there are key issues to observe and discuss in the field.

7. **Learning materials are learner generated:** Farmers generate their own learning materials, from drawings of what they observe, to the field trials themselves. These materials are always consistent with local conditions, are less expensive to develop, are controlled by the learners and thus can be discussed by the learners with others. Learners know the meaning of the materials because they have created the materials.

8. **Group dynamics/team building:** Training includes communication skill building, problem solving, leadership, and discussion methods. Farmers require these skills. Successful activities at the community level require that farmers can apply effective leadership skills and have the ability to communicate their findings to others.

Limitation

1. Time consuming activity
2. Cost intensive process
3. Women involvement
4. It demands lot of preparations on the part of facilitators
5. Requires trained facilitators
6. Reach of farmers – A group of 20-25
7. Facilitator’s ability to enable farmers

Training and Visit Comparision with Farmer Field School

Point	Classical Training and Visit	Farmer Field School evolution
Field-level extension officer's job	Deliver pre-packaged "messages" from a research-extension linkage. Primary job is information transfer, not technical expertise, which is reserved for Specialists not at the field level.	Technical Facilitator: Every FFS trainer should have basic technical skills (at least able to grow the crop, or rear animals, etc.). Secondly, every FFS trainer should have group oriented training and management skills. These skills are typically learned in a season-long Training of Trainers where they learn what they will teach.
Experience of trainers	Variable, but most often lacking basic farming skills and experience. Field level staff given communication skills.	Master trainer with farming experience gained during Training of Trainer programmes in which each person is required to grow crops and carry out field studies so that they test what they will use in Field Schools later.
Information	Primarily top-down messages from distant research stations about situations presumed to be representative of farms.	Recommendations are tested against conventional practices and new information about to the site emerges. Promotes local creativity.
Contact point	Contact farmers that are supposed to train other farmers by passing on external information.	Groups of interested farmers that farm on a daily basis through generating local study circles.
Time frame	Continuously, forever, on a two-week regular cycle not based on any natural phenology.	A pre-defined period. Usually on a weekly basis over a season. FFS may be longer than a season, but never less than one season integrated with the crop phenology.
Pedagogy	Training: Use of static pre-determined demonstrations and in field examples to show and tell.	Education: A focus on underlying principles that allow farmers to derive and adopt recommendations within their own dynamic their ecological, social, and economic realities.
Evaluation	At best indirect: based on measuring delivery and funds spent.	Pre- and post-testing. Community self-surveying. Identifiable indicators defined in terms of system-critical factors. Internal rates of return.
Training site	Demonstration field, training centers, home of Contact Farmer, static not revisited in time or observed in terms of any on going process.	A shared field in which the FFS uses to dynamically validate and test new management methods over the entire season (e.g. decisions during one part of the season can be verified by yield cuts)
Long term objectives	Increase food production, etc. "Farmer's attitudes, lack of knowledge, and practices are an object/constraint of a development process"	Nurture groups that will continue to address agricultural and community problems on their own and with technical backstopping. "Farmers as the subject of development"
Research	Primary source of information is research stations assumed to develop representative models that are widely applicable.	A process and consequence of local testing and within-community/ecosystem learning.

Rural Development:

Concept, meaning, definition, objectives and genesis

The word rural development is used in different ways in vastly divergent contents. The rural development is not merely agriculture development but it is rural transformation. It includes improvement in production, income, standard of living, wages, housing, village planning, education, public health, communication, literacy and other aspects of rural people.

Rural Development is a strategy to improve the economic and social life of a specific group of people- the rural poor, including small and marginal farmers, tenants and landless.

Rural development is overall (social, economical, political and spiritual) development of rural areas to improve quality of life of rural people.

Rural Development is an improvement in the living standards of the masses of low income population residing in rural areas and making the process self sustaining

The term rural development combines two words Rural and Development.

The term Rural and Development- is used in different ways:-

- As a Concept –Development of Rural areas
- As a phenomenon- Interaction between institutional factors
- As a Strategy- Approach to bring positive change in rural life

Ultimate Objective of rural development is: Improving the quality of life of rural poor and the rural weak.

CONCEPTS OF RURAL DEVELOPMENT:

According to World Bank (1975) – the rural development in general terms, is a strategy designed to improve economic and social life of people in a rural settlement and in particular, it focuses attention on the rural poor comprising the small and marginal farmers, tenants, and landless laborers.

Rural development is the dynamic process of development of the rural people through various programmes and projects so that they can become self-reliant citizens of the country.

The work is done by involving various agencies and organizations, and above all, the local people themselves.

It involves extending the benefits of development to the poorest among those who seek a livelihood in the rural areas. The group includes small scale farmers, tenants and the landless.

As a phenomenon, rural development is the end result of interaction between various physical, technological, economic, socio-cultural and institutional factors. motivate the people for adoption.

As a strategy, it is designed to improve the economic and social wellbeing of a specific group of people – the rural poor.

As a discipline, it is multidisciplinary in nature, representing an interaction of agricultural, social, behavioral, engineering and management sciences.

In the words of Robert Chambers (1983), Rural development is a strategy to enable a specific group of people, poor rural women and men, to gain for themselves and their children more of what they want and need. It involves helping the poorest among those who seek a livelihood in the rural areas to demand and control more of the benefits of rural development. The group includes small-scale farmers, tenants and landless.

Rural Development is a process of developing and utilizing natural and human resources, technologies, infrastructural facilities, institutions and organizations, and government policies and programmes to encourage and speed up economic growth in rural areas, to create jobs and to improve the quality of rural life towards self-sustenance.

OBJECTIVES OF RURAL DEVELOPMENT

The main objectives of rural development in all societies, irrespective of their economic, political and socio-cultural systems are.

1) Providing goods and services in terms of social and economic infrastructure
2) Increasing the income of every rural family on a self sustaining basis
3) Creation of additional employment opportunities in rural areas.
4) It implies a broad based reorganization and mobilization of the rural masses so as to enhance their capacity to cope effectively with the daily tasks of their lives and with changes consequent upon this.
5) Improvement of services or rural masses in the process.
6) Improvement of know-how, which is to be implemented to the rural people.
7) To make available and improve the distribution of life-sustaining goods, such as food, clothes, shelter, health and security;

8) To raise per capita purchasing power and improve its distribution by providing better education, productive and remunerative jobs and cultural amenities; and
9) To expand the range of economic and social choices to individuals by freeing them from servitude and dependence.

IMPORTANCE OF RURAL DEVELOPMENT

Majority of people in the developing countries live in villages and their main occupation is agriculture. The important agenda of rural development programme is the improvement in quality of life of rural people. Rural development implies increase in per capita income and level of living of rural people. This can be achieved only through planned programme of non formal education.

PROBLEMS IN RURAL DEVELOPMENT

1) Most people are illiterate.
2) Inadequate communication channels especially Mass Media in rural areas.
3) Limitation of Funds and staff for training the farmers.
4) As a traditional society with old ways and practices does not want to take risk unless they see the results.
5) In an illiterate traditional society real leadership could not come forward.
6) Poor linkage between the scientist and extension agencies.
7) Organizational constraints
8) Field staffs have inadequate transport and other facilities in rural area.
9) Unexperienced, unskilled staff in extension linkage cannot provide satisfactory help to the rural people.
10) There is no cooperation between different programms.

Various rural development programmes launched by Government of India:

Introduction, Objectives and salient features

- Swarnajayanti Gram Swarojgar Yojana (SGSY)
- Indira Awas Yojana (IAY)
- Mahatma Gandhi National Rural Employment Guarantee Act
- Prime Ministers' Rozgar Yojana (PMRY)
- District Rural Development Agency (DRDA)
- Integrated Watershed Development Programme (IWDP)
- Providing Urban Amenities in Rural Area (PURA)
- Rashtriya Mahila Kosh – (National Credit Fund for Women)
- Mahila Arthik Vikas Mahamandal (MAVIM)

Rural Development Programmes				
1	SGSY	Swarnajayanti Gram Swarojgar Yojana	1999	To bring the assisted poor families above poverty line by providing income generating assets through bank credit , govt subsidy through group approach (SHG)
2	IAY	Indira Awas Yojana	1996	Centrally sponsored scheme to provide houses to rural BPL families
3	MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act	2006	Employment guarantee programme which provide 100 days of wage employment in a year to every rural household, both male and female, whose adult member are willing to do unskilled manual work
4	PMRY	Prime Ministers' Rozgar Yojana	15th August, 1993.	providing self-Employment to Educated Unemployed Youth

5	DRDA	District Rural Development Agency	1st April, 1999	to strengthen and professionalize the DRDAs so that they can effectively enhance the quality of implementation
6	IWDP	Integrated Watershed Development Programme	1989	Promotion of the overall economic development and improvement of the socio-economic conditions of the resource poor sections of people inhabiting the programme areas.
7	PURA	Providing Urban Amenities in Rural Area	2004	To bring the rural urban divide and achieve balanced socio-economic development
8	RMK	Rashtriya Mahila Kosh – (National Credit Fund for Women)	1993	To assist women in BPL in undertaking income generating activities through financial package and SHG formation
9	MAVIM	Mahila Arthik Vikas Mahamandal	24th February, 1975	overall development of women

1. Swarnjayanti Gram Swarozgar Yojana (SGSY)

Introduction:-

- Swarnjayanti Gram Swarojagar Yojana is centrally sponsored
- Launched **01 April, 1999**.
- Scheme basically emphasizes on self-employment.
- Scheme covers all aspect of self- employment like capacity building, subsidy, and infrastructure facility, and credit, skill up gradation, insurance & marketing.
- SGSY is combination of 6 earlier programmes namely Integrated Rural Development Programme (IRDP), Training of Rural Youth for Self Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), Supply of Improved Toolkits to Rural Artisans (SITRA), Ganga Kalyan Yojana (GKY) and Million Well Scheme (MWS).

- SGSY is financed on 75:25 cost sharing base between Centre and State Governments.
- Poor Families below the Poverty Line (BPL) in rural areas constitute the target group of the SGSY.
- Within the target group, special safeguards have been provided to vulnerable sections, by way of reserving 50% benefits for SCs/STs, 40%for women and 3% for disabled persons.
- Its main purpose is to ensure that the net and monthly income of the family should be at a minimum of Rs. 2000
- The Projects may involve different strategies to provide long term sustainable self employment opportunities either in terms of organization of the rural poor, provision of support infrastructure, technology, marketing, training etc. or a combination of these.

Objectives:-

1. To assist rural people especially women and youth in self employment by organizing them into SHG's
2. To established large number of micro enterprises like vermicompost, poultry, mushroom etc.
3. Identification of 4-5 such micro enterprises per block depending upon skills, recourses and marketing facilities in that area.
4. To provide technical support, market support, credit support for the newly formed SHG's.

Characteristics of this project:

1. The beneficiaries may be individuals or groups but the emphasis is given to SHG's
2. SGSY is a credit cum subsidy programme.
3. The programme emphasizes skill development through well organized trainings.
4. The objectives of this scheme is to established small industries based on working capacity of poor people in the rural areas.
5. The implementation of this scheme will be carried out by District Rural Development Agency through Panchyat Samithis. In the implementation and supervision of this project, the banks of district and other financial institutions, Panchayat Raj Institutions, non government organization will be involved.

2. Indira Awas Yojana (IAY)

Introduction:-

- Housing is one of the basic requirements for human survival.
- With a view to meeting the housing needs of the rural poor, Indira Awaas Yojana (IAY) was launched in **May 1985** as a sub-scheme of Jawahar Rozgar Yojana.
- It is being implemented as an independent scheme since 1 January 1996.
- The Indira Awaas Yojana aims at helping rural people below the poverty-line (BPL) belonging to SCs/STs, freed bonded labourers and non-SC/ST categories in construction of dwelling units and up gradation of existing unserviceable kutcha houses by providing assistance in the form of full grant
- It is funded by the Centre and State in the ratio of 75:25.

3. Mahatma Gandhi National Rural Employment Guarantee Act

- **Evolving the design of the wage employment programmes to more effectively fight poverty, the Central Government formulated the National Rural Employment Guarantee Act (MGNREGA) in 2005.**
- **With its legal framework and rights-based approach, MGNREGA provides employment to those who demand it and is a paradigm shift from earlier programmes.**
- **Notified on September 7, 2005, MGNREGA aims at enhancing livelihood security by providing** at least one hundred days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work.
- **The Act covered 200 districts in its first phase, implemented on February 2, 2006, and was extended to 130 additional districts in 2007- 2008.**
- **All the remaining rural areas have been notified with effect from April 1, 2008.**

Salient features of the Act

- **Right based Framework:** For adult members of a rural household willing to do unskilled manual work.
- **Time bound Guarantee:** 15 days for provision of employment, else unemployment allowance Upto 100 days in a financial year per household, depending on the actual demand
- **Labour Intensive Works:** 60:40 wage and material ratio for permissible works; no contractors/machinery.
- **Decentralized Planning**
    1. Gram Sabhas to recommend works
    2. At least 50% of works by Gram Panchayats for execution

3. Principal role of PRIs in planning, monitoring and implementation

- **Work site facilities :** drinking water, first aid and shade provided at worksites
- **Women empowerment:** At least one-third of beneficiaries should be women
- **Transparency & Accountability:** Proactive disclosure through Social Audits, Grievance Redressed Mechanism,
- **Implementation**:- Under Sec 3, States are responsible for providing work in accordance with the Scheme. Under Sec 4, every state government is required to make a scheme for providing not less than 100 days of guaranteed employment in a financial year, to those who demand work
- **Funding**

1. Central Government -100% of wages for unskilled manual work, 75% of material cost of the schemes including payment of wages to skilled and semi skilled workers.
2. State Government- 25% of material including payment of wages to skilled and semi skilled workers cost. 100% of unemployment allowance by state government

Non Negotiable

- Only Job Card holders to be employed for MGNREGA works
- To provide employment within 15 days of application
- No contractor
- Task to be performed by using manual labour & not machines
- Muster rolls to be maintained on work sites
- Proactive disclosure of information.
- Wage payments to be through accounts in banks/post offices
- Wage material ratio- 60:40
- At least 50% of the works in terms of cost under a Scheme to be implemented through GPs

4. Prime Ministers' Rozgar Yojana (PMRY)

- Prime Minister Employment Yojana for providing self-Employment to Educated Unemployed Youth was announced by the Prime Minister on 15th August, 1993.
- To provide self-employed opportunities to one million educated unemployed youth in country.
- The Scheme has been formally launched on 2nd October, 1993.

Objectives:

- The PMEY has been designed to provide employment to more than a million People by setting up of 7 lakhs micro enterprises by the educated unemployed youth.
- It relates to the setting up of the self-employment ventures through industry, service and business routes.
- The scheme also seeks to associate reputed non-governmental organizations in implementation PMEY scheme especially in the selection, training of entrepreneurs and preparation of project profiles.

Criteria for selection:

- Coverage: - Whole of the country since 1994-95.
- Eligibility:- Any unemployed educated person
- Age:- 18-40 years (SC/ST-45)
- Qualification:- Matric (passed or failed) IIT etc.
- Residency: permanent resident of the area at least for 3 years.
- Family income:- Up to RS.40,00/- per annum
- Reservation:-Weaker section, SC/ST: 22.5%, OBC-27%
- **Funding Pattern:-** Rs. 1.00 lakh for business sector.
  Rs. 2.00 lakhs for other activities, loan to be of composite nature.
  If two or more eligible persons joins together in a partnership, project upto Rs. 10.00 lakhs are covered.
  Assistance shall be limited to individual admissibility.

- Project cost up to Rs. 1lakh are covered
- Entrepreneurs contribution is 5 %, loan up to 95%, by bank
- Subsidy by GOI @ 15% ceiling limit Rs.7500/-
- Repayment 3-7 years
- Training- compulsory
- Implementation agency: District Industry centers, District level tasks forces.

5. District Rural Development Agency (DRDA)

Objective / purpose

- The DRDA is the principal organ at the district level to manage and oversee the implementation of different anti -poverty programmes of the Ministry of Rural Development.
- It is a supporting and facilitating organization which plays a very effective role as a catalyst in development process

Mission / Vision Statement

The objective of the scheme is to strengthen and professionalize the DRDAs so that they can effectively enhance the quality of implementation.

Brief history

- DRDA Administration Scheme was introduced from **1st April, 1999** under which the salary and administrative expenses of DRDAs are funded on a **75:25** basis between Centre and State Governments.
- However, from 2008 - 09 the funding pattern for N.E. States has been changed from 75: 25 to 90: 10.
- In the case of UTs,the Centre provides entire (100%) funds under the Scheme.

Duties

Dealing with all issues related to DRDA policy and all matters, in so far as it relates to administration of DRDAs.

Main activities / functions

- To formulate policy guidelines for DRDAs
- Release of funds under DRDA Administration Scheme
- List of services being provided with a brief write –up on them
- Allocation of funds under DRDA Administration Scheme
- Organization of Conference of Project Directors of DRDAs

Organizational Structure Diagram at various levels namely State, directorate, region, district, block etc.

Minister (RD)

MOS (RD-PJ)

Secretary (RD)

Addl. Secretary (RD)

Joint Secretary (SA)

Director (DRDA)

Under Secretary (DRDA)

DRDA Section

6. Integrated Watershed Development Programme (IWDP)

Introduction

- The Watershed approach has conventionally aimed at treating degraded lands with the help of low cost and locally accessed technologies such as in-situ soil and moisture conservation measures, afforestation etc. and through a participatory approach that seeks to secure close involvement of the user-communities.
- The broad objective was the promotion of the overall economic development and improvement of the socio-economic conditions of the resource poor sections of people inhabiting the programme areas.
- Many projects designed within this approach were, at different points of time, taken up by the Government of India.

Brief History

- The Drought Prone Areas Programme (DPAP) and the Desert Development Programme (DDP) were brought into the watershed mode in 1987.
- **The Integrated Wasteland Development Programme (IWDP) launched in 1989** under the aegis of the National Wasteland Development Board also aimed at the development of wastelands on watershed basis.
- All these three programmes were brought under the Guidelines for Watershed Development with effect from **1.4.1995**.
- Other major programmes now being implemented through this approach are the National Watershed Development Project in Rainfed Areas (NWDPRA) and the Watershed Development in Shifting Cultivation Areas (WDSCA) of the Ministry of Agriculture (MoA).
- The focus of these programmes has, with the advent of the Department of Land Resources (DoLR) shifted to the enhancement of the viability and quality of rural livelihood support systems.

- While the programmes of DoLR are designed to address areas characterized by a relatively difficult terrain and preponderance of community resources, those of Ministry of Agriculture are expected to aim at increasing production and enhancing productivity in cultivated areas largely privately owned.
- While the focus of these programmes may have differed, the common theme that underpinned their structure has been the basic objective of land and water resource management for sustainable development of natural resources and community empowerment.
- The Prof. Hanumantha Rao, Committee, constituted by the Ministry of Rural Development (MoRD) studied the implementation and impact of the Drought Prone Areas Programme and the Desert Development Programme all over the country and recommended a common set of operational guidelines, objectives, strategies and expenditure norms for watershed development projects integrating the features of the three programmes under the MoRD.
- Accordingly, the Guidelines for Watershed Development were framed and brought into force with effect from **1st April 1995**.

