

A STUDY OF THE COOPERATIVE AGRICULTURAL EXTENSION  
PROGRAM IN THE UNITED STATES WITH IMPLICATIONS FOR  
THE AGRICULTURAL EXTENSION PROGRAM IN SRI LANKA

by

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## CHAPTER I

### INTRODUCTION

Agriculture is one of the largest and one of the most important industries in the world. Food grown for human consumption as well as food that is used as basic raw materials in manufacturing comes from the farm. The development of the agricultural industry is needed in every nation of the world since farming is the only way to produce the food on which our lives depend. Agricultural development efforts will need to be increased in the future as more food is needed to feed the additional millions of people added to the world's population each year and to increase the present inadequate amount of food per person worldwide. Furthermore, agricultural development is needed as technology creates the need for more basic raw materials produced on the farm.

Agricultural development occurs either through an increase in the efficient use of production resources or through an increase in aggregate production, with or without change in efficiency. Therefore, the success of agricultural development depends not only on technological breakthroughs and institutional changes, but also on the efficiency of both farmers and those responsible for agricultural development programs. According to Mosher, (1966) the essential elements for agricultural development are:

1. market for products;
2. constantly changing technology;
3. local availability of supplies and equipment;
4. production incentive for farmers; and
5. transportation.

He cited as "accelerators" for agricultural development the following:

1. education for development;
2. production credit;
3. group action by farmers;
4. improving and expanding agricultural land; and
5. national planning.

Realistically, there are divergent views about the relative significance of each of these factors, but it is increasingly apparent that the real sophistication in planning for agricultural development lies in strengthening each of the components of the essential elements and the accelerators and then providing for their effective assembling or coordination. Each of these pertinent factors must be given appropriate attention to ensure its excellence or adequacy for an essential, effective role in the agricultural development process. It is clear that the extension education function is crucial to the maintenance and the modernization of the traditional agricultural system in any rural social system. If farmers want to increase production or efficiency, they must learn about agriculture and its characteristics. Farmers can no



longer depend on chance experiences of daily life or on family heritage which passes on to their children the foundation needed for agricultural development.

Extension education could be identified as an informal educational process which aims to teach rural people how to improve their level of living through their own efforts. This is accomplished by making the best use of natural resources at their disposal. Various authors have given definitions for extension education. According to Leagans, (1963):

"Extension education is the process of teaching rural people how to live better by learning ways to improve their farm, home, community and institutions. This is done by creating situations that provide opportunities for people to learn and to stimulate mental and physical activities that result in desired learning. It must help people to gain new knowledge, to develop the skill necessary to apply to their problems and attain satisfaction in doing so."

Extension education is concerned not only with learning but with application of the knowledge gained to everyday problems of rural living. It is an extremely practical and concrete type of education that may, in most cases, be put to use at once. Definitions of extension education state that extension education involves change. The changes in the behavior of rural people presumably result in improved agricultural production, better living, and a strengthening of the national economy. In order to change behavior of many people, extension must first change the people's attitude toward change.

## Background of Problem

The agricultural extension education service in the modern world is found in a variety of forms. Some services are well developed and complex and others are relatively underdeveloped and simple. The agricultural extension service generally varies more in organizational form rather than in its functions. Some extension education programs are a duplication or modification of models adopted in other countries, influenced by colonial governments or shared through international technical assistance programs, while others are indigenously evolved. Regardless of its origin or country, every agricultural extension organization includes a number of commonalities with the extension service of other countries. The commonalities include:

1. the target population to be served in an area;
2. the organizational system designed to carry out extension services; and
3. the agent involved in initiating these changes.

The United States of America possesses a well developed agricultural extension education system and its operation is a unique cooperative undertaking shared by federal, state and local governments, with the main control at the state level. Much of what has happened in the United States has been used as a guideline for review, reconstruction, and redevelopment of the extension service in other countries. In addition, agricultural extension in the United States has a record of achievement which has drawn

attention from many countries and attracted many observers to examine its methods of organization and operation.

Sri Lanka has an agricultural based economy and its future development depends upon increased agricultural production. Agricultural production in Sri Lanka is dominated by the plantation and peasant sectors. The plantation sector is relatively well developed, highly organized, commercialized and export oriented. In the context of Sri Lanka, "peasant agriculture" is generally defined in a qualitative sense to mean the small scale cultivation of crops - mainly food crops either for subsistence or for the home market. The agricultural goals of Sri Lanka have always been (Sri Lanka, 1978):

1. to achieve food self-sufficiency;
2. to diversify crop production while sustaining production of tree crops; and
3. to increase employment, particularly of educated village youth.

To achieve the above mentioned goals, the present production system, especially the peasant agriculture, has to be changed through wise use of all available resources.

The government of Sri Lanka decided in 1979 to initiate, with financial assistance of the World Bank, a major change in the research and extension system. The new change aims at (Appraisal of the Agricultural Extension and Adaptive Research Project, Sri Lanka, 1979):

1. Strengthening of agricultural extension activities by establishment of a unified extension system for all crops, except tea, rubber and for animal husbandry in the entire country.

2. Strengthening and reorganizing agricultural research by establishment of adaptive research network on the basis of the country's agro-ecological regions.
3. Improving and expanding the agricultural training institution of the department of agriculture.

At present the Department of Agriculture in Sri Lanka is undertaking a massive effort to establish or develop a viable and practicable extension approach to help millions of small farmers in the peasant agricultural sector. The Department of Agriculture has now realized that extension education is an essential element in the process of agricultural and economic development and therefore social well being. Thus, the country of Sri Lanka has turned to the United States to study extension education programs with special reference to extension education and its structure and to review its function such as program planning, communications, training for extension agents, evaluation and supporting systems.

#### Statement of the Problem

The need to improve the present agricultural extension program in Sri Lanka is evident. As stated in the Appraisal of the Agricultural Extension and Adaptive Research Project, Sri Lanka, "the present situation of agricultural extension is obviously confused and unsatisfactory." Thus, the problem which this study addresses is that the current organizational structure of the agricultural extension program in Sri Lanka is unable to give leadership for the needed agricultural development in its own country.

### Purpose of the Study

This study proposed to review a selected Cooperative Agricultural Extension program in the United States with implications for the agricultural extension program in Sri Lanka. The writer further proposed to conduct a study on the organization and operation of the agricultural extension programs including: the history of agricultural extension program in the United States; Cooperative Extension work at Federal, state, and county levels; responsibilities of a subject matter specialist and county extension agent; program planning and evaluation; flow of information and teaching methods; staff development; and 4-H activities.

### Objectives of the Study

In accordance with the background of the problem and the purpose of the study, the following objectives were identified:

1. to review the cooperative agricultural extension program in the United States with special reference to: history; organizational structure at the federal, state, and county level; responsibilities of subject matter specialist and county extension agent; program planning and evaluation; flow of information and teaching methods; staff development; and 4-H activities;
2. to review the present agricultural extension organization and its activities in Sri Lanka; and
3. to suggest recommendations for further development and improvement of the current agricultural extension program in Sri Lanka.

### Methodology

The study was a descriptive type of research based on literature review and personal interviews. Literature

pertaining to the cooperative agricultural extension program in the United States was used to develop an understanding of the mission, philosophy, objectives, and organizational structure of the Cooperative Extension Service at national, state, and local levels. The Commonwealth of Virginia was selected for this specific purpose. Even though there are 50 states in the United States, limited time and available resources will not permit the selection of more than one state for an indepth study of the Cooperative Extension Service. The writer did not permit the visits to interview the Virginia State Cooperative Extension personnel to collect information on organization, function, administration, program, and on other extension related activities. Wherever needed, the writer made field visits to interview agents and to gather factual information on program implementation and farmers' participation in the cooperative agricultural extension program. Materials appropriate and relevant for program improvement in Sri Lanka were obtained for future reference.

Based on the writer's experience in agricultural extension in Sri Lanka and available materials, information concerning the agricultural extension service of Department of Agriculture in Sri Lanka was described. The study presented information on the history, present organizational structure, extension education programs and problems encountered in the agricultural extension of the Department of Agriculture in Sri Lanka. From the information collected on the cooperative agricultural extension program in

the United States and the agricultural extension activities of the Department of Agriculture in Sri Lanka, recommendations were made to improve the agricultural extension network in the Department of Agriculture in Sri Lanka.

### Significance of the Study

In the more advanced countries like the United States, a commitment has been made to offer technical as well as economic assistance to those countries in which economic advancement has been retarded. The United Nations Food and Agriculture Organization has the duty of providing technical assistance in order to increase the production of food, fiber, and forest products, improve the well being of rural populations, and raise levels of nutrition throughout the world. The United Nations Food and Agriculture Organization is an international extension agency concerned with widening the knowledge and extending the use of modern science and techniques in agriculture. But the success of technical assistance programs depends on the effective participation of farmers, foresters, and fishermen and their wives and children. This requires an educational extension service which brings a knowledge of better methods to the producer that are applicable to the conditions under which they work and live.

In international aid and development programs the agricultural extension education program is receiving more and more attention in Sri Lanka. The Organization for Economic Cooperative and Development (O.E.C.D.) and the International Bank for Reconstruction

and Development (I.B.R.D.) stress the contributions which the agricultural extension program can make to rural agricultural development and to land use adjustment programs. The World Bank is now lending funds for the development and reorganization of agricultural extension education as an aid to agricultural development in Sri Lanka. It is for these reasons that the proposed study will be very useful for improving the agricultural extension education program in Sri Lanka. The study will provide an opportunity for the writer to gain first hand information on the Cooperative Agricultural Extension Service in the United States with special reference to selected extension programs. When the writer returns to Sri Lanka, this document will serve as a basis for planning and implementing strategies for improvement of the extension program.

#### Definition of Terms

The terms used in the context of this study were:

Cooperative Extension Service - the cooperative effort between the Extension Functional Unit of the Science and Education Administration of the United States Department of Agriculture and the Land-Grant institutions and extension units of local governments to provide practical out-of-school education in agriculture, natural resources, home economics, community development, 4-H youth program and related subjects for the people of the United States.

Agricultural Extension Service - an out-of-school educational process carried out by the Extension Division of the Department of Agriculture in Sri Lanka to impart practical education for farmers, primarily in technical agricultural production.



## CHAPTER II

### AGRICULTURAL EXTENSION EDUCATION SYSTEM IN THE UNITED STATES

Agricultural development has been given credit for making self-sustained industrial development possible in the United States during the twentieth century. Agricultural development can also be linked to the formation and growth of the Cooperative Extension Service. According to Axinn, (1969),

"The Cooperative Extension Service in the United States has been in transition ever since it came into operation. He further states that two kinds of evolving technology forced the continual change and stimulated the organization's dynamics. First, rapid changes in technology in the home resulted in the continuous shift in program content; and second, a gradual change in the technology of transportation and communication saw extension move from the personally conducted demonstration to the printed word, radio and television."

The Cooperative Extension Service has often been referred to as the informal educational agency of the United States Department of Agriculture and its land-grant colleges. The Cooperative Extension Service is primarily charged with the mission of relating research results and technology to the people of the United States. As stated in the Extension Internship Manual of the University of Florida, (Cheek, Cole, Summerhill, and Helsey, 1980) distinguishing features of the Cooperative Extension Service are:

1. informal teaching that is designed to make knowledge relevant and help individuals, families, businesses, and communities to identify and solve their problems, clientele are not enrolled in a formal situation;

2. the extension use of local lay advisory committees or councils to assist with planning, executing, and evaluating the educational program;
3. the extension of its reach and effectiveness by working with new and existing organizations;
4. the training of local volunteer lay leaders;
5. the support by different levels of government which has encouraged responsiveness to national, state and local problems; and
6. the reciprocal relationships between service and research, which provide channels for new knowledge to be conveyed to the people and allow human needs and problems to be transmitted to the scientists.

