

CHAPTER THREE

Introduction

Chapter three provides a literature review to develop the conceptual framework for the study. Literature pertaining to needs assessment, which includes needs definition, needs assessment approaches, and needs assessment methods, is reviewed. Then the literature on the theory of participatory research and its characteristics will be presented. Finally, this chapter discusses the suitability of participatory research for educational needs assessment of rural underprivileged people using literature on adult education principles and community development.

Needs assessment

The term "needs assessment" is interpreted differently by various authors. But it is clear that all authors agree that needs assessment is the basis for program planning. Needs assessment is a very important first step of program planning in human services and education (Atwood and Roth, 1971, quoted in Pennington, 1980; Brundage and Mackeracher, 1980); Needs assessment is a basis for developing educational activities for adults and is a difficult process (Knowles, 1980). It has been described as the "most persistent shibboleth in the rhetoric of adult education program planning" (Griffith, 1978: 383) and "the most ludicrous spectacle in program planning and evaluation" (Scriven and Roth, 1978). Pennington (1987), states that needs assessment assists planning of programs and promotes effective services. According to the literature, needs assessment is generally the fundamental activity and tool for decision-making in human services and education. In the conventional discourse on program planning in adult education "needs" denote a condition that is discernible through the use of an analytical method called needs assessment (Davidson, 1995).

In education, the term 'program' generally refers to curriculum for learning and teaching (Brundage and Mackeracher, 1980). Knowles (1980a), argues

that program planning in the adult education field is the planning of educational activities which aims to provide solutions to the day-to-day life of adult people to improve their living conditions. In the literature reviewed on educational program planning, Brundage and Mackeracher (1980) and Beatty (1976) suggest that there are at least five steps in the program planning process and needs assessment will be the first step of any program planning.

Steps of program planning

(1) *Assessing needs and problems*

A needs assessment can focus on the problems of learner expectations of certifying bodies, various aspects of the program content, concerns of the community or needs of the program facilitator or institute (Brundage and Mackeracher, 1980). Adult education should not be mainly concerned with facilitators' or institute objectives but should be more focussed on learners' problems and needs for their self development. The needs of the people are changing according to environmental changes. Therefore, needs assessment is continuous work, in adult education and community development.

(2) *Establishing objectives*

This step is always closely related to the needs assessment step and it is to decide on objectives to overcome the needs which have been assessed. It is focused on the objectives of learners especially in the adult education field. Objectives should be very clear in order to find solutions for the assessed needs and should be made with the participation of adult learners at least through discussions.

(3) *Designing activities*

The activities which are designed to effect change should be congruent with the objectives and should facilitate movement in the planned direction of change. Planning of activities includes deciding on resources, educational activities and learning environment, which are

again related to needs (Brundage and Mackeracher, 1980).

(4) *Implementing of designed activities*

This step is focussed on the planning of the physical implementation activities and in adult education and human services. Implementation work will be successful when participants are involved in the planning process.

(5) *Evaluating outcomes*

Evaluation is usually carried out to assess the achievement or failure of the implemented program. The evaluation criteria should be decided with adult learners. Evaluation can be done by the learners themselves or by the educators or other persons.

According to Brundage and Mackeracher (1980), program planning is an extremely difficult activity. Just a written description of a plan cannot lead to a successful program. Needs assessment is a very difficult and most important step in program planning and it helps to carry out all other steps of the program planning procedure.

Concept of needs

Knowles (1980); McMahon (1970); Berry (1971); Beatty (1981) and Mackillip (1987); defined the term "needs" as a measurable gap between a current situation and that which is desired. Candy (1984), Atwood and Ellis (1971 quoted in Pennington, 1980), Brennan (1988), and Jarvis (1987) defined "needs" as a deficiency that detracts from a person's well being. Literature reviews show that some authors used the word 'deficiency' to define needs while other authors used the word 'discrepancy'. Discrepancy involves a measure between a current level and another level determined usually by some outside body or authority. The use of both terms - discrepancy and deficiency - is noted in the following discussion.

The definition of "needs", which uses the word deficiency, steers away from measured levels because of the emphasis on the less accurate value laden

perception of the deficiency. The nature of deficiency or needs changes over time. It means people's lives are in a constant process of change due to external and internal factors. Also, needs change over the dimension of time. Deficiency does not assume, as does discrepancy, that someone perceiving the condition knows the direction in which the person or group who has been identified as having the deficiency, should proceed (Monette, 1977). There is an assumption with the use of discrepancy that an observer knows the solution for the needs identified. Such an assumption when dealing with individuals or groups is dangerous and can lead to misunderstanding. Therefore it is useful to accept Brennan's definition for need – "need is a condition in which someone perceives that there is a deficiency" (Brennan, 1988). This definition explains that needs are not objective-related but rather imprecise perceptions of definitions that may be evident in individuals, groups, communities or organisations.

Classifications of needs

Maslow (1970) recognises five levels of human needs in his hierarchy:

- (1) Physiological needs, such as thirst, hunger and rest which refer to basic factors necessary to maintain human life.
- (2) Security needs are physical, psychological and economic desires such as the need to ensure against pain or danger in life.
- (3) Belonging and love needs involve a desire for affectionate relations with people and social groups.
- (4) Esteem needs, such as feeling of self-confidence, self-respect, wealth and beauty are those things which drive individuals to seek recognition and earn status within their social groups.
- (5) Self-actualisation needs, which are desires to fulfil the individuals' potential for development in terms of their capabilities. Maslow emphasises that the needs for self-actualisation is a healthy person's prime motivation. The healthy individual is one whose basic needs have been met with the result that he or she is principally motivated to achieve his or her potential.

Maslow (1970) argues that adults cannot move toward positive goals until adverse conditions have been reduced. He describes the adverse conditions as deficit needs and the positive goals as growth needs. Deficit needs focus on belongings, self esteem and self actualisation tendencies. Educational strategies should focus on reducing deficit needs first, thus freeing the learner to pursue growth needs (Brundage and Mackeracher, 1980).

Knowles (1980) has classified needs into two categories:

- (1) Basic or organic needs, and
- (2) Educational needs.

Basic needs comprise Maslow's six types of needs. Those basic needs are regarded as motivating forces. Knowles (1980) recognises educational needs in three types. They are the needs and goals of (a) individuals, (b) institutions, and (c) society. The needs and goals of individuals are perceived to be growth in knowledge, understanding, skills, attitudes, interests and appreciation; the achievement of complete self-identity through the development of full potential and the achievement of maturity.

Bradshaw (1972) divided needs into four categories:

- (1) Normative needs, which are defined by the same authority in accordance with an accepted standard,
- (2) Felt needs, are a need experienced by the people concerned,
- (3) Expressed needs, which are a need expressed by people seeking some form of service,
- (4) *Comparative needs, which are a need inferred from comparison of service provision with national or regional norms.*

Bradshaw's categories are still measured by experts; and his conception of needs remains essentially within the positivist framework (Ife, 1995).

According to the positivist concept 'needs' is an objective reality as if they exist and can be measured. Needs assessment is an essential technical exercise which follows an already prepared methodology. Therefore, experts are required to conduct the needs assessment procedure. According to this concept, need definition comes from professional people such as social workers, social researchers, agricultural experts, administrators, psychologists and so on. As this concept does not consider the ideas of the people who are assessed, it follows the "top-down" approach in defining needs. In this approach, experts are those who decide measurable levels of needs of the people with their ideas. According to Illich (1978):

this approach reinforces existing professional power and does not allow the empowerment of the people.

Ife (1995) argues that these conventional professional practices, based on assumptions of empowerment, only serve to reinforce the powerlessness of the people and does not allow the people to express their views on their needs and act on them in their own way. According to Ife's view, needs should be neither objective nor value free and should allow liberation rather than oppression. Needs assessment, which is conducted for community development and social change, must move away from the conventional positivist account of needs as objects which tend to treat need as a single concept.

Social justice principles are frequently expressed in terms of need. The notion of need is fundamental to social planning and community development. There are two ways in which need is seen as basic to social justice and community development. Firstly, a belief that people or communities should have their needs met and, secondly, that people or communities should be able to define their own needs rather than have them defined by others (Ife, 1995).