Objectives

The objectives of Watershed Development Projects will be: -

- Developing wastelands/degraded lands, drought-prone and desert areas on watershed basis, keeping in view the capability of land, site-conditions and local needs.
- Promoting the overall economic development and improving the socio-economic condition of the resource poor and disadvantaged sections inhabiting the programme areas.
- Mitigating the adverse effects of extreme climatic conditions such as drought and desertification on crops, human and livestock population for their overall improvement.
- Restoring ecological balance by harnessing, conserving and developing natural resources i.e. land, water, vegetative cover.
- Encouraging village community for : Sustained community action for the operation and maintenance of assets created and further development of the potential of the natural resources in the watershed.
- Simple, easy and affordable technological solutions and institutional arrangements that make use of, and build upon, local technical knowledge and available materials.

- Employment generation, poverty alleviation, community empowerment and development of human and other economic resources of the village.

7. Providing Urban Amenities in Rural Area (PURA)

- PURA in the shorter version of Providing Urban amenities in Rural Areas to tackle the problem of migration of people from rural to urban areas for employment.
- It is the former President APJ Abdul Kalam, Who has proposed the concept of PURA in the VISION 2020 project initiated by him.
- Its objective is to make rural areas as attractive as cities are.
- This concept was presented by Dr. Kalam in Indian National Science Congress's 90th conference in Chandigarh in January 2004.
- It's goal and objectives are to provide India new heights and achievements, developed status and economy.

Some of its major objectives are given below:

1. Providing high cost advanced technology to village.
2. Linking a loop of villages by a ring road about 30 km in circumference with frequent bus services. That will integrate the population of all connected village into one market. Then, those villages could become a virtual city with a potential to expand and accommodate 3-5 lakhs people.
3. Treating rural development as corporate social responsibility.
4. Replacing agriculture by connectivity as the Driving Force of rural development.
5. Rural fund are for investment not for consumption.
6. Industry and services should be given priority in job creation and employment in farm sector should decrease.
7. Compensation to farmers should be given for the land acquired by an annual fee equal to twice the price of the produce they grow, not by a lump sum amount.
8. Land to employers sub-leased for both, Business and for residences for employee within walking distance. This will solve the problem of commuting daily to work, a compusion for the city living.
9. Providing same per capita investment to rural areas as cities do.

10. PURA priorities rural development, because ¾ of our population lives in rural areas, by neglecting them India cannot be a developed nation by 2020.

8. Rashtriya Mahila Kosh / National Credit Fund for Women

- Rashtriya Mahila Kosh (RMK), established in 30th March 1993 is a national level organization as an autonomous body under the aegis of the Ministry of Women and Child Development, for socio-economic empowerment of women.
- The operating model currently followed by RMK is that of a facilitating agency wherein RMK provides loans to NGO-MFIs termed as Intermediary Organizations (IMO) which on-lend to Self Help Groups (SHGs) of women.
- In addition, RMK also has appointed nodal agencies and franchisees for furthering of its objectives of reaching out to the women beneficiaries with easy access of micro credit for income generating activities.
- RMK extends micro-credit to the women in the informal sector through a client friendly, without collateral and in a hassle-free manner for income generation activities.
- RMK has taken a number of promotional measures to popularize the concept of micro financing, enterprise development, thrift and credit, formation and strengthening of Women-SHGs through intermediary organizations.

Vision:

- To be a financial service and capacity enhancement institution for social and economic empowerment of poor and marginalized women

Mission:

- To be a single window facilitator for provision of financial services with backward and forward linkages for women in the unorganized sector through Intermediary Micro Finance Organizations (IMOs) and Women Self Help Groups (SHGs) and to augment their capacities through multi-pronged efforts.

Aims & Objectives:

1. Socio-economic empowerment through multi-pronged effort
2. Providing micro-credit facilities.
3. Capacity building of IMOs and women beneficiaries

4. To promote or undertake activities for the promotion of or to provide credit as an instrument of socio- economic change and development through the provision of a package of financial and social development services for the development of women.

5. To promote and support schemes for improvement of facilities for credit for women:-

   a. for sustenance of their existing employment
   b. for generation of further employment
   c. for asset creation
   d. for asset redemption and
   e. for tiding over consumption, social and contingent needs

6. To demonstrate and replicate participatory approaches in the organization of women's groups for effective utilization of credit resources leading to self-reliance.

7. To promote and support experiments in the voluntary and formal sector using innovative methodologies to reach poor women with credit and other social services.

8. To sensitize existing government delivery mechanisms and increase the visibility of poor women as a vital and viable clientele with the conventional institutions.

9. To promote research, study, documentation and analysis, including provision of fellowships and scholarships, of credit and its management and of successful experiences at various levels in order to promote replication and dissemination of successful credit extension and management methodologies.

10. To promote the federation and net working of women's organisations for shaping & exchange of experience and information and to develop skills in response management & social mobilization.

11. To promote and support the expansion of entrepreneurship skills among women.

12. To cooperate with and secure the cooperation of the Central Government, State Governments and Union Territory Administration, credit institutions, industrial and commercial organisations and non-governmental, voluntary and other organisations and bodies in promoting the objects of the Kosh.

13. To accept subscriptions, grants, contributions, donations, loans, guarantees, gifts, bequests etc. on such terms and obligations not inconsistent with the aims and objects of the Kosh, and

14. To do all such lawful acts & things as may be necessary or conducive for furthering the objects of the Kosh.

9. Mahila Arthik Vikas Mahamandal(MAVIM)

Mahila Arthik Vikas Mahamandal was established on 24th February, 1975 on the occasion of International Women s Year.

Objectives

- Building organization of women
- Building capacities of women by training
- Building confidence of women
- Building linkage between employment opportunities and market possibilities.
- Strengthening entrepreneurship among women
- Increase participation of women in decision making & education

Community Development

Meaning, definition, concept, principles and philosophy

Community: A community is a group of people living in a geographical area and has some sort of common interest in them.

It is form of social organization existing between the family and state.

Development: Orderly movement of individual from lower level of functioning to the higher level of functioning.

Community Development:-

Community Development is a movement designed to promote better living for the whole community with the active participation and on the initiative of the community

Community Development is technically aided and locally organized Self-help

Community Development has been described as a (Mukherji)

Process of change from the traditional way of living of rural communities to progressive ways of living;

Method by which people can be assisted to develop themselves on their own capacity and resources,

Programme for accomplishing certain activities in fields concerning the welfare of the rural people and

Movement for progress with a certain emotional and ideological content

Concept of community development

- Developing potential abilities and qualities of people living in the community.
- Improvement in economic, social, and cultural conditions of the community.
- Assessing their common and individual needs and problems.
- Organizing formally and informally for democratic planning and action.
- Supplement their resources with services and material.

Philosophy behind Community Development:

- Programme should be based on the felt needs of the community.
- There should be change in attitude, habits, ways of thinking, relationships among people in knowledge, skill.etc.
- Participation of people in improvement activities so that they become develop.

- People actually plan and work on the solution of their problems themselves.
- Democratic approach in the programme.
- Fulfill all wishes of peoples i.e. food, shelter, security, response etc.
- Standard of living, free from poverty.

Principles of community development:

- It is a programme of continuous education. The need and the problem once settled new may arise.
- Programme should be based on the felt needs of the community.
- It is necessary to understand the community and its social structure before initiating the programme.
- The village leader must involve in the programme when development work in village.
- People must be motivated by the programme of their village.
- There should be flexibility in the procedure of the organization.
- The basic approach is to change the attitude and living standard of people by adopting educational means.
- The programme, which is initiated, must have goals and methods of high acceptability.
- There should be active and effective lines of communication within active members and between organization and village peoples.

Objectives of Community Development Programme

The fundamental or basic objective of Community Development in India was the Development of people.

Its **broad objectives** were: (i) economic development (ii) social justice and (iii) democratic growth.

Basic objectives:

i. The all-round development of the rural community.

ii. To develop the feeling of communitarian life style among the rural people.

iii. To develop the feeling of responsibility, to create confidence, to create inspiration for working by self decision among the rural people and establishing local leadership and institutions this can tackle the problems of that area.

Objectives:

1. To increase the agricultural production

2. Community and integrated development

3. The extension of the new scientific knowledge

4. Development of small and medium irrigation projects

5. Development of co-operative organizations

6. Construction of roads.

7. To increase the adult education and primary education.

8. Facility for entertainment.

9. Development and construction of primary health care centre and the public health service.

10. To inspire the youth for the development programme.

Difference between extension education and community development

Extension Education	Community Development
1. Emphasis on individual	1. Emphasis on co-operation
2. Its main them is the needs of the individuals.	2. Its main them is the needs of the communities.
3. Emphasis on decision making for change by individuals and families.	3. Emphasis on decision making by groups & representatives of groups.
4. Education aims at economic & social development of individual.	4. Education aims at economic & social development of groups of individual.
5. It concentrates more on agricultural production & home economics.	5. It is directly responsible for attacking all elements of human welfare.
6. It is govt. approach through educational institutions & other government. department.	6. It is direct govt. approach to straight line organization.
7. Emphasize organizations carrying out educational services or transmits knowledge to the people.	7. Emphasize co-ordination of service agencies by working team of representative of different services.
8. It permits co-operation between departments & agencies.	8. Compels departments & agencies to participate.
9. It is branch of Agricultural Department.	9. It is branch of government serving various govt. dept.
10. It is not directly involved on promotion of local units of government.	10. Tied into promotion of local units of government.

11. It represents transfer of responsibility from administering government organization to another Educational group.	11. There is tight control held by govt. administering agency to cut across participating government departments.

Similarities between extension education and C.D.

1. Both the processes are essentially educative
2. For both central objectives is the "Growth of people"
3. Both processes are inter disciplinary in chapter
4. Both aim at bringing about change
5. Both are involvement processes
6. Both are relatively slow processes
7. Both are government sponsored and supported organizations.
8. Both emphasize on cooperation
9. Both are concerned with social and economic development

PANCHYAT RAJ SYSTEM: MEANING, POWERS, FUNCTIONS AND SET UP

What is Democratic decentralization?

Democracy: The word democracy is derived from the greek roots 'cracy' meaning 'rule of' and 'demos' means 'the people'. Hence democracy means governance of the people, by the people, and for the people. The emphasis is on the people.

Decentralization: It means distribution of function and powers from central authority to local and regional authority.

Democratic Decentralization: It means government which has derived its authority from the people, redistributes it to same extend to the people fro decision and action at local level.

Three Tier system of Panchayat Raj System

The community development programme was started on 2 nd October 1952. It was executed about five years (1952-1957) in the county in 1957, a study team was appointed by the planning commission to renew the working of community development programme and to examine the question of reorganization the district administration to provide for proper organization between the village and state level. This study team was headed by Balwant Rai Mehta and recommended the setting up of elected bodies at village, block and district levels. The committee was found that the peoples participation was less and result were disappointing. The committee suggested that unless the people take initiative in planning and implementation of their own programme, community development cannot be satisfactory realized with this thinking, the committee suggested **Panchayat Raj.**

Panchayat Raj is a system of democratic local self government, discharging developmental, municipal and regulatory function. It is basically a democratic decentralization process.

Basic Principles: The basic principles emphasized in Panchayat Raj are:

1. It should be a three tier structure of local self governing bodies from village to district and organizationally linked up.
2. There should be a genuine transfer of power and responsibility to these bodies.
3. Adequate resources should be transferred to the new bodies to enable them to discharging their responsibilities.
4. The system evolved should facilitate further devolution, dispersal of powers and responsibilities in further.

The recommendations of the Mehta team gave a stimulus all over the country to an active consideration of decentralization through democratic bodies. In Maharashtra village Panchayats were already established under Bombay Village Panchayat Act 1958.

State Rajasthan became the pioneer to bring the whole of Rajasthan under democratic decentralization on 2 nd October 1959. On 1 st November 1959, Andhra Pradesh state introduced this scheme of democratic decentralization in the entire state by the enactment of the Andhra Pradesh Panchayat Samiti and Zilla Parishad Act 1959.

In 1961, Government of Maharashtra appointed a committee headed by **Shri Vasantrao Naik** to examine the question of democratic decentralization in Maharashtra. On the recommendation of Naik committee, the government of Maharashtra enacted the Maharashtra zilia parishad and Panchayat samiti Act. 1961 according to their act, three- tier system was established in Maharashtra on **1 st May 1962**. The Maharashtra became 9 th state accepting Panchayat Raj System will operate at district taluka /block and village level.

Gram Panchayat or Village Panchayat

Gram Panchayat: - It is a basic formal and democratic organization and primary local unit of local self –government. It is a cabinet of the village leaders. A village or group of villages is the jurisdiction of gram panchayat

Structural aspect of Grampanchayat:

The Grampanchayat is formed by election procedure. The villager attaining age of 18 year has right vote in the Grampanchayat election. The entire village is divided into wards and ward wise leaders are elected as a member of grampanchayat. There is a provision for reservation of seats for women (33%) but now a days (50%), SC/ST/OBC (27%) etc. The elected members then elect their chief leader called as sarpanch. The number of members usually varies from 7 to 17 on the strength of population. The tenure of the sarpanch and members is of five years. Every member has been assigned to grampanchayat. Sarpanch conducts meeting of members once in a month.

Gramsevak: The secretary of Grampanchayat is employee/ official person appointed by Zilla Parishad on salary basic. He assists sarpanch in his working and maintains record of grampanchayat. He performs various extension activities in the village. He reports periodically, the working of gram panchayat to the higher authorities whenever called. There is peon and sweeper as employee of grampanchayat.

Gramsabha: Gramsabha is the meeting of voters and the elected members of grampanchayat. Gramsabha is empowered to support or topple down the grampanchayat body and to modify the decisions taken by grampanchayat.

Earlier at least two gramsabha were to be organize per year. Now there is a compulsion to organized four gramsabha ie. on 26th January, 1st May, 15th August and 2nd October.

Committees: Each grampanchayat have functional committee's viz., Agriculture, Animal Husbandry, Public works, Social welfare, Health and Sanitation in grampanchayat.

Functions of Grampanchayat: Every grampanchayat has to perform following functions:

a. Representative Function:

The sarpanch, members and gramsevak represents the voice of the village people to the Taluka and district level on the behalf of grampanchayat by attending meeting and sending official reports.

b. Regulatory and Administrative Functions:

i. Solve the dispute of village people as individual or groups.
ii. Implementation of official programme assigned by the authority.
iii. Conducting regular meetings and maintaining records of the grampanchayat.
iv. Authentic documentation of birth, death, marriage and other details of the village people.
v. Enforcing measures of safety and sanitation.
vi. Collection of house tax.

C. Service and development Function

i. To provide educational , communication and health facilities
ii. To provide drinking water facilities
iii. To look after general welfare and immediate development to village e.g. road, light, market. etc.
iv. To promote agriculture and irrigation development.

Sources of Funds:

Grampanchayat received the funds through the following sources

i. Local taxes.
ii. Government grants in Aid.
iii. Loans.
iv. Subsidies through government programme like Jawahar Rojagar Yojana.

2. Panchayat Samiti

This is a second tire above the grampanchayat and below the zilla parishad. It is an intermediate or middle tire of administration at block level. The jurisdiction of panchayt samiti is taluka or block area. The tenure of Panchayat Samiti is of five years. A block development officer (BDO) is appointed by the government as a chief executive of the panchayat samiti. He is a leader of the team of block level officials. There are subject matter specialist and other ministerial staff to assists BDO. The meeting of Panchayt samiti is held once in two months. The chairman and vice chairman of panchayt samiti are elected, amongst the members of panchayt samiti.

Sarpanch Committee:

Besides these, there is one sarpanch committee at panchayt samiti level. Vice- Chairman of panchayt samiti is the chairman of this committee. This committee includes sarpanchs of the grampanchayat to represent the problems of village and peoples. Members of sarpanch committee are changed every year by rotation and representation is given to other grampanchyats. In this way, the all the sarpanchas of grampanchayat in the blocks gets opportunity to represents village problems in panchyat samiti.

Powers of Sarpanch Committee

i. To convey and conduct the meeting of grampanchayat
ii. To verify the records and documents of grampanchayat as and when required.
iii. To monitor the work of grampanchayat

Powers of grampanchayat committee members:

i. To supervise the record of grampanchayat during office hours after giving due notice to sarpanch
ii. To exercise inspection over all works undertaken by the grampanchayat.
iii. To supervise all institutions working under grampanchayat.
iv. To bring to the notice of the sarpanch, the irregularities in the grampanchayat.

One member for every 15000-20000 population is elected for Panchayat samiti. There are 6-14 members in the P.S. from all categories as per reservation i.e. Male/ Female and reservation, OBC (27%).

There are various selections, departments in the Panchayat Samiti to tackle the problem and to carry out development work in the block/ tahsil.

1	Agriculture Section	:	Agriculture technology crops production
2	Animal Husbandry	:	Animal breeding, Veterinary dispensary
3	Health and nutrition	:	Dispensary, Vaccination, Family welfare
4	Financial	:	Financial matter of P.S.
5	Works	:	Construction, maintenance of roads
6	Statistics	:	Information of block
7	Irrigation	:	Irrigation to agriculture section
8	Education	:	Primary education, Schools, Scholarship/ Stipend, etc.
9	*Swarna Jayanti Gram Rojagar Yojana*	:	Self employment, Self-Help groups, credits etc.
10	Panchayat section	:	Social welfare, women/child welfare etc. Supervision and control on grampanchyats in the block.

Constitutional Structure of Panchayt Samiti

The administrative body of Panchayat Samiti includes the following members.

i. Sarpanch of all grampanchayat under the jurisdiction of development block.

ii. Local MLAs and MLCs with right to vote but not to hold office.

iii. All elected members of Panchayat Samiti.

iv. One person nominated by District Collector. One person nominated by District Collector remains present at the time of election of chairman and vice-chairman of Panchayat Samiti.

v. Chairman of co-operative agriculture marketing society in the blocks as an associate member.

vi. Chairman of agriculture co-operative society in the block as an associate member.

vii. Representative from ladies as per reservation (50%)

viii. Representative from SC (Male/ Female 13%)

ix. Representative from ST (Male/ Female 07%)

x. Block Development officer

xi. Chairman and Vice chairman of Panchayt Samiti.

Powers and Functions of Panchayt Samiti

i. To list out the needs of each village in the block.

ii. To list out the latent potential

iii. To harness available and potential resources.

iv. To exercise all powers conferred on and perform all functions entrusted by government.

v. To prepare plans, schedule budget etc. of village development work at various locations and government for sanctioned also to submit to Z.P.

vi. To act as inter –mediator for implementation of programmes sanctioned by government at village level.

vii. To submit the demand of people to the higher authority.

viii. Execution planning and supervision of developmental programmes related to agriculture, education, health, sanitation, social welfare, women welfare, emergency relief, communication, public work etc. in the block.

ix. To advance and recover loans from the individual and institutions.