The objectives of the Cooperative Extension Service have been changed to keep the organization in tune with social, technological, economical and political situations developing in society. In the early 1930's, the Cooperative Extension Service activities were focused on the development of rural America. According to Smith and Wilson, (1930), the objectives of cooperative agricultural extension work in the United States during the early 1930's were as follows:

1. to increase the net income of the farmer through more efficient production and marketing and the better use of capital and credit;
2. to promote better homes and a high standard of living on the farm;
3. to develop rural leaders;
4. to promote the mental, social, cultural, recreational, and community life of rural people;
5. to implement a love of rural life in farm boys and girls;
6. to acquaint the public with the people and the nation on rural matters;

7. to enlarge the vision of rural people and the nation on rural matters; and
8. to improve the educational and spiritual life of rural people.

These objectives have been changed and updated in the Cooperative Extension Service activities over the years. A brief history and the major organizational structure of the Cooperative Extension Service are described in the following paragraphs.

#### Brief History of Agricultural Extension Education in the United States

The present Cooperative Extension Service came into operation through the passage of specific federal and state legislative acts and their amendments, especially the Smith-Lever Act of 1914. Some of the most important federal acts which provided both funds and directions for specific programs in land-grant colleges were (William, 1968):

Morrill Act of 1862 and 1890 - The 1862 Act made available grants of land, 30,000 acres per representative in Congress, to establish colleges of agriculture and mechanical arts in order to promote liberal and practical education of the industrial classes in the several pursuits and progression of life. The 1890 Act appropriated \$25,000 to each college and the Nelson Amendment in 1908 provided for additional grants.

Hatch Act of 1887 - An appropriation of funds for research; the first federal appropriation for agricultural research which enabled a nationwide system of agricultural experiment stations to be set up, in association with the land-grant colleges.

Adams Act of 1906 - Funds appropriated for research, but with emphasis on original research or experiments.

Smith-Lever Act of 1914 - Funds appropriated for Cooperative Extension Service in each state.

Purnell Act of 1925 - Funds for economic and social research.

Capper-Ketcham Act of 1928 - Funds for agricultural extension with a provision that at least 80 percent of the funds be used for payment of salaries of extension agents in local counties to develop further the cooperative extension system in agriculture and home economics. The Act encouraged more emphasis on home economics and rural youth.

Bankhead-Jones Act of 1935 - Additional funds granted to the states for agricultural research, but with no requirement of offset or matching funds by states.

Bankhead-Flannagan Act of 1945 - Additional sums appropriated for cooperative extension work in agriculture and home economics. These funds were for technical and education assistance to farm people aiming to improve their standard of living, to develop individual farm and home plans, better marketing and distribution of farm products, to work with rural youth in 4-H clubs and older out-of-school youth, to provide guidance for farm people in improving farm and home buildings, and to develop effective programs in canning, food preservation, and nutrition.

Agricultural Marketing Act of 1946 - Funds for marketing research and development of marketing programs. The Act specified that "to the maximum extent practicable ... marketing educational and demonstrational work done hereunder in cooperation with the states Agricultural Extension Service." This Act has enabled a large new component to be introduced into the work of the Cooperative Extension Service which has become most significant in the last twenty years.

These acts and other acts have contributed to the growth and development of the Cooperative Extension Service in the United States. In 1953, the funds and direction provided under different acts were consolidated into one amendment act, the Amendment of Smith-Lever Act of 1953. Thus, the Smith-Lever Act of 1914 was considered as the first comprehensive federal legislative act relating to the Cooperative Extension Service.

According to Cheek, and et.al. (1980), the Smith-Lever Act specifically mentions the scope of the Cooperative Extension Service from three perspectives:

"The people to be served, the subject matter to be included, and the methods to be used. With reference to people to be served, random quotations from Smith-Lever Act include 'among the people of the United States' and 'to persons not attending or resident in said college in several communities.' These statements indicate Congress' interest in the Cooperative Extension Service being available to all people except those attending college. Subject matter to be presented was specified in the act to be 'agriculture, home economics, and subjects relating thereto.' The use of the words 'relating thereto.' broadened the field somewhat. Methods to be used by the Cooperative Extension Service were described in the legislation as 'through demonstrations, publications, and otherwise.' By the use of the word 'otherwise', Congress was indicating the establishment of a new and different type of educational organization and wished the development of the organization to be unhampered by law, administrative regulations or traditions."

In the concept of Cooperative Extension Service, people, government and agencies are tied together at federal, state and local levels. Planning and financing of cooperative extension work are shared at the three levels, however, the Cooperative Extension Service performs its objectives through a nationwide network. The Cooperative Extension Service is still America's only national system of adult education.

#### Structure and Organization of the Cooperative Extension Service

The Cooperative Extension Service includes three primary groups of participants; the extension functional unit of the Science and Education Administration of the United States Department of Agriculture, the land-grant college, and the county extension service. Brief descriptions of each group of participants follow.

## Extension Functional Unit

The Extension Functional Unit of the Science and Education Administration of the United States Department of Agriculture is responsible for implementing and administering the cooperative extension work on a nationwide basis. The Science and Education Administration was established in January 1978 in the United States Department of Agriculture to improve the cooperation and coordination in the planning and execution of science and education programs and activities in the area of food and agriculture. The Extension Functional Unit is under the leadership of an Administrator who reports to the Director of the Science and Education Administration for all cooperative extension work conducted by the State Land-Grant Colleges of Agriculture, the counties, and the local units of farmers' organizations. A group of administrative officials, liaison officers, and subject matter specialists work closely with the administrator of the Extension Functional Unit of the Science and Education Administration.

The Extension Functional Unit of the Science and Education Administration of the Department of Agriculture controls and coordinates all extension activities of land-grant colleges, but it does not have authority over the states. The county/city is the operational unit for all cooperative extension activities and the place of contact with its clientele.

## State Land-Grant Colleges

Grants of land were given by Congress to the states to form the "Land-Grant" universities in 1862 (Mumford, 1940). With the passage of the Smith-Lever Act in 1914, land-grant universities came into being as part of the Cooperative Extension Service. The role of the land-grant universities is clearly defined in the Smith-Lever Act in 1914. Although organizational arrangements differ between states, generally a senior officer of the land-grant college or the dean of the college of agriculture is the Director of Extension. The state director of the Cooperative Extension Service is selected by the governing board of the state university. The appointment of the director must be approved by the United States Department of Agriculture. The director of the Cooperative Extension Service is responsible for the conduct of the Service in accordance with the terms of agreement defined between federal and state governments. This involves administrative arrangements, reporting programs, submitting estimates, and keeping the United States Department of Agriculture Extension Service informed about the development of policy toward extension activities.

In each land-grant college, various departments are usually organized on a subject matter basis; such as agronomy, animal science, horticulture, and social science. Each department is responsible for research, extension and teaching as it relates to its own subject matter area. Individuals, called subject matter specialists, have the responsibility to work with the Cooperative Extension

Service and they report to their departmental head as well as to the Director of Extension. The salaries and related costs for individuals who work with the Cooperative Extension Service in the land-grant colleges are paid by the Federal, state and local government's funds.

#### County Extension Work

The county is the focal point of cooperative extension activities and financial support for the program is raised through taxes, making the county program somewhat independent of other programs. The financial contribution to extension activities from the county varies from state to state. In some states, county extension funds are drawn from the general county funds or tax levy. Thus, a county generates funds from various ways and uses the funds to operate its county office and hire the extension agents. The extension agent is identified as an employee of the Cooperative Extension Service. His/her employment contract is with the land-grant college within the state and the individual is appointed jointly by the land-grant college and the local county committee. His/her selection must be approved by the State Director of Extension. A university degree in agriculture or home economics or a related field is normally required and many county agents hold graduate degrees.

The extension agent is responsible for the development and conduct of the extension education program in the county. While the agent serves as a general advisor to residents in the county,



there is a tendency for some county agents to specialize in a particular subject matter field. Generally 3-4 county agents work within one county and each agent has an assigned area; such as agriculture, 4-H, or family resources. County agents are supported and assisted by the services of the land-grant colleges.

### Cooperative Extension Service in Virginia

The Cooperative Extension Service in Virginia is one of the functions of the Extension Division at Virginia Polytechnic Institute and State University, Blacksburg, and Virginia State University, Petersburg.

State historical review

Early extension work in Virginia began in 1906 through the effort of the State Superintendent of Public Instruction. Several "agents" were employed to work with farmers and demonstrations were used as a primary teaching method (A Report Prepared for the Extension Budget Guide Lines Task Force, 1978). There are several acts of the Virginia General Assembly which pertain to the Extension Division of Virginia Tech. According to the report prepared for the extension budget guide lines, the most significant of those acts included the Appropriation Act of 1914 and the General Assembly Act of 1966 establishing the Extension Division at Virginia Tech. In 1972, Congress appropriated funds to support extension programs at the 1890 institutions and Tuskegee Institute. These funds were then used to establish resources at Virginia State University. The Food & Agriculture Act of

1977, P.L. 95-113, Title XIV, provides funds to be appropriated to Virginia Tech and Virginia State University to carry out statewide extension programs in agriculture and natural resources, 4-H, family resources and community resource development (A Report Prepared for the Extension Budget Guide Lines Task Force, 1978).

Furthermore, there may have been many legislative actions taken as an integral part of the Commonwealth's Land-Grant University to support and direct the extension activities in the state as a whole.

#### The Organizational Structure of the Cooperative Extension Service in Virginia

The basic organizational structure of the land-grant colleges in Virginia may be viewed as having the three most important functions of (1) teaching, (2) research, and (3) extension. These functions are interrelated, interdependent and supportive to each other. As comprehensive land-grant institutions, Virginia Tech and Virginia State maintain a strong commitment to each of the three functions. The Cooperative Extension Service functions at both institutions, combining the resources of these land-grant institutions into one program delivery system to serve the people of Virginia. The Cooperative Extension Service in Virginia is similar in organizational structures, principles and philosophies of other state extension programs in the United States. However, it has some unique features in its organizational structure.

There are seven budgeted subprograms in the Extension Division:

1. The Cooperative Extension Service;
2. Sponsored Programs;
3. Community Education;
4. Community Service;
5. Academic Administration;
6. Institutional Support; and
7. Operation and Maintenance of Plant.

The seven subprograms are administered and coordinated by the Dean of the Extension Division. The dean is responsible for the administrative management and leadership of the Extension Division. He is responsible to the President of the University. The President reports to the Administrator of the Extension Functional Unit through The Board Of Visitors of the University. There are many extension faculty, called "subject matter specialists," responsible for specific technical subject matter area for extension education activities. In the case of Virginia Tech, more than 112 extension faculty or subject matter specialists are available through eight colleges to support field staff and provide new and relevant information to the people of the state. The extension faculty work primarily through the field staff, mass media, conferences, institutes, workshops and sometimes directly with clientele who have a highly specialized need or problem. The extension faculty are responsible to their respective academic dean through their department head. Figure 1 illustrates an outline of the organizational structure of the Extension Division at Virginia Tech and its relationship to the national level.