According to the community development perspective, it is essential that people be able to define their own needs; this, after all, is the basis of empowerment for community development. Defining needs assessment as a technical undertaking is the experts way of disempowering ordinary people and handing over to those experts the power to define people's needs for them.

From this view of needs definition, the role of community worker or extension officer is to facilitate the process of people defining their own needs in such a way that they can act to have those perceived needs met. To do this, a community worker might well wish to collect and analyse relevant social and economic data to present to the community and provide programs of awareness on different subjects in order to help people make needs judgements. The worker will also want to facilitate the process of needs definition by bringing people together, and helping groups to reach consensus, but the community worker does not make the needs judgment her/himself (Ife, 1995).

Needs assessment approaches

Needs assessment approaches vary in purpose, scope and magnitude. Needs assessment methods found in the literature can be examined with three main needs assessment approaches explained by Collins. These are the market consumerist approach, democratic approach and radical approach.

The market consumerist approach

According to Collins (1984), the consumerist approach of educational needs assessment aims to market the educational programs available in the organisation. Potential clients of this approach are those who can pay for educational programs. People who can pay for their educational programs are usually educated and have a source of income. Marketing techniques are usually used to ask about needs from the clients. Educators who sell the program are the people who act as an adviser or salesman. In this approach the educator wants to find out which educational program could be sold to the people. This approach does not take into account any questions regarding basic or real needs or normative needs.

The market consumerist approach is not suitable for planning educational programs for poor people in the society, because they can not afford to pay for their education. This approach does not really address learning outcomes and it does not serve the disadvantaged people in the community. This approach is completely business oriented and provides benefits for educational organisations rather than poor people in the society, and it does not allow changes in society and maintains the present situation of the

learners. In other words, it is totally conservative. Collins (1984) explained the problem of this approach for adult education. The planning of needs assessment is done according to the educational organisation's views and institutional bias can be seen in analysing needs assessment. This approach always maintains a market approach rather than focussing on learning needs. This approach is not suitable for assessing educational needs of the disadvantaged farmers in the rural areas of Sri Lanka, as it does not help to empower the underprivileged groups in society and does not facilitate social change.

Liberal democratic approach

This approach is softer than the market consumerist approach as it considers individual learners. Potential clients of this approach are those who are usually better off and relatively well educated. According to the Collins (1984) potential clients may or may not be able to pay for their educational programs. This approach also is not concerned about the poor and neglected people who really want to improve in the society. Needs assessment of this approach, uses questionnaires, interviews and sometimes group techniques to gather information. Although it treats clients democratically, the educator or planner has all the rights to handle the situation. The planner or educator may prepare questionnaires without any involvement of potential learners and provide learners to select their choices.

An educator or planner is usually an expert in such questioning techniques and he plays the leading role in the needs assessment exercise. Liberal democratic approach always believes planner or educator as an expert who can find the learners needs other than any one and he will be able to help clients to achieve the goal of self actualisation. Educator wants to guide the individual towards the way of improving the society. This approach attracts middle class better off people in the society, who are more able to express their felt needs. Collins (1984) argues that these needs generally donate emerge at the bottom part of the Maslow's needs hierarchy, and gives priority for companionship, self identity and self actualisation needs. As this approach is heavily based on the development of the individual, it is not suitable to plan educational programs which expects to help the poor people for a better society.

According to the liberal approach potential learners can vote for the subjects they wish to learn, but do not have the opportunity to contribute ideas for needs assessment plans. Potential learner should select from whatever subjects decided by the experts . The educational needs assessment approach of the department of Animal Production and Health is more or less characterised by the liberal democratic approach as it gives leadership for livestock experts to decide the needs of the potential learners, but this approach does not treat underprivileged, neglected groups in the society and not expect to change the society. Therefore a liberal approach is not suitable for educational needs assessment of poor farmers in the rural areas of Sri Lanka.

Radical approach

According to Collins (1984), potential clients of the radical approach is those who are more disadvantaged, even in the industrialised societies. Such groups are the poor people, uneducated people, women, prisoners, some ethnic communities, rural communities etc. Micro techniques administered by social and political experts are used in this approach to assess the needs of the underprivileged people.

Experts guide and facilitate people to become involved with planning, implementing and analysing of the needs assessment procedures with their own ideas. But experts do not merely contextualize the needs of the people. They reach the people by living with the community. They prefer both individual and group discussions. In this approach. adult educators or researchers are expected to be amateurs, to reduce experts to non-expert status. Educators or experts motivate potential learners to understand their problems and situations, and ask about their needs while collaborating with groups of those being examined. The Radical approach promotes learners participation with educators or experts, helps people to reduce their status of disadvantage in the way participants wish to develop. The Radical approach is considered at the bottom of Maslow's need hierarchy rather than at the top of it. This approach aims to help both individuals and groups to gain greater equality in society. Collins (1984), explained that Freire represents this approach and emphasises the need to find out what people are lacking in their lives. In this sense a radical approach follows a normative need pattern in which certain standards are held to be normal and the client group is

prejudged as lacking. The Radical approach believes that peoples needs are related to cultural and the historical environment of society and is expected to work with great humanity and live among their clients. Group process, participation, freedom for learners to act are the major characters of this approach.

The Radical approach is the most suitable approach for needs assessment for planning of adult educational programs which are expected to improve conditions of the disadvantaged people, especially those in the third world.

Participatory research and radical needs assessment approach are similar in characterstic therefore participatory research can be used to implement the radical approach.

* *Self fulfilment method*

The self-fulfilment model includes random and selective appeal models. Random appeal models aim at discovering those needs of a large segment of the population to attract them to educational activities to the educational agent. Agents usually make educational programs for self-supporting individuals. This method appeals to individuals' needs, not for community needs, and selective appeals focus on the presumed needs of a known segment of the population. Programs based on this method generally use formats that have already been tested with the specialised population. In this model bias can be seen in analysing results. Self-fulfilment methods, (Pennington, 1980) also attempt to maintain the market rather than focusing on learner needs. It is very clear that this method is characterised by a market consumerist approach of needs assessment explained by Collins, Which is not suitable for assess the needs of disadvantaged groups.

* *Individual appraisals method*

This method of needs assessment engages the participation of individual learners in determining their own learning needs, either collaboratively or non-collaboratively. Individual appraisal follows liberal democratic approaches as it is more concerned with individual learners preferences. In the collaborative way, learners use assistance from educators to clarify needs and in a non-collaborative way, they measure their own learning needs.

Problems with this method are participants who measure their own learning needs and not through an educational agent, may not be aware of their analysis. Highly educated individuals are clients of this method and is not directed towards underprivileged people.

* *The system discrepancy method*

According to Pennington, (1980) this method identifies the gap between what is and what ought to be in a given situation and educators who follow this method develop remedial programs. Educational needs and educational objectives relate to difficulties in the client system rather than individuals. But all the decisions are made by the researcher or a group of experts and they assume those are the best decisions to improve the system. The client system refers to a group of people in some professions. It can be the educational profession, the agricultural profession etc. However, it is difficult to relate this method to the marketing approach as it doesn't sell any programs for the clients. In this method client's needs are identified by someone outside of the situation which is in conflict with the liberal approach too, although it does not include participation of the clients. But this does not mean that people have freedom for active participation in needs assessment work to generate ideas. People can vote for experts ideas which does not mean active participation. Educators who follow these methods to identify needs attempt to define needs and they expose to the learners who find their interest and develop remedial programs (Pennington, 1980). It expects to improve the system rather than individuals which may be closer to the radical approach. This approach attempts to define and then develop remedial programs (Pennington, 1980).

* *Diagnostic or medical method*

The diagnostic model views needs as something absent or as a deficiency which proves harmful. In this method, researchers identify needs by observing the situation as a doctor diagnoses the condition of a patient. This approach seeks both unmet and met needs and the researcher uses his/her specific knowledge to decide which deficiencies would be harmful. Needs specified using the diagnostic model can be more precisely described in terms of a performance deficit and in terms of treatment deficit (Pennington, 1980). In this method, instead of asking what the learning needs are, the

diagnosticians put their efforts into understanding the situation by asking questions related to problems. Test scores, work samples and critical incidents, may be used for the assessment of needs. When compared with the characteristics of three main approaches which are explained by Collins (1984) the diagnostic method does not resemble any of them. Here needs decisions are taken by the experts.