3. Zilla Parishad

The zilla parishad in Maharashtra is constituted by article 6 of the zilla parishad and Panchayt samiti act of 1961. It is apex tier of Panchayt Raj System operating at district level. Generally one member for 35000 populations is elected for the zilla parishad. Male/ Female members are elected as per reservations i.e. female (50%), SC (13%), ST (7%), OBC (27%) on the basis of population of the district. The tenure of zilla parishad of five years and can be increased up to 6 months. President and Vice president are elected from the members of the zilla parishad. Chief executive officer (CEO) is the administrator of the zilla parishad. Deputy chief executive officer is a secretary of Zilla parishad. There are subject matter specialist and ministerial staff to assist various activities in Zilla parishad. In all there are 55 to 75 members in the body of zilla parishad.

Constitutional Structure of Zilla Parishad

The body of zilla parishad is constituted by following members:

i. All president of panchayt samiti in the district.

ii. The collector of the district

iii. MLA, MLC's and MP are in the district. They have voting powers but not hold office.

iv. Representative from ladies as per reservation (50%), ST (7%)

v. Chief executive officer

vi. Four deputy chief executive officers (One from the general, Panchayt, Women/ child welfare and *Jalswaraj*).

vii. District head of development officer

viii. Two cooperative members from any of the following institution in the district.

a. Industrial Co-operatives
b. Land Development Bank
c. Co-operative Educational Institutes
d. Processing Cooperatives
e. Credit societies
f. President and Vice president of zilla parishad

Constitution of standing committee:

Each zilla parishad has one standing committee consist 10-12 members. The district collector is the chairman of standing committee.

i. President
ii. The chairman of subject committee's two presidents shall be chairman reserved for SC/ST/OBC of standing committee.

Constitution of subject committee:

There are eight subject committees in the zilla parishad as under

i. Finance Committee
ii. Works Committee
iii. Health Committee
iv. Agriculture Committee
v. Animal husbandry and dairy Committee
vi. Social welfare Committee
vii. Education Committee
viii. Women and child welfare Committee

Every subject committee consists of nine members, out of which seven are elected and two members are coopted. The need of subject matter committee is the secretary of subject committee.

There shall be water management and sanitation committee constituted in accordance with the provision of section 79-A.

Powers and Functions of Zilla Parishad

i. Functions as advisory body over the Panchayat samiti with powers to

a) Approve their budget
b) Co-ordinate their plans

c) Distribute funds given by government to blocks

ii. Responsible for Performing all functions related to agriculture development, health, water supply, social welfare, women and child welfare education , construction, etc.

iii. To prepare plans for all items of development activities in the district.

iv. Assign duty to declare "**Progressive farmer**" the best block and the best village worker.

v. Execution of developmental plans in the block

vi. Implementation of developmental programmes as per directives of government

vii. Approve the plans and budgets of Panchayat samiti

viii. Operating, running primary and secondary schools, stipends scholarship to SC, ST, OBC girls and boys.

ix. To performs the functions of in non samiti blocks

x. Construction of Roads Bridge in the block.

xi. Establishment and maintenance of agricultural training centers, breeding farm, veterinary dispensary etc.

xii. Supervision on works and activities undertaken by Panchayat samiti

xiii. Promotion of small dams and soil and water conservation practices.

xiv. Organizing meetings of members and officers

xv. Maintain documentation and record of office, various programmes, and publishing statistics, budgeting and reporting to the government.

Extension administration and management:

Meaning and concept, principles, functions and differences

The word administration is derived from latin word ad and ministraire means care for or look for after people manage affairs.

Extension administration: - is an effort to direct, guide and integrate associated human strivings towards some specific ends.

Administration as a process whereby all the different parts of an agency or an organization are orderly brought together to function, in reaching objectives.

Extension Management

Management is the art of knowing what you want to do and then seeing that it is done in the best and cheapest way. (Tylor1948)

Mary Parker Follet termed management as "the act of getting things done through people".

Fayol outlined fourteen Principles of Management:

1. **Division of work**: Work specialization results in improving efficiency of operations. The concept of division of work can be applied to both managerial and technical functions.
2. **Authority and responsibility**: Authority is defined as "the right to give orders and the power to exact obedience." Authority can be formal or personal. Formal authority is derived from one's official position and personal authority is derived from factors like intelligence and experience. Authority and responsibility go hand – in – hand. When a manager exercises authority, he should be held responsible for getting the work done in the desired manner.
3. **Discipline**: Discipline is vital for running an organization smoothly. It involves obedience to authority, adherence to rules, respect for superiors and dedication to one's job.
4. **Unity of command**: Each employee should receive orders or instructions from one superior only.
5. **Unity of direction**: Activities should be organized in such a way that they all come under one plan and are supervised by one person.
6. **Subordination of the individual interest to the general interest**: Individual interests should not take precedence over the goals of the organization.

7. Remuneration: The compensation paid to employees should be fair and based on factors like business conditions, cost of living, productivity of employees and the ability of the firm to pay.

8. Centralization: Depending on the situation, an organization should adopt a centralized or decentralized approach to make optimum use of its personnel.

9. Scalar chain: This refers to the chain of authority that extends from the top to the bottom of an organization. The scalar chain defines the communication path in an organization.

10. Order: This refers to both material and social order in organizations. Material order indicated that everything is kept in the right place to facilitate the smooth coordination of work activities. Similarly, social order implies that the right person is placed in the right job (this is achieved by having a proper selection procedure in the organization).

11. Equity: All employees should be treated fairly. A manager should treat all employees in the same manner without prejudice.

12. Stability of tenure of personnel: A high labor turnover should be prevented and managers should motivate their employees to do better job.

13. Initiative: Employees should be encouraged to give suggestions and develop new and better work practices.

14. Esprit de corps: This means "a spirit in its employees.

Functions central to management are often associated with the acronym POSDCORB, or Planning, Organizing, Staffing, Directing, Coordinating, Reporting and Budgeting.

1. Planning

- The **planning** phase is regarded as one of the most fundamental steps a manager engages in, as it can be the determinant of the organization's success and productivity.
- Planning consists of determining the goals and objectives of the organization, considering the costs, and making the provisions for achieving the objectives.
- Organizing, staffing, directing, coordinating, reporting and budgeting, in short, are the means of carrying out the decisions made in the planning phase.
- The types of planning managers will exercise will depend on the manager's level in the organization and on the size and type of the organization (Waldron, et al., 1997).

2. Organizing

- **Organizing**, or the process of assigning roles and connecting people and resources in order to meet the goals and objectives of the unit, is founded on five organizing principles (Marshall 1992, as cited in Waldron *et al.,* 1997):

1. unity of command;
2. span of control;
3. delegation of authority;
4. homogenous assignment; and
5. flexibility.

- An organizational structure can best be represented by an organizational chart, which delineates who is in charge of what and how it is to be carried out (Waldron *et al.,* 1997).

3. **Staffing**

- Matching the best candidate to a specific job is necessary for success.
- The **staffing** stage consists of human resource planning and recruitment.
- The selected person should complete the recruitment process knowing the mission and objectives of the unit, the levels of responsibilities and authority, the degree of accountability and the systems and procedures followed to accomplish job tasks (Waldron *et al.,* 1997).

4. **Directing**

- Once thought of as autocratic, **directing** is now more congruent with leadership, and refers to the process "whereby a work environment is created in which people can do their best work and feel a proprietary interest in producing a quality product or service" (Waldron, *et al.,* 1997).

5. Coordinating

- **Coordinating** links various work components.
- Coordination of various job roles and responsibilities is conducted between staff members, the unit and other units within the organization.
- Coordination is described as either vertical reporting, as to supervisors, or horizontal reporting, as to colleagues and the management team.

6. Reporting

- **Reporting** is closely related to coordinating.
- It refers to keeping those who you are responsible or obligated to, informed.

- In an age where information is increasingly being transmitted from different sources, information flow has become increasingly important for successful management

7. Budgeting

- **Budgeting** plays into planning and includes fiscal planning, accounting, revenue and expense controls.
- Budgeting is a continual process of review and revision, and sets a good manager apart from a poor one.
- Two important components in budget management are budget determination (allocating revenue in accordance to priorities and by line item), and budget accountability (how well the anticipated budget matches reality

Difference between Management and Administration

Basis for Comparison	Management	Administration
Meaning	An organized way of managing people and things of a business organization is called the Management.	The process of administering an organization by a group of people is known as the Administration.
Authority	Middle and Lower Level	Top level
Role	Executive	Decisive
Concerned with	Policy Implementation	Policy Formulation
Area of operation	It works under administration.	It has full control over the activities of the organization.
Applicable to	Profit making organizations, i.e. business organizations.	Government offices, military, clubs, business enterprises, hospitals, religious and educational organizations.
Decides	Who will do the work? And How will it be done?	What should be done? And When is should be done?
Work	Putting plans and policies into actions.	Formulation of plans, framing policies and setting objectives
Focus on	Managing work	Making best possible allocation of limited resources.
Key person	Manager	Administrator
Represents	Employees, who work for remuneration	Owners, who get a return on the capital invested by them.
Function	Executive and Governing	Legislative and Determinative

Evaluation in Extension

Meaning, definition, types of evaluation, monitoring and evaluation

MONITORING

MEANING AND DEFINATION

Monitoring is a continuous/ periodic review and surveillance by management, at every level of the implementation of an activity to ensure that input, deliveries, work schedules, targeted outputs and other required actions are proceeding according to plan.

Monitoring is a process of measuring, recording, collecting, processing and communicating information to assist project management decision making.

To be precise and brief, monitoring system in an information system for management decision making.

A project's operation and performance are the aspects of concern in monitoring with a view to keep track of the technical and economic 'efficiency' of the project. In monitoring, the purpose is to ascertain whether project objectives are achieved. This is carried out in terms of

- Whether the various tasks are carried out according to schedule.
- Whether project impact is in accord with project objectives.
- Whether project objectives/ targets/ execution needs adjustments.

Thus, monitoring is a management function and begins with the start of a project and ends with the completion of project.

EVALUATION

MEANING

Evaluation is an activity we engage in every day because we are always making judgments relating to the value or worth of things we do or experience. For example, we are constantly evaluating the food we eat, the jobs we do, the programmes we listen to on radio, and so forth.

The following sequence of steps is usually involved in all evaluations:

1. Evaluations are usually prompted by the need to make a decision about the value or potential value of something. For example, if we are listening to a programme on the radio for entertainment, we may need to decide whether such a programme is likely to provide the type of entertainment we are looking for. Or, at the end of the programme we may want to decide whether we would listen to similar programmes in the future.

2. We define criteria as to what constitutes an entertaining programme for us (type of music, amount of certain type, etc.)
3. We make observations or collect evidence relating to the criteria (what type of music is being played and how often)
4. We form judgments relating to the value or potential value of the programme (not valuable or not likely to be valuable because the music we like is hardly being played).

In our day to day activities we may hardly be aware of these steps. However, in systematically evaluating extension programmes, explicit attention must be given to each step in the process.

DEFINITIONS

The term 'evaluation' is a derivative of the Latin word 'Valere' which means strength of. From 'Valere' comes the word 'Value' meaning worth or quality of something.

In simple words evaluation may be defined as the process or method of determining the worth or quality of something. This something in extension may be an activity, a programme, a situation, a process, a procedure, a method, an innovation, a practice, an organization, a person, a group of persons and the like.

Evaluation is defined in the following manner :

- Extension evaluation can be defined as a continuous and systematic process of assessing the value or potential value of extension programmes.
- Evaluation is the process of assessing the degree through which one is achieving his objectives.
- Evaluation is the comparison of two situations before and after a developmental programme, has operated within it for a predetermined period. In other word, evaluation measures performance against a predetermined goal.

TYPES OF EVALUATION

(a) Informal and Formal Evaluations

There are several degrees of evaluation. This can be illustrated by means of a continuum. At one end of the continuum there are "casual every day evaluation" or informal evaluations, and at the opposite end, "scientific research" or formal evaluations

Casual Everyday Evaluations	Self Checking Evaluations	Do-It- Yourself Evaluations	Extension Studies	Scientific Studies

It can be done so casually that we are hardly aware of doing it, such as looking out the window to decide whether or not to carry an umbrella. At the other extreme is scientific research in complicated problems to get information which people can use. Somewhere in between will fall most kinds of evaluation undertaken by extension personnel.

Casual everyday evaluations: They are like the first impressions of Extension Worker about his meeting or the umbrella decision. They are the ones we ordinarily make without much consideration of the principles of evaluation in the decisions we make about simple problems.

Self-checking evaluations: It includes further checking on our ordinary observations. It includes talking further with others, writing to others for their judgement, sending out a brief questionnaire having one filled out at a meeting and so on.

Do-it-yourself evaluations: They are more systematically done; more carefully planned and usually require some technical help. Each step in the evaluation is considered, planned and carried out with due consideration to evaluation principles.

These evaluations are not complex and involved. They are usually surveys which produce usable results and which can be easily with some training in evaluation or with some technical help.

Extension studies: These are more involved and complicated to plan and carry out than any of the preceding locations on the scale. They are broader in scope. They require greater attention to sound principles of scientific procedure in order to secure the accuracy needed. Theses for Master's degrees usually fall in this location.

Scientific research: it is at the "top" of the scale, involving very complex problems and techniques for getting information from which conclusions can be drawn. Long-time and experimental studies to determine cause and effect relationships are characteristics of this location. For example, atomic research, satellite research or cancer research.

(b) Formative and Summative Evaluations

Formative evaluation attempts to identify and remedy shortcomings during the developmental state of a programme. Formative evaluations are conducted before programme completion, more particularly, during programme implementation. Such evaluations provide

early feedback on programme weakness, which can be used to modify or adjust the remaining stages of a programme.

Summative evaluation assesses the worth of the final version when it is offered as an alternative to other programs. Summative evaluations are conducted after the completion of the programme to assess the accomplishments and whether intended objectives are achieved.

(c) On-going and Ex-post Evaluation

Ongoing evaluation is an action-oriented analysis of project effects and impacts, compared to anticipations, to be carried out during implementation.

Ex-post evaluation would resume this effort several years after completion of the investment, to review comprehensively the experience and impact of a project as a basis for future policy formulation and project design.

ADVANTAGES OF EVALUATION

- It helps to establish a bench mark - the situation at the start of the programme
- It shows how far our plans have progressed.
- It shows whether we are proceeding in the right direction.
- It indicates effectiveness of a programme.
- It helps to locate strong and weak points in any programme.
- It improves our skills in working with the people.
- It helps to determine priorities for activities in plan of work.
- It brings confidence and satisfaction to our work.

DIFFERENCE BETWEEN MONITORING AND EVALUATION

MONITORING	EVALUATION
Continuous : starts and ends with a programme	One shot operation; at a point of time (Usually after completion or mid way of a programme)
Required for immediate use and mid course correction	Used for future planning
Done by implementing agency	Usually by outside agency
Quick but covers all units	In-depth; covers a sample
Correcting/ managing process	Learning process
Symptomatic; early warning system	Diagnostic

Transfer of technology programmes :

Lab to Land programme (LLP), National Demonstration (ND), Front Line Demonstration (FLD), KrishiVigyanKendras (KVK), Technology Assessment and Refinement Programme (TARP) of ICAR

Sr.		Name of Programme	Year	Objectives
1	LLP	Lab to Land Programme	1979	To improve economic condition of small, marginal farmers, landless laboures, and SC, ST by transfer of technology developed by agricultural universities
2	ND	National Demonstration	1964	to show the genetic production potentiality of new technology of major crops per unit of land and per unit of time and to encourage the farmers
3	FLD	Front Line Demonstration		to demonstrate the production potentiality of improved package of various crops under the farmer's conditions and resources.
4	KVK	Krishi Vigyan Kendras	1974	To provide a strong training support for bringing about production breakthrough in agri. with some mandates ie. Specific\c responsibility to perform
5	TARP	Technology Assessment and Refinement Programme	1995	

1. Lab to Land Programme

- The Lab to Land Programme (LLP) was launched by the ICAR in 1979 as a part of its Golden Jubilee celebration.
- The overall objective of the programme was to improve the economic condition of the small and marginal farmers and landless agricultural labourers, particularly scheduled castes and

scheduled tribes, by transfer of improved technology developed by the agricultural universities, research institutes etc.

The specific objectives of the Lab to Land programme, according to Prasad, Choudhary and Nayar (1987) were-

a. Study and understand the background and resources of the selected farmers and landless agricultural labourers.

b. To introduce low-cost relevant agricultural and allied technologies on their farms and homes for increasing their employment, production and income.

c. Assist the farmers to develop feasible farm plans keeping in view the availability of technologies, needs and resources of the farmers and the resources which could be made available from external sources and agencies.

d. Guide and help the farmers in adopting improved technologies as per their farm plans and demonstrate to them the economic viability of those technologies as well as methods of cultivation and farm management.

e. Organize training programmes and other extension activities, in relation to their adopted practices and prepare them for active participation in agricultural development programmes of the state.

f. Make the farmers aware of the various opportunities and agencies which they could utilize to their economic advantage.

g. Develop functional relations and linkages with the scientists and institutions for future guidance, advisory services and help.

Utilize this project as a feedback mechanism for the agricultural scientists and extension functionaries.

2. National Demonstration:-

- National Demonstration is a programme based on the concept of increasing the productivity per unit area and time by using proven agricultural technology.
- ICAR's National demonstration programme on major food crops was launched in 1964.
- The basic purpose of programme was to show the genetic production potentiality of new technology of major crops per unit of land and per unit of time and to encourage the farmers to adopt and popularize the technologies for accelerating production and improved cultivation practices.

Objective

The main objective of this programmes are

1. To demonstrate convincingly to farmers the production potentialities of a unit area of the land by using high yielding varieties of crops and adopting a multiple cropping programme with full package of practices such as balanced use of fertilisers and effective water management techniques.
2. To demonstrate use of implement for different operations and use of soil testing laboratories for use of balanced fertiliser doses.
3. To fully exploit these demonstrations for the purpose of training farmers in improved cultivation practices and to use them as recognized and effective audio visual aids for the flow of latest research technology and results to farmers.
4. To provide research workers a first hand knowledge of the problems faced by farmers in growing high yielding varieties and to identify the constraints limiting the crop production.
5. To minimize the time lag between the research generated and its application in field.

- At this juncture in 1965-66 the ministry of Agriculture, Government of India initiated a nationwide programme in which demonstrations are connected on farmer's fields.
- This was the beginning of National Demonstration project (NDP).
- Demonstrations under this project were carried out mainly by the scientists of the SAU's and ICAR institutes in neighboring villages.
- The scientists were required to demonstrate the potentiality of new seeds and package of practice on an area varying from 0.4 ha to 1.0 ha on farmers field single crop demonstration are carried out for crops like wheat, paddy, sorghum, pearl millet and maize.

3. Front Line Demonstration

- The field demonstrations conducted under the close supervision of scientists of the National Agriculture Research System are called front-line demonstrations
- Because the technologies are demonstrated for the first time by the scientists themselves before being fed into the main extension system of the State Department of Agriculture.
- "Seeing believes" is the main principle behind the demonstrations.
- The main objective is to demonstrate the production potentiality of improved package of various crops under the farmer's conditions and resources.

- The FLD's are conducted on various major crops of the district viz., sorghum, maize, pigeon pea, castor, paddy etc.
- The main emphasis was to introduce new crop genotypes along with improved practices and critical inputs which were new and hitherto not adopted by the farmers.