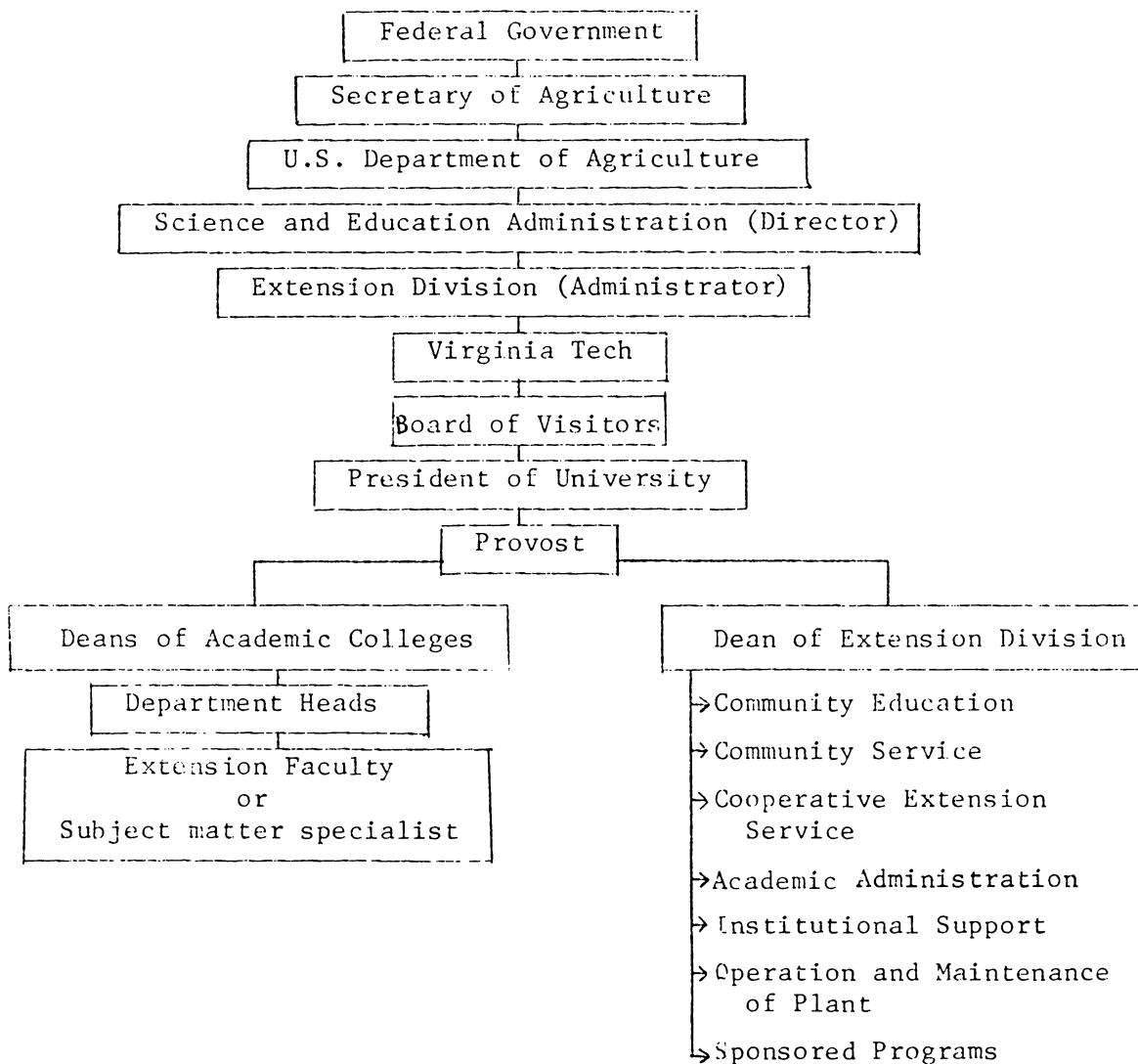


Figure 1

Organizational Structure of the  
Extension Division at Virginia Tech

The Cooperative Extension Service, which is the largest subprogram in the Extension Division, is divided into five functional divisions:

Agriculture and Natural Resources;

Community Resource Development;

Family Resources;

4-H; and

Technical Resources.

Agriculture and Natural Resources programs are designed to disseminate new information to, and solve problems of the people engaged in agriculture and its allied activities. Community development programs help people utilize educational opportunities in making their communities a better place to work, to live and to enjoy. The family resource programs focus on improving the quality of family and individual life, family financial management, and family nutrition. Technical resources are concentrating in energy and energy resources. The 4-H program is directed to young people between the ages of 9 and 19.

Field operation, a network of county and district staff, delivers extension educational programs to the people of Virginia. The 114 unit teams are supervised by six district chairmen and are supported and guided by subject matter specialists. The Field Operation Division is solely in charge of delivering and receiving information for the various subject matter areas. The district chairman is responsible to the Associate Dean for field operations. The county

officers are staffed by extension agents who are responsible for various subject matter areas and by technicians, whose primary responsibilities are to help extension agents in carrying out important extension educational activities.

Four Associate Deans of the Cooperative Extension Service administer the five subprograms in addition to other responsibilities. They are responsible for the development and completion of long range and annual plans of work and annual reports for the Extension Division. One Assistant Dean works closely with the Dean of Extension in carrying out the overall administrative responsibility for the Extension Division. Figure 2 depicts a general organizational structure of the Cooperative Extension Service in Virginia with special reference to Virginia Tech.

Coordination and cooperation of effort between Virginia Tech and Virginia State are mentioned in a memorandum of understanding agreed to by Virginia Tech and the United States Department of Agriculture. This agreement reflects shared administrative leadership, the mutual development of plans of work, reporting of programs, management of funds and other administrative procedures. This agreement therefore facilitates and fosters a single comprehensive extension educational program in Virginia. The unified extension educational program delivery system has been operational in Virginia since 1972. The executive administrative officer for the extension program at Virginia State has been titled as Administrator, Virginia State University Extension Program.

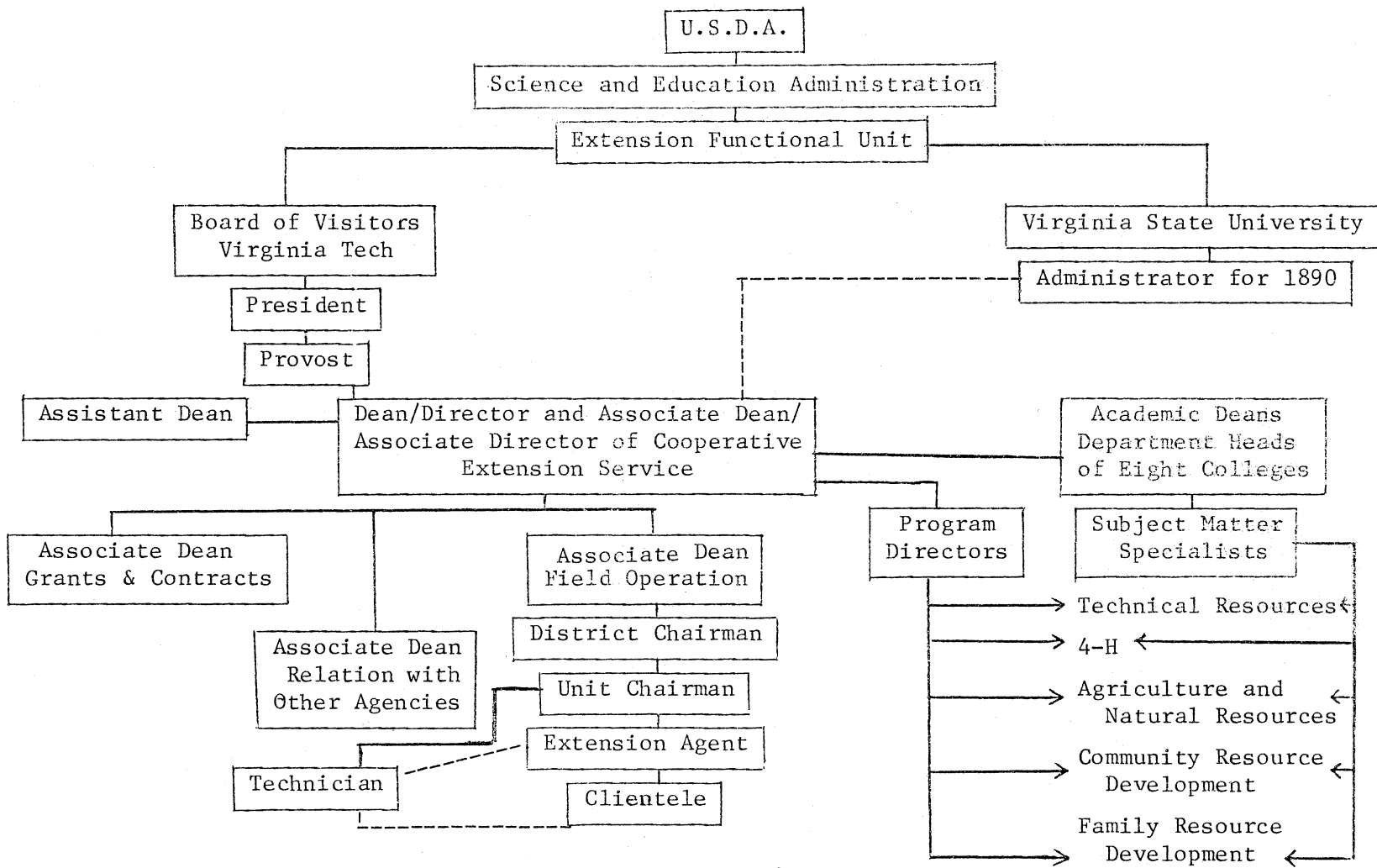


Figure 2

Organization Structures of the Cooperative Extension Service in Virginia with Special Reference to Virginia Tech

Other staff members at Virginia State carry titles similar to their counterparts at Virginia Tech.

Cooperative extension officers at both institutions share in planning and conducting programs in the cooperative extension education activities as a whole. All of their activities are detailed in the jointly developed long range and annual plans of work. On a statewide basis, cooperative extension staff members are integrated at both universities. The Cooperative Extension Service of Virginia Tech is involved in specific programs such as small farm gardening, production with limited resource producers, family horticulture and landscaping, economic development, and small business. In addition to these programs, special efforts are being made to help solve problems of the hard-to-reach, unreached, and disadvantaged families.

#### Program Planning in the Cooperative Extension Service

The Cooperative Extension Service achieves its objectives through preplanned multi-faceted educational programs. Preparing socially acceptable, economically desirable, and technically feasible programs are important to obtain optimum use from the time, money and effort spent on the whole program planning process. Program planning process is defined as (The Comprehensive Planning Process, 1968):

"Planning is a process of preparing for the future in time to allow for wise selection of desirable course of action. It is a means for systematically anticipating and achieving adjustments in the environment of a community, county, region, or state consistent with social and economic trends



and needs. As such, planning is a vital prerequisite to effective action. It is a continuing process for presenting a broad and comprehensive program for community development and redevelopment. Planning considers physical, cultural, political, social, and economic characteristics, and it attempts to harmonize all these elements into a sound development plan. In short, planning is essentially a process of understanding human needs and shaping future policy to serve these needs."

The fundamental philosophy of the Virginia Cooperative Extension Service is to provide timely, meaningful, and useful learning experiences to enhance the quality of life for the people of Virginia. The Extension Division is dedicated to the task of developing and implementing extension educational programs based upon and designed to help solve both felt and unfelt problems of Virginians. Extension education emphasizes the participation of clientele in determining, implementing, and evaluating programs that meet both individual and group needs. There is no specific or all purpose extension program planning model that will fit all situations, but there is a common framework which can aid in developing extension educational programs at any level and in any locality. The common framework includes program determination, program implementation, program evaluation, and communication of program accomplishments. These four components are the major parts of the continuous extension program development process.

