



Principles of Extension

GENESIS OF EXTENSION

The term was formally used for the first time in 1873 by Cambridge University to describe a particular 'Extension' of educational innovation. This was to take the educational advantages of universities to the ordinary people, where they lived and worked. The term 'extension' was first coined in England in the 1840s. James Stuart, considered to be the father of extension, was the first to deliver lectures to women's, men's clubs in 1867-68 in the north England and create the first record in the history of extension.¹

The first Director of Extension within the United States (University of Chicago, 1892) was Moulton. He had been one of the Cambridge University's early extension workers and in 1885 had documented the first ten years of the extension movement—the world's first real treatise on extension. Agricultural extension developed much later than the other extension programmes. The Scottish Advisory Service is one of the oldest agricultural extension services in the world. It was established in its present form as a co-operative county, agricultural college and national programme. Concurrent agricultural education and advisory movement developed in England, Continental Europe, and also in Australia. Animal husbandry extension emerged in Australia as early as 1889, Queensland started a successful dairy extension programme based on the use of two 'mobile' dairy extension units (trains).²

Since the beginning of the 20th century the 'extension education' has been used in the United States. The university extension of England leads the isolated agricultural extension work of the US Land-Grant colleges. The farmers' institute movement originated in the north eastern United States. The Woman's Institute was adopted by US and UK from Canada.

1. Farquhar R.N. Australian Agricultural Extension Conference: Reviews, Papers and Reports, 1962
2. United Nations Science and Technology for Development: Report of the UN Conference on the Application of Science and Technology for the Benefit of the Less Developed Area, Vol.6, Education and Training, 1963.

Dr. Seaman Knapp's 'Farm and Home Demonstration' programme started in southern USA in 1902. It was sponsored by US Department of Agriculture. Later it became a co-operative extension service.

Extension in Abroad

Extension concept is well developed in USA, Israel, China, Japan, Taiwan and Australia. In USA, the extension activity is mainly done by the co-operative extension and home economics service. In Israel extension service is given by the joint centre for agricultural extension run jointly by the Government and the settlement department of the Jewish agency. In China, the attempt was first made by the National Committee of the Chinese YMCA in 1915. National Extension Service Programme and the Republic of China made immense role of extension activity in that country.

In Japan, the extension work was started as early as 1870. In this context the approach was same as USA system with a slight change. Imperial agricultural association took part active role in Japan for extension service. In Taiwan rapid progress made since 1948. Here the extension work is undertaken by the farmer's association. In Australia, now it is very well developed. The animal husbandry extension activity is implemented by the department of primary industries (DPI). There is separate extension officer for dairy, sheep, etc. Other countries like Philippines, Republic of Korea, Nepal, Burma and Pakistan also have started their extension division.

The present pattern of American agricultural extension resulted from the merger of major national agricultural rehabilitation programmes, plus some farmer and adult education movements, with university extension. Further, agricultural extension closely integrated into a much wider programme of extension or 'community development'.

Agricultural extension, animal husbandry extension, dairy extension, home science extension, horticulture extension, agri-engineering extension and all other forms of extensions take education to people.

MEANING OF EXTENSION

The term extension has its origin in the Latin word “tensio” meaning “stretching” and “ex” meaning “out”. The literal meaning of extension is “stretching out”. In our context, extension is stretching out to the villages for imparting scientific information beyond the limits of universities and research stations where formal education is given. Hence extension is informal education of rural people in an out-of-school situation. The common meaning of the term is that extension involves the conscious communication of information to help people form sound opinions and make good decisions.¹

- a. **Extension is education for all people.** It is the education of all the farmers, farm women, youths and villagers as a whole.
- b. **Extension is changing knowledge, skill and attitude of all the people.** Extension aims at bringing about desirable changes in the attitude, knowledge and skill.
- c. **Extension is working with men and women, young and old, boys and girls to answer their needs and wants.** Working with all people irrespective of sex, age to answer their needs and wants.
- d. **Extension is helping people to help themselves.** Helping people is service. But service makes people dependent. On the other hand, if we educate them they become self-reliant (independent). Education makes people self-reliant by bringing about desirable changes in what they feel (attitude), what they know (knowledge) and what they do (skill). Extension teaching aims at helping people to help themselves through education and not merely by service. “If you give fish to a man you feed him for a day (service approach) but if you teach him how to fish, you feed him for life long (educational approach)”. The educational approach is desirable because it helps a person to help himself.
- e. **Extension is “learning by doing and seeing is believing”.** “What a man hears he may doubt, what a man sees he may possibly doubt, but what a man does he cannot doubt.” About 80% of the people learn by seeing, hearing and doing. Implication for extension worker is to make the farmers work by doing themselves. The benefit of the new practice is appreciated and continued to be adopted without reverting to old method.
- f. **Extension is teaching people what to want (i.e. converting unfelt needs into felt needs) as well as**

how to work out ways of satisfying these wants and inspiring them to achieve their desires (wants). At present, due to lack of knowledge and convictions, many farmers adopt traditional methods and do not know that their livestock and poultry need balanced feed for optimum production. If the extension worker teaches the farmer, the benefits of balanced feed (learning by doing) becomes a want and thereafter a felt need. Then the farmer should be taught how to mix the balanced feed or where from to get it. Thus the farmer learns the new practice of feeding the balanced rations and he continues to use it in his farm. Balanced ration becomes a felt need thereafter in future.

- g. **Extension is the development of individuals in their day-to-day living, development of their leaders, their society and their world as a whole.** To begin with, the extension worker influences two or three individuals to take to scientific livestock or poultry farming and eventually these individuals assume leadership to teach the rest of the people in the area to have livestock farms or to raise poultry through scientific methods. In course of time the entire village may be covered and most people would follow new methods of livestock or poultry farming and derive profits. Thus extension is the development of individuals, leaders, society as a whole, in day-to-day living.
- h. **Extension is working together to expand the welfare and happiness of the people, their families, the village, the country and the world.** The research worker, extension worker and farmer together form a team for development and progress of country. Research workers (investigators) evolve new methods. The extension workers are interpreters of scientific information in the popular form so that the farmers may understand, accept and adopt the new and improved practices for increasing production, which is the basis or foundation for expanding the welfare and happiness of the people.
- i. **Extension is working together in harmony with the culture of the people.** Culture means approved way of life. Improved practices recommended by the extension worker should be compatible with the approved way of life of the local people, e.g.
 1. Vegetarian—dairying, horticulture
 2. Non-vegetarian
 - a. Hindu—piggery, poultry, etc.
 - b. Muslim—poultry, fishery, etc.

j. **Extension is a living relationship between the village workers and village people, respect and trust for each other, sharing of joys and sorrows and results in friendship through which village extension work continues.** The extension work can be conducted through close and continuous contact between the extension worker and the farmers in the area. In proportion to the number of contacts, more and more people are influenced or changed to adopt new methods. The extension worker is a friend, philosopher and guide.

k. **Extension is a two-way channel** (Fig. 1.1). Researches bring out innovation. The extension worker carries this new scientific information and passes it onto the farmers. The farmers may have some problems and difficulties in day-to-day farming while applying the new practices and techniques. The extension worker may not have ready answer or solution for this problem faced by farmers and seeks answers. The research worker conducts experiments and passes on his results as answers.