Roles of Front-Line Demonstration:

- Demonstrate the newly released production technologies on the farmers' fields.
- Exploit their maximum potential in a given farming system.
- Prepare technical leadership in the villages by imparting desired training.
- Organize the need based training programmes for subject matter specialists andυ farmers, after identification of problems.
- About 54,000 front line demonstrations were organized to demonstrate the production potential of newly released production technologies in 2009.

4. Krishi Vigyan Kendra (KVK)

- The KVK is designed to impart need based and skill oriented vocational training of the practicing farmers, in-service field level extension workers and those who wish to go in for self employment.
- The KVK project is sponsored by ICAR and implemented by the ICAR institutes, agricultural universities , selected voluntary organizations and some state department of Agriculture
- The ICAR, implemented KVK on the recommendation of 1973 headed by Dr. Mohan Singh Mehta committee .
- The first KVK was established in 1974 at Puducherry (Pondicherry) under the administrative control of the Tamil Nadu Agricultural University, Coimbatore.
- At present there are 668 KVKs, out of which 458 are under State Agricultural Universities (SAU) and Central Agricultural University (CAU), 55 under ICAR Institutes, 100 under NGOs, 35 under State Governments, and the remaining 17 under other educational institutions.
- The objective of KVK is to provide a strong training support for bringing about production breakthrough in agri. with some mandates ie. Specific responsibility to perform.

Mandate of KVK

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.

- Conduct on-farm testing for identifying technologies in terms of location specific sustainable land use systems.
- Conduct Frontline demonstrations to establish production potential of technologies on the farmers' fields
- Capacity development of farmers and extension personnel to update their knowledge and skills on modern agricultural technologies
- Organized short and long term vocational training courses in agriculture and allied vocations for farmers and rural youths.
- Provide farm advisories using ICT and other media means on varied subjects of interest to farmers.

In addition, KVK would 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 programmes within the mandate of KVK.

5. Technology Assessment and Refinement Programme

- In 1995, the ICAR launched this innovative programme.
- Introduce technological interventions with emphasis on stability and sustainability along with productivity of small-farm production systems;
- Introduce and integrate the appropriate technologies to sustain technological interventions and their integration to maintain productivity and profitability taking environmental issues into consideration in a comparatively well defined farm production system;
- Introduce and integrate the appropriate technologies to increase the agricultural productivity with marketable surplus in commercial on and off farm production system;

Capacity building of extension personnel and farmers

Meaning, Training and Education, Types of training, Training institutes in India, Concept of Human Resource Development

Meaning and Definition

Capacity Building can be defined as "activities which strengthen the knowledge, abilities, skills and behaviour of individuals and improve institutional structures and processes such that the organization can efficiently meet its mission and goals in a sustainable way.

Training is one of the components of capacity building.

Training:- Training is a process by which an individual's efficiency and effectiveness in the given context of a job can maximized.

Training is the education to person so as to become proficient, qualified and fitted for doing the skills.

Training is the process of acquiring specific skills to perform a job better.

The process of aiding employees to gain effectiveness in their presence or future work through the development of appropriate habits of thought and action, skills, knowledge and attitude.

Types of Training:

1. **Pre-Service Training:** It is type of training which is given to the individual prior joining the job. It prepares the person for the job which he is going to join.
2. **Orientation Training:** It is the type of training which is given to employee soon after joining the job to make them to know about the philosophy, activities, code of conduct of an organization.
3. **In- Service Training:** In-service training it is given to the individual during his job to make him up to date and for improving his abilities. It includes all types of training given all phases of job.
4. **In- House Training:** In house training it is the type of training which is organized within the organization to develop employee.
5. **Out Door Training:** It is opposite of classroom training. Outdoor training is an opportunity to organize training that call for physical involvement outside classroom to give a sense of reality. It also helps to deduce lessons out of immediate experience.

6. Conventional Training: In this type of training trainer planed and implement the training without the involvement of participants in planning and implementation, participants only have to learn through the training.

7. Experiential Training: In this training trainer organizes experiences for trainees so they can learn things by experiencing them. Trainer facilitates trainees to involve 76 themselves in and learn from these experiences. The trainer and trainees together decides the objectives and other elements of training.

8. Participatory Training: Participatory training is born out of the understanding that knowledge does not belong to one person and cannot be transferred. Learning calls for action, experience, reflection and exchange. Unlike conventional training, trainer act as coordinator to facilitate discussion exchange and problem solving through mutual decisions. Open, interactive, inviting learning atmosphere is created to learn through co-operation and self- initiative.

9. Co-Training / Team Training: It is type of training in which two or more trainers plan conduct and evaluate training together. Since training alone is quite taxing and leaves no room to attend to the process of training. In order to teach through media or group method team of trainers share roles and support each other harmoniously. This helps in creating variety of interaction and getting feedback.

10. Management Development Training: It is an attempt to improve current and future managerial performance by imparting knowledge changing attitudes or increasing skills. It includes in-house programmes like courses coaching, rotational assignment, seminars, executive MBA programmes, etc.

11. Sensitivity Training / T-Group: Sensitivity training aims to increase participants‟ insight into his or her behaviour and behaviour of others by an open expression of feelings lead by specially trained trainers. Known by different terms such as L group or T group, it basically sensitizes the participant about behaviour of self, others and interpersonal relationships.

12. On-the-job Training: On the job training refers to methods of training used to develop employers while on the job through job-rotation (assigning different department), mentoring (coaching /understudy) action, learning, etc.

TRAINING PROCESS:- Training has been conceived as a process of three phases, viz. pre-training, training and post-training.

Pre-training:- This is preparatory phase prior to actual training. It involves planning of training.

The considerations like date and place of training, providing teaching aids and required facilities at the place of training etc. are important aspects of preparation for training. A training organisation has to assess individual need for training and decide appropriate course content as well as methods. Arrangements to select participants, inform about course details and make necessary preparation are completed during this phase.

Training:- The actual implementation of training is done in this phase according to plan drawn before. There are many different activities executed simultaneously like reception of trainees, lodging and boarding, organisation of instruction, field trip and monitoring. Due care needs to be taken to create a relaxed atmosphere for the participants to interact freely and practice new skills. The group interactive exercise and methods of training like buzz group, workshop, role-play and simulation games increase the participation of trainees. A good rapport with participants, personal attention and feedback ensure interests and enthusiasm of participants.

Post-training:- Training does not really end with a course. Post-training test, measurement of impact and follow-up of participants at work place are important elements of good training. Good organisations prepare report and put efforts to bring improvements in training on the basis of evaluation.

Training of Extension Personnel: Extension personnel are links between organizations and farmers. Therefore quality of this human resource must be upgraded to manage extension service more effectively in changing times. Agricultural development in present era of globalization calls for urgent attention on developing abilities of extension personnel not only in latest technologies of agriculture but also in management and communication. In India there have been tremendous changes in economic policies, technologies and nature of extension programmes. The challenges before extension are enormous keeping in view the regional imbalances in agricultural production, large number of small, marginal farmers, fragile natural resources and need for value added quality agricultural products for exports. This was amply emphasized under World Bank support Training & Visit System in which systematic efforts had been made to enhance quality of training, rewards and facilities for enhancing productivity. No doubt the country has benefitted from the systems and effort has been made to strengthen training quality and infrastructure in the country.

Village Extension Workers: People in this category

1. Make regular and systematic visit to village and farm to develop rapport with clientele and to understand their problems;
2. Undertake educational activities in the form of meetings, campaigns, demonstration, field days, training sessions, and exhibitions; and
3. Provide advisory services to farmers and solve their production problems.
4. They must require knowledge and skills in general agriculture and as well as in general aspects of agricultural development such as credit, input supply and marketing.

Subject-Matter Specialists: There role is to

1. Keep abreast of current recommendations and findings related to farm production by maintaining continuous contact with agricultural research stations;
2. provide feedback to the research system about farmers‟ problems which need solutions; and
3. Train and backstop village extension workers on the latest farm technology and help them in solving field problems.
4. They are in touch with researches carried out in State Agricultural Universities, and demonstrate technologies.
5. Thus, they should be sound in technical, managerial and communication skill strain field staff.

Supervisory Staff or Extension Officers: People holding these positions

1. Plan, organize, coordinate and implement extension programmes and activities
2. Supervise and monitor the work of field staff, providing guidance, motivation and evaluation of performance; and
3. Coordinate the programme with inter and interdepartmental agencies.
4. Thus they have to play leadership roles, their training should include more of conceptual and managerial contents focus on their job responsibilities.

Farmers and Rural Youth:

- There is a regular farmer training programme in all agricultural universities.
- There are training centers for young farmers. In some states, they also arrange short courses for the farmers.
- The training includes crop raising, animal feeding and management, plant protection.

For such training the following points should be considered.

1. **Time of holding the training:** It should be at the convenience of the farmers i.e., when they are comparatively free from such of the agricultural operations. This will differ 78 according to the seasons and climate. In case A.P., March to May for Kharif crop and August to September for rabi crop is ideal time for conducting training courses in Agriculture.

2. **Duration of course:** For farmers who are engaged in farming, a one week course is sufficient for special topics such as use of irrigation facilities and water management, operation of implements and plant protection etc, it may be of two or three days duration.

3. **Venue of course:** Besides physical facilities, the appropriate environment under which the course is to be conducted i.e, where the farmers car see the actual crop, method demonstrations, operations with some machines and implements or some treatments such as fertilizer application, venue has to be given due considerations.

4. **Production cum demonstration camps and discussion groups of the farmers:** These should be arranged in the villages because the farmers cannot afford to remain away from their farms and homes. These should be organized before each main crop. The duration should be 1-2 days only, and the trainees or participants should be from the same village or groups of nearby villages, so that the farmers can walk back to their home the same evening. This will provide technical knowledge to the farmers right in their villages, and the topics can be related to their local problems.

Farmer Training Organizations:

1. **State Agricultural Universities:** The main extension activities of the central autonomous Indian Council for Agricultural Research (ICAR) are achieved through the 40 Agriculture Technology Information Centres (ATICs) and 569 district-level Krishi Vigyan Kendras (KVKs), or farm science centers. Additionally, each state has a state agricultural university (SAU), which provides extension and training activities through the Directorate of Extension and Education but activities and organizational setup differ widely by state.

2. **Farmers Training Centres (FTCS):** Started in the hey days of 1960s, in the wake of new agricultural strategies these FTCs were meant to be the grassroots training institutions to train farmers in the knowledge and skill about new agricultural technologies. Arrangements had also been made for peripetic team of trainers to go from village to village.

3. **Krishi Vigyan Kendra (Farm Science Centres):** Indian Council of Agricultural Research hit upon a novel idea in 1976 to initiate grassroots training institution to impart need-based skill-oriented systematic training to farmers, farmwomen, youth and grass roots extension functionaries. The plan is a foot to make at least one KVK in each district of the country. The KVKs boost boast of highly trained experts, adequate training infrastructure and technical back stopping by academic / research institutions.

Concept of HRD:-

According to **M.M. Khan,** "Human resource development is the across of increasing knowledge, capabilities and positive work attitudes of all people working at all levels in a business undertaking."

Human resource development in the organisation context is a process by which the employees of an organisation are helped, in a continuous and planned way to:

1. Acquire or sharpen capabilities required to perform various functions associated with their present or expected future roles;
2. Develop their general capabilities as individuals and discover and exploit their own inner potentials for their own and/or organisational development purposes; and
3. Develop an organisational culture in which supervisor-subordinate relationships, teamwork and collaboration among sub-units are strong and contribute to the professional well being, motivation and pride of employees.

Communication:

Meaning and definition; elements, selected models and barriers to communication

ORIGIN

The word 'communication' comes from the Latin word *communis*, meaning common. This implies that when we communicate, we are trying to establish 'commonality' with someone through a message. Communication then, is a conscious attempt to establish commonality over some idea, fact, feelings and the like, with others. In essence, it is a process of getting a source and a receiver tuned together for a particular message or a series of messages.

DEFINING COMMUNICATION

Definitions of communication are many. But a few selected ones are given :

1. Communication is anything that conveys meaning, that carries a message from one person to another (Brooker, 1949).
2. Communication is all of the procedures, by which our mind can affect another (Weaver, 1966).
3. Communication is the mutual interchange of ideas by any effective means (Thayer, 1968).
4. Communication may be defined as a process by which an individual - the communicator, transmits (usually verbal symbols) to modify the behaviour of other individuals - communicatees (Hovland, 1964).
5. Communication is a process by which two or more people exchange ideas, facts, feelings, or impression in ways that each gains a common understanding of meaning, intent and use of message (Leagans, 1961).
6. Communication is the process by which messages are transferred from a source to receiver (Rogers and Shoemaker, 1971).
7. Communication is the process of sending and receiving messages through channels which establishes common meanings between a source and a receiver (Van den Ban and Hawkins, 1988).

Most of these definitions imply involvement of the actors over a message or content, some sort of interaction, by some commonly understood means, and with some effect. Analysis has also shown that several elements are involved in a communication encounter. Because of our interest in technology transfer, we can define communication as a process by which extension workers individually, in a group or through a medium, exchange attitudes and share knowledge

and / or skills on behalf of an organization with farmers/ farm women, through such a ways that each gains comprehension, understanding and use of the message.

Communication is usually thought of as taking place by means of verbal symbols but a socio-psychological analysis requires that attention be paid to the full range of symbols that may be used by human beings, including gestures, tone, facial expressions, drumbeats, telegraphic click, flags, smoke signals, colour, size, distance etc.

Models of communication

1 Aristotle's model

According to Aristotle, communication has three ingredients

1. Speaker – the person who speaks
2. Speech – the speech that the individual produces
3. Audience – the person who listens

Speaker ⟶ Speech ⟶ Audience

2 Shannon- Weaver's model

The Shannon-weaver (1949) model is consistent with Aristotle's proposition. According to them, the ingredients of communication are:

1. Source
2. Transmitter
3. Signal
4. Receiver
5. Destination

Source ⟶ Transmitter ⟶ Signal ⟶ Receiver ⟶ Destination

3 Berlo's model

According to Berlo (1960) the model of communication consists of

1. Source
2. Encoder
3. Message
4. Channel
5. Decoder
6. Receiver

Source ⟶ Encoder ⟶ Message ⟶ Channel ⟶ Decoder ⟶ Receiver

4 Schramm's model

According to Schramm (1961), the communication process involves –

1. Source
2. Encoder
3. Signal
4. Decoder
5. Destination

Source ⟶ Encoder ⟶ Signal ⟶ Decoder ⟶ Destination

5 Leagan's model

The communication model forwarded by Leagans (1963) has the following elements-

1. Communicator
2. Message
3. Channel
4. Treatment
5. Audience
6. Response

Communicator ⟶ Message ⟶ Channel ⟶ Treatment ⟶ Audience ⟶ Response

6 Rogers and shoemaker's model

Rogers and shoemaker (1971) thought of the communication process in terms of the S-M-C-R-E model, the components of which are –

1. Source
2. Message
3. Channel
4. Receiver
5. Effects

Source ⟶ Message ⟶ Channel ⟶ Receiver ⟶ Effects

ELEMENTS OF COMMUNICATION PROCESS

Successful communication involves six key elements: a skillful ***communicator*** sending a useful ***message*** through proper ***channels*** effectively ***treated*** to an appropriate ***audience*** to evoke the desired ***response***.

1. The Communicator

This is the person who starts the process of communication in operation. He is the source or originator of messages. He is the first to give expression to messages intended to reach an audience in a manner that results in correct interpretation and desirable response. The communicator may be a Village Development Officer, a Principal or an Instructor in a Training Centre, a Block Development Officer, a villager, an administrator or any other person. In order to be effective the communicator should possess the following characteristics.

1. He should have knowledge of message, objective and the audience.
2. People should have faith on the communicator.
3. He should have interest in his audience and their welfare.
4. He should select and treat the message properly.
5. He prepare a plan for communication
6. He knows how to organize his message.
7. His language and cultural compatibility should be in the line with the receiver.
8. He should have positive attitude towards the message and the audience.

2. Message

A message is the information a communicator wishes his audience to receive, understand, accept and act upon. Messages, for example, may consist of statements of scientific facts about agriculture, sanitation or nutrition; description of action being taken by individuals, groups or committees; reasons why certain kinds of action should be taken; or steps necessary in taking given kinds of action. The key objective of communication is to transmit useful message so that all receivers understand clearly and successfully. A good message should have the following characteristics.

1. In line with the objectives to be attained.
2. Clear and understandable by the audience.
3. In line with mental, socio-economic and physical capabilities of the audience
4. Related to economic and social needs, interests and values of the audience.
5. Specific, factual, correct and no irrelevant material should be included.
6. Appropriate to the channel selected.
7. Relevant to the audience.
8. Cover only one point at a time.

3. Channels of Communication

Channels are the physical bridges between the sender and the receiver of messages - the avenues between a communicator and an audience on which messages travel to and fro. They are the transmission lines used for carrying messages to their destination. Thus, the channels serve as essential tools of the communicator.

A channel may be anything used by a sender of message to connect him with intended receivers. The crucial point is that he must get in contact with his audience. The message must get through. Common channels of communication in the extension situation are the 'Extension Teaching Methods'. Certain characteristics of channels are identified and are delineated below.

1. It specifies the direction of message flow
2. It gives the message accuracy. Low (in interpersonal) and high (in mass media)
3. It selects the recipient depending upon the channel
4. It produces feedback to the sender of the message
5. It overcomes the selectivity processes
6. It is capable of bringing desirable effects as the part of the audience.

4. Treatment of Messages

It is the way of handling the message in such a way that the treated message be sent over the channels with the maximum probability of reaching the destination effectively. It relates to the techniques or details of procedure or manner of performance essential to have expertise in presenting the message. Hence treatment deals with the design of method for presenting the message.

The purpose of the treatment of message is to make the message clear, understandable and realistic to the audience. It usually requires original thinking, deep insight into the principle of human behaviour and skill in creating and using refined techniques of message presentation. At this point, the effective teacher is separated from the less effective one, and the art of teaching comes into play. The message should be treated in the following manner.

a. Method of general organization

1. Repetition of ideas and concepts.
2. Contrast of ideas (positive and negative things).
3. Chronological – compared to logical and psychological.
4. Presenting one side compared to two sides of an issue.

5. Emotional compared to logical appeals.

6. Starting with strong arguments compared to saving them until the end of presentation.

7. Let the audience draw the conclusion.

b. Use of symbols, variation and devices for presenting the ideas.

c. Message should be treated by giving quotation, jokes and contrary against the common opinion during the communication process.

5. The Audience

An audience is the intended receiver of messages. It is the consumer of messages.

An audience may consist of one person or many. It may comprise men, women, or both; youth groups, villagers or their leaders. An audience may be formed according to occupation groups as farmers or artisans; professional groups, as engineers, educators, administrators etc.

The more homogenous an audience, the greater the chances of successful communication. Likewise, the more a communicator knows about his audience and can pinpoint its characteristics the more likely he is to make an impact.

Communication to be successful, must be target oriented. The communicator must know the target, their needs, interests, resources, facilities, constraints and even their approximate number and location. Following specified aspects will help a communicator to clarify the exact nature of an audience and how to reach it.