#### Guidelines for Program Development in Virginia

Program development, based on the problems and needs of people and as conceived by the Virginia Tech Extension Division, includes (Administrative Handbook, 1970):

- a. Representatives of the people affected by the program must be involved in the planning. The methods of involving people can and will vary. It can vary from a highly structured overall advisory committee to limited informal contacts with several individuals. However, the formalized structure of overall advisory committees is thought to be the goal. This does not limit the use of other methods of involving people.
- b. Involvement of people in the determination of opportunities and identification of specific problems may result in concerns which require technical assistance beyond the extension agents' training or competency. In such a case, the agent should incorporate these concerns in the extension program and make every effort to obtain the necessary available resources. The agent is not expected to have technical training or qualifications needed to provide the people with all information pertinent to solving all problems. However, it is the agents' responsibility to help the people secure such assistance from all available sources.
- c. Program comprehensiveness must be based on a critical comprehensive analysis of unit, area, state, national and international situations, thus reflecting problems of the people therein. Situational statements will be based on the latest factual information available, with one source being the state staff.
- d. The total unit staff shall participate in decisions of what the unit educational program shall be. The program shall be determined primarily at the unit level based on the comprehensive analysis. This information will be conveyed to the state as a basis for state programs.
- e. The unit staff shall determine who will take the responsibility for the various sections of the plan of work. Each member of the unit staff must assume his/her share of responsibility of the program and see that it is carried out.
- f. The district staff is responsible for the quality of the unit programs in its district, especially the determination, implementation and evaluation of the program. The staff will assist any and all units in improving educational programs.
- g. The district staff is responsible to see that the unit plan of work is implemented.

- h. The district staff will evaluate programs of the unit based upon the plan of work and amendments thereto.
- i. The state program directors are responsible for the quality of program support at the state level in the determination, implementation, and evaluation of extension division programs.
- j. Program development requires a considerable expenditure of time and effort. Extension workers must budget sufficient time to accomplish their tasks.

#### The Program Development Process in Virginia

The Virginia Cooperative Extension Service develops and implements many educational programs initially through the resources at Virginia Tech and Virginia State. However, extension units on the local level also initiate, develop, implement and evaluate educational programs within the concepts and objectives of the Cooperative Extension Service. The program development process includes:

Program determination - This step is primarily concerned with preparation of a long range plan. Extension agents and technicians analyze problems, interests and concerns of their clientele and develop long range goals and educational programs for their resolution.

At the unit level, extension agents involve local lay persons through informal and formal committees, surveys and individual and group contacts. Based on the local community needs and interests, educational programs are selected jointly by extension agents and the local people working together with the leadership and technical support being provided by district and state staff. The lay persons involved in a formal committee structure is called an extension

advisory committee. The extension advisory committee is an overall committee which represents many commodity committees and special interest groups within the county. This overall committee is organized to look at the situation in a particular area and to determine which problems should receive priority attention. The committee sometimes seeks the advice of other people, for example, community leaders, governmental officials, and extension personnel at state and district levels to help determine how each problem can best be solved.

Individual unit plans are prepared and combined with other unit plans to form a state plan. In planning state programs, there is also a need to involve relevant state and federal agencies and organizations which have resources, interests and efforts. Initially programs are developed on a long term basis, 6 years or more, from which an annual plan of work is prepared every year. The long range plans includes the following steps (Programming Guide Lines and VEMIS Coding Instructions, 1981):

1. The organization for program development - a description of how people are involved in the programming process ;
2. The situation statement - a concise description of the economic and social environment of the unit as determined by extension staff and local clientele; and
3. Goals - long term projections of how the situation will change as a result of extension program influence.

The long range plan serves primarily as a guide to extension personnel in designing learning experiences that will enable clientele to fulfill their immediate and long term needs. Generally the

long range plan is updated according to the changing needs of the clientele and the nation.

Each unit will develop an annual plan of work for one year, starting from July 1. The annual plan includes the following (Programming Guidelines and VEMIS Coding Instructions, 1981):

1. Goals - a direct statement from the long range plan.
2. Educational objective - the objective should state what the unit intends to accomplish that year and this objective should be related to unit goals. It is a statement identifying the primary target group, the subject area, and the desired change to be brought about as a result of extension educational efforts.
3. Strategy statements - lists the educational experiences or activities planned to affect the desired changes stated in the objective.
4. Expected results - specific results anticipated are outlined.

The objectives in the annual plan of work contribute to the accomplishment of goals of the long range plans for the next 12 months. The annual plan of work essentially outlines what is to be done, when, where and how.

There are some educational programs prepared and implemented on a statewide basis as a result of administrative mandate. In these instances, programs originate at the top of the organization structure of the extension service. The common educational programs developed are based on the general educational needs of clientele for which extension has statewide responsibility. Sometimes a local government requests a local extension organization to conduct special educational programs in response to local concerns. These Extension programs are based on the unique needs, problems,

resources, and opportunities of each unit's citizens. These local programs are planned and carried out with the advice and assistance from local citizens and the unit advisory committee.

Program implementation - The implementation step reflects carrying out the plan of work. This plan of work is concerned with what extension agents will be doing during the next 12 months period. Implementing the program involves mobilization of unit and state resources. These resources are organized into various educational programs to deal effectively with respective clientele problems.

During the program year, all extension workers must work according to the written goals of the annual plan. Extension staff members work out a realistic division of labor so that everyone shares in the responsibility of carrying out the plan of work. All extension agents are expected to have complete understanding about the program and its process. Thus, during the implementation stage, the annual plan of work is executed.

Program evaluation - A separate evaluation unit is organized at the state level to look into the evaluation aspect of the Cooperative Extension Service. Program evaluation actually is concerned with two types of evaluation (Administrative Handbook, 1970):

1. Means evaluation - refers to a constant appraisal of the methods used and what was done at each step of the overall educational program activities;
2. End evaluation - deals specifically with what was accomplished as a result of the overall programming effort; and

Accountability of the extension educational programs is dependent on these two types of evaluation processes. Since all educational programs are emphasizing some desired or expected changes in activities among clientele, the actual impact of the educational programs can be determined or evaluated.

Communication of program accomplishments - All extension personnel at county, district, and state levels must submit reports to their superior or immediate supervisor regarding accomplishments made in relation to the plan of work. Statistical information is collected and maintained by the Virginia Extension Management Information System (VEMIS) for later reporting to the U.S.D.A. and Congress (A Report Prepared by the Extension Budget Guide Lines Task Force, 1978). Furthermore, qualitative activity reports are arranged and summarized by 21 major program areas for state and federal evaluation.

Another aspect of program evaluation includes the random selection of units for study by state and county extension agents for the purpose of reviewing the educational programs as a whole. Both quantitative and qualitative facts of the program are studied on this type of comprehensive evaluation. The reviewers evaluate the educational programs on the basis of time and effort spent on various activities and enterprises. Evaluation results are communicated to key individuals and the public at large through a variety of methods, including reports, news releases, and personal presentations.

## Responsibilities of Personnel in the Cooperative Extension Service

The responsibility of extension personnel at various levels is to provide leadership and participate in planning, implementing, and evaluating extension educational programs designed to meet short and long term needs of the people. At every level of the organizational structure, extension personnel work with specific subject matter area specialists. The extension personnel in the Cooperative Extension Service includes the Dean, Associate Deans, Assistant Deans, Directors, specialists, district chairmen, unit chairmen, extension agents, and in some cases technicians. All extension personnel responsibilities are interrelated, interdependent, and supportive in nature. Since extension agents are more involved in carrying out extension activities at the grass root levels and specialists as being resource persons to the county agent, the following paragraphs focus on their responsibilities in cooperative extension work.

### Broad Responsibilities of Extension Agents

The Cooperative Extension Service performs its educational program through extension agents who work in local counties and communities, on the farms and in the homes. The county, therefore, is the crucial unit in cooperative extension work. It is in the counties that adult education is carried on and where its teachings are subjected to the test of workability. In all counties, extension agents are housed together and are supportive to each other. As indicated in their job description, their responsibilities are as follows (Responsibilities of Extension Agents, unpublished source):



1. Assess community needs -- Review data about community, past programs, and resources available. Select advisory committee. Solicit reviews of the committee and public about needs and helps establish priorities for the community.
2. Prepare annual plan of work - Review prior annual and long range plans, and determine objectives. Select program topics, teaching methods, and schedule. Coordinate plans with other staff and consult with advisory committee.
3. Prepare specific program plans - Determine objectives and audience. Prepare materials and assign responsibilities to resource personnel. Select most appropriate teaching strategy and see that personnel facilities, and equipment are available. Plan publicity and program evaluation.
4. Conduct programs - Carry out planned programs, lead discussions, and evaluate effectiveness of programs. Conduct follow up evaluation if appropriate.
5. Respond to client requests for specific information - Question client to determine full nature of the problem, answer requests using available knowledge and resources. Send printed materials that are relevant. Keep records of requests to determine whether problem area merits a special program.
6. Recruit, train and utilize lay leaders - Determine kind and number needed, and prepare job descriptions. Ask advisory committee for suggestions, as well as other key people, and potential leaders. Train leaders, assign duties, provide continuing support, and evaluate performance.
7. Respond to client requests for technical assistance - This duty is similar to the previous duty except that this duty may require a visit to the site and the use of a specialist since the requests are more technical or more complex.
8. Evaluate program effectiveness - Collect qualitative and quantitative data to determine whether needs have been met as well as stated goals. Assess subsequent behavioral changes and interest in repetition of program.
9. Report activities, impact and accomplishments - Assemble and evaluate data to be included in reports. Prepare reports, including end reports. Prepare reports, including objectives, procedures, and outcomes.

10. Develop and maintain public relations - Establish good working relationships within the county. Participate in meetings of relevant groups, establish rapport with key individuals and mass media. Prepare publicity articles, appear on radio and TV to promote the extension program.
11. Develop and maintain staff relationship within extension service - The University, and the State and the United States Department of Agriculture, provide information, serve on committees, assist other counties, share information with other agents and university personnel. Keep administration informed of progress and results.
12. Maintain and increase personal professional competency - Evaluate own areas of strengths and weaknesses and develop plans for personal growth. Read periodicals and publications, participate in professional meetings and take formal university courses.
13. Perform administration functions - Complete reports and vouchers. Participate in staff meetings, see that filing system is maintained, and order supplies. Provide information for budget preparation, and serve on office committee.

#### Responsibilities of subject matter specialists

The potential range of subject matter with which extension agents must deal with in the physical sciences as related to agriculture is great. It is impossible for an extension agent to be a specialist for all problems and needs that arise from their clientele. Each subject matter specialist deals with a single subject matter area or possibly a few closely related areas. Specialists have functional linkages, between the extension agents, the land-grant colleges, the experiment stations, and the United States Department of Agriculture. They analyze and interpret scientific knowledge and assist in bridging the gap between research and recommended practices. Subject matter specialists

provide support to field units in determining, implementing, and evaluating extension programs within their respective areas, consistent with the policies and objectives of the Extension Division. As stated in the Administrative Handbook of the Extension Division (1970), the subject matter specialists broad responsibilities are as follows:

1. Program responsibilities

- a. Maintain competence in professional subject matter area or field of work.
- b. Develop and maintain an understanding of the functions and philosophy of the Extension Division as an educational agency.
- c. Provide leadership to field staff members in helping them to keep current in subject matter and assist them in determining, implementing, and evaluating extension programs.
- d. Translate research information into practical terms and serve as a communication channel between research, field staff, and the people.
- e. Assist in developing a long-range program statement and an annual program plan of work in subject matter fields which considers the needs of the people as identified by the field staff, specialists, and other special interest groups and organizations.
- f. Work with supporting organizations or community groups in determining and evaluating their needs and programs and in furnishing appropriate resources.
- g. Coordinate all special program area activities and events with other district and state Extension Division programs which include working closely with other subject matter or program specialists, state program directors and district program leaders.
- h. Write publications, newspaper and magazine articles, prepare radio and TV programs, and use other mass media in keeping field staff and clientele informed of new developments.