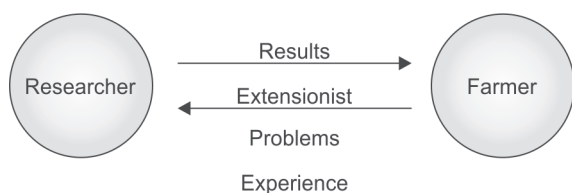


Fig. 1.1: Two-way channel

Therefore, the extension worker has dual responsibility of bringing the results of research to the farmers and at the same time has also the responsibility to transmit the problems faced by the farmer to the research worker for answers or solution. Thus it is a two-way channel.

l. **Extension is a continuous educational process (in which both the learner and teacher contribute and receive)**

In 1955, 7 kg of poultry feed was required for 14 weeks for a poultry to gain 1.5 kg in live weight. In 1958, 6 kg of feed was recommended for 12 weeks for a bird to gain 1.5 kg of weight. During 1970, 5 kg of feed was advised as a feed for a broiler to gain 2 kg in 10 weeks. In 1980s, 4 kg of feed was recommended per bird for 8 weeks to gain 2 kg body weight. Now (2019) it requires 3.8 kg of feed to gain 2.1 kg live weight in 5 weeks.

We can understand from this that farmers should be informed of the latest findings of research for efficient production and it is the job of the extension worker to continuously educate the farmer about the latest

scientific information relating to feeding, breeding and management of livestock for increased production.

DEFINITION OF EXTENSION

By definition, extension and extension education are synonymous. Extension is out of school system of education in which adults and young people learn by doing.¹

Extension is education and its purpose is to change the attitude and practices of people with whom the work is done.² Animal husbandry or veterinary extension is a special branch of extension education which deals with the people through educational procedures, for improving livestock farming methods and techniques, increasing the animals and bird production efficiency and income, stepping up the level of living and elevating the social and educational standards of rural life.³

Extension education is an applied science consisting of content derived from researchers, accumulated field experiences and relevant principles drawn from the behavioural sciences, synthesized with useful technology in a body of philosophy, principles, content and matters focused on the problems of out of school education for adults and youths.⁴

Extension education is the process of teaching rural people how to live better by learning ways that improve their farm, home and community institutions.⁵

COMPONENTS OF EXTENSION

Over a period of time, extension has become highly specialised in nature, with status of a discipline and well-developed profession. It has now its own methodology, philosophy and principles together with systematised body of knowledge.

Extension has three broad components, viz. Extension Education, Extension Service and Extension Work. Each one has its own merits and yields, different results depending on the abilities, capabilities and potentialities of the individuals, organisation and users who practice them in the field situation.

1. Kelsey L.D. and Hearne G.C. "Co-operative Extension Work". Comstock Publishing Associates, New York, 1963.
2. Ensminger Douglas, "A Guide to Community Development", Govt. of India, New Delhi, 1962.
3. Mathialagan, P. "Principles of Extension Education-Manual" Department of Extension Education, VC & RI TANUVAS, Namakkal, 1993.
4. Leagans, J.P. "Extension Education in Community Development", Directorate of Extension, Govt of India, 1961.
5. Ibid.

Extension Education

This is basically a need-oriented, local-resource based, problem-solution oriented system and concerned with tripod for modernisation, viz. teaching, research and extension education. Here the extension efforts are research-based, mostly concerned with development of communication media-mix, training-technology, and evolving research-based extension methodology and organizational dynamics duly charged with an efficient management of technologies, both in terms of its (i) products, viz. new breeds, medicines, vaccines and (ii) processes, viz. artificial insemination, cross breeding, feeding methods and educating people to change their attitudes towards microbes, parasites' control, etc.

In an academic parlance, "Extension Education" is a behavioural science following a continuous, persuasive and discriminating educational process. It aims at affecting the behavioural changes in people in a desirable direction through conviction, communication and diffusion by its proven methods, principles and philosophies, all cumulatives resulting in (mutual) learning involvement of both client and change agent systems.¹

The extension education role is generally performed by higher learning institutions, viz. research institutes, universities and apex level training and extension organisations.

Extension Service

It is an organisation and/or programme for animal husbandry, agriculture, development and rural welfare, employing the extension process as a means of programme implementation. Extension service is location-specific, input-intensive, service-oriented and field level professional activities concerned with advising the target beneficiaries on the various facts of technologies on one hand, and communicating field and user's problems to the research scientists, on the other. Thus it bridges the gap between research results and their application in the field through continuous persuasion, communication, motivation and involvement of inputs/credits as well as other supporting agencies. It serves as a catalytic agent in bringing people, problems, production processes and productivity together for achieving prosperity in an assigned influence area.

Extension service has the role and responsibility of bridging the gap between research and users of technology through transplanting, transmitting and translating research results (technology) into practice

by way of establishing co-ordination and linkages with institutions of higher learning on the one hand, and people's institutions and organisations, on the other. It establishes two-way communication processes, i.e. (i) transferring technology in the field through demonstrations, delivery and direct teaching of target beneficiaries, and (ii) providing feedback, feed-in, feed-up and feed-down processes in strengthening and using national and international knowledge to make it more useful to the research from the users' point of view so as to enable reorientation of location-specific researches, duly matched with the felt needs of the people as per availability of indigenous knowledge, resources and inputs.

Extension services also work hand-in-glove with other development departments, inputs and credit institution and try to multiply their efforts (effects) through mass and local media of communication. Extension service is the mission and mandate of various development departments like animal husbandry, agriculture, health, industry, education (instructional technology, information and communication technology) etc.

Extension Work

Extension work is to assist people engaged in farming and home-making to utilise more fully their own resources and those available to them for solving current problems and meeting changing economic and social conditions. Extension work is through educational and service approach. Rural people are stimulated to make changes that result in more efficient production and marketing of farm products, conservation of natural resources, more comfortable homes, improved health and more satisfying family and community life.