1. Communication channels established by the social organization.

2. The system of values held by the audience.

3. Individual personality factors.

4. Original and acquired abilities.

5. Educational, social and economic levels.

6. Attitude of the audience.

7. How the audience view the situation.

6. Audience Response

Response by an audience to messages received is in the form of some kind of action to some degree, mentally or physically. Action, therefore, should be viewed as a product, not as a process; it should be dealt with as an end, not as a means.

1. Mass communication intensifies propaganda conflicts

2. Much available information is imperfectly absorbed

3. Lack of primary experience affects communication
4. Communication builds on existing attitudes
5. Mass communication increases the communality of experience
6. Communication devices have the ability for thought control
7. Books, Newspapers, Magazines, Leaflets have effects like instrumental, prestige, reinforcement, enriched aesthetic experience and respite.
8. Cultural values and the social organisation are determinants of communication.

Barriers of Communication

Barriers of communication can be classified under broad headings as follows

a. Relating to communicator

1. In-effective environment
2. Unorganized efforts to communicate
3. Standard of correctness
4. Standard of social responsibility
5. Cultural values and social organisations
6. Incorrect concept of communication process

b. Relating to the transmission of message

1. Incorrect handling of the channels
2. Wrong selection of channels
3. Physical distraction
4. Use of inadequate channels in Parallel

c. Relating to receiver

1. Attention of the listeners
2. Problems of cooperation, participation and involvement
3. Problem of homogeneity
4. Attitude of the audience towards the communicator

Agriculture journalism:

Meaning, definitions, news writing

AGRICULTURAL JOURNALISM

MEANING

Agricultural Journalism is the task of collecting, writing, editing and publishing agricultural information, scientific facts, agricultural technology events or agricultural news through newspaper, magazine, radio and television or any media of communication.

It will be seen that agricultural journalism is a profession of writing and framing news for newspaper. Therefore, in this job it is necessary to collect news from various sources like research, publications, events in agriculture sector etc. After collection of the news, it is to be edited and published in some communication media so that it will reach the intended audience. This audience may be farmers, traders, extension workers, policy makers, planners etc. Sometimes the reporter may present the news by discovering it in the interest of the public.

SCOPE AND IMPORTANCE

In the modern age there is a need to inform millions of people quickly and accurately about scientific, technical and recent developments. The popular publications are showing desire to publish news of interest of the people. One can develop his ability to get information and write for the people. The scope for news writing is increasing day-by-day. The knowledge (past and present) of the people will be increased by journalism.

The agricultural journalism will help in spreading technical knowledge. This knowledge will help in increasing agricultural production, irrigation facilities, drinking water facilities, public health and sanitation, increase and development of rural industries, spread of education, communication, animal husbandry, child welfare, youth and women welfare work. By developing these areas good and well developed community can be created.

There is large population in India which is unemployed. New knowledge and technology can help in solving this problem and increasing per capita income. With agriculture cottage and small industries can also flourish.

There is need to increase the productivity by the use of modern techniques and methods. This will improve the economic conditions of the people. The cultural development can be brought out by removing the old outdated customs and traditions. New thinking in line with the

modern trends is necessary. In order to maintain good health, balanced diet, cleanliness etc. people need to be educated.

In order to bring development in the above areas communication media can play important role. There is great scope for agricultural journalism in bringing these new technologies to the attention of the farmers. They can write and publish material for changing the insight of the people. Thus agricultural journalism will help in educating the people and boosting the development of the area. Publicity to the development programmes will help in increasing participation of the people.

NEWS

NEWS

News is any timely information that interests a number of persons. The news is an account of a current idea, event or problem that interests people.

The news is a new thing or publication of a recent event.

It is an accurate, unbiased account of the main facts of a current event that is of interest to the readers of a news paper. The event may be old but should not have been reported earlier. The news should be of interest and important from the point of view of farmers. If the news is close to the local farmers then it is read with great interest. The technical words may be avoided or explained in simple language.

SOURCES

The very conduct of extension teaching generates news and good news material is available always. Some of the sources of news material are result of demonstration, review of research publications, accomplishment of farmers, account of meetings etc.

TYPES

There are different kinds of news stories. According to their nature and character, they can be classified as follows.

a) **Hard news :** These are general in nature. Some can be breaking news. These are news items that require immediate publication. These cannot wait. e.g. Accident news

b) **Soft news :** These are light stories. They are not urgent news stories. But soft stories can make interesting reading. Readers like such stories. These can be about a person, an event or about a developing situation. e.g. Science &Tech. Development news

c) Features: These are detailed, in-depth stories. In newspapers, they are carried in the magazine section.

d) Profiles of Newsmakers: These are generally about people in the news. Readers may not be aware of such persons. So through their profiles, they are introduced.

e) Human interest : These are often stories about the plight of individuals or families. eg. When tsunami waves struck the coastal areas, there were touching stories about people who lost their near and dear ones, houses etc.

f) Backgrounders: If a major event happens, readers are curious to know whether there is any precedent or background to that. In other words, they are eager to know the history of such incidents. Backgrounders provide such information.

ADVANTAGES

1. Low cost.
2. Large coverage in short time.
3. Efficient source of timely information.
4. Carries the prestige and confidence of the printed word.
5. Reinforcing effect on the other extension methods.

LIMITATIONS

1. Of no value if people are illiterate or do not read a newspaper.
2. Difficult to check the results.
3. Requires special training to write good article.

Diffusion and adoption of innovation:

Concept and meaning, Attributes of innovation, Innovation decision process, adopter categories.

DIFFUSION AND ADOPTION OF INNOVATION

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 process by which innovations are spread to the members of social system. In this process new ideas are spread from its source of invention or creation to its ultimate users or adopters. Diffusion is a special type of communication. It is concern with new ideas or messages, whereas communication includes all type of message or ideas.

INNOVATION

Innovation is an idea, practice, or object perceived as new by an individual.

If the idea seems new to the individual, it is an innovation. Newness of an innovation may be expressed in terms of knowledge, persuasion or a decision to adopt. The technologies, practices developed through research are innovations.

ADOPTION

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

Adoption is the use of new idea continuously on a full scale.

Adoption is essentially a decision making process. Decision making is a process which may be divided into a sequence of stages with a distinct type of activity occurring during each stage. Similarly, the way in which individual adopts an innovation is viewed by most researchers as a process, a series of related events in a time sequence.

Attributes of innovation:-

Attributes are qualities, characteristics or traits possed by an object. An innovation has some qualities or characteristics. It is not the intrinsic quality, but the quality of character of the innovations as people see to them.

1. **Relative Advantage**: *This is the degree to which an innovation is perceived as better than the idea it supersedes.* The innovations which have more relative advantage are likely to be adopted speed.

The relative advantage may have a number of dimensions. For example, if a new technology or practice gives more yield or income' or saves time, labour and cost; or has less risk than the existing one; it has more relative advantage. Multiple use of an innovation may be a form of relative advantage. For example, an equipment or material which may be used for a number of activities has more advantage than an equipment or material which can be used for a single purpose. The advantage of location for specific enterprises in specific areas may provide some relative advantage. The innovations which have more relative advantage are likely to be adopted quickly.

2. **Compatibility**: *This is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters*. **Compatibility has at least two dimensions – situational compatibility and cultural compatibility. When a new crop variety suits the agro climatic condition of the farmer, it indicates situational compatibility. When a breed of livestock advocated to the farmer is in agreement with their beliefs and values, it is cultural compatibility. The name given to an innovation may affect its compatibility. Compatibility of an innovation is essential for its adoption**

3. **Complexity**: *This is the degree to which an innovation is perceived as difficult to understand and use.* **An innovation should, as far as possible, be less complex for the farmers to understand and use. However, complexity of an innovation may not deter its adoption, provided it has more relative advantage. For example, many of the high yielding technologies like HYV crops, crossbred cattle, composite fish culture etc., are quite complex. Still, their diffusion have been quite high, which may be due to their high relative advantage in terms of more yield and income and shorter gestation period. Complex technologies often require complementary adoption. For example, adoption of high yielding technologies**

require adoption of balanced nutrition practices, appropriate protection technology and better management methods, to get the best results. Complex technologies, because of their complicated and intricate nature, require consistent training and communication support for the clientele, for their adoption and continued use.

4. **Trialability**: *This is the degree to which an innovation may be experimented with on a limited basis.* **Adoption of new seeds and fertilizers are more, compared to new farm machinery, simply because seeds and fertilizers may be purchased in small units and tried, whereas, purchase of farm machinery, requires large investment and cannot be tried in parts. The minikit demonstrations have helped in spreading the cultivation of high yielding variety crops as this method involves small scale trial by the farmers. Earlier adopters appear to be more concerned about the trialability of an innovation than later adopters.**

5. Observability: *This is the degree to which the results of an innovation are visible to others.* **The visible impact of an innovation facilitates its diffusion in the social system. For example, application of balanced fertilizer in crop plants has almost always been recommended to the farmers. In practice, farmers generally use more of nitrogenous fertilizers. It is because, the effect of nitrogenous fertilizer is very obvious in the eyes of the farmers – the plants "jump" the leaves turn green, whereas, the effects of phosphatic and potassic fertilizers are not so evident. Understanding the beneficial effects of balanced fertilization by the farmers, which is more profitable in the long run, requires high level comprehension, which may be brought about by intensive training and communication.**

6. Predictability ***refers to the degree of certainty of receiving expected benefits from the adoption of an innovation.***

Disease control has two aspects-preventive and curative. Preventive innovations in disease control are generally less costly than the curative innovations, but the results of preventive innovations are not so obvious, compared to those of the curative innovations. That is why technologies like treatment of seeds; preventive vaccinations etc. have been less adopted. Treatment of seed potato has, however, very high rate of diffusion, because

preventing disease in
this high investment crop brings higher return, i.e., has high relative advantage. Predictability has also been perceived as an attribute of innovations (Napier, 1991).
Subsistence farmers are often very cautious while making adoption decisions, because crop failure or substantial reduction in output due to failure of agricultural innovations to
achieve expected production goals, can result in loss of meager landholdings and starvation of the family.

It may be generalized that the attributes - relative advantage, compatibility, trialability,
observability and predictability **of an innovation, as perceived by the members of a social system** are positively related **to its rate of adoption. The** complexity **of an innovation, as perceived by the members of a social system, is** negatively related **to its rate of adoption.**

STAGES IN ADOPTION PROCESS

Five stages of adoption identified by the North Central Rural Sociology Sub Committee for the study of Diffusion of Farm practices (1955) are widely accepted and received worldwide attention. The five stages of adoption process are:

(1) Awareness (2) Interest (3) Evaluation (4) Trial (5) Adoption

They also indicated that adoption of an innovation by the farmers is not an instantaneous act. It is a process that occurs over a period of time and consists of a series of actions.

Let us look at how a farmer does at each stage and passes through one stage to another over a period of time.

1. Awareness Stage

This is the starting stage wherein the farmer comes to know the existence of the new idea but he doesn't have full information about the idea.

At this stage farmer is aware of the idea, but lacks detailed information about it. For instance, the farmers may know SRI cultivation in Rice only the name and may not know what

(SRI) is, what it will do and how it will work.

2. Interest Stage

The farmer develops interest in the innovation and seeks additional information about it either from extension officer or from fellow farmers or from any source, which he feels credible. That means the farmer at the interest stage acquires more information about an innovation or idea. Farmer wants to know, what the innovation/idea is, how it works and what its potentialities are.

3. Evaluation Stage

The farmer here makes mental application of the new idea in the present and anticipated future situations and decides whether or not to try it. The farmer at this stage judges the utility of the innovation. He/she makes an assessment whether the idea is applicable to own situation and if applied what would be the result. For instance, the farmer after hearing to SRI (System of Rice Intensification)cultivation in Rice and acquiring more information at the interest stage what are the components and how they improve yield and save water, he/she mentally judge whether SRI cultivation improves rice yields if adopted.

4. Trial Stage

You are aware that at the first instance, the farmers may not take up any new idea & an innovation right away on a large scale because he/she doesn't want to take risk even though the potential of the idea has been proved. The farmer actually applies the new idea on a small scale in order to determine its utility or feasibility & applicability in own situation. Even though, the farmer takes a decision to try the idea by virtue of its plus points or merits, generally the effectiveness of the idea is tested taking this as small scale trials in their own field standards, even though farmers has thought about it for longtime and gathered information concerning it.

5. Adoption Stages

Being satisfied with the performance of the new idea tested on small scale in his own situation, the farmer uses the new idea continuously on a full scale. Trial may be considered as the practical evaluation of an innovation. The innovation becomes a part of his normal farming activity. It provides the advantage of the innovation and hence the farmer takes final decision and applies the innovation in a scale appropriate to own situation on a continued basis.

INNOVATION-DECISION PROCESS

The Innovation - Decision process is the process through an individual (or other decision

making unit) passes (1) from first knowledge of an innovation, (2) to forming an attitude toward the innovation, (3) to a decision to adopt or reject, (4) to implementation of the new idea, and (5) to confirmation of this decision.

This process consists of series of actions and choices over time through which an individual or an organization evaluates a new idea and decides whether or not to incorporate the new idea into the ongoing practice. The innovation-decision is a special type of decision-making; it has certain characteristics not found in other kinds of decision-making situations. In the case of the adoption of an innovation, an individual must choose a new alternative over those previously in existence.

Stages in Innovation-Decision process

1. Knowledge Stage

Innovation-decision process begins with knowledge stage, which commences when the farmer is exposed to the innovation's existence and gains some understanding of how it functions.

The innovation-decision process is essentially an information-seeking and information – processing activity in which the individual is motivated to reduce uncertainty about the advantages and disadvantages of an innovation. The individual wishes to understand the innovation, and give meaning to it. A need can motivate an individual to seek information about an innovation and the knowledge of an innovation may develop the need.

2. Persuasion Stage

At the persuasion stage in the innovation-decision process, the individual forms a favourable or unfavourable attitude towards the innovation.

Whereas the mental activity at the knowledge stage was mainly cognitive (or knowing), the main type of thinking at the persuasion stage is affecting (or feeling). Until the individual knows about a new idea, of course, he cannot begin to form an attitude toward it.

At the persuasion stage the individual becomes more psychologically involved with the innovation. Now he actively seeks information about the idea. His personality as well as the norms of his social system may affect where he seeks information, what messages he receives, and how he interprets the information he received. Thus, selective perception is important in determining the receiver's communication behaviour at the attitude formation stage. For it is at the persuasion stage that a general perception of the innovation is developed. Such perceived

attributes of an innovation as its relative advantage, compatibility, and complexity are especially important at this stage.

In developing a favourable or unfavourable attitude toward the innovation, the individual may mentally apply the new idea to his present or anticipated future situation before deciding whether or not to try it. This might be thought of as a vicarious trial.

3. Decision Stage

At the decision stage in innovation-decision process, the individual engages in activities which lead to a choice to adopt or reject the innovation.

The individual puts the innovation to a small scale trial in own situation. Considering the relative advantage, risk involved and many factors like availability of market, need for the family etc. the individual takes a decision to adopt or reject the innovation.

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

Rejection is a decision not to adopt an innovation.

Innovations, which can be divided for trial use, are generally adopted more rapidly. Most farmers who try an innovation then move to an adoption decision, if the innovation has a certain degree of relative advantage.

4. Implementation Stage

Implementation occurs when an individual (or other decision making unit) puts an innovation into use.

Until the implementation stage, the innovation-decision process has been a strictly mental exercise. But implementation involves overt behaviour change, as the new idea is actually put into practice.

At this stage the individual is generally concerned with where to get the innovation, how to use it and what operational problems will be faced and how these could be solved. Implementation may involve changes in management of the enterprise and/or modification in the innovation, to suit more closely to the specific needs of the particular person who adopts it.

5. Confirmation Stage

At the confirmation stage the individual (or some decision making unit) seeks reinforcement of the innovation-decision already made or reverse a previous decision to adopt or reject the innovation if exposed to conflicting message about the innovation.

Most of the researchers indicated that a decision to adopt or reject is not the terminal stage in the innovation-decision process. Human mind is in a dynamic state and an individual constantly evaluates the situation. If the individual perceives that the innovation is consistently giving satisfactory or unsatisfactory results the person may continue to adopt or reject the innovation as the case may be. At the confirmation function the individual seeks reinforcement for the innovation-decision he has made, but he may reverse his previous decision if exposed to conflicting message about the innovation. The confirmation stage continues after the decision to adopt or reject for an indefinite period in time. Throughout the confirmation function the individual seeks to avoid a state of internal disequilibrium or dissonance or to reduce it if it occurs.

Farmer seeks to accomplish it by changing his knowledge, attitude or actions.

Rejection is decision not to adopt an innovation. This may be of two types, active rejection and passive rejection. When a farmer rejects after adopting the innovation including even its trial is called Active Rejection and simply non- adoption is called Passive Rejection.

ADOPTER CATEGORIES

There are different categories of farmers. According to Rogers (1971), the farmers based on their innovativeness can be classified as

1. Innovators (Venturesome)
2. Early adopters (Respectable)
3. Early majority (Deliberate)
4. Late majority (Skeptical)
5. Laggards (Traditional)

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 when they first begin using a new idea. In technology transfer programme, it is of great practical utility for the extension workers to identify the individuals who are likely to adopt innovations early and who may lag behind. The adoption of an innovation over time follows a normal, bell-shaped curve when plotted over time on frequency basis.

Characteristics of adopter categories

The detailed information on the characteristics of adopter categories is presented below

1. Innovators: (Venturesome)

a) Have larger farms.
b) High net worth and risk capital.
c) Willing to take risks.
d) Usually not past middle age
e) Generally well educated
f) Have respect and prestige in progressive communities but not in conservative type of communities.
g) Mentally alert and actively seeking new ideas.
h) They have many formal and informal contacts outside the immediate locality.
i) They often by-pass the local extension worker in getting information from the originating sources, and may learn about new things even before he does. They sometimes manage to get samples of seeds or chemicals even before they are released for public use.
j) They subscribe to many farm magazines and specialised publications.
k) Other farmers may watch the innovators and know what they are doing but the innovators are not generally named by other farmers as "neighbours and friends" to whom they go for information.

2. Early Adopter: (Respectable)

a) Younger than those who have a slower adoption rate, but not necessarily younger than the innovators
b) They are quickest to use tried ideas in their own situations.
c) Have large farms.
d) Higher education than those who adopt more slowly.
e) High income.
f) They participate more in the social activities of the community.
g) They also participate more in government programmes.
h) This group usually furnishes a disproportionate amount of the formal leadership (elected positions) in the community.
i) They read papers and farm journals and receive more bulletins than people who adopt later.
j) They may be regarded as community adoption leaders.

3. Early Majority: (**Deliberate**)

a) Slightly above average in age, education and farming experience.

b) They take a few more farm journals and bulletins than the average.

c) They have medium high social and economic status.

d) Less active in formal groups than early adopters, but more active than those adopting later.

e) In many cases, they are not formal leaders in the association

f) They also attend extension meetings and farm demonstrations.

g) They are most likely to be informal resources than early adopters and innovators, and so cannot afford to make hasty or poor decisions.

h) They associate mainly with people of their own community.

i) They value highly the opinions their neighbours and friends hold about them; for this is their main source of status and prestige.

j) They are mostly mentioned as "neighbours and friends"

k) Limited resources

4. Late Majority: (Skeptical)

a) Adopt new ideas just after the average members.

b) Those in this group have less education and are older than the early majority.

c) They participate less in formal groups.

d) They take fewer leadership roles than the earlier adopters.

e) They take and read fewer papers, magazines and bulletins, than the early majority.

f) They do not participate in as many activities outside the community as do people that adopt earlier.