* *Analytic method*

This method defines a direction in which improvement would occur, given information about the status of a person or program. It places a premium on informed judgment and systematic problem solving. It needs a complete description of a person whose needs are being assessed. It focuses on improvement rather than remediation and does not require advance statements of standards or success criteria. Some problems with this method centre around the fact that it is an abstraction that may be difficult to apply and requires skilled problem solvers.

Pennington (1980) defines a direction in which improvement may occur acting on informed judgment and systematic problem solving.

There is also no involvement of participant, market orientations, nor is there special treatment for disadvantaged groups, therefore the analytic method does not follow any approaches suggested by Collins.

* *Democratic method*

This method involves interactive and collaborative efforts at specifying needs. The Democratic method is somewhat related to the liberal democratic approach as it involves interaction and collaboration with participants. Though it is democratic, potential clients are not the disadvantaged people in society.

The majority of the Sri Lankan livestock farmers belong to very rural, under-developed areas of the country and they are not educated but poor and powerless. The main objective of the Department of Animal Production and Health in Sri Lanka is to provide services to improve the rural livestock sector. The Department's rural livestock development work is considered as

part of the community development process and its main objective is to improve conditions for underprivileged people and to change their lives. According to Collins, (1984) the radical approach to needs assessment is absolutely revolutionary, highly participatory, and directly addresses disadvantaged groups in society. Therefore the participatory research for educational needs assessment will closely resemble the radical approach and which may help significantly to change the rural farmers' societies in Sri Lanka .

Participatory Research (PR)

Introduction

Participatory research is most commonly described as an integrated activity that combines social investigation, community educational work and action (Hall, 1981). Participatory research in its attempt to bring about social transformation has a necessary relationship with social action. While classical social science research has conspicuously avoided any connection with social action, the experience is that accordingly participatory research invariably culminates in some form of social action (Tandon, 1980). It is this very linkage between PR and participatory social action that has daunted many professional researchers working on PR projects. It is precisely because of this linkage that many have attacked PR as merely a community development process rather than research (Tandon, 1980).

Participatory research combines community participation in decision-making with methods of social investigation. In this process, the community gains not only from the results of the research but also from the process itself (Hall, 1981). Therefore the purposes of participatory research, as it has been espoused by its proponents includes: empowering the weak underprivileged and increasing participation in the decision-making of those involved; to bringing about radical transformation of social reality and improving the lives of the people involved; increasing awareness by the people of their own resources; liberating human creative potential and mobilising human resources for the solution of social problems: and engendering the spirit of self reliance in order to bring about the total development of the individual and the community (Tandon, 1978; Hall, 1981). Therefore, participatory

research is one of social justice and the emancipation of underprivileged people.

PR is the process which develop people to be responsible for their own development. Participatory research seeks to raise people's awareness and capacity by equipping them with new skills to analyse and solve problems. This is achieved by involving people in the development of every step of the research process, rather than by having them follow predetermined research methods imposed from the outside. As a result, the distinction between the roles of the external researchers and the "subjects" - the people being studied - should become less pronounced. External experts and professional interact with community members or a project agency primarily as facilitators (Narayan, 1996:17) PR provides immediate and direct benefits to a community in the entire process, liberation of human creative potential, and ideological goals. PR is aimed at achieving social change, the empowerment of under privileged groups and the control of research by the people who are researched (Kidd, 1981). Its purpose is to transfer power to the people who have not and organising and mobilising powerless, underprivileged people (Hall, 1981).

The origins of participatory research

By the late 1950s and early 1960s, the dominant international research paradigm was a version of the North American and European model, based on empiricism and positivism and characterised by an attention to instrument construction and defined by statistical precision and replicability. Through the elaborate mechanisms of international scholarships cultural exchanges and training of researchers in Europe and North America, this dominant paradigm was extended to the Third World. Research methods, through an illusion of objectivity and scientific credibility become one more manifestation of cultural dependency (Hall, 1981).

The reaction from the Third World beginning in Latin America has taken many forms. Dependency theorists such as Don Santos, Frank Amin and Lieys outlined some of the mechanisms of economic and cultural dependency. Hence in the field of research methods, perspective's of the Third world have grown out of a reaction to approaches developed in North America and Europe; approaches that have been not only created in different

cultural settings but that contribute to already existing class distinctions. The Third World's contribution to social science research methods represents an attempt to find ways of uncovering knowledge that work better in societies where interpretation of reality must take second place to the changing of that reality. Practical experience in what was becoming known as participatory research was the work of the Tanzania Bureau of resource allocation and land use planning. Here Marja Liisa Swantz and teams of students and village workers were involved in questions of youth and employment in Central Kilimanjaro. A visit by Paulo Freire to Tanzania in 1971 was a stimulus to many social scientists who might not have been as impressed by the existing experience of many adult educators or community development workers. One of the most useful roles of Paulo Freire has been to bring some of the current ideas of Latin American social scientists to the world. The development of theory and practice of PR has been a collective process. It has benefited from the experience of the projects from 60 countries. In 1977 the PR network was formed and it is encouraged and supported by the International Council for Adult Education, largely because the PR concept emphasises "people as experts". PR differs significantly from the traditional kind of social investigation and it has been part of the tradition of the adult education.

Theories of participatory research

Principles of PR

From experience gained in working with the PR projects, Budd Hall (1981) suggested the following principles for PR:

- (1) In a research project both process and results can be of immediate and direct benefit to a community and not merely the basis for an academic paper or obscure policy analysis. It is important that the community or population can gain not only from the results of the investigation, but from the process itself. Such an approach has the advantage of creating a better atmosphere and providing the outside members of a research team with the possibility of closer involvement with the community.*

- (2) *The research process should involve the community in the entire research project from the formulation and interpretation of the problem to the interpretation of the findings and the planning of corrective action based upon those results. The research process should be based on a system of discussion, investigation and analysis which is the process of the investigators. The research team should include villagers, farmers, women etc.*
- (3) *The research process should be seen as part of a total educational experience which serves to determine community needs and to increase awareness of problems and commitment to solutions within the community. From this point of view, research becomes an integral part of educational planning. It could thus become an accepted method of raising interest and increasing motivation.*
- (4) *Research should be viewed as a dialectic process, a dialogue overtime, and not as a static picture of reality at any one point in time.*
- (5) *The objectives of research, like the objectives of education, should be the liberation of human creative potential and the mobilisation of human resources for the solution of social problems.*
- (6) *Research is always constant learning and economic development process together. The more intellectual power and creativity that can be brought to bear on society, the more likely will be a solution to its problems.*
- (7) *Research has ideological implications, therefore two points are involved in this matter. First is the re-affirmation of the political nature of all we do, especially in Adult education, knowledge is power. Research that allows for popular involvement and the increased capacity of analysis will also make conflictual action possible or necessary.*

Characteristics of participatory research

According to Tandon (1980) and Narayan (1996), the characteristics of the Participatory Research can be identified as follows:

- * **Participatory research is a process of knowing and acting**

Participatory research is a process of knowing and acting. People engaged in PR simultaneously enhance their understanding and knowledge of a particular situation as well as taking action to change it for their benefit. To that extent, PR attempts to remove the established dichotomy of knowing and using that knowledge for better lives. In most of the third world countries, disadvantage poor people do not get the opportunity to know their situation and act to change these situation. Because of the character of PR, people are educated on their own situation which is important for their planning

- * **PR process initiated in the context of the actual reality**

The process of PR is initiated in the context of the actual reality which the "have nots" intend to change. Therefore, an existing problem provides the initial motivation for engaging in PR. In situations where people are already aware of a problem and articulate enough about it, they may initiate PR themselves. They may or may not use the resources of experts from outside. In other situations, outsiders be they activists or educators or researchers, may provide the initial problem focus. However, the involvement in the process of people from that situation, even if it begins with an external push, is a necessary element of PR. The present Sri Lankan rural development process is not initiated by the actual reality, because all the development plans are made before really entering to the situation.