Extension work is the education of people to help themselves in decision-making in the right direction. It is a system of service and education designed to meet the needs of the people. This concept is at the lowest in hierarchy but extremely broad-based in usages as it is highly popular. It is also extremely location-specific, and usually susceptible to outside criticism. At the same time it gives best results from the altruistic motive of the users of the concept.

Extension work is actually performing task(s) in helping the people to help themselves in making them self-reliant, self-respectful, self-acting through self-help projects and activities and in inculcating self-will (obstinacy). Here, the emphasis is on development of 'self' so that in performing each task one may not require 'push' from others to start their vehicle of

socioeconomic life and self-development, maturation and growth every time.

Extension work is to help farmers to solve their own problems through the application of scientific knowledge as now generally accepted. If this be true then extension must be regarded as largely educational. If extension workers devote more effort at creating of a desire for information, farmers would come and ask for it, rather than wait for it to be brought to them. Farmer motivation thus becomes a phase of extension work worthy of careful study in any area. The effectiveness of extension work is measured by its ability to change the static situation which prevails in rural areas into a dynamic one.

Many farmers will ask the local extension worker to dehorn their calves, deworm their sheep and debeak their chickens. Unless the farmer is also taught to do these things himself, it is not extension education but a service.

In the developing countries extension work is done mostly by agencies and/or individuals wedded to altruism and/or on minimum payment. This is generally the role and responsibility of individuals and agencies having mission and mandate to uplift the people. Extension work requires a fair degree of emotional commitment on the part of the extension worker to fulfil such tasks specially in educating people in the desirable direction. This agency is termed "Extension", and the personnel manning this agency or organisation are called "Extension Workers".

SCOPE OF EXTENSION

The dictionary meaning of "scope" is "space for action", "the end before the mind". The scope of extension is unlimited, mostly dealing with the problems concerning every day life. It teaches people how to do something and to work out ways and means to satisfy their own felt need. It teaches people as to how to recognize and solve problems of life which are considered inevitable. It is an education of action-action in groups and masses, within a democratic framework of society.

It emphasises on change of mental outlook of the people and filling in them ambition of higher standards of life, the will and determination to work for such standards. This higher standard of life may be possible by directing attention to the following items:

- i. Increased employment and increased production by application of scientific methods of animal husbandry, fisheries, agriculture, etc. and the establishment of subsidiary and cottage industries.

- ii. Self-help and self-reliance and the largest possible application of the principle of co-operation.
- iii. Developing the vast unutilised resources of the country-side for the benefit of the country.
- iv. Closest co-operation with the best unofficial leadership.

So, in short, the scope of extension is to enable the people to have higher standards of life through the above-mentioned four right and self-motivated means and as this higher standard of life is a growing one without limit, the scope of extension also becomes limitless.

CONCEPT OF EXTENSION

Concept means 'idea'. The basic concept of extension is that it is education. "Briefly we can define education as shaping of behaviour or modification of behaviour of the individual for adequate adjustment in the society".¹

Basic Changes in Behaviour

Change in behaviour means, change in knowledge and understanding, skill and attitude.

Knowledge and Understanding

Knowledge is a component of behaviour which is the ability or act of knowing remembering recollecting and things learnt and experienced.

Knowledge (or things known) is the intimate acquaintance with facts. It is the information one has acquired and can use in various situations, e.g. knowing that the newborn calf should be fed with colostrum about 1/10th of its body weight.

Understanding is the comprehension of the meaning of things, the ability to interpret situations. It often includes cause and effect relationships. How and why events are related to each other, e.g. 1 kg of broiler finisher mash costs ₹ 5 and hence 4 kg costs how much? $5 \times 4 = 20$ (understanding).

Skill

Skill is an ability in action. It is the ability to do a job. It is the competency in using knowledge effectively. Skills are two types manual and mental or technical. Manual skill or physical skill means proficiency in handling tools, machines and materials, e.g. using de-beaker, constructing brooder, etc.

1. Chauhan, SS. Advanced Educational Psychology", Vikas Publishing House Pvt. Ltd., New Delhi, 1982.

Technical or mental skill means expertise in the use and application of technical knowledge, e.g. how to use flame gun for disinfection, operating incubator, preparing solution for dipping of sheep, etc.

Attitude

Attitude is the degree of positive or negative effect associated with some psychological object¹. Attitude is a predisposition to behave in a given manner.²

Attitudes (what one feels) are emotional reactions usually expressed as feelings towards something. They are likely to imply the direction of potential action, e.g. generally poultry farmers used to dispose their dead birds by simply throwing away but nowadays they have started disposing them either by burying or incinerating (change in attitude).

Extension education may combine all these changes in human behaviour in getting one job done.

Three Concepts³

- i. All inclusive concept: A number of countries still conceive that extension means the work that is done by the Government departments at village level, including the supplies to the rural farmers.
- ii. Service concept: To gain more confidence of the farmers, more work of service nature was also added later on.
- iii. Educational concept: The ultimate aim is to help people to help themselves through education to bring a change in outlook. But effective education is possible only if there is a separate agency to assume the responsibility for supplies and services enabling the extension workers to devote themselves to the task of training the farmers.

Steps in Extension Education Process

Any effective education programme involves five essential phases. The diagram (Fig. 1.2) participatory rural appraisal/rapid rural appraisal shows the sequence of steps that result in the process from a given situation to a new or a more desirable one.⁴

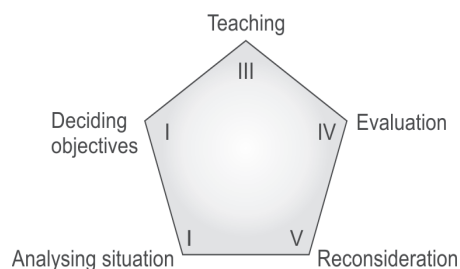


Fig. 1.2: Steps in extension education process

Analysing the Situation and Identifying the Problems

This needs detailed information about a number of factors. It is very necessary to know the interests, education, social customs, habits and folkways of the people. It is also necessary to know physical factors such as soils, types of livestock and poultry farming, cropping system, markets, housing conditions, communications, etc. (Leagans, JP) These details can be acquired by conducting participatory rural appraisal/rapid rural appraisal (PRA/RRA).

All these factors are essential prerequisites and by knowing them the extension worker should be able to introduce new facts and research findings to stimulate a fresh approach to the problems of the people. A thorough analysis of situation will help to compare conditions that exist with goals that are desired.