5. Laggards: (Traditional)

a) Least education.

b) Oldest.

c) Participate least in formal organisations, cooperatives and government programmes.

d) They hardly read farm magazines and bulletins.

e) Most localite.

f) Do not have opinion leadership.

g) Resource-poor people.

h) Little land holding.

i) Live in disadvantaged area and having least urban influence.

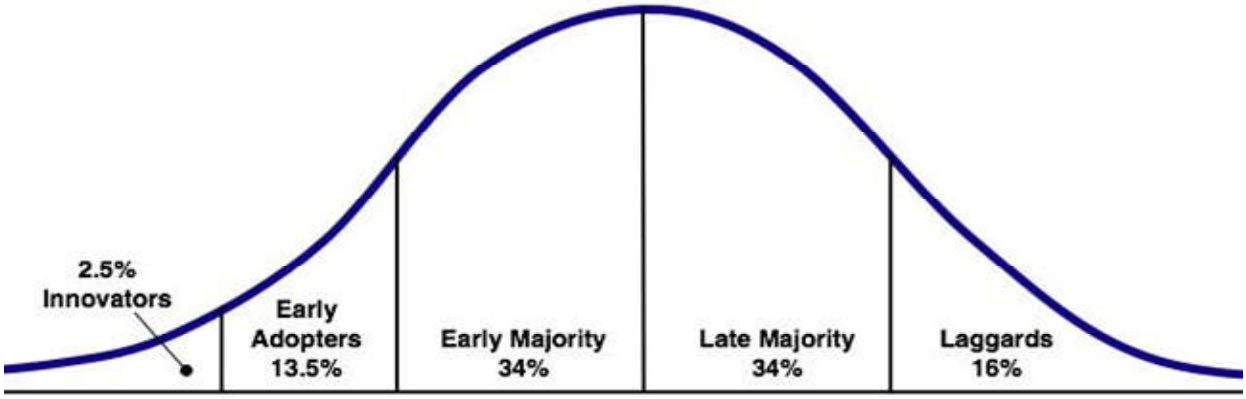


Fig. Adopter categories on the basis of Innovativeness

FACTORS INFLUENCING ADOPTION PROCESS

Broadly, the factors influencing the adoption of innovations can be discussed under the following subheads.

1. Personal

Why some people adopt new ideas and practices more quickly than others relates in part to the characteristics of individual himself.

a. Age:

Elderly farmers seem to be somewhat less inclined to adopt new practices than younger ones. (However, the findings of several Indian studies do not support the existence of a negative relationship between the age and adoption)

b. Education:

More than eight years schooling is almost always associated with higher adoption rates than lesser amounts.

c. Psychological characteristics:

i) Exposure to reliable sources of farm information may create a state of rationality which in turn predisposes an individual to the adoption of new practices

ii) A mentally flexible person has higher adoption rates than one with mental rigidity.

iii) Some people are found to be more prone to change than others

d. Values and attitudes (cultural characteristics):

i) Values found to be positively related to farm practice adoption rates are: a desire by farmers to provide a high school or college education for their children, a high emphasis on science and material comfort, and also wide contacts within and beyond the community.

ii) A high emphasis on traditionalism, isolationism, and security (e.g., owning farm free of debt) has been found to be negatively associated with adoption of improved practices.

2. Situational

Reasons why farmers adopt farm practices more quickly at one time than another relate to the situation in which they find themselves when alternative course of action becomes known.

I . The nature of the practice: The speed with which adoption will take place is partly dependent on the nature of practice itself.

A) Complexity:

Generally speaking, the more complex a practice and the more change it requires in the existing operations, the more slowly it will be adopted.

The following classification of practices in terms of their complexity roughly represents the decreasing order of speed with which acceptance may be expected to occur.

i) **A simple change:** A change in materials and equipment only, without a change in techniques or operations (e.g. new variety of seed)

ii) **Improved practice:** Change in existing operation with or without a change in materials or equipment (e.g., change in rotation of crops)

iii) **Innovation:** Change involving new techniques or operations (e.g., contour cropping)

iv) **Change in total enterprise:** e.g., from crop to livestock farming

B) Cost:

Less costly inputs seem to be adopted more rapidly than those, which are more expensive.

C) Net returns:

Those practices which yield the greatest marginal returns per rupee invested, and in the shortest time seem to be adopted most readily.

The above two characteristics viz., cost and net returns are also referred to as “relative advantage” or “profitability”.

D) Compatibility:

It is the degree to which an innovation is consistent with existing values and past experiences of the adopters. An idea that is not compatible with the cultural norms of a social system will not be adopted so rapidly as an idea that is compatible e.g., the lack of compatibility of beef production with cultural values in India.

E) Divisibility (Trialability):

It is the degree to which an innovation may be tried on a limited basis. New ideas that can be tried on a small scale or on the installment plan will generally be adopted more rapidly than innovations that are divisible, e.g. new seeds or fertilizers can be tried on a small scale, but new machines cannot be tried so.

F) Communicability (Observability):

It is the degree to which the results of an innovation may be diffused to others. The results of some practices are easily observed (e.g., application of nitrogenous fertilizer to plants), while the results of some innovations are not easily observed (e.g., pre-treatment of seeds, or soil conservation measures).

II. Farm income:

High farm income nearly always is associated with high adoption level.

III. Size of farm:

Size of farm is nearly always positively related to the adoption of new farm practices

IV. Tenure status:

Adoption scores are usually higher for owner cultivators than for tenant cultivators.

V. Sources of Farm information used:

i) The number of sources used or the number of contacts with information sources is positively related to adoption rates.

ii) A high positive correlation is particularly evident with the use of such sources as Government agencies

iii) High dependence on relatives and friends as sources of information is usually negatively associated with the adoption of new farm practice.

VI. Level of living:

Since successful farm practice adoption is instrument in providing the means for supporting a higher level of living, a positive correlation between the two would be expected and is generally found.

3. Social

Community standards and social relationships provide the general framework wherein the process of change occurs, and they account for the differences between one community (or group) and another.

1) Social values:

In some groups and communities, people place a higher value upon material gains and money than they do in others. In some other groups; changes in farming are encouraged and expected, prestige is attached to the adoption of new ideas and techniques. In others, more value is placed upon tradition and little freedom is allowed for the individual to deviate from the group's pattern in adopting innovations. If the adoption of new practices goes contrary to the established customs and traditions of the people, the innovator may be ridiculed or lose prestige.

2) Local Leadership:

The acceptance of change is also influenced by the nature of leadership and control in the group or community. In some communities, none would accept a new idea, unless and until the leader the community is sold on the idea.

3) Social contacts:

The nature and extent of social contact within and outside the community is important in the diffusion of new ideas and techniques.

CONCEPTS RELATING TO ADOPTION AND DIFFUSION

1. **DISSONANCE:** An internal disequilibrium or an uncomfortable state of mind of an individual to adopt or reject an innovation.

a. **REJECTION:** It is a decision not to adopt an innovation. Rejection may take two forms.

b. **Active rejection:** It consists of considering adoption of innovation (including even its trial) butthen deciding not to adopt it.

c. **Passive rejection (also called Non-adoption):** It consists of never really considering the use of the innovation

2. **DISCONTINUANCE:** It is a decision to reject an innovation after having previously adopted it.

Discontinuance is of 2 types

a. **Replacement discontinuance:** It is a decision to reject an idea in order to adopt a better idea that supersedes it.

b. **Disenchantment discontinuance:** It is a decision to reject an idea as a result of

dissatisfaction with its performance. E.g.: Crop varieties generally deteriorate after a number of years, they are replaced by superior varieties, if available or may not be cultivated at all.

3. **RATE OF ADOPTION:** It is the relative speed with which an innovation is adopted by members of a social system.

4. **OVER ADOPTION:**: People continue to adopt an innovation rather vigorously, when experts feel that it should not be so done. e.g., Excessive use of pesticides. Over adoption produces -ve effect and causes distortion of the systems.

5. **INNOVATION:** It is an idea, practice or object that is perceived as new by an individual or other unit of adoption.

6. **INNOVATIVENESS:** It is the degree to which an individual is relatively earlier in adopting new ideas than other members of a system.

7. **ADOPTION PERIOD:** The period that takes from awareness stage to the adoption stage by the individual.

8. **INNOVATION-DECISION PERIOD**: The innovation – decision period is the length of time required to pass through the innovation – decision process. The time elapsing form awareness- knowledge of an innovation to decision for an individual is measured in days, months, or years. This period is thus a gestation period in which a new idea is fermenting in the individual's mind.

9. **PERSONAL LOCALITE:** The person who is directly influencing the farmers decisions within the system i.e. neighbourers, friends, local leaders, peers etc.

10. **PERSONAL COSMOPOLITE**: The persons who are directly influencing the farmers decisions and belong to outside the system e.g. Extension agents

11. **IMPERSONAL COSMOPOLITE:** Indirectly Influencing the farmers decisions e.g Mass media

Extension Teaching Methods and Audio-Visual Aids:

Meaning, definition, importance, classification, media mix strategies; Factors affecting selection and use of methods and aids

EXTENSION TEACHING METHODS

MEANING AND DEFINATION

A method is a way of doing something, an orderly arrangement of a set of procedures. Thus it involves a sequence of progressive steps in an orderly and logical regularity in order to accomplish some task or purpose.

An extension teaching method may, then, be defined as a sequence of progressive steps, undertaken to create situations that are conducive to effective learning.

According to Leagans (1961), extension teaching methods are the devices used to create situations in which communication can take place between an instructor and that learner.

As Ensminger (1957) said, before an extension worker can become efficient in the use of methods, he must know what methods are available, when to use a given method, and become effective in using each.

However, normally no extension worker has ability to use all methods with equal skill. Further, there is no one method that is best for all situations alike and hence calls for different method (s). It is also obvious that no one method can reach all the audience. Behavioural changes required on the part of the learners may also require several exposures with the same, different or a combination of methods. Research bears ample evidence to suggest that a combination of methods or media-mix is required for effective technology transfer.

FUNCTIONS

The following are the functions of extension teaching methods :

(1) To provide communication so that the learner may see, hear and do the things to be learnt.

(2) To provide stimulation that causes the desired mental and or physical action on the part of the learner.

(3) To take the learner through one or more steps of teaching-learning process, viz. attention, interest, desire, conviction, action and satisfaction

Classification of extension teaching methods

Wilson and Gallup (1955) classified extension teaching methods according to their use and form. Bains (1987) attempted to classify them according to their use, form, stages of learning process, stages of adoption process, categories of adopters, initial cost involved, cost per unit of results obtained, skill required in using them, time consumed in using them and according to behavioural changes intended. However, most of these classifications are only of academic interest. The most widely used as well as useful classification of extension teaching methods is according to use.

1. Classification of extension teaching methods according to use

Individual Contact	Group Contact	Mass Contact
Farm and home visits	Result demonstration	Farm publications
Farmer's call	Method demonstration	Mass meeting
Personal letter	Group meeting	Campaign
Telephone call	Small group training	Exhibition
	Field day	Newspaper

Another classification of extension teaching methods which is very common in extension publications is according to their form

2. Classification of extension teaching methods according to form

Written	Spoken	Visual	Spoken and Visual
Bulletins	Meetings	Result demonstrations	Method demonstrations
Leaflets	Farm and home visit	Exhibits	Result demonstrations
Personal letters	Office calls	Posters	Television
Circular letters	Radio and recordings	Charts	Movies
Farm journals	Telephone calls	Slides Film strips Flash cards Flannel graphs Bulletin boards	Puppets Campaigns

A) 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.

1. Individual-contact method- 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.

The advantages of the individual method are:

- It helps the extension agent in building rapport.
- It facilitates gaining first hand knowledge of farm and home.
- It helps in selecting administrators and local leaders.
- It helps in changing an attitude of the people.
- It helps in teaching complex practices, and
- It facilitates transfer of technology effectively.

The limitations of the individual method are:

- This method is time consuming and relatively expensive.
- It has low coverage of audience, and
- Extension agent may develop favoritism or bias towards some persons.

FARM AND HOME VISIT

Farm and home visit is a direct, face-to-face contact by the extension agent with the farmer or homemaker at their farm or home for extension work.

Objectives

1. To get acquainted with and gain confidence of farmers and homemakers.
2. To obtain and/or give firsthand information on matters relating to farm and home.
3. To advice and assist in solving specific problems and teach skills.
4. To sustain interest.

Technique

Planning and preparation

- Decide on the audience and the objective- whom to meet and what for?
- Get adequate information about topic. Contact research if needed.
- Collect relevant publications and materials to be handed over.
- Make a schedule of visits to save time and energy.
- If possible, send advance information.

Implementation

- Visit on scheduled date and time or according to convenience of the farmer and the person is likely to listen.
- Create interest of the farmer and allow the individual to talk first.

- Present the message or point of view and explain up to the satisfaction of the farmer.
- Answer to questions raised and clarify doubts. Hand over publications.
- Try to get some assurance for action.

Follow-up

- Keep appropriate record of visit.
- Send committed information or material.
- Make subsequent visits as and when necessary.

Advantages

- Provides extension worker with first hand knowledge
- Builds confidence
- It helps to identify local leaders
- Develops good public relations
- Useful in contacting those who do not participate in extension activities and who are not reached by mass media

Limitations

- Only limited number of contacts may be made
- Time consuming and costly method
- Attention may be concentrated on a few big and progressive farmers; neglecting the large number of small, marginal, tribal farmers, landless labour and backward people; which may prejudice them.

2. Farmer's Call

Farmer's Call is a call made by farmers or homemaker at the working place of the extension agent for obtaining information and assistance.

Objectives:-

i. To get quick solution of problems

3. Personal letter:- Personal letter is written by the extension agent to a farmer or homemaker regarding extension work. But this is not so applicable in present situation of India because here most of farmers are illiterate.

Objectives:

i. To answer queries of farmers by agriculturists or experts for solving their problems.

ii. To provide information to the farmers and to seek their cooperation for making extension activities effective.

Techniques to be followed:

i. Promptness: The letter should be answered as soon as possible.

ii. Content of the letter should be clear, complete, concise, and applicable to farmer's own situation.

iii. While writing personal letter simple and courteous language should be used.

4. **Field trials**

- Field trials are the trials to fit the general recommendations derived from applied research to different farm situations in an area.
- These trials are to find out, how far the recommendations fit into different farming systems in the area.
- Field trials are the final testing ground for the recommendations from the angle or its relevance to a specific area.
- This may be regarded as an on-farm participatory technology development process in which farmer's choice and farmer's opinion about the practice are most important.

Objectives

1. To test a new and promising practice under the resources, constraints and abilities of the farmer.
2. To find out the benefits of the new practice in comparison to the existing one.
3. To build up confidence of the extension agents, research workers and farmers.
4. To act as a precaution against insignificant, faulty recommendations.

Technique

Planning and preparation

- Select new and promising practices suitable for the area in consultation with research workers and farmers.
- Select a small number of innovative farmers for conducting the trials.

Implementation

- Explain the objective to the farmers. Make it clear that it is a simple trial in a small portion of the plot and does not involve great risk.
- Supply the critical inputs in time and supervise all important steps personally.

- Assist the farmers to maintain accurate records.

Follow-up

- Get the reactions of the farmers.
- Discuss the results with research worker and farmers and explore the suitability or otherwise of the practice for the area.
- If required, repeat the trial for one or two years more.
- On the basis of the performance, take a decision to recommend the practice for general or not.

Limitations

- Being scattered, the trials may suffer from lack of adequate supervision of the extension agent.
- Satisfactory results depend on the clarity of objective and careful selection of the practice and the farmers.

2. 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.

The advantages of the group methods are:

- It enables, extension agent to have face to face contact with a number of people at a time.
- It can reach a select part of the target group.
- It facilitates sharing of knowledge and experience and thereby strengthen learning of the group members.
- It satisfies the basic urge of people for social contacts.
- It motivates people to accept a change due to group influence.
- It is less expensive than individual method due to more coverage.

The limitations of the group methods are :

- Wide diversity in the interest of the group members may create a difficult learning situation.
- Holding the meeting may be regarded as an objective in itself and

- Vested interests, caste groups and village fractions may hinder free interaction and decision making by the group members.

Demonstration means showing by seeing and doing

I. **RESULT DEMONSTRATION**

- Result demonstration is a method of motivating the people for adoption of a new practice by showing its distinctly superior result.
- The demonstrations are conducted in the farm or home of selected individuals and are utilized to educate and motivate group of people in their neighbourhood.
- This is a very effective method for the transfer of technology in a community.
- Demonstration may stimulate farmers to try out innovations themselves, or may even replace a test of the innovation by the farmers.
- They can show the causes of problems and their possible solutions without complicated technical details.
- A great advantage of demonstration is seeing how an innovation works in practice.

Objectives

1. To show the advantages and applicability of a newly recommended practice in farmer's own situation.
2. To motivate groups of people in a community to adopt a new practice by showing its results.
3. To build up confidence of the farmers and extension agents.
4. To develop innovation leadership.

Technique

Planning and preparation

- Analyse farmers' situation and select relevant profitable practices, in consultation with research worker and farmers.
- Select a few responsible and cooperating farmers having adequate resources and facilities and having acceptance in the local community for conducting the demonstration. This, however, does not mean 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.
- Prepare a calendar of operations.

Implementation

- Explain the objectives and steps to the demonstrating farmers.
- Organize materials and equipments necessary for conducting the demonstrations.
- Give adequate publicity about the demonstrations.
- Start the demonstration on the scheduled date and time, in front of those who may be present. Explain the objectives to those who are present.
- Arrange method demonstration where a new skill is involved.
- Put up suitable signboard for each demonstration in prominent places. The signboard should be colourful and visible from a distance. Local language should invariably be used on the signboard.
- Ensure that all critical operations are done in time and try to supervise them personally.
- Conduct field day around successful demonstrations.
- Take photograph. Help the demonstrating farmers to maintain records.
- Motivate as many farmers as possible to remain present at the time of final assessment of the result.
- Let the demonstrating farmers explain to the visitors as far as possible.
- Analyze and interpret the result, and compare them with the farmers' existing practice.
- Emphasize applicability of the new practice in the farmers' own situations.

Follow-up

- Use the result of demonstrations in future extension work and also pass on to the mass media for further dissemination.
- Utilise demonstrating farmers in farmers' meetings and training programmes.
- Prepare visual aids, particularly photographs, coloured slides, charts etc. on the demonstrations for future extension programmes.
- Avoid conducting subsequent demonstrations with the same farmers.

Advantages

- Create confidence among extension worker and farmers about new recommendations
- Useful in introducing new practice
- Contribute in locating local leaders
- Provide teaching material

Limitations

- Need more time, energy and funds for extension work.
- Unsuccessful demonstrations may cause some setback to extension work.