- * **PR involves the people in the centre of the entire process**

While the participation of people in the process of knowing and acting is a necessary part of PR, the extent and nature of this participation varies considerably. Where the initiative to engage in a process of PR comes from people of the situation, their participation is quite

widespread. In most cases, they take part in the methodology of data collection and analysis, planning and taking action. In other cases, where the initiative comes externally, the participation of people from the situation is initially limited, but tends to increase in scope and depth as the process moves on. They may not be so involved in methods of data collection and analysis in the planning and taking of action stage. People are the neglected part of the Sri Lankan livestock development programs while experts are very central to this development process.

* **Participants have control over the process**

The people of the situation must have control over the process of knowing and acting. It is easier to obtain control when the initiative comes from the people themselves. In the case of external initiative, it is a slow process by which people of the situation begin to control the PR. The external party may not relinquish control so easily. This becomes more complicated if this external party is an expert. Experts have a tendency to control others; less educated people like farmers in the Third World countries tend to voluntarily submit to an expert's control. In either event, it is imperative that the processes of PR shift control over the process of knowing and knowledge to the people in that situation. This character of the PR step may be an unwanted influence to the society. Most of the third world rural development programs do without peoples participation. Therefore people do not know and do not have enough power to reject unsuitable decisions which badly affect the society.

* **PR methodology reduces the limitations of classical research**

The methodology of PR attempts to reduce the classical research which may not give proper findings. It employs methods of data collection which are prevalent in classical research. However, it also emphasises qualitative and phenomenological methods which are generally considered "unscientific" in the classical model. The methodology of PR, however, stresses inter-personal communication among different parties and demands classification of the motives of the external party.

As classical research does not provide any opportunity for people to involve actively in research process finding may or may not be suitable for people of the society.

* **PR has a collective nature**

An important characteristic of PR is its collective nature. As it has evolved over the years, the process of PR requires groups of people to engage together. The most important step in this context is collective analysis of a given situation. It is this significant distinction from the classical paradigm that makes research an individual effort. Participatory research is a collective enterprise and this is reflected in its different steps. An outcome of this characteristic of PR has been the creation of organisations among the "have nots". "Have nots" are usually unorganised and their lives are isolated from society.

Korten (1980) explained the situation of the rural cooperative organisation in Third World countries. The member-controlled cooperatives have been an idea with almost universal appeal, being widely promoted in many of the developing countries as an integral instrument of national rural development policy. But rural cooperatives in developing areas today bring little benefit to the masses of the poorest inhabitants of these areas who cannot be generally regarded as agents of change and development for such groups. It is better off rural inhabitants who mainly take advantage of the cooperative services and facilities, such as government supplied credit and technical assistance channelled through co-operatives. Often the services offered by the cooperatives, such as production loans and marketing services, are of little use to the landless labourers or the subsistence farmers. These co-operatives are controlled by the powerful members of the committee and government agents. Women are often excluded, except when there is no male head of household, even where women are the chief agricultural producers.

The Asian Bank Development Livestock Development project in Sri Lanka, put enormous effort into organising the livestock farmers into livestock co-operatives, but all the co-operatives were failures as those groups were initiated by experts. The process of PR brings such persons

together; collecting, sharing, analysis and action generated strong connections between them. Over a period of time, these connections grew into organisations of the "have nots". Tandon explains that this has been demonstrated many times in the rural Asian context.

* **Entire PR process is educational experience for people**

The process of PR is an educative experience for those engaged in it. People in the situation become aware and more knowledgeable through their engagement. They become more knowledgeable in understanding their real situation and possible ways of changing that situation. It is this component of learning for all that makes PR a distinctive approach. As practised in Sri Lanka, normal sociological research data are collected by the experts, people may not necessarily have any idea about what they investigate, why they investigate, what is lacking, or what the possible changes or improvements. They do not have the chance to study and understand their realities and possibilities. Most of the rural Sri Lankan situations are never exposed to experts. Although the experts come to the villages and explain the objectives of the survey, people are always scared to tell the truth because they think that the survey result will affect their own lands or their free food stamps. So that situation never allows people to think creatively and learn about or investigate, their problems and work to find out solutions for their problems.

* **Educator / researcher work as a facilitator**

An Educator does not have the leading power in PR. His or her involvement is as a participatory social actor within the researched community.

* **PR enhance the problem solving capacity**

By engaging the members of the organisation or members of the community as co-researchers in managing the research process, participatory research is enhancing the problem solving capacity of organisation or community, rather than just to develop a one-off solution to a problem (Elden and Chisholm, 1993).

Participatory research method and adult education principles

According to Brundage and Mackeracher (1980), adults have extensive pragmatic life experiences which tend to structure and create new learning. Learning focuses largely on transforming or extending the meanings, values, skills, and strategies acquired in previous experiences. This principal agrees to a large extent with PR.

Major pressures for change come from factors related to social and work roles and expectations and to the personal need for continuing productivity and self definition. In general, adult's learning needs are related to current life situations. Adults are likely to express and understand their own needs and can describe their own learning processes through verbal activities which allow them to negotiate and collaborate in planning their own educational programs. Adults who value their experience as a rich resource for further learning or whose experience is valued by others are better learners (Landvogt, 1970; Coombs, 1974; Thimbodean, 1979) quoted in Brundage and Mackeracher (1980).

The participatory research method for assessing adult educational needs is a good start in encouraging adult participation throughout the whole learning process. If they initiate and investigate their educational needs with their life experiences, they will continue to be involved in developing educational plans without any guidance from the experts. Adults learn best when they are involved in developing learning objectives for themselves (Brundage and Mackeracher, 1980) which is agrees with the principles of participatory research.

Hall (1981), Hammond (1989), Bennett and Desforges (1985) and Rowland (1984) agree that the objectives of the educational research should be to improve educational practices; which help people to develop their lives. Most of the research in community adult education is action oriented. It may be an attempt to determine community educational needs or an attempt to modify existing programs through an evaluation process. When the changes made by the people in the community adult education program will be participated more actively more efficiently or will gain increased benefits

over what had existed before (Hall, 1981). Most of the adult educators try to understand the learners minds. When needs are determined through mind reading the issues are not clarified and problems are not clearly defined, the assessment steps can result in astonishing inaccuracies, misinterpretations and assumptions which lead to ineffective programs and general dissatisfaction (Brundage and Mackeracher, 1980).

Educational needs assessment and participatory research

Educational needs assessment can also be explained as a social investigation research to discover what areas of knowledge are needed for the people and to what degree they need that knowledge. Needs assessment research aims to find out the answer to what?, how much?, how?, when?, where?, by whom?, about needs. (Knowles, 1980). The adult education conference held in Nairobi in 1976 recommended that adult education should be based on the participant needs and also understand adults including third world underprivileged adults. It should also have proper understanding about learning needs of adults, an understanding gained by long term experience of their lives. These adults should have the opportunity to play an active part in the development of society (UNESCO 1976). Therefore the educational needs assessment of under-privileged communities in the Third World countries is a research which can and should be done by under-privileged learners. Especially in the Third World countries, rural underprivileged people's needs assessment is one of the most important steps of a community development program. Education is one of the most important aspects of community development. It is important that community workers or experts should not decide what basic skills needs to be taught, but rather all the people in the community should take part in setting their own learning agenda.

Eventually, any kind of research must decide its research population and needs assessment also selects its target population Mckillip (1987) explains that a description of the target population and service environment are some of the most important steps of needs assessment. Investigation of the situation, data collection and data analysis are included in both research and needs analysis. Reporting of findings and communication and taking action are also common for both. Research is a cyclic process. Needs assessment is

also a cyclic process because society is always under undergoing a change in its condition. The needs assessment process never ends and training activity becomes relevant to their own defined needs. Such an approach to community development through education requires that the community developer always allows people to investigate their own lack of knowledge, skills and attitudes. While a community developer is helping them and providing awareness to understand reality, this approach even to teaching basic skills, is more closely related to Freire's conscientisation than to conventional didactic training (Ife, 1995: 241).