- i. Work as a member of special interest committees which stress inter-disciplinary approach to program development and enhance interaction between departments.
2. Administrative responsibilities
    - a. Extension faculty, functioning as subject matter specialists, plan, implement, and evaluate a state plan of work in their areas of specialization. They are responsible to their department head through their project leaders.
    - b. Subject matter specialists should work with the appropriate program director through the project leader and/or department head on matters concerning the normal implementation of the planned program. The program directors will keep the appropriate Associate Dean informed of changes in the plan of work or any special action that may be required.
    - c. Subject matter specialists should keep the appropriate district program leader and unit chairman informed of specific activities being conducted in their affected area.
    - d. Submit administrative reports to the department, Extension Division or to federal officers as required.

#### Flow of Information and Extension Methods

The purposes of the Cooperative Extension Service are to help in diffusing among the people of the United States useful and practical information generated at research stations and to study the subjects relating to the social, economic well being of the people. The knowledge generated at research stations reach clientele through subject matter specialists and extension agents. Likewise, identified clientele's problems reach research personnel through extension agents and subject matter specialists. That is, there is a two-way communication process taking place between research

officers, subject matter specialists, extension agents and clientele. Figure 3 depicts the flow of knowledge in extension educational activities. Clientele may directly approach either specialists or research officers to secure needed information on their enterprises, activities or problems.

The subject matter specialists, usually housed at the land-grant colleges, support local extension agents in carrying out their programs effectively. Plans of work from all localities are made available to the subject matter specialists for use in developing their work schedule. Subject matter specialists then develop subject matter materials to help the local agents conduct their program effectively. Extension agents are kept informed of important trends and concerns by extension specialists who have the responsibility to maintain a high degree of competence in their assigned subject matter specialty. The local staff in turn provide the faculty with feedback on current problems. Extension agents also serve as the University's contact with the public, helping to identify the needs and concerns of people throughout the state. When confronted with a local problem, the extension faculty and researchers suggest solutions if known or conduct research to find answers. The results are then provided to the people through the local extension staff. This information helps expand the horizon of the local people and assists them in developing more future oriented plans (A Report Prepared for the Extension Budget Guide Lines Task Force, 1978).

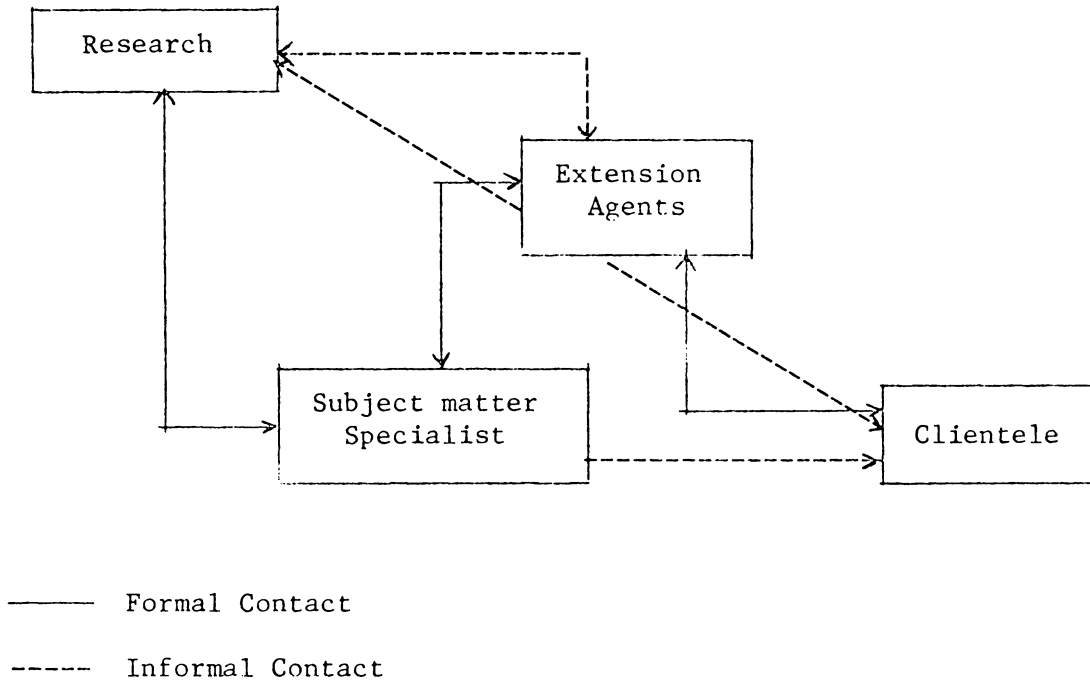


Figure 3

Flow of Knowledge in  
Extension Education Activities

Extension and research faculty are housed together in academic departments throughout the eight colleges at Virginia Tech, thus facilitating formal and informal coordination between research and extension personnel. Many Virginia Tech research projects are team efforts with interdisciplinary input and are multi-mission, involving both research and extension. Through this cooperative approach, the researcher has the benefit of a broader perspective on the problem. Extension faculty become familiar with the objectives and structure of the study as its being conducted. There are some faculty positions constituting joint research-extension appointments. In these instances, the faculty members assume both research and extension roles (A Report Prepared for the Extension Budget Guide Lines Task Force, 1978). When the extension faculty is involved with the research project, it is then easy to incorporate the results of the research in extension's educational programs. Usually research faculties participate in extension workshops, meetings, and other activities. Informal and formal coordination and cooperation are maintained at all levels, especially at departmental, college and university levels. The agricultural experiment stations are the centers for the formal disciplinary activities. The research centers consist of several outlying stations for maintaining research-extension cooperation throughout the state. The centers were created to address the fundamental problems of the citizens of Virginia using interdisciplinary/multidisciplinary approaches.

The Cooperative Extension Service employs a variety of teaching methods to provide information to clientele. Methods such as field demonstrations, publications, radio, TV, newspaper, field days, tours, organized training conferences, seminars and workshops, private consultation, and off-campus lectures are used either singularly or in combination with other methods. The Cooperative Extension Service has won recognition in providing educational programs on farms and in homes by means of method and result centered demonstrations. Undoubtedly the result demonstrational technique continues to be one of the most effective methods in many phases of extension programs. Office visits by people or farm and home visits by extension agents are also used in extension activities. But, even though individual consultations or visits to farmers remain an important technique of extension work, extension agents sometime limit this approach since it is time consuming. As far as teaching methods are concerned, more attention has been given to the group approach rather than an individual approach.

#### Staff Development

Staff development is an important aspect in any organized educational agency. To have a good extension educational program, a well developed, organized staff development policy, including selection and training, is essential. The joint committee on extension programs, policies, and goals of the United States Department of Agriculture and the Association of Land-Grant



Colleges and Universities recognized these principles, and in its report presented nine goals for the preparation of extension workers (Brunner and Yang, 1949):

1. basic grounding in the physical and social sciences of significance to life in rural America;
2. familiarity with reliable sources of important information;
3. understanding of the background, philosophy, objectives, policies, and organization of the extension system;
4. skill in applying principles of psychology and education to extension teaching, supervision, and administration;
5. ability to organize rural people and stimulate leadership among them;
6. understanding of the processes by which rural people and extension workers in cooperation can analyze local problems, arrive at potentially sound solutions, and develop a county extension program;
7. knowledge of the problems and procedures of adult and out-of-school youth education;
8. skill in organizing, interpreting, and presenting basic economic, social, technical and scientific data, and their implication in rural life; and
9. understand the techniques and processes of evaluating the effectiveness of extension programs.

Basically the preservice training program in different fields is designed in such a way as to fulfill the above mentioned nine goals.

The preservice training program provides:

1. the knowledge in major subject matter fields such as agriculture and home economics and the basic natural sciences on which this subject matter is built on;
2. the knowledge in social sciences, including cultural understanding and social and community organization; and

3. the knowledge in education, adult education, psychology, and subjects dealing with extension organization, history, philosophy, methods and the like.

#### Selection of Extension Agents

The total professional personnel of the extension service in Virginia numbers approximately 1200, of whom one fourth are unit extension agents. The employing process of these officers is handled by a special officer. Positions available in the Cooperative Extension Service are advertised time to time indicating type of position, salary range and job description. Each position requires both general and specific qualification. Even though the Master of Science degree is preferred, generally applicants are expected to have a B.S. degree in a technical agriculture area, technical home economics area or in other areas which are related to extension work. Both females and males are selected as extension personnel at all levels of the organization. The qualification requirements differ between unit chairman and district chairman positions because a district chairman has much broader responsibilities than a unit chairman. District chairmen nominate unit chairmen to the Dean of Extension. Unit chairmen are extension agents, initially employed for 2 year periods and after that initial appointment, they can continue to be unit chairmen if they like.

The initial preservice training and continuing professional improvement activities of extension agents vary significantly. As indicated in the situation statement of the long range plan

and plan of work of staff development (Long Range Plan of Work, 1982):

".....employment entry requirements, specific job responsibilities, expected quality of job performance, and requirements of advancement within the extension organization are increasing rapidly. All of these factors influence the need for a strong and diversified extension faculty and staff development program. In response to this need, the staff development unit team provides major leadership in planning, coordinating, supervising, and conducting a variety of professional improvement activities for extension personnel including (1) orientation educational activities, (2) inservice educational activities, (3) graduate educational activities, and (4) international extension educational activities."

#### Orientation Education

During the first six months of employment in the Cooperative Extension Service, all extension agents must undergo a special orientation program. The major purpose of the orientation is to help staff members become better acquainted with the overall purpose, policies and operational procedures of the Cooperative Extension Service. During the orientation period, special attention is given to what the cooperative extension division expects of each employee and what each extension agent should expect from the division. Even though all staff members, such as program leaders, district agents, program directors, the director, administrative management and director training are responsible for the type of induction training, currently the major responsibility is given to district extension leaders and to the extension unit chairman. However, it is the responsibility of each new employee

to see that his/her specific induction training needs are met. A true mark of a professional extension worker is that he/she actively seeks help in solving his/her individual training needs in order that he/she may be a more effective extension employee (Administrative Handbook, 1970).

#### In-service Training

The purposes of an in-service training program is to help extension agents to expose themselves to additional knowledge and skills in a variety of program area needs. Major emphasis during these training periods is given for helping staff members understand and get acquainted with how to apply basic theories, principles and methods involved in developing and carrying out effective extension educational programs.

Extension agents are expected to express their felt needs for in-service education programs. Supervisory personnel at various levels have the responsibility of helping each extension agent to identify his/her training needs and planning for appropriate training sessions. An updated statement of operational procedures, a time table regarding in-service educational programs for extension agents, as well as listing of non-credit and credit workshops and courses are made available to all extension agents. An extension agent will be granted up to 15 days extension time annually to participate in in-service educational programs.

In addition to the formalized in-service education, extension agents are granted permission to participate in professional

improvement meetings, conferences and seminars. There are no special in-service training centers available for this type of training. But seven states have in-service training programs which provide for training extension agents from across the nation. Generally, training programs are conducted on campus and in various parts of the state depending on where the nearest geographical area is to the majority of the participants. Also 6 district offices and 6 4-H educational centers will provide excellent facilities for in-service training programs. Subject matter specialists generally serve as members of the training teams in these in-service programs.

#### Graduate Education

Advanced study facilities are available for extension agents who have gained at least two years of experience as an extension employee. Each extension agent is expected to have a plan of "professional improvement" which leads to a Masters or Doctors degree. The total number of staff members who are granted leave to participate in advanced study programs during any given year will be dependent upon availability of other staff members to maintain on-going extension programs at the operational level and the availability of financial support for those seeking educational leave. Many agents have completed the master's degree programs as a result of their participation in the graduate education program.