Objectives

The general objectives and the specific or working objectives (mainly teaching objective) should be stated separately, among different levels of objectives that are recognized. A limited number of problems should be selected and their objectives stated in simple, direct language. The solutions to be offered must give satisfaction. They should satisfy the people and the extension workers. People would take interest in planning and execution of the programme if they feel that it is "their programme".

Teaching

Teaching must take into consideration. Selection of subject matter which will be the teaching objective. Appropriate methods and tools to convey the subject matter. The methods to be used should be consistent with the economic, social and educational levels of the people. For instance, the mass media, which are very effective in advanced countries where literacy and economic levels are high, are not yet effective in India. On the other hand, individual and group contact methods are very effective in India.

1. Thurstone, LL et al. "The Measurement of Attitude", Chicago: Univ. Chicago Press, 1929. As quoted by Allen. L. Edwards, "Techniques of Attitude Scale Construction," 1969.
2. Mathialagan, P. "Attitude of Livestock Farmers", A Mimeographed Lecture Note, Department of Extension Education VC & RI, TANUVAS, Namakkal, 1994.
3. FAO Survey Report on Extension in Asia, 1975
4. Leagans, JP. "Extension Education in Community Development" op.cit.

Evaluation

Evaluation is a continuous process and must be planned for the initial stages of the programme. A few important objectives should be selected for evaluation and the process of evaluation must be as simple as possible.

Reconsideration

As a result of the teaching programme, the situation changes and becomes different from that in the beginning. The physical, social and economic conditions of the people also undergo change. Hence, reconsideration to meet the fresh needs and interests of the people becomes imperative, as evaluation shows certain goals as being accomplished.

The extension education process is to consider each of the five steps in succession. The steps are not separate but overlap one another. Planning, teaching, evaluation and reconsideration take place continuously throughout the entire process of extension work.

The Concept of Salesmanship¹

Extension teaching is something compared to commercial salesmanship. It is pointed out that the extension worker is primarily engaged in the “selling” of ideas. Certainly, many of the techniques employed by a good salesman in selling physical goods are services that have direct application in extension. But while one is a commercial transaction conducted for private profit, the other is an educational process conducted by a public agency to bring about changes in the knowledge, attitude or skill of the individual.

AIMS OF EXTENSION²

Extension aims at: (a) Human resource development, (b) increasing production, and (c) bringing suitable changes in the cultural aspects.

Human Resource Development

Human resource development for multiplier effect by:

- i. Imparting knowledge, skills, understanding about the use of various components of technology (education/training).
- ii. Bringing desirable changes in the behavioural patterns, attitudes, values, goals, and confidence as well as the practices of the people (communication skills).

1. Reddy, AA. “Extension Education”, Sree Lakshmi Press, Bapatla, Andhra Pradesh, 1993.
2. Adopted from “Extension Management on Communication Skills-Reading Material”, NIRD, Hyderabad.

- iii. Firing the imagination of the people through the gateway of ‘learning-by-doing’ and ‘seeing is believing’.

This will help people in taking their own decisions and initiatives by themselves (demonstrations).

- iv. Making available fund of knowledge, wisdom and observations for perennial use and as references (publications).
- v. Providing continuous flow of information and data for decision making so as to keep their (clientele) morale and motivation high for learning more and more and for the actual harvesting of resultant benefits for self-development (information and documentation).
- vi. Continuously providing technological back-stoppings for recycling of their (clientele) economic gain.

Increasing Production

Increasing production by (i) Making realistic assessment and availability of need-based inputs (knowledge and physical) for given set(s) of technology in maximisation of their outputs (training). (ii) Prepositioning of needed inputs in order to make them available at a reachable point, so as to conserve their resources, energy and efforts and thereby hasten the pace of development (grants-in-aid, subsidy, loan provision all put together). (iii) Organising interest groups, societies and markets for getting maximum economic gain and thus eliminating middlemen and exploiters (gate keeping). (iv) Developing farmers’ organisations and linking them with respective farm-organisations (public, co-operative and private).

Cultural Change

Bringing suitable changes in the cultural aspects of the people so that the changes in practices automatically bring changes in the knowledge, skills and attitudes.

All the above changes must raise higher techno-socio-psycho-cultural standards (together) with economic prosperity in the community duly linked with the national programmes and policies of overall development of the people. In achieving the above aims, the extension workers have to acquire skills in practising the philosophy, principles and methodology of extension.

OBJECTIVES OF EXTENSION

Objectives can be defined as expression of desired ends towards which our efforts are directed. According to Paul Leagans, objective means “A direction of

movements". If objectives are defined as the direction of movement then a goal may be defined as the distance in any given direction during a given period of time. Some say objectives, aim, goals and purposes are "Synonyms" but it is not so.

Classification of Objectives

There are different types of classification of objectives (Fig. 1.3). They are as follows:

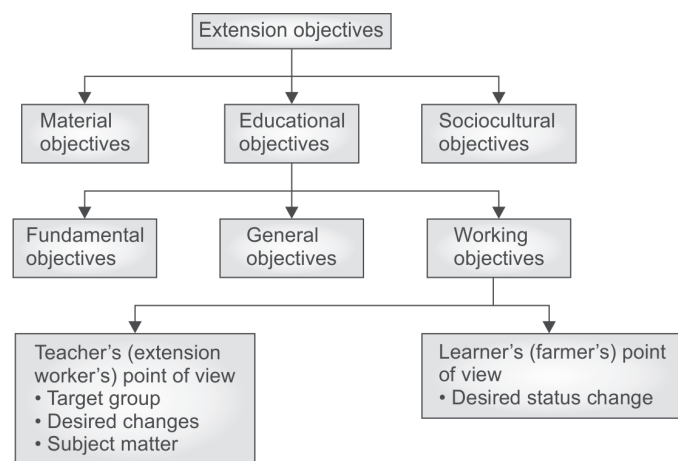


Fig. 1.3: Classification of objectives of extension

General and Specific Objectives

- General objectives are those which are broad-based and general in nature, e.g. raising the standard of living of the farming community
- Specific objectives are those which are concerned with single item and are more particular. eg. intensive health cover to scheme animals, better sanitation in village.

Long-term and Short-term Objectives

Long-term objectives are more permanent and are carried out for considerable period. e.g. (1) augmentation of milk production by artificial insemination and cross-breeding in cattle, (2) twelve-year perspective plan, (3) five-year plan, etc.