Educational needs assessment can be referred to as a part of the community development work because results from the needs assessments are very important for planning community development work. PR is a research which aims to find new knowledge with the people. As PR's relationship with social action which results from attempts to acquire knowledge utilisation for social transformation, PR can be identified as a mere model of community development (Tandon, 1980).

Participatory research for educational needs assessment and social change

Adult education means any educational activity organised for out of school people to enable them to develop better knowledge, skills and attitudes which will help them to achieve a better standard of living and more productive lives within their community. The term community development and adult education are rightly regarded as referring to an integrated continuing process of human resource development (Ife, 1995).

In the Third World, most of the rural development work is aimed at changing society for the better. In Sri-Lanka also, government policies for rural development are aimed at changing society. Social change in this study refers to the improvement of skills, knowledge and attitudes of people (farmers) in the under developed, rural agricultural communities in Sri Lanka. According to Ife's explanation, education is a community development work and education needs assessment also can be identified as a part of that community development work. Ross explained community development as a process by which a community identifies its needs or

objectives; orders (or ranks) these needs or objectives; develops the confidence and will to work at these needs or objectives; finds the resources (internal and external) to deal with these needs or objectives; takes action in respect to them and in so doing extends and develops co-operative and collaborative attitudes and practices in the community (Ross, 1995: 4).

Education for people is a planned work for changing people. However participatory research helps to develop the communities and change the society for better. "Change" (planned) defined by Chin and Benne (1976), is conscious, deliberate, and collaborative effort to improve the operations of the human system, whether it be a self system or social system, through the utilisation of valid knowledge (Chin and Benne, 1976: 14). They explained normative re-educative strategies for social changes. It is concerned with the interaction between people and their environment both social and natural. This type of change requires people to be equipped with knowledge and skills that can be processed to meet their needs and problems. It also emphasises participatory work as a medium for educating people who require some intervention from change agents, such as Government Departments. The clarification and reconstruction of the participants values are significant factors of which all authorities must be aware. Community development authorities should avoid the manipulation or indoctrination of the people. According to Chin and Benne (1976), these strategies lead to participants' involvement for planning programs to change their situations. Community development agents function as facilitators, or guides or peers, who help them understand the problems but are not active members of development program. PR is closely aligned with Chin and Benne's social changing strategies.

People sometimes need to undergo awareness education programs to gain further knowledge to resolve their problems. Social development agents should practice participatory techniques to help them. Community development agents and participants should selectively and appropriately apply the methods to solve both present and future problems and the solution should be thought out carefully with elaborate examination of the planned changes. PR accepts this concept. PR for needs assessment, which is the first step of program planning, will open a new path for people to participate in their process of change.

Summary

In this chapter, literature on adult educational needs assessment and participatory research are mainly discussed. According to the positivist concept needs are considered to be objective realities, which could be measured and defined by the needs assessment experts on behalf of the people. This concept increases the professional power and disables the underprivileged people. On the other hand some sociologists argue that needs are not objective realities and are not a value free condition which can be measured. With this argument needs are defined by the people themselves. As DAPH aims to improve the rural underprivileged livestock farmers in the society, then DAPH should consider needs as a subjective condition and should allow it to be defined by the people themselves.

Although the needs assessment is differently interpreted by different authors, all agree that needs assessment is a first step of any program planing work. Three different needs assessment approaches were presented by Collins (1984) namely; market consumerist, liberal democratic and radical approaches. In the radical approach educational needs assessment focuses on underprivileged poor and powerless people in the society. When needs assessment models which are found in the literature review are compared with the above approaches, none of them completely follow the radical approach. The author therefore supports participatory research which agrees with Collins' radical approach to needs assessment.

The second part of the literature review focuses on the theory of participatory research and discusses its principles and characteristics. Finally in the chapter the author looks into the suitability of participatory research for adults' educational needs assessment by using adult education and community development principles.

As this study considers the educational needs assessment of underprivileged rural livestock farmers in Sri Lanka, the participatory research approach is evaluated as a suitable procedure to follow associated with the radical approach to community development.

CHAPTER FOUR

Introduction

Chapter four presents a training model recommended to be followed in the Department of Animal Production and Health, Sri Lanka. Secondly, in this chapter the author discusses procedures that are to be followed to assess the educational needs of adult learners. The chapter then focuses on the problems of present needs assessment procedures used by the Department of Animal Production and Health Sri Lanka. Finally, the author discusses the failure of some of the livestock projects in Sri Lanka which followed expert judgement in needs assessment work.

Training model followed in the Department of Animal Production and Health, Sri Lanka

As discussed in the earlier chapters, the main objective of the training programs, which are organised by the Department of Animal Production and Health in Sri Lanka, is to improve the knowledge, skills and attitudes of learners, in order to increase the animal production of their farms, and ultimately help to increase the economic condition of the poor farmers in the country. Agricultural adult education activities in Sri Lanka can be traced as far back as 1880 – even before the establishment of the Department of Agriculture (Mel, 1987).

The first formal training system was introduced by the Department of Agriculture. Before that time, the farmers satisfied their personal agricultural educational needs by their own experience and from their neighbours experience. The experienced farmers of the family were the main teachers and trainers for the younger farmers. Children usually followed the farming practices of their fathers. After the green revolution, learning of agricultural sciences became more important.

In the formal procedures established to educate farmers, there was no chance for learners to contribute their ideas in planning their educational programs.

Before 1978 when the Department of Animal Production and Health worked jointly with the Department of Agriculture, training programs for livestock farmers were decided by the officers without consulting the farmers.

Most of the training officers first determine the subject matter, by themselves, arrange it to fit a timetable, and then announce the schedule to the trainees. They are focussed on the number of farmers trained in a year rather than the quality of the training programs.

To overcome the above problem and emphasise adult learners' needs, in 1987 the Education, Training and Information Division of the Department of Animal Production and Health introduced a training model to the Department. This model was designed by Moss and associates in 1988. They designed this training model from their experience of working in ten Asian and Pacific countries. This model is characterised by four main phases:

- (1) Planning
- (2) Preparation
- (3) Presentation
- (4) Evaluation

Planning Phase

According to this model, the planning phase involves the assessment of educational needs of the learners. The first step in the needs assessment procedure is to analyse the job requirements of the learners. The second step is to analyse the tasks of the job. The third step is to analyse current performance levels of the learners and these are to be compared with standard performance levels. This process is named as the gap analysis. The gap between the decided level and the current level of the tasks of the jobs is considered the educational needs of the learners. This model has provided the necessary format to be used in needs analysis work.

The second phase of the training model includes selection of course content of the educational programs according to the needs. Selection of the training methods, preparation of lesson plans and planning of evaluation are also done in this phase.

The third phase of this model includes implementation of the training programs.

The final phase includes evaluation, reviewing and revising of the training programs. Another task of the final phase is to evaluate the training program through an impact evaluation. When this systematic training model was brought in, the approach to training was given an analytical footing, so that every step in the process, from needs assessment to training evaluation is formally planned and the whole course is developed into a documentary form.