## International Extension Education

A limited number of extension personnel from other countries participate in the cooperative extension education program at Virginia Tech. Undergraduate and graduate training facilities are also available for foreign students.

### 4-H Organization

4-H is the youth program of the Cooperative Extension Service. It is a practical, dynamic, informal educational program designed to meet the needs of all boys and girls between 9 and 19 years of age regardless of whether they are rural or urban, white or black, and regardless of their social and economic life style. 4-H offers young people a wide range of learning experiences to enjoy learning new things, develop new interests, make new friends, learn democratic group action, and develop leadership ability.

Ad indicated in the 4-H Leaders Handbook (VPI & SU, 1978):

"The major objective of the 4-H program is to help boys and girls develop into useful and desirable citizens. Through 4-H they have opportunities to develop good character traits, wholesome attitudes, leadership qualities, and knowledge and skills in areas of special interest to them."

From its beginning, 4-H has been a "Learning by doing program." The name 4-H refers to the elements of the Head, Heart, Hands, and Health. Each element contains a specific concept as follows (4-H Leaders Handbook, 1978).

Head -To develop an awareness of and learn to apply the latest scientific knowledge in many subjects such as agriculture, home economics, sociology and psychology in their own lives and the lives of their families

- To provide young people many opportunities to develop an intelligent understanding of natural phenomena in their environment
- To help young people develop the thinking, reasoning, and decision-making habits they need to become capable individuals and useful members of society
- To help young people realize the importance of continuing education and to help them develop a desire to continue to learn

- Heart
- To aid in the development of wholesome character and personality qualities, loyalty, good citizenship, high ideals, and a sense of responsibility
  - To arouse worthy ambitions for personal, family, and community development
- Hands
- To help youth develop useful and creative skills in a variety of subjects such as agriculture and home economics
  - To provide opportunities to "learn by doing" through 4-H projects, activities, demonstrations, and illustrated talks
- Health
- To help youth know about and understand what constitutes good health
  - To help cultivate good health habits and intelligent use of leisure time which will lead youth to satisfying and rewarding lives

4-H'ers pledge themselves to greater loyalty. Such loyalty demands diligence and is based on enthusiasm. They pledge their hands to larger service. They learn to serve others, their country and themselves.

The 4-H'ers elect their own officers based on parliamentary procedure and form a structured formal local club. The local club is responsible for project work, activities, leadership responsibilities and recreation. The project activity is something that the member does as an individual with the help of a local

4-H leader. Volunteer leaders including adult and youth, play a major role in conducting 4-H projects and activities. Extension agents also provide necessary materials and other facilities for use in their voluntary work with 4-H members.

4-H clubs have the freedom to select the projects in which they would like to take part. Programs may be undertaken individually or as a group effort. 4-H members have an opportunity to strengthen leadership skills and meet with other 4-H state and National Congress participants. Youth are selected to attend the National Congress based on their performances in local and district 4-H activities. During the state and National Congress, youth have an opportunity to compete with people from other communities in their chosen project area.

Learn by doing has always been an important basic approach of 4-H members. Projects continue to be a valuable tool for bringing about constructive thought and action by 4-H members. Virginia offers a wide choice of projects and activities to fit the varied needs and interests of boys and girls. As the pace of change has accelerated, so have the efforts to develop 4-H projects and other 4-H materials in tune with today's world. Extension specialists, who are members of the university faculty, work continuously to develop new and exciting 4-H programs. Specifically home economics specialists have been heavily involved in writing materials and training extension staff in support of the TV programs and 4-H Expanded Food and Nutrition Education Programs.



## CHAPTER III

### AGRICULTURAL EXTENSION EDUCATION IN SRI LANKA

Sri Lanka, a South-asian country, gained its independence from the British in 1948 and occupies a unique position in the tropical world. Sri Lanka has a total area of 25,300 square miles and the population in 1979 was 14.47 million (Economic and Social Statistics of Sri Lanka, 1979). Nearly 80 percent of the population is Sinhalese, who speak Singhala and whose religion is mainly Buddhism. The Tamil speaking minority consists of approximately 15 percent of the total population and their religion is mainly Hinduism. The rest of the population consists of many races, but Musleum is more prevalent and they speak both Tamil and Singhala languages. A considerable number of both Sinhalese and Tamils are also Christians. Sri Lanka compares favorably with neighboring countries in providing social services to its population for education, health, rural communication and other social welfare. Literacy and life expectancy rates are high when compared with some developed countries. Recently the population growth rate came down from 2.0 to 1.5 percent annually, per capita income has grown by only 1.0 percent per year, and the current average per capita income is almost \$200.

Sri Lanka has wide variation in precipitation, temperature, topography and soils which makes it possible to

grow a wide range of crops and livestock. Rainfall in Sri Lanka is determined both by regional as well as local phenomenon. Consequently, most parts of the Island receive a bi-model pattern of rainfall, mainly from the Southwest monsoon and the Northeast monsoon. The Southwest monsoon, called the Yala cropping season, is effective from mid May to mid September, while the Northeast monsoon, called the Maha cropping season, is effective from mid November to mid January. Sri Lanka also receives intermonsoon convectional rains which occur during March and April and again during September and October. Nine soil groups have been identified in Sri Lanka and these pose many problems to agriculture. Temperature is not a limiting factor in crop production, except at high elevations. Unreliable rainfall and frequent dry spells are features of the entire dry zone of Sri Lanka.

Based on rainfall, vegetation, soils, topography, and land uses, the Island is commonly divided into seven major agro-ecological zones: Wetzone includes low country, mid country and up country wetzones; Intermediate zone includes low country, mid country and up country intermediate zones; and Dryzone includes low country only. The low country is demarcated as land below 1000 feet elevation; the mid country as land between 1000 feet and 3000 feet elevation; and the up country as land above 3000 feet. These seven zones are further sub-divided into 24 clearly defined agro-ecological regions based on the unique combination of rainfall pattern, elevation, land form, temperature range and type of soils. The demarcation

of the country into 24 agro-ecological regions facilitates to determine land use, cropping pattern, crop calendar, production constraints and future agricultural development potentials.

Sri Lanka's undiversified agriculture accounts for nearly 35 percent of the Gross Domestic Product, provides direct employment for over 50 percent of the total employment force, and 75-80 percent of the export earnings. Sri Lanka's agriculture can be divided into three fairly distinct sectors. Firstly, the plantation sector is dominated by rubber, tea and coconut. Tea and rubber provide more than 60 percent of total export earning and coconut products are exported only after having satisfied local requirements. Secondly, the wet farming sector is typically primitive agriculture and it is concentrated in the low land of the Southwestern parts of the country. Rice and other subsidiary food crops are produced here as well as the bulk of the small holdings of coconut lands are found here. And thirdly, the dry zone consists largely of under cultivated and uncultivated lands, and this is where major agricultural problems remain. Rice and other subsidiary food crops are also produced here. Apart from these sectors, Sri Lanka has a number of crops referred to as Minor Export Crops such as cocoa, cinnamon, coffee, pepper and cardomom which together substantially contribute to the export trade. These crops are found mostly in small holdings, either as single, multiple or mixed cropping.

The other two agricultural sectors are referred to as "peasant agriculture." Nearly 60 percent of the population residing in

the rural areas are involved in peasant agriculture. Peasant agriculture is characterized by small holdings where farmers cultivate rice and subsidiary food crops such as cowpeas, soybeans, greengram, blackgram, ground nut, sesame, yams, ginger, kurakkan, turmeric and field crops such as chili, onion, tobacco, sorghum, maize and cotton. Peasant agriculture operates in a wide variety of farms, ranging from highly communalized systems to small farms organized around the family unit. In peasant agriculture, the bulk of the labor force, management and capital comes from the same household. In general, excess production over the family's requirements goes to the domestic market and this income is used to meet the requirements for non-farm goods and services. The average size of a plot cultivated is nearly 1/8 acre and normally does not exceed one or two acres.

Peasant agriculture has always provided the principal means of livelihood for the vast majority of the Sri Lanka population. It is accepted that the ultimate aim of economic development is the improvement of the standard of living of the ordinary mass of people. Thus, peasant agriculture is the cornerstone of the current governmental economic policy. The Department of Agriculture, the only institution involved in extension education, research and training for the peasant agricultural sector in Sri Lanka, is making massive efforts to bring about the desired improvement in peasant agriculture.

Brief History of Agricultural Extension Education in Sri Lanka

The importance of a properly established Botanic Garden was soon recognized after the arrival of the British in 1796. The present Department of Agriculture and Extension Organization evolved from the small beginning in the Botanic Garden. In 1821 the present Botanical Garden, a site formally utilized as the fruit garden and pleasure grounds of the Royal dynasty, was selected and the Department of Botanical Garden was formed (Tropical Agriculturalist, 1916). The Botanical Garden focused on horticulture and landscape gardening, preparing gardeners, giving advice on gardening matters to residents in Ceylon, and trying experiments with different cultivation methods of ornamental or minor useful plants. Over the years different departments, such as Entomology, Mycology and Chemistry, were added to the Department of Royal Botanic Garden. In 1902, the Peradeniya Experiment Station was established and began experimental work in tropical agriculture. In 1904, a second Experiment Station was established in the vast dry zone district of Maha Illuppalama (The Ceylon Manual, 1905) to conduct experimental trials on the possibilities of cotton and other crops being grown in Ceylon.

In 1913, the Department of Royal Botanic Garden was reorganized and expanded as a Department of Agriculture by forming seven separate divisions. The work and function of the Department of Agriculture have expanded considerably from that date and an additional provision was made by the Government for scientific research and technical

education (Tropical Agriculturalist, 1915). The work of the Department of Agriculture and its officers and all experimental results and knowledge of the staff were made available to the public through correspondence, personal interviews, lectures, and visits to the estates and gardens. The Department of Agriculture also published agricultural periodicals, circulars and agricultural journals in non-technical language while the detailed scientific work was published in the "Annals of the Royal Botanical Gardens of Peradeniya" (The Ceylon Manual, 1905). At this point, the Agricultural Society and Cooperative Credit Society were founded as an advisory service organization in agriculture. The Agricultural Society functioned primarily as an organization in agriculture and published the first issue of its english magazine in combination with "Tropical Agriculturalist" in February 1905. The Sinhalese edition of the magazine, the "Govikam Sangarawa" and Tamil edition, the "Kamattohlil Velakkam" were published in July 1905 and January 1906 respectively (White, 1908).

The Agricultural Society carried out many agricultural extension education activities for promoting the agricultural development in Ceylon. Some of the specific activities included:

1. disseminating agricultural literature among the village population through magazines and other publications;
2. starting experimental gardens to serve as models;
3. holding agricultural shows;

4. holding market fairs in smaller towns and villages in order to bring the producer and trader together and creating markets for local products;
5. introducing varieties of paddy, vegetables and fruits trees, in new locations; and
6. encouraging various methods of cooperative action in agriculture.

In early 1919, provincial and district food production committees were formed as advisory committees to the various government agents and their assistants. The Department of Agriculture encouraged agricultural production and helped to disseminate agricultural knowledge. Other departments of the government dealt with areas related to agricultural production, such as the irrigation project undertaken and constructed by the Irrigation Department. The new Board of Agriculture was formed in 1920. The Board of Agriculture was constituted as an advisory body to the government and to the Department of Agriculture. The Department of Agriculture received advice and assistance from representatives of agriculture from every part of the country through the Board of Agriculture.