Short term objectives are those which are mostly temporary and immediately useful ones, e.g. programmes launched for a short period of one year or six months (one-year poultry programme).

Material, Educational and Sociocultural Objectives

Material Objectives

Increase in the livestock farm income by improving production performance of the animals, e.g. European

Economic Community (EEC) Sheep Development Programmes.

Educational Objectives

To develop people through behavioural changes from traditional and static to scientific and dynamic in nature. Extension objective must be educational. Education means the production of desirable changes in human behaviour, e.g.:

1. Farm Radio School on buffalo management (objective change in knowledge).
2. Peripatetic (out campus) training about disinfection of poultry house—demonstration of fumigation, flamegun sterilization, etc. (objective change in skill).
3. By proper education convincing the vegetarian to include eggs in their daily diet (objective change attitude)

There are three levels of educational objectives, namely fundamental objectives, general objectives, and working objectives.

Fundamental Objectives

This includes all basic requirements of a society (food, shelter, and cloth), e.g. better life, better citizenship. It is the function of extension service to teach the people to determine accurately their own problems, to help them acquire knowledge and to drive them to action, but it must be their own action out of their own knowledge and conviction.

General Objectives

Though these objectives are general in nature, they are more definite, e.g. helping rural people for better amenities. Constant improvement of physical and social well-being such as wealth, health, knowledge, sociability, beauty and arts, righteousness are essential to achieve this. Efforts should be made on the following lines:

1. Improvement of the well-being of family.
2. Improvement of farm income through the application of scientific methods and farm mechanisation.
3. Encouragement of people to be wiser consumers.
4. Improvement of health through better nutritive and more adequate health facilities and services.
5. Improvement of family living through better housing, rural electrification and more adequate labour-saving equipment.
6. Improvement of educational and recreational facilities for the home and community.

7. Development of better understanding, more active participation in community, state, national and international affairs.
8. Improvement of resources so that future generations may also have good living and the general welfare safeguards.

Working Objectives

This may be determined in two ways. First being teacher's stand point, (a) target group, (b) desired changes and (c) subject matter, e.g. teaching rural population to have mixed farming. The next being farmer's stand point—desired status change, e.g. to make more money to educate their children up to college level.

It is important to bring harmony among rural people to make them feel what they need and extension workers to think what they ought to have. The difference between wants and needs is roughly difference between what is and what should be. It is essential to reach working objectives through full discussion.

Sociocultural Objectives

Sociocultural objectives are: 1. Developing the community. 2. Promoting the cultural, social, recreational and intellectual life of the rural people. 3. Creating opportunity to improve the talent of rural people. 4. Developing youth as an active member.

Objectives of Animal Husbandry Extension

1. To give knowledge to the farmer and help him perform still more efficiently to produce his own food, and increase his income.
2. To help in changing the farmer to produce his own food, set a good table and live well.
3. To help the member of the farm community in the larger appreciation of opportunities, the beauties and privileges of country and in knowing something about the environment in which they live.
4. To promote the social, the cultural, the recreational and the intellectual life of the rural people.
5. To place opportunity before the rural people to develop native talents through work, recreation, social life and leadership.
6. To make rural citizen proud of his occupation, independent in his thinking, constructive in his outlook, efficient, self-reliant with a love for home and country.

FUNCTIONS OF EXTENSION

The function of education is to bring about desirable changes in human behaviour through education. The education may bring changes in their knowledge, skill, attitude, understanding, goals, action and confidence (Ray GL, 1996).

Change in knowledge means change in what people know. For example, through extension programmes livestock farmers who did not know about clean milk production (CMP), came to know about the technology.

Change in skill means change in the technique of doing things. The livestock farmers learnt the right method of milking which they did not know earlier.

Change in attitude involves change in the reaction towards certain things. The livestock farmers developed favorable attitude towards CMP.

Change in understanding means change in comprehension. The farmers realized the importance of clean milk production in dairy farming and its direct impact on disease prevention.

Change in goal is the distance in any given direction one is expected to go during a given period of time. The farmers directed their goal towards increased milk yield through clean milk production.

Change in action means change in the way of doing things. The farmers who did not follow the practice of CMP started practising it in their farm.

Change in confidence means change in self reliance. Livestock farmers felt that they could follow CMP and prevent mastitis in their animals. The development of confidence or self reliance is the solid foundation for making progress.

DIMENSIONS OF EXTENSION

Extension education is a multidimensional branch of science which has lead role in sustainable development of the society. Misra (1990) and GL Ray (1996) have quoted ten dimensions of agricultural extension. Here we discuss on ten dimensions of veterinary extension.

1. Help to help them self: The main objective of extension is to help the farmers to help themselves. "Self help is the best help"—Aesop. Thus, altruistic dimension is an important dimension of extension. Altruism means concern for others. The base of the extension is the desire to help others.
2. Empowerment through education: Extension is an educational process focused towards sustainable development and empowerment of the society.
3. Communication for development: Extension is communication process meant for the development

of the society. In extension, different modes of communication, individual, group and mass communication are used in coordination with one another to disseminate information.

4. Desirable change in the behavior: Extension education by imparting knowledge, skill, attitude and action brings desirable change in the behavior of an individual.
5. Disseminating technologies: Extension education role is to disseminate scientific technologies on need basis. It also disseminates the skill to adopt the technologies. All technologies developed need not to be adopted at field level. Thus extension education also analyses the reasons and feedbacks for adoption and nonadoption of technologies.
6. Lab to land: Extension education acts as a bridge between research station and the field. The research should be done on the basis of the need of the farmer. But in many instances, the research is done independently, without analyzing the field.
7. Sustainable usage of resources: Intensive usage of natural resources is practiced to meet the growing demand for food. Extension education plays a key role in imparting skills to utilize inputs and natural resources in sustainable way.
8. Income generation: Ultimate aim to disseminate technologies among farmers is to improve their livelihood through income generation. Extension education focus on strategies to improve the income generation and livelihood of farmers
9. Curriculum development: Extension education is nonformal in nature. But it also has a formal role in imparting education to college students at university level. The students who are the future officers should have exposure on extension education, so that it will help them in their professional development and client dealing.
10. Human resource management (HRM) which is the hot topic in all fields of education has also finds its place in extension education. Framing objectives to monitoring and evaluation detailed programme planning is must for the success of any project. Thus extension education clearly defined the steps in programme planning for the successful implementation of projects.