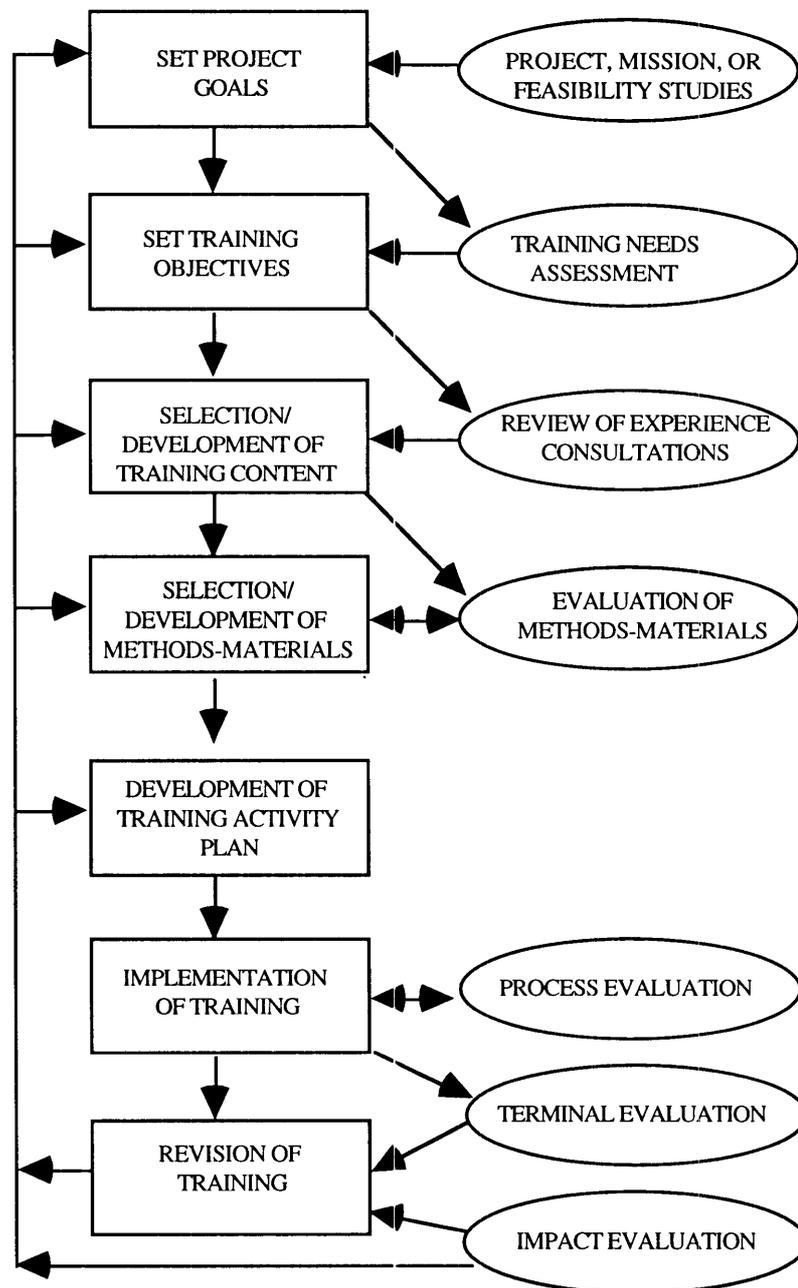


Figure 1.9: Training model

In 1988, the Division of Education, Training and Information of the Department of Animal Production and Health introduced this training model to all the trainers of the department. The Division conducted special workshops, seminars, and training programs for training officers, field veterinarians, livestock development instructors and other necessary officers on this training model. All the training programs (officer training, farmer training) are expected to be conducted according to this model. Since the introduction of the new model there has been some improvement in the training programs compared with earlier programs. But the planning phase of the training programs is still not greatly changed. Trainers put more emphasis on the preparation of lesson plans and audio visual aids than the identification of the learners' needs. Although this training model was introduced to the livestock extension staff, field level training programs, which are conducted for farmers by the extension staff of the veterinary offices, have not improved at all.

Need identification work of the training model

In this model, high priority is given to the assessment of training needs of the learners and it is the first step of the training process. To assess the educational needs the DAPH follow procedures introduced by Raab et al. (1987). According to this procedure, needs identification work is completely given to the experts and there is very limited opportunity for learners to contribute their ideas to the needs identification. The initial step of the needs assessment is to prepare a list and description of jobs or skills that the participants (learners) should perform. Lists of the jobs are usually prepared by the experts. Then the learners' tasks for each job are described. This work is called task analysis. Then the expected performance level of each task is decided according to the expectation of the experts. To decide the expected level, experts use standard production parameters of different animal breeds. After that, the trainees' current performance level is compared with the expected level to find out the gaps. This is called gap analysis.

For example, if the learners are dairy farmers, experts will first list the jobs which need to be performed by a dairy cattle farmer: feeding of animals, cultivation of grassland, milking animals. Educators or subject matter experts will decide the expected outcome of each task of the dairy farm. If

the farmer receives only two litres average milk production per cow per day from a farm with Jersey cows and the standard average milk production per cow per day is ten litres, the gap is eight litres per cow per day. The farmer's training need therefore is to learn to increase the average milk yield per cow per day by eight litres.

This format which was introduced by Raab *et al.* (1987) is widely used for needs analysis work for all kinds of training programs regardless of whether it is for the farmers or for the officers.

Problems faced by the present needs assessment method in DAPH in Sri Lanka

*** Needs of the learners are decided by the experts**

Learners' needs are completely decided by the experts after long procedures of job analysis, task analysis and gap analysis. The expected parameters of the job tasks are always decided according to the organisational point of view rather than the adult learners point of view. This needs assessment method is mainly concerned with general information about the learners and previously obtained training. Experts are able to determine the educational needs of the learners after identifying the gaps between expected performance level and current performance levels then plan educational programs to train them accordingly.

The second phase (preparation phase) starts with the determination of course objectives. Selection of the subject matter, preparation of lesson plans, preparation of audiovisual aids will be done according to the course objectives. Identification of the trainee needs and preparation of the training courses are usually done by more than one person, especially in farmer education programs. In this model, educators spend more time in the preparation phase than the planning phase. Although Moss (1988) emphasises training evaluation in his training model, officers do not emphasise evaluation.

According to the training model, whether the programs are conducted for officers or for farmers, educational needs will be decided by the professional

experts. Although this model shows a very methodical approach to the determination of expected level of performance of the adult learners, determinations of the needs are usually done by the officers. (See Appendix 2 for example of job analysis, task analysis and gap analysis for sheep farmers' training needs assessment)

*** There is no chance for learners to contribute their ideas on needs assessment**

According to this model, training programs will be decided after long procedures of paper work of job analysis, task analysis, trainee analysis and gap analysis, which should be done by the livestock experts. The ideas of the experts may not reflect those of the farmers, for example, the poor rural farmer may want to know about good animal feed alternatives available in his area and utilisation methods for them in order to minimise animal feed costs, while the experts' idea is to cultivate and manage very high quality grassland which the farmer does not want.

Production parameters of livestock farms are decided according to the Department's point of view rather than the farmer's point of view. In a needs assessment exercise, experts go to farms and observe or ask questions from the farmer about the level of performance of tasks. Although sometimes experts have very healthy discussions with farmers and farmers explain their ideas about improving their farms, experts usually underestimate farmers' knowledge and give priority to their own knowledge from books.

*** Needs of well trained officers in needs assessment method**

Officers who are involved in needs assessment must have good knowledge of standard livestock production parameters such as average expected milk yield per cow per day for different breeds of cattle, hen house egg production of different chicken breeds, expected annual yield of different varieties of grasses etc. They must have a good knowledge of the needs assessment procedures which were introduced by Raab et al. (1987). Needs assessment officers should be willing to do more paper work which the average officers do not like. Livestock Development Instructors (LDI) are the officers who are directly linked with farmers and they have to perform a number of tasks such as vaccination of animals, treatment of animals,

artificial insemination etc, as directed by the higher authorities. Livestock Development Instructors of the village veterinary offices have much more work than they are able to do and because of that they do not follow systematic educational needs assessment procedures because they include more paper work and time.

*** Time consuming work**

Officers need to pay more attention to understanding the learners' jobs, tasks of the jobs, recommended livestock production parameters and expected performance levels of the tasks before conducting needs assessment work. They should plan and organise their work before it is carried out. Officers should fill all the formats introduced by the needs assessment method while conducting the needs assessment work, or before it is carried out. Sometimes the needs assessment officer is required to frequently visit the farms in order to understand the current performance level, or otherwise he/she has to interview a number of farmers. However this needs assessment work consumes more time of Livestock Development Instructors which could be spent in other technical work in the field. Farmers also have to spend a considerable amount of their time in interviews which they would prefer to spend on their farms. Even though this method consumes more time, the real needs of the adult learners do not emerge.