II. **Method Demonstration: -** Method demonstrations, oldest form of teaching basically show farmers how to do something. In the method demonstration, the farmer is shown step by step how, for example, to plant seeds in line, to use a mechanical duster to control insects, or to prune grapes. The agent will probably be dealing with farmers who have already accepted the particular practice being demonstrated, but who now want to know how to do it themselves.

Basic Principle:-. The basic principle of Demonstration is learning by doing.

Purpose:

- To teach basic skills involved in agriculture to small groups of people
- To teach how to do certain things, (rather than why they should be done, as in a result demonstration.

Technique

Planning and preparation

- Decide on the topic, target audience and venue of the demonstration.
- Select the topic which is importance and needed by the group for immediate use.
- Contact subject specialist and ensure their participation
- Collect relevant information and equipments.
- Identify the steps conducting in demonstration. Practice the demonstration, to be sure about its correct presentation
- Decide on the date and time in consultation with the local leaders and give timely intimation to all concerned
- Complete all arrangements for the demonstration.
- Display diagrams, charts, graphs etc. at the demonstration site.

Implementation

- Start the demonstration on the scheduled date and time.
- Show each operation step-by-step, explaining clearly why and how it is being done.
- Ensure that all the participants have seen the demonstration and have understood it.
- Repeat difficult steps, if required.
- Invite and participants one by one in small batches to practice the skill. Clarify doubts

and answer to their questions.

- When everybody has practiced the skill and has expressed confidence, emphasize on the key points again
- Hand over the relevant publications.

Follow-up

- Keep a record of the participants and maintain contact with them.
- Assist the participants in getting the required materials and equipment

Advantages

- Suited to teach skill
- Seeing, hearing, doing and discussion stimulate interest and action
- Costly 'trial and error' procedure is eliminated
- Builds confidence
- Introduces changes at low cost
- Provides publicity

Limitations

- Suitable mainly for practices involving skills
- Needs good deal of preparation, equipment and skill of the extension agent

III. Group Discussion:-

Group discussion is a very significant method for extension work. It assumes that the members involved in discussion are equal in status and every participant has some experience or information to contribute. It is specially suited to work with adults who prefer sharing of information than being instructed. The members are free to question to each other.

Objectives

1. To exchange of experience and information.
2. To gain better understanding of a problem.
3. To find solution to a problem felt by the group.
4. To training people in leadership skills.
5. To plan a programme of action.

Technique

Planning

- Make arrangements for physical facilities viz. sitting place, furniture, public address

system, drinking water etc.

- Inform everyone about time and place.
- Circulates materials needed for discussion.
- Arrange for someone to present the issue for discussion alongwith requisite background.
- Keep minimum visual aids like chart or chalk board for presenting important points.
- As farmer do not easily open up before expert, it is necessary to plan use of technique to help every member to share his point and feel a sense of belonging to the group.

Conducting

- Make group comfortable by exchanging greetings and general conversation.
- Seat the group in circle so that each one can see others.
- Motivate silent ones to come up.
- Discourage those who try to monopolise discussions.
- Clarify doubts or vague statements.
- Summarise group's views from time to time.
- Recognise and interpret different point of views present in the group.
- Analyse facts provided by the members.
- Encourage critical thinking among members by challenging the assumption and seeking evidences.
- Motivate members to take leading role one by one.

Role of Chairman

- Introduce members
- Announce the topic and purpose of discussion
- Listen to the contributions made by each member carefully.
- Build conductive climate to motivate members to speak freely.
- Keep discussion on moving track.
- Promote evaluation of all generalizations.
- Protect view points of minority.
- Get balanced participation.
- Promote group cohesion.
- Give summary.

Role of Members

- Members should talk one at a time and contribute only one point at a time.
- They should listen attentively and say on the subject.
- Members may ask critical questions whenever essential.
- They should try to promote group harmony.

Role of Experts

- In situations when the group does not have requisite technical information, expert may be called in.
- He should not suggest his own solution rather help the group understand the problem in their location and visualize possible solutions.

Advantages

- It is democratic method giving equal opportunity to each participant
- It create high degree of interest
- It helps people gain skills to work in teams
- It develops group morale
- It enhance knowledge and critical thinking

Limitations

- Villages may have factions and hence it may difficult to group discussion
- It is difficult to conduct discussion on new topic
- Requires understanding of group dynamics and skill of the extension agent
- A slow process and may not be suitable in crises and emergency situations

GROUP DISCUSSUION TECHNIQIUS:

1. LECTURE:

The lecture method is most suited to the literate population. But it can be adapted to all types of audience. It is used to present authoritative information to a large audience in the shortest time. A wide range of subjects can be covered using the lecture method. The speaker makes a presentation on the topic allotted to him for a definite period of time. Its weakness is that people are not likely to master as much of the information as the speaker is likely to assume; because for the most part it is a one way communication. Members of audience listen in terms of their interest and remember in termsof their motivation and memory. It is the cheap method and the results are easy to check.

2. SYMPOSIUM

This is a short series of lectures; usually by 2 to 5 speakers. Each one speaks for a definite amount of time, and presents different phases or subdivisions of a general topic. The topic should be large enough or general enough to permit two or more subdivisions that are sufficiently significant to justify separate discussion by speakers. The subject may or may not be controversial. It is important that the speakers are of approximately equal ability, to avoid one speaker dominating the meeting or giving the audience a distorted view of the subject. The symposium is used primarily for information gathering, at the professional level. The advantage of symposium over a lecture is that two or more experts present different facts of the topic.

3. PANEL

It is an informal conversation put on for the benefit of the audience, by a small group of speakers, usually from 2 to 8 in numbers. They are selected on the basis of the information and experiences they have. Members are seated so that they can see one another and face the audience. The panel is generally rehearsed before it is presented to the public. The leader introduces the members of the panel to the audience and announces the topic. He has the responsibility to see that the conversation keeps going, by asking questions or making brief comments, and encouraging the less talkative members. The special advantage of panel is that a spontaneous conversation about some subject may have more interest for the audience than a lecture.

4. DEBATE

On a controversial subject two teams of usually 2 to 3 persons present their point of view. Each speaker has time allotted for speech to make his main speech and defense after the main speeches have been completed. In this case, there is two way communication between the debaters, but one way communication for the audience. The range of subjects for the debate is limited to controversial topics. The big advantage in a debate is that more than one side of a question is presented. There is however, one danger. If it is a decision debate there is the temptation for the debate to become highly antagonistic. In such a case, the motive to win the debate by means may lead to distortion of information, ignoring the primary need to inform the audience. This objection to the debate is overcome by holding non- decision debates or by having a forum after the debate.

5. FORUM

It is a discussion period that may follow any one of the above methods of presentation. It consists of a 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 ambiguous points and to raise questions for additional information. It is 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.

6. BUZZ GROUP

Also known as Phillips 66 format or hurdle system. With large group when there is limited time for discussion, the audience may be divided into smaller unites for a short period. 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 technique can be successfully used for defining or clarifying the problem. It can help in developing a list of possible goals, standards, and activities for the consideration of the total group. It also helps in refining ideas and developing solutions to the problems.

7. WORKSHOP

Workshop is a special type of working conference of a week or more duration. In workshop emphasis is given on lecture, individual conference and working in group. Under the guidance of the consultants work sessions the individual participant can work on a special problem either individually or as a member of group. This method is used for professional improvement and in-service training. The main item of the workshop are lectures by staff members, group meeting with selected groups, individual consultation and study, informal discussion on problems, arranging inspirational or special events and providing library and other resources for the study.

8. BRAIN STORMING

It is a creativity of generating ideas to solve a problem. It is the unstructured generation of idea by a group of people. The group is selected for their creativity and knowledge to seek solutions to particular problem or simply find better ways of meeting project objectives. Suggestions are encouraged and follow during a creativity session and everything is acceptable. From this, many ideas, some entirely new are brought forward for analysis and ranking. Brainstorming is less structured than problem solving meetings. It seeks to generate entirely new ideas. People get involved and make positive contributions. It is good for team building and

working together. It requires good facilitator to conduct the brain storming session.

9. SEMINAR

It is one of the most important forms of group discussion. The discussion leader introduces the topic to be discussed. 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.

10. CONFERENCE

Pooling of experiences and opinion among a group of people who have special qualifications in an area. The conference method mainly consists of small and large group discussion, steering committee and open plenary session. The conference help in clarifying various issues involved in a particular area as different points of view are expressed by experts in the conference.

3. Mass or community-contact method - 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

Advantages of mass contact method are :

- It is suitable for creating general awareness among the people.
- It helps in transferring knowledge on farming and changing opinions.
- Large number of people are communicated within a short span of time.
- Facilitates quick communication in times of emergency.
- Less extensive due to more coverage.

Few limitations in mass contact methods are

- It is less intensive method.
- Little scope for personal contact with the audience.
- Generalized recommendations hinder application by individuals.
- Little control over the responses of the audience and
- Difficulty in getting feedback information and evaluation of results.

CAMPAIGN

A Campaign is an intense educational activity for motivating and mobilizing a community to action, to solve a problem or satisfy a need urgently felt by it. The duration of campaign may be for a single day on a theme like‘water for life’ for a few weeks as in ‘rat control’ or ‘family

planning' for few months as in 'Vanmohotsava' (tree planting) and for few years as in 'Grow More Food' campaign. A campaign may be held by involving small number of people in a few villages, or by involving entire community or the entire nation over the whole country. Campaign around a theme may be organized only once, or may be repeated year after year, till the goal is satisfactorily reached.

Objectives

1. To create mass awareness about an important problem or felt need of the community and encourage them to solve it.
2. To induce emotional participation of the community at the local level and create a favourable psychological climate for adoption of new practices.

Technique

Planning and preparation

- Identify with the local leaders an important problem or needs of the community.
- List out specialists, local leaders and other persons who could be involved in solving it.
- Decide with the local leaders about the time of holding the campaign and its duration.
- Arrange necessary inputs, services and transport.
- Prepare a written programme of the campaign.
- Give wide publicity and put up posters at strategic points throughout the area. Use mass media to warm up the community. Make use of personal appeal.

Implementation

- Carry out the campaign as per programme
- Hold group meeting with the people and discuss about the origin and nature of the problem. Suggest practical and effective solution.
- Arrange method demonstration and training programme for the participants.
- Maintain supply of critical inputs and services.
- Keep close watch on the campaign and take corrective steps, if necessary
- Arrange mass media coverage.
- Conclude the campaign in time.

Follow-up

- Contact participants and find out their reactions.
- Assess the extent of adoption of the practice.

- Publicize successful campaigns.
- Analyze deficiencies and failures.
- Give due recognition to the local leaders.

Advantages

- Specially suited to stimulate mass scale adoption of an improved practice in the shortest time possible.
- Facilitates exploitation of group psychology for introducing new practices.
- Successful campaign create conductive atmosphere for popularizing other methods.
- Builds up community confidence.

Limitations

- Applicable only for topics of community interest.
- Success depends on cooperation of the community and their leaders.
- Requires adequate preparation, concerted efforts and propaganda techniques, and uninterrupted supply of critical inputs.
- Less suitable for practices involving complicated techniques.

EXHIBITION

- An exhibition is a systematic display of models, specimens, charts, photographs, posters, pictures, information etc. in a sequence around a theme to create awareness and interest in the community.
- This method is suitable for reaching all types of people. Exhibitions may be held at the village, block, district, state, national and international levels. Exhibitions are used for wide range of topics, such as planning a model village, demonstrating improved practices, different feeding methods, showing high –producing animals, new technologies and the best product of village industries.

Objective

1. To provide visual literacy.
2. To acquaint people with better standards.
3. To create interest in a wide range of people.
4. To motivate people to adopt better practices.

Technique

Planning and preparation

- Form a steering committee with specialist, local leaders and administrators.
- Decide on the theme and organizations to be involved.
- Prepare a budget estimate and procure funds.
- Decide on the venue, time and duration.
- Prepare a written programme and communicate to all concerned in time.
- Get the site ready within the scheduled date.
- Reserve a stall for display of exhibits to be brought by the farmers.
- Arrange a pandal for holding meeting, training and entertainment programme.
- Display posters at important places and publicize about the exhibition through mass media.
- Decorate the stalls simply and tastefully. Make adequate arrangement for lighting.
- Display the exhibits at eye-level.
- If possible, arrange action and live exhibits.
- Train up interpreters and allot specific duties.

Implementation

- Organize formal opening of the exhibition by a local leader or a prominent persons
- Arrange smooth flow of visitors.
- Let the interpreters briefly explain the exhibits to the visitors so that the intended message is clearly communicated.
- Organize a panel of experts to be present nearby, so that the visitors who would like to know more or discuss some problems could get the desired information.
- Conduct meetings, training programmes etc. as per schedule during the day time and use the stage for entertainment during nights.
- Judge the stalls on the basis of their quality of display, ability to draw visitors and effectiveness in communicating message.
- Keep the exhibits and the premises clean. Replace exhibits as and when necessary.
- Conclude the exhibition as per the schedule.

Follow-up

- Meet some visitors personally and maintain a visitor's book for feedback information.
- Talk to local leaders and assess success of the exhibition.

- Ensure availability of critical inputs and facilities emphasized during the exhibition
- Look for changes in practice in the community in the future.

Advantages

- Eminently suited to teach illiterates
- Promotes public relations and goodwill towards extension
- It can be fit into festive occasions and serve recreational purposes
- Can be used to stimulate competitive spirit
- Can create market for certain products.

Limitations

- Requires lots of fund and preparation
- Can not be held frequently

FARMERS RALLY

- It is a purposeful activity undertaken at an appropriate time for creating awareness and interest among the community in a concerted manner on a particular problem. For arranging the farmers rally following points should be considered.

Objectives

1. To create awareness about a problem and offer a solution.
2. To provide accurate information through experts to the participants.
3. To motivate people for the adoption of improved practices.
4. To provide opportunity for interaction among people in social gathering.

Technique

Planning and preparation

- Decide on the topic, venue and target audience.
- Select a limited number of experts.
- Decide with the local leader on the date and time and communicate the same to all the concerned well in advance.
- Prepare a agenda of the programme.
- Give wide publicity and put up posters at important points throughout the area.
- Use mass media to warm up the community.

Implementation

- Start the rally on the scheduled time and cut down the formalities to a minimum.
- Allow the experts to deliver the talk and after that keep the question answer session for clarification of doubts of the participants.
- Make the use of audio-visual aids.
- Arrange the mass media coverage.
- Conclude the rally in time.

Follow-up

- Contact the participants and find out their reactions.
- Assess the extent of adoption of the practice.
- Publicize the rally.
- Give due recognition to the local leaders.

Advantages

- It appeals to the practical type of individuals
- It create interest among the participants
- It motivate the people to adopt improved practice

Limitations

- It is costly
- Requires good deal of preparation and propaganda techniques
- Applicable for topics of community interest
- Can not be held frequently

RADIO

- When you want to reach people who can not read or write, or people who live in remote villages, and when you want to reach people speedily, you make use of radio. It is a 'personal' medium, received in private by the listener in the company of his family members or by himself. In some cases, of course, there is group listening.
- Use the radio to inform, alert, suggest, direct, interest, stimulate and motivate people. It is effective when you supplement it with other media or methods. But the radio has some 'cannot' too, which you have to understand well. The radio cannot teach, it cannot go into details, it cannot specify.

Writing for radio : Writing for the radio is different from writing it for the newspaper. The

reader of the newspaper has your words before him and he can read them at his pace. He can go back and read it all over again if he misses any point or fails to understand you fully. Not so with the radio. There is no chance for him to go back and start from the beginning.

General principles for writing a script

- It is writing in spoken form.
- Simplicity is essential
- It must start strongly, perhaps provocatively and end strongly with a concluding statement
- Repetition of key ideas is essential
- Avoid overuse of statistics (Spell out figures in the script)
- Careful planning is essential
- Use research based information
- Maintain continuity of narration in writing

Before writing the script

- Determine the purpose of your writing
- The type of learners to whom you are presenting
- Decide upon the mode of presentation
- Select a topic which is of interest to large number of listeners and which can be covered in few minutes. A talk should never go beyond ten minutes.
- Since you have a limited time, select only one phase of the subject.

Writing the script

- Write out the central fact or point as a complete and definite statement before composing your talk.
- Select two or three supporting points which will strengthen the main statement.
- State your idea plainly at the beginning.
- Enlarge on the main idea - provide the supporting ideas.
- Avoid referring to the listener in the third person. Use 'you' and 'we'.
- Whenever you want to make an important statement, alert the reader in advance.
- Make your facts and statements convincing. Give logical reasons for making them.
- Give examples. Quote authorities. Give instances.

- Point out the results of experiments/ demonstration.
- Give local places, names of local people, local examples.
- Spell out large figures in the script. Write two lakhs, rather than 2,00,000.
- Avoid giving specific numbers. Round them up. Nobody will remember "24,858 hectares" but about "25,000 hectares" is easy enough to remember.
- Providing all the information on a subject is not the job of the radio. Make the listener seek further information about it either by contacting the specialist or asking for a leaflet.
- After you have written the script, check it.
- See whether you have presented the subject correctly, clearly and briefly.
- See that all the words are short, simple and easy to pronounce or listen to.
- See whether the sequence is logical.
- Read the script aloud. See if you sound as you should, as if you are talking to someone.
- Then write the script on a soft, non-crackling paper.
- Provide a broad margin. Use plenty of space between lines. Indent your paragraph properly.
- Do not carry a part of a sentence on to the next page. Otherwise listeners will hear a pause somewhere in the middle of the sentence.
- Correct your script carefully for mistakes and mark the places where you want to give a pause, like this : / .
- When you want to emphasise a word, underline it.
- Mark your pages and put them in proper order.

Delivering the talk

- Rehearse the talk aloud
- The rate of delivery should be , on an average, 140 words a minute and it should be kept uniform
- Use tone, accentuation, modulation, silence, volume and pitch in your voice
- Just talk to the people and don't read.
- Observe mike manners
- Start and finish in time

Advantages

- It can stimulate and motivate.
- Relatively cheap.
- It can quickly transmit messages in most remote areas.
- It can persuade, it can create or change attitudes.
- It strongly appeals to the ear.
- The radio voice appears to the listener as authentic and real.
- It is good medium for illiterate people.

Limitations

- People must listen when you are talking.
- If they miss some of your words, they cannot ask you to repeat them.
- Over the radio, you cannot make use of your smile or frown. You cannot gesticulate or use visuals. All you have to rely on your words and your voice.
- Difficult to check on results.

TELEVISION

The following method of developing a television programme is not the only way, but it offers briefly a logical step by step production. As you become more familiar with television and develop more confidence in your presentation, you may discard some of the steps. Prepare your TV programme the way that is easiest for you and yet gives you an effective television programme.

Script

- It is a blue print from which a television programme is made.
- In fact, it is precise description of visuals, scene by scene, along with commentary. It should also include instructions for the production team on time segments, camera movements, shots etc.
- The final process of preparing a programme with shot-by-shot descriptions along with sound, music and camera instructions etc. is known as writing or shooting script.

Before writing the script

- Decide who are the audience
- What are the specific objectives of the programme
- Select a need based subject matter from rural audience point of view.