PRINCIPLES OF EXTENSION

Principle means guide for action, fundamental or theoretical basis. It also means law or settled rules for action. "A principle is a universal truth that has been observed and found to be true under varying conditions

and circumstances. A principle is a fundamental truth and a settled rule of action".¹ In this context principles are rules of conduct for extension workers for executing their job efficiently. There is no set of rules, guides, principles that can be passed on to extension workers to follow for rural development. There is no such formula because every situation is different, every potential leader (or farmer) has a different personality, a different background and different attitude that he has acquired through his experiences.

The groups an extension worker will work with will be different in many respects, depending upon the kind of problem he will tackle, the environment in which he is in, and the money available to carry on such functions. There is no formula in the strict sense that one can find identical ways to tackle all problems and always predetermine the results. Extension worker can gain by the experiences of others that have proved successful in eliminating the mistakes and indicate proper actions that should be adopted. Thus, we do not attempt to acquire a formula that all can follow, but strive for guides (or rules) which, within their broad scope, if we understand them, can be usefully applied.

Principle of Existing Environment

The situation or condition that exists means, taking into account all the forces that are present and by utilising these forces, gradually building the programme and momentum necessary to arrive at the objectives. To do this, means to know what the conditions (situations) are. For this, decisions are quickly taken and opinions are hurriedly determined in trying to get on with the job. Taking time to learn about the environment is a very important part of the job.

Extension work should be related to the local situation, local leaders, and capability of the people in that social system. Every social system (village or community) has its own special characteristics, personalities and problems. Stereotyped programmes will not be workable in all areas because problems, need and current interest differ from village to village, block to block, district to district and state to state. Therefore, taking time to study the environment is very important aspect of the extension work.

Principle of Participation and Co-operation

Participation of people in all of the activities of extension programme means involvement, co-operation of people in planning the programme, determining objectives, setting up plan of work, carrying on actions

1. Dahama, O.P. and Bhatnagar, O.P. "Educational and Communication for Development, op.cit.

and evaluating results. The extent or degree of participation will vary and cannot be predetermined. But a sincere desire to involve the recipients of the service and make efforts to permit their involvement must be accepted as necessary prerequisites to work in rural extension programmes. If people participate in programmes they develop a sense of belonging. This also develops leadership and increases the confidence of the people. This will pave way for the success of the programme and future extension programme will be easily introduced and will be readily accepted by the people.

Principle of Developing Programme Gradually

Many problems and failures arise proceeding with the programme in haste even before all facts are present, before the people develop confidence in themselves or their extension leader or before resources are available. We could go on with this list, but let us remember the above principle. It will not guarantee success, but may help to eliminate failures. It is very important to note that no programme should be pushed through. Every programme must progress only at the pace at which the people can understand, appreciate and actively participate in it. Otherwise, we may achieve only physical development of the villages without developing the ability of the people to sustain the development. It is of paramount importance that the solutions found are within the capacity of the people of being adopted.

Principle of Interests and Needs

This is the one feature of extension that usually stands on its own and if correctly applied, usually leads to success. People are drawn together in worldwide organisations and across many barriers, real or imaginary, when united for common interests or needs. The extension education should fulfil the needs of the people and create interest among them for extension programmes. Unfortunately many times the needs of the people and extension programmes are different as when the extension worker identifies clearly the core unfelt needs of the society but the people feel some other needs to be more important. In such situations, the extension worker should give priority to the felt needs of the people. During this period he should create an atmosphere of confidence, which would help in converting the unfelt needs of the people into the felt needs in future. In this way only can the extension agency mould the needs and interests of the people into realistic needs.

Principle of Applied Science and Democracy

Applied animal husbandry and veterinary science is a two-way channel. The field problems are taken to the scientists to find out suitable solutions. The extension agency translates the technology of the university findings and works for their adoption by democratic teaching approaches like discussions and suggestions. All the merits are presented before the targeted groups. Ultimately, the people are free to decide their line of action, the method to be adopted in the local situation with their own resources and those available with government and non-government assistance.

Principle of Adaptability in the Use of Teaching Methods

The selected village may consist of different groups. The level of knowledge, understanding, socio-psychological and biophysical characters of each group and its members may be different. So, no single method can carry all information to bring about desirable change in all the members of the group. Therefore, suitable selection, proper combination and skillful handling of the methods will transfer technology effectively and bring out desirable results. The extension worker can also use available resources to devise low-cost teaching aids that can be used in his teaching.

Principle of Learning by Doing

During the extension programme the farmers should be encouraged to learn new practices by doing them. It is learning by doing, which is most effective in changing peoples' behaviour and in developing the confidence to use the innovation in future. "What a man hears he may doubt, what a man sees he may possibly doubt, but what a man does he cannot doubt.

Principle of Using Existing Local Agencies or Grassroot Organisations

Panchayats, village co-operatives, schools, youth clubs, farmers' associations, woman's clubs and other welfare organisations are called grassroot organisations or local agencies. These organisations already have group of local people who have been brought together for special reasons. These groupings, their leaderships and the interests can be utilized to make contacts and develop programmes. The use of local groups would also make for a faster way to learn about the people and their culture and status. Learning about the agencies and their roles in a community or area also is one way for the extension education worker to be more intelligent

about the area he must work in. Extension worker should fully utilize the services of local organisations and agencies in promoting the development activities.

Principle of Cultural Differences

For effective implementation of any extension programme, the approach and procedure must be suited to the local culture. In a big country like India different extension approaches need to be used for different states, regions and localities, as people in those areas differ in their thinking, living environment and culture. A blueprint of the extension programme developed for one area may not be applicable as such in another area 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.

Principle of Cultural Change

The extension worker who works personally with the rural people must be aware of what they know and think. The change agent must find out and understand the limitations, the taboos and the cultural values. This can be related to each aspect of his programme, before it is introduced, so that an acceptable approach may be selected. Also, suitable programmes should be formulated and introduced to change the undesirable culture.

Principle of Trained Specialists

Since animal husbandry, agriculture, fisheries, home science and other sciences are rapidly growing with new innovative techniques, the extension worker should be aware of the current information to provide them to the needy. It is impossible for a village level multipurpose extension worker (e.g. RWO or Gramasevak) to keep himself abreast with all the latest findings of researches in all the branches of science he has to deal with in his day-to-day activity. Instead, the trained personnel or specialists from the development departments concerned like extension officers of animal husbandry, Agriculture and Veterinary Assistant Surgeons should be provided with all recent advancement in their discipline which have scope for adoption in particular field through periodical in-service training in the universities.

Principle of Satisfaction

Any successful programme results in satisfaction of the clientele. If they are satisfied with one programme the participation will be more in any future extension programmes. When the adoption of a new practice

results in more production and profit they derive full satisfaction and develop confidence.