*** Expensive**

This needs assessment procedure is expensive. As it consumes more time it is difficult for Livestock extension officers to conduct this exercise within their normal fieldwork and normal duty hours. Therefore, the officers work after hours or in holiday time and need extra payment for them. This model has more paper work so there is also extra cost for stationery. This needs assessment work does not originate from the learners, therefore most of the time needs assessment officers should organise meetings or discussions with farmers to collect necessary information, or otherwise officers should frequently visit farmers which requires expenses for transportation, fuel, etc. The needs assessment method in this model also requires more analytical work which further contributes to the expense.

* **Top-down' approach**

Although an objective of the Department of Animal Production and Health is to conduct educational needs assessment of farmers to provide necessary animal husbandry education, farmers are not actively contributing to the needs assessment. The farmers do not think of the needs assessment as their own work because it is not initiated from the farmers and it is completely carried out by Departmental officers. The expected performance level of the farms, which are decided by the Department, are not the same as the farmer and his expected performance levels. After finalising the discrepancies between current performance level and expected level, experts design the courses in order to fill the gaps and provide all the available technical advice from books or from overseas experiences. But this model does not consider farmers' experiences, their farming systems, the history of the livestock industry in particular areas, characteristics of farmers or economic, and cultural and social environments. All the needs of farmers are decided by the top level. Most of the time the Department also provides financial support and other necessary materials to develop farms such as sheds for animals, medicines, grass cuttings etc, to farmers. Farmers are always ready to accept financial and other support from the Government as they are very poor. After the training sessions officers usually observe whether farmers are practising the knowledge and skills which they have learnt from the educational programs. The majority of farmers do not follow the instructions. Although they receive knowledge and skills, their attitudes do not change to practice these, as most of the advice is not a solution for their real problems. Instruction and advice always comes from 'top-to-bottom' which is not successful for rural development.

* **Extension officers' frustration**

Most of the decisions about rural livestock farms are made by the extension officers who are professional experts in livestock husbandry. They identify both educational needs and other needs of the farmers. They organise training programs to fulfil those needs. They go to a lot of trouble and find loans or subsidies for the livestock farmers to help them improve their farms. Extension officers take all the problems of the farmers on their shoulders to try to increase livestock productivity. But the farmers do not have the same view as the extension officers about increasing the productivity of the farm.

Farmers may have another way of increasing the production from their own experience. But when the extension officer provides loans or subsidies, farmers agree to work accordingly although they do not believe in the techniques of the Extension Officer. Since the Extension officer is responsible for the loans or subsidies, he has to explain the progress of the farms to the necessary authorities. Most of the time it is very difficult to show the progress of the farms as the farmer does not follow the Extension Officer. Because of these situations the extension officers become frustrated and lose interest in working with the farmers. Sometimes if the responsible extension officer cannot show the progress of the farm to the higher authorities, they can take action to demote the extension officer which badly affects the extension officer's future. Therefore, some extension officers show progress only by the reports which are not actually true. When extension officers do not see the expected improvement of farms they lose the healthy relationship with the farmers and may develop very formal relationships. This situation will not help in efficient extension activities.

*** Leadership development cannot be seen**

There are people in every society who can take leadership and are willing to work for their societies. But the 'Top-down' approach of livestock extension system stops this leadership development process. Therefore, the people are used to unloading all responsibility onto the extension officers. The 'top-down' needs assessment method fails to encourage people to work for their own community development.

*** Training programs are not problem centred or learner centred**

After the needs assessment exercise, extension officers inform educational needs to the relevant educational organisations. Those organisations decide training objectives and design the training courses. These training programs do not give solutions for the day-to-day problems of the farms. The majority of programs are teacher centred instead of problem centred. Adult education principles clearly indicate that adults prefer their learning activities to be problem centred and to be meaningful to their life situation and they want the learning outcomes to have some immediate application (Kidd, 1969; Miller and Verdum, 1979, Knox, 1981; Smith, 1982; Darkenwald and Merriam, 1982; Brookfield, 1982). At present some trainers never design

different training courses for different farmer groups according to their special characteristics, farming systems or problems. They use already designed courses and timetables which exist in the training centre. No matter what the farmers' problem, most of the trainers usually teach all the subjects which they learned in diploma schools, universities or overseas training. Some experts who have overseas training directly apply overseas livestock farming practices without modifying them to suit local situations.

Problem Census Techniques to Identify Farmers' Problems

The author experienced the following during her involvement in the second Agricultural Project of Sri Lanka.

The Second Agricultural Extension Project (SAEP) in Sri Lanka introduced a method to identify the problems and needs of the agricultural and livestock farmers in Sri Lanka which is called "problem census" (Ratnayake, 1994). According to Crouch (1984), SAEP realised farmer involvement in problem identifying is necessary to develop the rural agriculture sector in Sri Lanka. In countries like Sri Lanka agricultural development contributes greatly to rural community development. Crouch says that:

The application of the problem census technique in agriculture had its origin with my colleague Joan Tully who, during the many years that she worked as a sociologist in farming communities in Australia and Asia, realised that agricultural extension programs must involve village people as decision makers and cannot be divorced from general rural development.

(Crouch, 1984:1)

Operational procedures have not given the leadership for the farmers, and were handled by the experts as usual. Crouch suggested and established the problem census groups which includes farmers and local leaders. Although problem census was introduced as a method which can provide the opportunity for farmers to be involved in identifying their problems, the real problems of the underprivileged farmers in the society are still not identified because the procedure did not give the opportunity for underprivileged farmers to act freely and handle their own ideas without the interaction of

agricultural experts or powerful people in the society.

Although in principle, problem census procedure follows a 'bottom-up' approach, in practice this did not happen. The farmers' problem identification work came as orders from the top level and the procedure was previously determined by the experts. As extension officers were used to the 'top-down' approach, responsible extension officers implemented this new work also with the attitudes of 'top-down'. Problem identification work was not initiated with the ideas of poor farmers who needed to develop. Practically this procedure did not follow agricultural extension or adult education principles. Even problem identification work was conducted during the busy time of the farmers and in places which were not compatible for the rural farmers. Farmers participated in those sessions without proper understanding of the work. Because of this situation, the farmers' participation was always very poor. However operational experts of the procedure did not change their attitudes practically towards the bottom to top approach. The problem identification exercises were not successful and underprivileged farmers problems were not traced.

The failure of livestock development projects in Sri Lanka

(1) Dairy training and demonstration modules

In 1986, the FAO introduced the Dairy Training and Demonstration Modules to Sri Lanka in order to educate Sri Lankan rural livestock farmers about dairy husbandry. This project was conducted by the FAO through the Division of Education and Training and Information of the Department of Animal Production and Health. The leader of the project was a foreigner who is an expert in dairy husbandry. The project selected rural areas such as Nikaweratiya, Tanamalwilla, Polonnarowa and Hattonto to start the Dairy Training and Demonstration Modules. The Department of Animal Production and Health constructed cattle sheds with all the facilities and provided high yielding cross breed dairy cows and other necessary equipment, cultivated high quality grassland, constructed lecture halls with all the facilities to conduct the training sessions and constructed a house for the farmer who was responsible to look after these properties in each place. According to the project, the organisers selected a rural farmer to look after

the Dairy Training and Demonstration Module with a special agreement that all the income of the farm went to him. These farms which were used to train dairy farmers of particular areas were known as Dairy Training and Demonstration Modules. These farms were maintained as model dairy farms to the other rural dairy farmers. Training needs of the rural farmers were decided by the dairy experts, veterinary surgeons, livestock development instructors and other officers who were working in the this project. The author was a co-ordinating officer for the module situated in the Nikaweratiya area.

These four modules were situated in four different farming systems and the objectives of the dairy farmers were very different. The majority of the farmers of these areas were less educated, very poor and powerless. The FAO provided cattle houses which were more or less similar to the dairy houses constructed in the modules, and high yielding cross-bred cows to selected farmers of these areas in order to help them. Co-ordinating officers selected topics to conduct the training programs with the help of the dairy experts and other officers involved. The responsible Livestock Development Instructor (LDI) of the veterinary office of that particular area organised the farmers for the training programs. Although the farmers participated in the training programs, the majority of them did not follow any instructions continuously which were provided by the Dairy Training and Demonstration Modules.