- Choose a phase of that subject matter. This may be called topic.
- Determine the main point to be made in the programme. List all the items that you will make to support this point.
- Get a picture of the overall programme in your mind before you proceed further.
- Divide the programme into important steps and list these steps in logical order.
- Consult resource material or a resource person if you need more information or if you need to check the information for accuracy.
- Select a format or a method of presenting the television programme. This may be a demonstration, an illustrated report, a dramatic presentation, an interview, a forum or a variety of format, using several of these methods combined.
- Determine the need for other participants and contact possible participants (farmers, homemakers, boys and girls, specialists and other persons).
- Determine the audio-visual aids, equipment, materials and properties that best show the points to be made. Make a list of all of the visuals.

Writing the shooting script

- Make an outline of the programme. Divide a sheet of paper into two columns. In the left column write the things you want to show. In the right column put the things you want to say or talk about. Label the left column "video" and the right column "audio".
- Divide the programme in as many small shots as possible·
- Describe the visuals shot by shot.
- Provide the information about shot number, indoor or outdoor shooting, site of shooting, time of shooting, duration of shot etc.
- Maintain the continuity from one shot to the next shot. It is often necessary to use a special device to get from one segment of the programme to another. This is called a transition. It may be done visually, orally or both. Don't jump from one idea to another without a transition. Transitions must be indicated in the script if used.
- Describe the area of object to be seen by the camera as
  - Long shot (LS)
  - Medium long shot (MLS)
  - Medium shot (MS)

- Medium close up (MCU)
- Close up (CU)
- Tight close up (TCU)

- If the camera angle is other than the normal eye level view, it should be described as upward angle or downward angle.
- Describe shot wise action and objects.
- Sate the camera movements called for within the shot
  - Panning - horizontal movement
  - Tilting - vertical movement
- At the extreme left of the page indicate the amount of time in minutes and seconds you think it will take to do each important step of the programme.
- Correct the outline script in view of the programme producer's suggestions. Provide a copy of the script to programme producer, the participants and others as needed.

While recording the programme

- Concentrate on the subject, not on the way you are or are not looking at the camera, moving your hands, and the like. Attempt to get an informal approach and to treat your audience as one individual, not as a group of thousands. Present the programme as it was outlined and as the programme producer expects it. Trust the programme producer and the technical crew to produce as good a show as they possibly can.
- If something unexpected happens or you make a mistake or drop something, don't let it bother you. Recognise the mistake and continue your programme as planned.
- Facial expressions are very important. A smile on the face makes a lot of difference. Gestures should be used effectively in the communication process.
- Unnecessary movements should be avoided. Check the habits of playing with a paperweight, pen, chalk or scratching your head or cleaning your eyes or nose. Avoid those movements also, which will express your nervousness.
- Face the camera while talking to the viewers. Look into the lens of the camera for having eye to eye contact with the viewers. However, this does not mean that one should continuously stare at the camera. Acknowledge the presence of the other participants of the programme by looking at them from time to time.

- Neat physical appearance is very important. Dark grey apparel and colourful designed shirts have been found well suited. Oily hair or face reflect light and appear to be shiny. Avoid use of excess hair oil and wash your face
- Visual aids, samples, models, working models, specimens etc. makes your programme interesting. Visual aids should be precise, to the point and drawn and coloured with sharp colours. Graphic material, charts, slides, film-strips etc. should also be used to make the programme more intelligible.
- Pronunciation should be very clear and be audible. Proper speed should be maintained while speaking. Proper word should be selected to communicate the message. Avoid fad words and slang. Metaphors, phrases, jargon and flown language should not be used.
- Don't have apologetic opening tone. Let your voice show emotions. Do not sound weary and depressed. Let your voice have vitality, vigour, energy and enthusiasm.

FACTORS AFFECTING SELECTION AND USE

The following are some of the factors that may influence the selection and use of extension teaching methods

1. ***The behavioural changes expected in people i.e. change in knowledge, skills or attitude*** : We all know that most mass media methods are good for effecting changes in attitude and knowledge of the people, while most individual and group methods are useful for bringing about changes in knowledge and skills.
2. ***Nature of subject matter being taught*** - particular aspect of the technology and whether understanding depends on seeing or not.
3. ***Nature of audience*** - their age, education, interest, experience, knowledge, intelligence etc.
4. ***Number of persons to be covered***: Individual and group contact methods are slow and cannot cover a large population in a relative short period. Hence if the population to be covered is large and time available is relatively short, mass contact methods may be more effective.
5. ***Availability of mass media to the clientele*****:** If farmers own radio, TV and subscribe to farm journals, newspapers and buy extension publications, they can be effectively reached through such media. However, if the availability of any or all sources of information is limited in any area, it will be difficult to communicate with them, unless the information sources available to them are utilized.

6. ***Skill on the part of extension worker for the use of different extension methods***: All extension workers are not equally efficient in the use of all the extension teaching methods. Hence they will tend to use relatively more of those methods with which they are familiar.

7. ***Cost involved*****:** Some methods are relatively more costly to use than others. Hence the initial investment required and the availability of related equipment and facilities may encourage or discourage the use of some methods.

8. ***Basic facilities needed***: Some methods need electricity, dark room, projection screen, projectors and so forth. Hence such methods can only be used if such facilities are available at a place and time when needed.

Classification of Audio-Visual Aids

The instructional devices through the message can only be heard are known to be Audio Aids. The instructional devices which help to visualize the message are known as VISUAL AIDS. The instructional devices through which the message can be heard and seen simultaneously are known as AUDIO-VISUAL AIDS.

The audio-visual aids may be classified into three categories as follows:

Audio aids	Visual aids	Audio – visual aids
1. Tape Recorder 2. Public address system 3. Telephone	**Non projected** 1. Chalk board 2. Bulletin board 3. Picture and photograph 4. Flannel graph, flash card, flip chart 5. Poster 6. Diagram, map, chart and graph 7. Specimen, model, diorama 8. Translide	**Non projected** 1. Drama, Puppet show, taking doll
	Projected 1. Slides 2. Filmstrip 3. Opaque projection 4. Overhead projection	**Projected** 1. Motion picture 2. (Cinema) 3. Video

Tape Recorder: <u>Picture</u>

A tape recorder is a portable electronic gadget to record, reproduce, erase and re record sound on a magnetic tape. This device can be used without much fuss by anybody by operating the

following press buttons at-tached to the recorder, viz, stop, play, wind, rewind, record, pause, and eject.

Public Address System (PA system) : Picture

It is an electronic sound amplification and distribution system with a microphone, amplifier and loudspeakers, used to allow a person to address a large public.

Chalk board: Picture

Chalkboard is perhaps one of the oldest visual teaching aids widely used in schools, colleges, universities and training centres through-out the world. Even though it has given way to modern sophisticated and effective visual teaching aids in the advanced countries, the chalkboard is still widely used in most training centres, extension officers, primary and secondary schools in Sub Sahara African countries.

Because of it familiarity and availability in the rural communities, extension field officers make use of chalkboards in carrying out farmer training workshops and Farmer Field School (FFS) classes where chalkboards provide platform for text, drawings and sketches to be displaced for farmers to learn.

Bulletin Board: Picture

A bulletin board (pinboard or pin board, noticeboard, or notice board in British English) is a surface intended for the postingof public messages, for example, to advertise items wanted or for sale, announce events, or provide information. Bulletin boards are often made of a material such as cork, plywood, in rural communities, walls of buildings and barks of trees serve the purpose of bulletin boards. For development workers such health or agricultural extension workers, bulletin boards is used for the display of educational and information materials.

How to use Bulletin Boards

Bulletin Boards can be used to give announcement about an event or inform the general public about a product, project or policy. It can also be used by extension agent to call for meeting or community forum. Extension field officers can also use bulletin boards to provide seasonal information such time of land preparation, planting, weeding and harvesting. Bulletin boards are also useful in explaining important events, or re- ports special activities. One inherent weakness of bulletin board is that is not effective for illiterate group and also it re-quire a lot of time in designing writing it.

Picture and Photograph

Picture is a representation made by drawing, painting or photography which gives single accurate idea of an object. A picture may tell a story without using a single word. Picture may be in black and white or in colour pictures and blowup photographs have more appeal. Photography has been considerably improved with the application of digital technology. Pictures and photographs are used in various ways in extension work such as training programme, farm publication, campaign, exhibition, slide, filmstrip, motion picture, television newspaper and display etc. photographs pasted with synthetic adhesive on thick board and cut to shape by ferret machine can produce good display material with 3-dimensional effect.

Flannel Graph: Picture

It is a simple training aid with an apple in its action and suspense. Most useful in communication for a group. In this method information is written on piece of the paper or cardboard which have flannel or send paper pasted at the back. These can be pressed against a flannel board for presentation. Flannel graph is like a dream. It has a history or plot. It has a background or set. It has parts that can be moved around an actor.

Flash Cards: Picture

These are brief visual messages on poster board cards, displayed to emphasize important points in a presentation. Drawing, cartoons and photographs can also be used with brief messages on flash cards. The story is told as each card is held before the group.

Flip Chart: Picture

A flipchart is a series of sheets of paper, fastened together at the top. When a sheet has been used, it can be „flipped‟ over the top so that the next sheet can be used. Development educators may purchase ready-made flipcharts, or they can make own flipcharts easily. Flipchart when being used will need to be held by the teacher or trainer. If the fastened papers are perforated at top with a hard card board or plywood covering, can be hung from a wall or hooked over another board, such as a chalkboard.

Flip charts are quick, inexpensive visual aids

For briefing small groups charts, felt-tip markers and graphic materials are readily available, and with a modest ability at lettering, the presenters can compose the desired visual aid in-house.

Strength:

1. Help the speaker proceed through the material
2. Convey information
3. Provide the audience with something to look at in addition to the speaker.
4. Can be prepared prior to, as well as during, the presentation
5. Demonstrate that the speaker has given thought to his or her remarks
6. Can be used to record audience questions and comments
7. Can be converted to slides

Poster:

Poster is a placard displayed in a public place with the purpose of creating awareness amongst the people. A poster is generally seen from a distance and the person glancing at it seldom has the time or inclination to stop and read. The job of the poster is to stop the hurriedly passing persons, thrust the massage upon them quickly and lead them to action immediately or eventually. A good poster should have the following properties-

1. It must be able to attract attention- the hurriedly passing person must be stopped by some attractive feature in the poster to take a look at it.
2. It must convey the massage quickly- wording must be brief and illustrations easily understood, so that the massage of the poster is quickly absorbed.
3. It must lead to action either immediately or eventually. This requires a forceful idea, strongly presented by the content of the poster.

Diagram, map, chart and graph

Diagram, map, chart and graph are visuals where information is summarized and presented in a more or less abstract form. For example-

A diagram: is line drawing of an object or an idea.

A map: is an informative diagram of an area.

A chart: contains information in tabular form

A graph :is a diagrammatic representation of the relationship between variables. In diagram, map, chart and graph information is presented in abstract form, such as, a higher level of education and intelligence of the audience is required to understand and absorb the information.

Specimen, Model, Diorama

Specimen is a sample which represents the whole.

Model is miniature replica of an object.

Diorama is a scenic representation of the original, with specimen, model and painting. The term „diorama" is derived from the Greek which means „to see through".

Translide

Translides are transparent big size photographs which are displayed by providing light at the back.for this purpose, shallow wooden boxes are made with front side open and backside fixed with hinge. On the frontside two glasses are fitted, of which the outer one is fixed transparent sheet glass and the inner on removable ground glass sheet. Two tubelights are fitted on two opposite sides inside the box, with their switches outside. The boxes are painted and arrangements are made to fix them on the wall or on display stand. Transparent photographic sheets, known as translides, are then inserted between the two sheets of a glass from the back sideside. Lights are put on when there are visitors or an extension programme is going on. Translide are costly, but produce beautiful life-like values. These may be used in communication centre, information centre and exhibitions, or placed in the lobby.

Filmstrips:

Filmstrips are a series of black-and-white or coloured pictures depicting a single idea, and instead of being individually mounted are printed on a single length of strip of 35mm film. Such strips can be shown to an audience of about a 100 people. Slide projectors are use to show images on filmstrip to audience. One advantage of film strip show over a still photograph is that the pictures are shown in a motion and as such stimulate connection between the pictures in a series of show in the mind of audience. The additional advantage in using the film-strips is that the film can be stopped any-time during the show to explain or discuss a difficult or interesting point. This helps stimulate discussion and enhance understanding and effective participation of learners.

Opaque Projector:

The opaque projector, epidioscope, epidiascope or episcope is a device which displays opaque materials by shining a bright lamp onto the object from above. A system of mirrors, prisms and/or imaging lenses is used to focus an image of the material onto a viewing screen. Because they must project the reflected light, opaque projectors require brighter bulbs and larger lenses than overhead projectors. Care must be taken that the materials are not damaged by the

heat generated by the light source. Opaque projectors are not as common as the modern "overhead".

Opaque projectors are typically used to project images of book pages, drawings, mineral specimens, leaves, etc. They have been produced and marketed as artists‟ enlargement tools to allow images to be transferred to surfaces such as prepared canvas, or for lectures and discourses.

Overhead Projector:

Roger Appledorn invented the overhead projector in the early1960's as part of his daily job in the thermal fax department. An overhead projector usually includes a large box with a bright light, cooling fan, and a Fresnel lens, which magnifies the image. A mirror is attached up and over the box. When transparencies, or clear plastic sheets, are put on top of the lens, the light travels into the mirror that shines what is written on the transparencies forward onto a screen. The presenter can continue to see the transparency by looking down, while the viewers can see the information on the screen. Overhead projector (OHP) is still probably the most useful and versatile visual aid that is available for use by extension practitioners, lecturer and trainers. It has long since replaced the traditional chalkboard as the main teaching aid in almost all lecture theatres, and training workshops.

Slides

Slide is a transparent mounted picture which is projected by focusing light through it. The projection may be made on roll back screen or on white wall. Slides of 35 mm. films mounted on individual cardboard frames are more common and are extensively used in extension programme. Glass slides are generally used in cinema halls.

Puppet

A puppet is a small figure representing a person or animal, which moved by various means. Hand puppets are excellent for entertaining an audience. In teaching and development work they are particularly useful for conveying a particular message in a fun and stimulating way. One of the main ad-vantages of using puppets is that they can say things which (a) may not be considered acceptable for live actors a particular community, because of cultural sensitivity or the likelihood of stigmatization or (b) children may be reluctant to talk about. The fact that it is the puppet who is speaking creates a useful distance. Puppetry has played an important role in disseminating knowledge in most parts of the world. Puppetry im- bibes elements of all art forms

such as literature, painting, sculpture, music, dance, drama and enables stu-dents to develop their creative abilities. Puppetry has been used traditionally in many countries as a popular and an inexpensive medium to transmit knowledge about countries‟ myths and legends. Since Puppetry is a dynamic art form that appeals to all age groups, this medium of communication has a great potential in disseminating agricultural information and an effective tool for engineering social change. Puppets can bring a new dimension to teaching and provide teachers and students with a vibrant dynamic way to communicate and express ideas, information, literature, and feelings. Puppets make a strong link to literacy and social skills. Puppets can provide a way to assess student learning and how much learners have internalized what they have been taught or read. Learners express what they know about a situation, a character, a piece of literature, an area of science or social studies and most important they express something about themselves.

Role Play and Drama

Drama and role play have things in common. Both involve two or more people playing a role in a story, in which they portray a situation that is fictional but reflecting situations that those watching and taking part might easily relate to. But there are also important differences. A drama is prepared beforehand and usually has a storyline with a clear beginning and end. A group of actors or actress presents the drama to audience. The words spoken by the actors may have been written down in detail, in the form of a script; and the actors will have rehearsed the drama before presenting it to an audience. Those presenting the drama may be professional actors or may have been selected from among the audience who will see the drama. A drama can be used for two main purposes: To get a message across to an audience in an entertaining way which clearly reflect the lives and environment of the audience. To stimulate discussion among the audience, or between the audience and those presenting the drama. In this case, the drama may have no clear ending: the actors may ask the audience to suggest how the drama might end and then act out several alternative endings. This would bring the drama close to a role play. An example of the first would be a drama to show the importance of hygiene in milking cow.

Purpose of Drama in Extension Communication:

"Tell me and I will forget. Show me and I will remember. Involve me and I will understand." So say a Chinese Proverb Dramatic Arts education is an important means of stimulating creativity in problem solving. it can challenge learners' perceptions about their world and about themselves. Dramatic exploration can provide learners with an outlet for emotions,

thoughts, and dreams that they might not otherwise have means to express. Also if learners (farmers) take part in drama it helps them develop tolerance and empathy. In order to play a role competently, an actor must be able to fully inhabit another's soul. An actor must be able to really under-stand how the world looks through another person's eyes. In addition to its intrinsic educational value, Drama can reinforce learning and previous experience. Also Drama can be used to promote active learning in any subject-to give learners a kinesthetic and empathetic understanding as well as an intellectual understanding of a topic.

Media Mix Strategies for Effective Transfer of Technology

Media:

These are the channels or tools through which a message is passed on to receivers from its source.

Media Mix:

It refers to combination of different of different media of communication used to disseminate information.

The media is an instrument in defining what we think, who we are and what one's place in society is? It has an impact on how issues are interpreted and evaluated. Various communication media and channels are being utilized for educating community. Effective communication through need based media or media mix is the basis of success of any programme.

Media inform rural people about projects and programme through newspapers, radio, television and videos, posters and variable message signs, mass mailings of brochures or newsletters and distributions of fliers.

Media Mix Strategies:

Studies have proved that there is no one best medium of communication. No single medium can effectively meet the goals because each medium has its own characteristic strengths and weaknesses. However, combination of media can help in complementing and supplementing each other. The strength of certain media can help to compensate the weaknesses of other media in combination. Some of the well tried media combinations include use of mass media with inter-personal channels such as information disseminated through radio can be well supported by discussion among listeners of rural listener club called as rural radio forum. The difficulties of

language and abstraction of ideas can be overcome in this way if the leader helps in relating information with local examples.

In Peru, the strategy of communicating agricultural information to farmers include use of flyer with radio programmes, reinforcement radio programmes, learning guide, group training demonstration and individual training. Here flyers constituted basic text on technologies with well illustrated graphics. These contents were explained through radio programmes in step by step manner. These instructional radio programmes were supplemented by reinforcement radio programmes, containing suggestions and alternative, as a result of responses received from the field. Learning guides were printed and distributed for each crop in order to see details after listening to radio programmes. The farmers attended training programmes and they also had opportunities to participate in individual training and see demonstrations. Thus, there was enough opportunity to get feedback also helped radio station in redesigning programmes with appropriate cases.

Another communication project supported by Food and Agricultural Organization in Peru, used video in combination with printed guides and discussion led by the extension agents followed by demonstration and practice. While video was the major medium to provide information specific to target group. In order to make terms and process clear, printed guides were prepared for both learners and extension agents to help at the time of viewing. Extension agents had instructions to stop video at designated points while playing it before the farmers so that farmers can discuss their doubts and problems. Required implements and inputs were kept ready so that extension agents can demonstrate the practices to the farmers. Farmers got chance to practices also and learn the required skills. Thus, a series of video were produced to meet information and skill needs of farmers.