Principle of Leadership

Local leaders are the guardians of local thought and action. So, for introducing any new practice the extension worker should identify, select and train the local leaders. It is said that there is one leader in ten person. The use of local leaders is one of the unique differences between formal education and extension education in the approaches. We can make available more number of teachers in the rural area by proper selection and training of the leaders. Extension service development and expansion depends directly upon the degree of involvement of local leaders.

Principle of the Whole Family Approach

A rural family is an integral social unit in which all members have a part in carrying out the farming. Therefore, all the members of the family have to be developed equally by involving each of them. While introducing new practice, if the extension worker neglects one member of the family there is a possibility of the rejection of the innovation. If the farmer is alone persuaded or taught the extension worker teaches only one member of the family. If the extension worker persuades the housewife, the entire family is taught. "If woman moves, the household moves, if a household moves, the community moves, if the community moves, the village moves: if the village moves the country moves" (Nehru).

Principle of Continuous Evaluation

Evaluation is an analysis by which one understands the merits and deficiencies of objectives, programme content, methods used in carrying out the programme and the results of the programme. The results of evaluation would help the extension workers in improving the quality of the programme.

Principle of all Classes of Society

Since extension education is basically a programme aimed at rural people, it is for all classes in the rural areas. To improve rural welfare means to help all segments of the society. If the programme favours or ignores any segment or group, the results will be poorer by that degree.

Principle of National Policies

No organization will be sanctioned if it is not in line with the ideas and opinions of national leaders. No programme will get necessary backing to operate if it

is in conflict with national policies. We must face the fact that educational organization and programmes are a part of the nation in which they serve. It is very important to keep abreast of national policies. National policy and programme take over all view of the balanced development of country as a whole. Local programme and policies should be as far as possible in line with national policies and programmes to make the best use of the financial resources.

PHILOSOPHY OF EXTENSION

Philosophy means the search, by logical reasoning, for understanding of the basic truths and principles of the universe, life and morals, and human perception and understanding of these. It is also a system of ideas concerning this or a particular subject, a system of principles for the conduct of life.

“Philosophy is an attempt to answer unlimited questions critically after investigating all that makes such questions puzzling and after realising the vagueness and confusion that underlie our ordinary ideas.”¹

The practical implication is that the philosophy of a particular discipline would furnish the principles or guidelines to shape or mould the programmes or activities relating to that discipline. The philosophy of extension education is based on the hypothesis that rural people are intelligent and they are interested in obtaining new information and at the same time have a keen desire to utilize this information for their individual and social welfare.

When an extension worker approaches the people to introduce a new technology, the people test the message against their philosophy of life and if that message fits in their philosophy then they act on it. The first step in this direction is to communicate the innovations. An atmosphere of natural trust and friendship between the extension worker and the people should be developed. The extension worker should gain full understanding of the problems and difficulties of the people in order to solve them.

There are two ways of solving the farmers' problems. One is by compelling people to adopt and another is by using a democratic approach, in which people are taught by educational method to solve the problems. The basic philosophy of extension is directed towards changing the outlook of man by educating him. Compulsion does not persuade the people to act in a particular way. The only way to secure the participation and co-operation of

a person is to educate him. Education is not mere transfer of information. It is to transform the people by bringing about desirable changes in their behaviour.

The philosophy of extension education has been explained and interpreted in many ways by various authors and a clear-cut picture can be developed by trying to form a comprehensive idea by examining the views of different authors.

Philosophical Characteristics of Extension¹

The philosophical characteristics of extension work listed are those principles, attitudes, practices, or conceptions related to the people we serve that are commonly used by many extension workers:

1. Extension has philosophy of democracy.
2. Extension has a philosophy of education for all.
3. Extension has a philosophy of culture.
4. Extension has a philosophy of social progress.
5. Extension has a philosophy of leadership.
6. Extension has a philosophy of dignity of the individual and his profession.
7. Extension has a philosophy concerning teaching.
8. Extension has a philosophy about truth.
9. Extension has a philosophy of local responsibility.
10. Extension personnel have philosophical characteristics.

Kelsey and Hearne (1955)

The philosophy of extension work is based on the importance of the individual in the promotion of progress for rural people and for the nation. Extension educators work with people to help them to develop themselves and achieve superior personal well-being. Together they establish specific objectives, expressed in terms of everyday life, which lead them in the direction of overall objectives. Some will make progress in one direction while others will do so in another direction, the progress varying with individual needs, interests and abilities. Through this process the whole community improves, as a result of co-operative participation and leadership development.

Ensminger (1962)

According to Ensminger, the philosophy of extension can be expressed as follows:

- It is an educational process. Extension is changing the attitudes, knowledge and skills of the people.
- Extension is working with men and women, young people, boys and girls, to answer their needs and their wants. Extension is teaching people what to want and ways to satisfy their wants.

1. "Southern Regional Extension School," held at University of Arkansas, 1949.

- Extension is “helping people to help themselves”.
- Extension is “learning by doing and seeing is believing”.
- Extension is development of individual, their leaders, their society and their world as a whole.
- Extension is working together to expand the welfare and happiness of people.
- Extension is working in harmony with the culture of the people.
- Extension is a living relationship, respect and trust for each other.
- Extension is a two-way channel.
- Extension is a continuous educational process.

Dahama (1965)

According to Dahama, the following points are the “Philosophy of Extension”.

- Self help.
- People are the greatest resources.
- It is a co-operative effort.
- It has its foundation in democracy.
- It involves a two-way channel of knowledge and experience.
- It is based on creating interest by seeing and doing.
- Voluntary, co-operative participation in programmes.
- Persuasion and education of the people.
- The programme is based on the attitudes and values of the people.
- It is a never-ending process.

Having all the author’s idea in mind we can say extension has a philosophy of education, individual development, democratic approach, leadership development and cultural change. The basic philosophy of extension is changing the outlook of rural people by educating them.

BASIC ELEMENTS IN EXTENSION

Basic elements in extension education are man himself (physiological and psychological man’s environment (physical, economic and social) and man-created devices for improving his welfare.

Man Himself

When we view a man, he is an individual human personality, a product of inherited traits shaped by forces in the environment in which he lives/exists. He possesses extensive mental as well as emotional powers with desire to resist many acts and conditions and to improve many things. He also possesses great potential physical skill. In short, a man must be viewed as possessing an extensive capacity for developing himself and shaping his environment.