For example (1) The project encouraged farmers to provide a balanced ration in cut and feed system for their cows according to the production level of the cows. The responsible LDI calculated the ration for cows according to their production levels and advised the farmers. But they did not like to measure grass and other feed materials for every cow. They allowed their animals to eat freely in the grassland and spent that time helping other farmers in other agricultural activities or other works. (2) The project was limited to dairy husbandry and related fields, but the farmers needed to have an idea about other domestic animals.

Owner farmers of the Dairy Training and Demonstration Modules received written and verbal technical advice frequently from the experts. Responsible LDIs, veterinary surgeons and coordinating officers of the Education Training Information Division of the DAPH observed the progress of the

modules frequently. Although the farmers of these areas received training programs on dairy husbandry continuously, which were decided by the experts, and the farmers did not use all those new technologies. Educational programs were not related to day-to-day problems of the farmers of these areas. Looking after very high yielding cross breed cows and maintenance of the dairy unit according to the given advice were extra problems for the poor farmers.

Most of the farmers living in the Nikaweratiya, Tanamalwilla and Polonaruwa areas did not have proper houses for their families. They raised animals in paddocks and followed free grazing systems as they were very busy with other agricultural practices. But according to the training programs, cattle were supposed to be raised in proper cattle sheds which was not a need for the farmers. The author had an opportunity to talk to a rural farmer who lived in the Pollonnaruwa area who was the owner of a large cattle herd. Usually he raises his animals in the paddocks at night and during the day time the cattle herd was released for free grazing in harvested paddy lands or in the jungles. He also participated in a number of training programs conducted by the Dairy Training and Demonstration module. Although he followed the training on clean milk production, he never cleaned the udders of the animals before milking because water is not freely available near the milking area. The available water is not even enough for his family. Although he can collect 60 litres of milk per day from his local dairy herd, he only collects milk from a few animals because he does not have time to milk all the milking cows as all of his family is busy with other agricultural activities. He does not want to sell his local herd and buy fewer animals which gives a very high milk yield. He prefers to keep a large number of local animals as a cash revenue to sell whenever he needs money. So it is clear that educational needs identified by the experts are not similar to farmers' educational needs.

Although experts, responsible LDIs, veterinary surgeons and other officers exert considerable effort to maintain the modules and conduct dairy training programs for farmers, the farmers did not follow these practices as their educational needs were different. Many of those modules do not function now.

(2) Pasture development programs in Sri Lanka

To develop the dairy farms in the country, the DAPH planned to establish good quality pastures in farmers' lands, and all the facilities were provided as subsidies. Dairy farmers who owned the land, were trained in the cultivation and management of pastures. The first part of the subsidy was paid after the land preparation and the second part of the subsidy was paid after establishing the grass cuttings. But most of the farmers did not follow the cut and stall feeding system, as they used to tie up their cows in the grasslands. Although farmers received training on management of the grassland and on the cut and feeding system, they did not want to use that knowledge as it was not their need. When they did not maintain grassland properly, the good grasses disappeared after one or two years. Those cattle farmers needed a solution for dairy cattle feeding but not by developing good quality grassland in their garden.

(3) Goat development project at Koongodamulla extension link village

The Animal Husbandry Training Centre which comes under the Department of Animal Production and Health of the Western province is situated in Kotadeniyawa. The objective of the Kotadeniyawa training centre is mainly to train livestock farmers in the Western Province on Animal Husbandry. The Kotadeniyawa training centre has an extension link village which provides field experience for trainers as well as trainees. The author, as a principal for the Kotadeniyawa training centre, selected this village as an extension link village for the training centre after discussion with the area head called divisional secretary and the village headman appointed by the government. Almost all the people in this village raised animals as a second source of income. As land area per farmer was very small in this village, farmers raised small animals like goats, pigs and chicken. Housewives were the main farmers in this village and most men of the village did labour work in small factories near the village. They were really poor. Goat husbandry was very prominent in this village and every house had a herd of local (traditional type) goats. They kept goats in the backyard of their house as there was no proper place to keep the animals.

The villagers were very happy when their village was selected as an extension link village for the training centre and all the housewives got

together and discussed their animal husbandry problems with the staff of the Animal Husbandry Training Centre. They had given special priority to goat husbandry. Officers asked them to grow good pasture for the goats but the women did not like to do that. Finally, the officers learnt that after 11.00 a.m. all the women usually came with their herd of goats to one common area where enough natural pasture was available for their animals. While the animals were feeding, they exchanged their experience of animal husbandry as well as other matters. They gossiped too and enjoyed their lives. However they left their animals in this common land until evening and took the animals back to their houses. They helped each other when they had problems with animals. If an animal was sick, the experienced ladies provided treatment according to their experience. Although goats are indigenous, they never caught any dangerous diseases. Goats did not give any problem to them at all. However, those ladies observed that goats liked to stay in a higher place than the ground level. They themselves understood when the animals stayed in a higher place they did not suffer wounds in the hooves. So as ideas came from the women, staff of the Animal Husbandry Training Centre decided to provide some financial support to construct a good shed for goats, which provided a floor one meter above ground level. The training centre organised training for women on goat housing. They observed the way goat houses were constructed in the training centre. Officers suggested that after one week the ladies themselves get together and construct their own goat houses using available materials in the village, and the ladies were very happy to have new sheds for their indigenous goats. After sometime, officers suggested to the women to rear an exotic goat breed instead of small indigenous goats. But the women were satisfied with their herd of small indigenous goats. They did not know about high breed goats and how to manage them.

Officers thought that large cross breed goats will give more income for the ladies than small indigenous goats. The introduction of high quality cross breed goats to the village was an idea of the officers to improve the goat husbandry. Finally, however, the poor uneducated women agreed to sell their local herd of goats (the herd contained about 10 – 15 animals) and to buy 2– 3 high breed goats. Officers arranged for 2 high quality female goats for each woman farmer and 3 stud goats for the whole village.

Financial support to buy the cross breed goats was provided by the district secretariat and the farmers had to pay back the value of the goats to the District Secretary's office of Diwulapitiya. The officers organised several training programs for the women farmers on the management of high breed goats. Officers expected that training programs would be supported for them in order to raise the good quality goats. Unfortunately, after five months, most of the pregnant goats had premature births and all of the baby goats died. The goat population in this village, including local indigenous goats, were infected by the goat virus disease. Sick animals became very weak and farmers had to spend money and time treating the sick animals. Earlier women were able to sell at least two local goats to the butcher. Now they did not have goats to sell and cross breed goats which they had were also not in a good condition to breed. The women were very frustrated due to this situation and some women gave up the field of goat rearing. Because of this they did not want any more of the high breed goats. But the women decided to have local small goats again. Officers understood this situation and brought stud goats which gradually improved with exotic type according to the needs of the women. The officers conducted training programs on goat breeding as these educational needs came from the women.

Now they keep local female goats with a stud from improved local goat breed which is suitable for their environment and their management practices.

The Department of Animal Production and Health introduced artificial insemination methods for breeding cows, to obtain higher yielding offspring than their parents. Dairy farmers are being educated on the advantages of artificial insemination to breed better offspring for more milk. But some farmers specially in rural areas and who were highly dependent on animal power for agricultural land preparation and transportation, do not like to have calves from artificial insemination for milk purpose. They said that they needed to be educated on artificial insemination to have better animals for hard work.

Summary

In this chapter the author first discussed the training model which is followed in the Department of Animal Production and Health Sri Lanka. It follows a training model which was designed by Moss in 1987. This model has 4 main phases which are (1) planning (2) preparation (3) presentation (4) evaluation. Educational needs assessment is involved with the beginning of the planning phase and follows the need identification procedure which was introduced by Raab et al. (1987). This educational needs assessment includes three phases which are job analysis, task analysis and gap analysis. Although those needs assessment procedures are very systematic, it follows the 'top-down' approach, which does not give the freedom for the learners to decide their own learning needs.