The Department of Agriculture appointed its first district agricultural officers in 1919 to serve the needs of the cultivators in their respective districts. In 1921, agricultural extension work carried out by the Agricultural Society was taken over by the Department of Agriculture. Thus, in 1921, the Department of Agriculture became solely responsible for the operation and administrative activities of agricultural extension education in

Sri Lanka and emphasis was given toward peasant agricultural problems. The Department of Agriculture expanded its extension education activities as follows:

1. production and distribution of planting materials;
2. dissemination of new research findings to the public;
3. helping the people to increase island-wide, food production; and
4. increasing the number of skilled extension workers.

Even though the responsibility for agricultural extension education was vested in the government's Department of Agriculture, the need to build proper institutions or separate divisions to carry out extension education activities was encouraged in many proposed policy statements (Tropical Agriculturalist, 1926). As a result of the above effort, the recommendation was made to divide the Island into six agricultural divisions, and divisional agricultural officers were appointed to execute all agricultural operations in their respective divisions. The divisional agricultural officers were responsible for the control of experiment stations, testing and distribution of improved crop varieties, and general agricultural investigations. They were also responsible for the agricultural instructors, who were in charge of a geographical area within the division and worked directly with farmers under the direct supervision of the divisional agricultural officer.

In 1932, the Propaganda Division was created to convey research findings to the farmers. This division functioned as an informational unit in each division and was under the control of the divisional



agricultural officer. Eventually, the Division of Extension was created in the Department of Agriculture in 1957. The Extension Division functioned as a counterpart to the Research and Farm Division for a more effective extension service. Thus, extension education and training activities in agriculture developed and became a unified extension service working directly under the Deputy Director of Extension Education. In the meantime, three separate research institutes for tea, rubber and coconut were established and they developed their own extension advisory work over the years. The present organizational structure of the agricultural extension education in the Department of Agriculture is described in the following section, with special reference to District, Agricultural Service Center, and village levels.

### The Present Organizational Structure of the Agricultural Extension

#### Service in Sri Lanka

The Agriculture Department, operating under the Ministry of Agriculture Development and Research, is the principal agency of the government entrusted with research, education, and extension functions in the field of peasant agriculture. Even though many institutions, such as the Land Commissioner's Department, Tea Small-holding Authority, Rubber Controller's Department, Coconut Cultivation Board, Department of Minor Export Crops, Mahaveli Development Board, Agricultural Development Authority and National Agricultural Diversification and Settlement Authority are involved in extension education activities, the Department of Agriculture

is the sole institution carrying out the extension education function on a nationwide basis. The agricultural extension education organizational structure includes four levels: National or Department level; District level; Agricultural Service level; and Village level.

The Department of Agriculture is divided into various divisions such as Research, Extension, Education and Training, Economics, Engineering and other activities. Each division is headed by a deputy director of agriculture, who is responsible to the director of agriculture. The deputy directors are responsible for administering, planning and implementing the activities of their respective divisions. At the departmental level, a group of subject matter specialists and agricultural officers are appointed in various subject matter areas such as field crops, plant protection, education, training, program development, irrigation, rice, farm machinery and extension methods. Generally research and extension education activities are coordinated and integrated with each other and this coordination is especially strong at the departmental level.

For administrative purposes, the country is divided into 24 districts. The districts vary from one another not only in their agricultural production activities but also in their socio-economic status. Agricultural extension education operates through all 24 districts of the country. In each district, agricultural extension education work is headed by an assistant director of agriculture.

Depending on the size of the district, 2-3 agricultural officers are appointed and they work closely with the assistant director of agriculture. Assistant directors of agriculture are responsible for the administration and coordination of extension education activities in their respective districts. They take responsibility to prepare the District Implementation Program and see that it is implemented properly. The aforementioned officers at the district level are degree holders in agriculture and they have considerable work experience in the field of agricultural extension education activities.

In addition to these officers, a number of subject matter officers, nearly 5-10, are appointed in each district. They have two year diploma certificates in an agricultural specialty, such as rice cultivation, plant protection, field crops, or farm economics and training. The subject matter officers assist and supervise the village level extension workers. Subject matter officers also collect field problems from the village level extension officers and pass this information on to research officers. The subject matter officers spend about one third of their time training the village level extension workers and agricultural instructors under the Training and Visit system, a new approach in extension education activities in Sri Lanka. Each district office is facilitated with supporting staff and equipped with training facilities.

Under the Agricultural Productivity Law of 1972, nearly 450 Agricultural Productivity Centers, called Agricultural Service Centers, were established in all districts of the country. Each Agricultural Service Center is headed by one agricultural instructor who has completed a two year diploma course in agriculture. The agricultural instructor supervises and works with 4-5 village level extension workers at the village level. Village level extension workers hold one year practical farm school training certificates. Approximately 500 agricultural instructors and 2000 village level extension workers are involved in extension education activities throughout the country. Generally village level extension workers have direct contact with farmers. The village level extension worker visits the farm or home and advises farmers on farming matters. The present ratios are approximately 600-700 farm families per village level extension worker, 4-5 village level extension workers per agricultural instructor, 8-9 agricultural instructors per agricultural officer and 2-3 agricultural officers per district office.

The Agricultural Productivity Center is composed of a committee. The committee is responsible for the development of agriculture within the area of its authority. Each productivity committee is made up of a number of cultivation committees to provide assistance at the village level. Under the Agrarian Service Act of 1979, the Agricultural Productivity Center has been changed to the Agricultural Service Center and the cultivation committee system was abolished. There are nearly 500 Agricultural Service Centers

established in the 24 districts of the country. The Agricultural Service Center is a building complex consisting of branches of many departments such as Bank, Agrarian Service Department, Department of Agriculture, Agricultural Development Authority and Coconut Cultivation Board. Farmers can obtain many services through these centers such as supply of farm credit, fertilizer, chemicals, plants and seeds and sometimes the purchasing of produce. Under the new arrangements, the provision of farm supplies to farmers have been made chiefly through the Agrarian Service Department's representatives, called cultivation officers. More than 4000 cultivation officers are appointed by the Agrarian Service Department to serve the supply function in each village. They usually duplicate the functions of the village level extension workers.

As described in the last few paragraphs, the extension organizational hierarchy has many officials at different levels responsible for extension activities. The organizational set-up found in all 24 districts of the country is the same, but they differ in the number of extension personnel and in the specific extension activities depending on the size and nature of the farms in each district. Figure 4 shows the general organizational structure of the agricultural extension education in Sri Lanka. The Education and Training Division of the Department of Agriculture is supportive to the extension division's activities. The Education and Training Division provides inservice and preservice training to agricultural instructors and village level extension workers. The School of Agriculture is

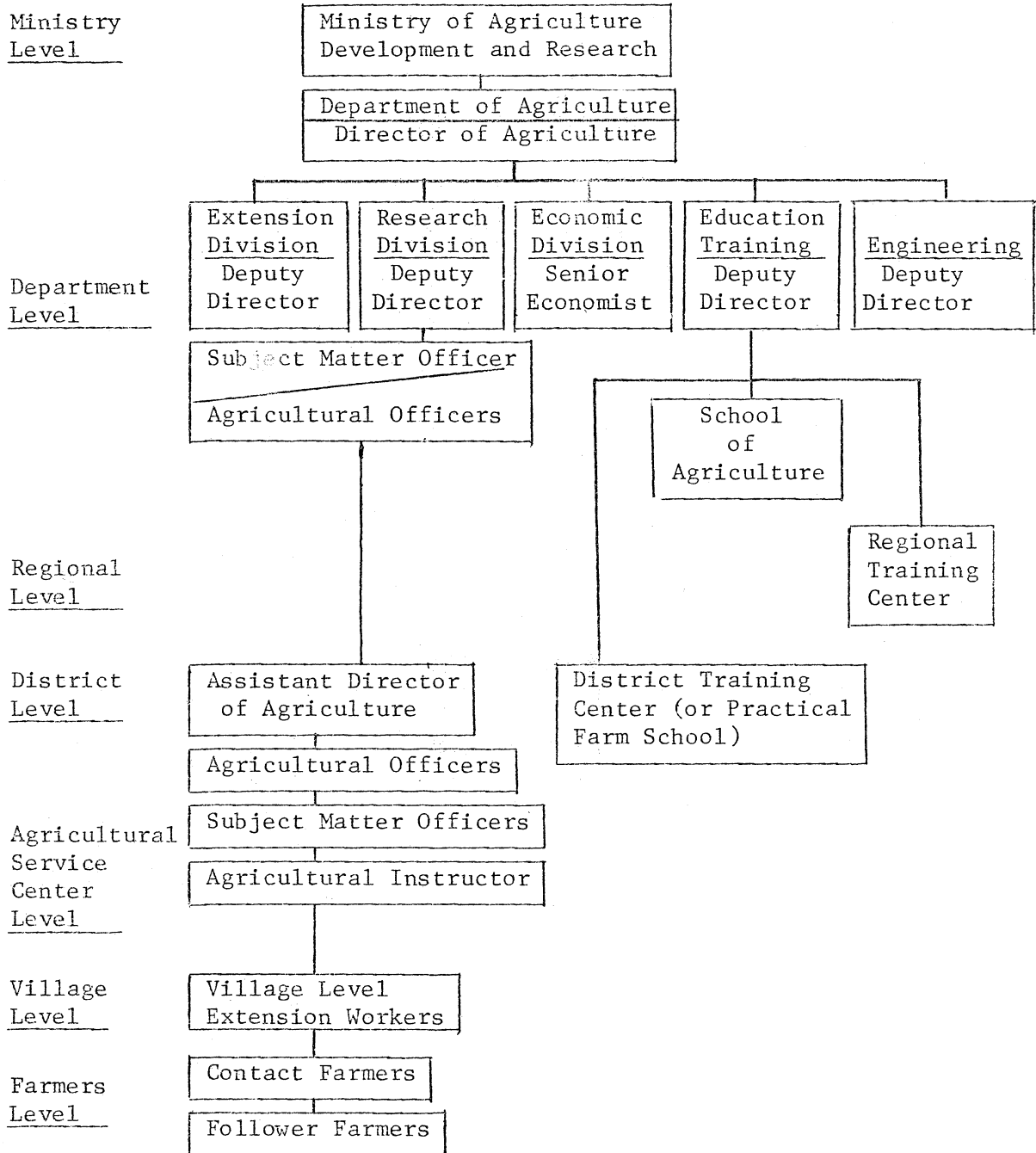


Figure 4

Organizational Structure of the  
Agricultural Extension Education in Sri Lanka

a preservice institute providing a two year diploma course in agriculture. Steps have been taken to build another School of Agriculture in the Southern part of the country. At present, there are five Regional Training Centers that provide inservice training facilities for extension personnel. Fourteen practical farm schools or district training center facilities are used for both preservice and inservice training programs and offer a one year certificate in agriculture.

#### Responsibilities of Agricultural Extension Personnel

Extension education activities are performed mainly by the agricultural instructors and village level extension workers in each Agricultural Service Center area. Even though many other officials, assistant directors and subject matter specialists are considerably involved in extension education activities, their major concern is in the administration and coordination of extension education activities in addition to supervising and assisting village level extension workers and agricultural instructors. Figure 5 shows the relative role of each extension person in the administration and extension education activities of each district. According to Figure 5, agricultural instructors and village level extension workers responsibilities are very important in carrying out extension education programs in Sri Lanka.