Man’s Environment

Some of the major environmental/external forces facing a typical Indian villager are low agricultural and livestock production, low per capita income, poor housing facilities, insanitary conditions, poor health, underemployment, unemployment, poor educational opportunities, over population, unsatisfactory and insecure system, inadequate water resources, unsystematic or no credit facilities, traditional unproductive and uneconomical agricultural implements and farming practices, adherence to outmoded customs and traditions.

Man-created Devices for Improving Welfare

Trained personnel, scientific knowledge, improved production tools, improved production methods and materials, expanded communication media, government aid for credit, inputs, guidance and for self-help along with freedom and encouragement are some of the man-created devices.

Therefore, these three basic elements lie at the use of extension education for community development. People are constantly in a state of trying to create and maintain a satisfying balance between the elements of man and his environment. The third element, man-created devices in the form of community development programme in India, is designed to help people make desirable adjustments between the elements of man and his environments.

The methods by which this adjustment must be made in a free society are by education. Only the human element is controlling the progress today. Therefore, the key to community development lies in the *mind*, *heart* and *hands* of the people and those of their professional readers.

THREE LINKAGES IN EXTENSION

For a prosperous future, you cannot apply “yesterday’s methods in today’s production”. In other words the rural people should constantly seek new information concerning improved livestock and latest agriculture production techniques, knowing, understanding, accepting and then adopting these modern methods in day-to-day farming to increase the productivity and income. As far as animal husbandry is concerned, the farmers are expected to produce milk, meat and eggs in more quantities.

Any research finding from the research stations of universities will be useful only when it reaches the users. Besides it should fit to the user’s need and should be “user-friendly”. To develop need based technologies the researcher should have contact with the farmers or

users. But the researchers neither have the time to meet the rural people on a continuous basis nor they are equipped to meet the people and persuade them to adopt scientific and profitable methods and to ascertain from them the rural problem. On the other hand, it is impracticable for the millions of farmers to visit the research stations and universities to learn things for themselves.

Hence, an agency is required to bridge the gap between the researchers and the people at large and to play the dual role of interpreting the results of research to the farmers in such a way that they accept and adopt the recommendations and to convey the farmers' problems to the researchers for solutions. This agency is termed "Extension" and the personnel manning this agency or organization are called "Extension Workers".

There are three interrelated agencies which play a vital role in the process of rural development (Fig. 1.4).

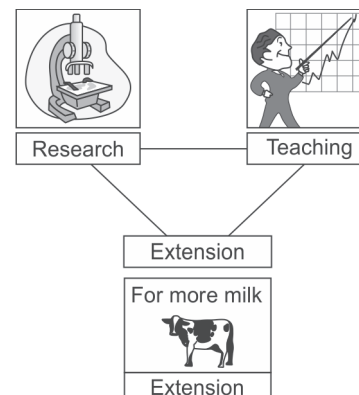


Fig. 1.4: Three linkages in extension

husbandry and agricultural production to the students so that they are better equipped when they take up jobs as extension workers, research workers and teachers.

Research Agency

Manned by people highly trained in research work to evolve modern methods for more efficient, profitable livestock and poultry production and improved practices.

Teaching Agency

Colleges of veterinary and agricultural sciences teach modern methods covering all aspects of animal

Extension Agency

The extension agency has the responsibility to communicate the results of research to the farmers in simple terms and encourage them to modern methods and improved practices in day-to-day farming to increase production. On the shoulders of extension workers lies the responsibility and functions of effectively conveying the practical and useful information to the farmers.

Contrasts Between Formal Education and Extension Education

Formal education	Extension education
1. This is specialized in nature with fixed curriculum and is highly formal	This is highly informal in nature. There is no fixed curriculum
2. This has organized classrooms, laboratories, prescribed books, fixed time and examinations	There are no classrooms, the extension worker does his job in actual life situation, no prescribed books, no fixed period and no examinations
3. Learners adopt themselves to the syllabus offered	Here it should be flexible to meet the different needs and demands of the learners
4. Pupils are requested to strictly follow the institutional norms and there is no free choice for the student	Freedom and choice of subject matter left to the learners
5. The learners are homogenous with common goals	Here the learners are heterogenous and they vary in age, education level, experience and have preconceived ideas. There may also be differences in their value systems and cultural background. Their goals are diversified
6. Learners go to the teacher for learning	Mostly teacher goes to the learners to teach
7. Teacher alone teaches the student	The extension worker educates selected local leaders, then the local leaders are also used as teachers to teach their friends, neighbours and relatives
8. Students learn from the teacher. Instructor is mostly elder than students and has more experience than the pupils	Teachers also learn from the farmers. The extension worker may be younger than the farmers and always ready to learn from the farmers' experience
9. Teaching is more vertical	Teaching is highly horizontal
10. Formal education is mostly deductive in approach	Extension teaching is invariably of the inductive type

Contrasts between animal husbandry extension and agricultural extension

<i>Animal husbandry extension</i>	<i>Agricultural extension</i>
1. Clientele base is very wide, ranging from landlords to the landless, from Prince to Pauper	Narrow clientele base restricted to land owning farmers
2. Clientele territory ranges from village halmets to cosmopolitan cities	Clientele territory is mostly rural
3. In addition to technology transfer Veterinarian as an extensive worker does the job of clinician and doctor (treatment, prevention and control of diseases of livestock)	The worker is confined to technology transfer
4. In animal husbandry extension the workers are prone to many life-threatening occupational hazards, since they work with all varieties of the animal species	The actual work is done by the farmers themselves under guidance of the extension hazards, since they work workers
5. Besides extracting the economic benefits from the animals, the clients are sentimentally attached with their animals. Hence, a tactful, wise and specialized approach is required while treating the animal and dealing with the clients. It is indeed an Herculean task for the animal husbandry extension worker	Since agricultural activity is purely for economic benefits, standard extension approach is sufficient
6. Result demonstration takes longer time. Hence, the diffusion and adoption time may usually take months to years. This being the case the extension worker has to apply strenuous and sustained efforts to bring forth the adoption	Result demonstration can be seen in shorter period-in hours to days. The efforts of the extension worker is relatively less than that of animal husbandry extension worker
7. The physical presence of the animal husbandry extension worker is essential due to risk prone complexity of technology	Once the extension worker imparts the skills to the farmer the farmer can adopt the methods learnt even in the absence of the extension worker
8. Since 70% of the livestock farm labour is carried out by women, more gender specialised extension approach is needed	Equal attention is needed for both men and women
9. Women do involve in decision-making process	Man has a greater say in decision making