#### Responsibilities of Agricultural Instructors

One agricultural instructor is responsible for the Agricultural Service Center area. General and specific responsibilities for carrying out the extension education program in a specific geological area called a range include:

ADMINISTRATION

EXTENSION EDUCATION

---

Assistant Director

Agricultural Officer

Subject Matter Officers

Agricultural Instructor

Village Level Extension Worker

Farmers

Figure 5

Relative Role of Extension Personnel  
in Administration and Extension Education



1. visiting and helping farmers seven days in a fortnight;
2. supervising village level extension workers;
3. conducting training classes for village level extension workers;
4. conducting demonstration and field trials in the farmers' fields;
5. identifying local problems and the production potential of the range in cooperation with other extension personnel;
6. developing extension education programs for the range within the framework of the national policy;
7. reporting extension education activities to the immediate supervisor; and
8. participating in professional improvement programs such as inservice programs, meetings, and conferences.

#### Responsibilities of Village Level Extension Workers

The village level extension workers, called Krushi Karma Viyapthi Sevaka (K.V.S.), are important people since they have direct contact with farmers and occasionally with other farmers outside their area. Responsibilities of the village level extension workers include:

1. visiting and advising farmers according to the fortnightly program schedule;
2. organizing and conducting farmer training classes;
3. taking part in preparing demonstrations in farmer's fields;
4. attending inservice programs and conferences;
5. reporting extension education activities to the immediate supervisor, and
6. attending to office matters.

### Program Planning and Evaluation

District Implementation Programs are developed annually in all 24 districts according to the national agricultural development policies and programs. The District Implementation Program aims for minimum level of production increases to be attained in any given cropping season. Every year, a new District Implementation Program is prepared based on the previous years' experiences. The District Implementation Program reflects expected production, net production, fertilizer requirements, agrochemical requirements, the size of farming machinery needed and labor requirements. Using these factors of production, production estimates are made every year. In fact, in its development process, the District Implementation Program attempts to secure the participation of the largest number of farmers by means of considering the farmers' needs.

The preparation of annual District Implementation Program originates at the village level with the help of the agricultural instructors. All village level extension officers are expected to prepare a plan of work considering the basic needs of the village and available production factors of the farmers. The village level plan of work is combined into one implementation program for each Agricultural Service Center. At the Agricultural Service Center Level, various representatives from other institutes, such as Multipurpose Cooperative Society, Rural Development Society, Agrarian Service Department, and Irrigation Department, participate in preparing the implementation program. The implementation program for each

Agricultural Service Center area is combined into a District Implementation Program. At the district level, representatives from various Ministries, such as the Ministry of Rural Industrial Development, Ministry of Coconut Industry and Coconut Cultivation Board, Ministry of Irrigation and Manveli Development Authority, Ministry of Land and Land Development and Department of Irrigation and Land Commissioner's Department, Ministry of Finance and Planning, and the Ministry of Plan Implementation participate and meet several days discussing the program.

On the basis of information supplied and the support by its allied Ministries, the Ministry of Agricultural Development and Research issues tentative estimates to serve as a guideline in the preparation of the programs in each district. After careful analysis, production estimates are accepted as a final production estimate which is then included in the District Implementation Program. The Government Agent prepares and publishes the District Implementation Program based on the final estimates agreed upon at many district level meetings. This final program is named after each of the 24 districts. During the District Implementation Program development period, priorities are given to the recommendations provided by the Regional Technical Working Group operating at regional levels. Each Regional Technical Working Group covers 2-3 districts in its activities.

The preparation of the District Implementation Programs are based on several assumptions at district levels. They are:

1. the socio-economic condition and cultivation practices in each district are uniform and normal;
2. enough cooperation will be rendered by allied Ministries and its local offices in implementing the district programs; and
3. agricultural inputs and other facilities will be available throughout the district.

The evaluation of agricultural extension education activities have been neglected for many years in Sri Lanka. There is no organized structure operating for formal evaluation purposes. Informal evaluation procedures usually include reports on extension education activities to the immediate supervisory level extension officer and executing scheduled visits according to the fortnightly program. The evaluation aspect of extension education is incorporated into the supervisory functions of extension education.

#### Flow of Information and Extension Methods

The Training and Visit System, a new extension approach introduced by the World Bank in 1975, is used in communicating extension educational information to farmers and in conveying farmers' problems to research extension and training officers of the Department of Agriculture. The Training and Visit System, called T and V System, was introduced in the countries of India, Burma, Thailand, Nepal and Bangladesh, largely under conditions of colonizations, high density of farming and homogenous production and social system (Benor and Harrison, 1977). According to the philosophy of the T and V System, agricultural extension personnel who work with farmers have to visit farmers every fortnight and before they visit the farmers, extension

personnel will be provided fortnightly training on the message to be supplied to the farmers. Thus the T and V System stresses in its terminology the regular training of staff and scheduled visits to farmers. The T and V System in Sri Lanka places emphasis on regular training of subject matter officers, agricultural instructors and village level extension workers, and regular visits to farmers by the agricultural instructors and village level extension workers throughout the year.

The T and V System in Sri Lanka divides the farm families under each village level extension worker into 6 clusters, each containing 90-125 farm families. From each cluster about 8-10 farmers will be selected as "contact farmers" by the village level extension worker, agricultural instructor or by both. Each contact farmer will represent about 10-15 farmers, called "follower farmers." The village level extension workers and agricultural instructors will visit only the contact farmer's farm or home unless there is an urgent need to visit other farmers. During the scheduled visit of extension personnel with contact farmers, follower farmers are expected to be present at the contact farmers' home or farm. Field demonstrations and field trials are carried out only in the contact farmers' fields. The extension personnel would supervise the demonstration plots and explain the practices to all farmers during the scheduled visit with contact farmers. The contact farmers are visited regularly by extension personnel, especially by village level extension workers once a fortnight and every fortnight with

relevant information on subject matter of interest and importance for that fortnight. Every contact farmer should be made aware of the regular visiting day of the village level extension worker and the purpose of the visits. A village level extension worker may visit 6-10 contact farmers per day.

Fortnightly programs and work schedules of agricultural instructors and village level extension workers are shown in Table 1. According to this schedule, nearly 2,000 village level extension workers are expected to visit and advise 130,000 contact farmers and pass extension information on to nearly 1.6 million farm families through contact farmers in each fortnight in all 24 districts. Thus, village level extension workers visit selected contact farmers throughout the cropping season. Contact farmers can be changed from season to season and year to year.

Only predetermined information will be delivered to the contact farmers during the farm or home visit. Any problem identified by the extension personnel during this visit will be solved, or if this is not possible, the problem will be dealt with during another visit. Village level extension workers and agricultural instructors try their best to solve unexpected agricultural problems. Otherwise, subject matter officers or subject matter specialists handle the problem with or without the help of research officers. Extension, research and training officers receive feedback from the farmers through village level extension personnel.

Table 1

Fortnightly Work Schedule of  
Agricultural Instructors and Village Level Extension Workers

Details of Visit	Agricultural Instructors	Village Level Extension Workers
Scheduled visit	4	8
Unscheduled visit	3	-
Training	2	2
Office work	1	2
Field trials	1	-
Off days	3	2
Total	14	14

The eight Regional Research Centers are responsible for planning, implementing and supervising adaptive research, extension and training. The adaptive research activities would include field trials on new crop varieties, improved cultural practices and use of inputs. The adaptive research programs are prepared by a Regional Technical working group consisting of technical officers working in research, extension and education. The function of this group is to identify and allocate priorities in research, education and extension requirements of the district and prepare an appropriate program to achieve the objectives of extension education. Each Regional Technical working group covers nearly 2-3 districts and works through the 24 Adaptive Research Centers throughout the country. The Adaptive Research Centers are organized to solve farmers problems and to help them effectively farm. It is possible through this institutional arrangement to link research closely with the field of its application, to involve research workers in training programs and to meet and discuss problems with extension workers and farmers.

Extension workers use a variety of teaching methods in executing the extension educational programs. The most common method is the individual visit to contact farmers and persuading them to adopt improved practices and then pass these practices to follower farmers and other farmers in that locality. The group method such as demonstration plot in farmers' fields, field tours, field days, and farmer training classes are also used. Printed materials such



as leaflets, newsletters, magazines, posters, newspaper articles and radio programs are also widely used by the extension personnel. The training and educational division of the Department of Agriculture is responsible for preparing and disseminating teaching materials for extension education activities. Subject matter specialists and agricultural officers are usually involved in the preparation of teaching materials.

#### Staff Development

The Division of Education and Training of the Department of Agriculture is in charge of staff development for extension education. The School of Agriculture, Regional Training Centers, and District Training Centers (Practical Farm Schools) provide preservice and inservice training facilities for extension personnel, such as subject matter officers, agricultural instructors and village level extension workers. The School of Agriculture is a preservice training institute offering a two year diploma course in agriculture to 200 students each year. Many graduates from the School of Agriculture are recruited as agricultural instructors. New agricultural instructors undergo an induction training program to become familiar with current policies, extension programs, administrative activities, and job descriptions. The district training centers provide facilities to offer one training session in agriculture. Some of the graduates from the district training centers are recruited as village level extension workers in extension education activities. These workers also follow an induction training

program and then are appointed to work under the guidance of the agricultural instructors. The annual enrollment of students in the practical farm schools is nearly 700.

The practical farm schools' facilities are also utilized to offer vocational training for youth and intermediate level agricultural education for youth and adults. The Farm Mechanization Training Center in the Anuradhapura district provides short courses in farm machinery use, maintenance and repair and workshop experiences for extension personnel, youth, adults, and for owners of farm machinery centers. Faculty of Agriculture and its affiliated two agricultural colleges are offering a 4 year course in agriculture, called BSc in Agriculture. A considerable number of graduates are recruited as agricultural officers, subject matter specialists and assistant directors of extension. Although the Faculty of Agriculture is not directly involved in the training programs of the Department of Agriculture, it usually provides guidance and resource persons for some training programs. The Post Graduate Institute of Agriculture is also providing degrees in Master of Science, Master of Philosophy, and Doctor of Philosophy for extension personnel in specialized areas.

The Regional Training Centers and their facilities are used to provide inservice training for extension personnel. Series of inservice training sessions are conducted at these centers. All extension personnel must participate in these training programs

to improve their knowledge and skills of the latest findings. Food, lodging and transportation facilities are provided for all officers to help stimulate participation in the training programs. Subject matter specialists and agricultural officers are involved in planning and conducting the inservice training programs. Under the new extension approach, T and V System, the fortnightly inservice training programs are divided into:

1. pre-seasonal training of subject matter officers, agricultural instructors, and village level extension workers; and
2. preparation in subject matter for agricultural instructors and village level extension workers.

The pre-seasonal training is conducted two months prior to the commencement of each cultivation season. This training is conducted by training officers at Regional Training Centers for 5 days duration with the help of subject matter specialists and agricultural officers. The subject matter covered in these training classes are based on decisions made at the meeting of the Regional Technical Working Group. Fortnightly training of agricultural instructors and village level extension workers are conducted by subject matter officers at district training centers or sometimes at convenient Agricultural Service Centers. Subject matter officers prepare a subject matter program for fortnightly training based on the cropping calendar for each crop. The subject matter is divided into 14 day periods throughout the season, from land preparation to harvest time including post harvest practices.

Since these training sessions are provided one month before each activity of the cropping calendar, each village level extension worker receives sufficient training to transmit extension messages to farmers in time.

The competency of extension workers is supplemented by newsletters, journals and books and by sending 20-30 village level extension workers each year for a two-year course in the School of Agriculture and 5-10 agricultural instructors to the faculty of agriculture for a degree in agriculture. Overseas training facilities are available for a limited number of extension personnel at various levels for the purpose of updating knowledge in various subject matter areas. All extension personnel are granted study leave after they have completed five years of service in the Department of Agriculture.

#### Young Farmers Club

The Young Farmers Clubs are voluntary organizations of youth between 14-25 years of age and the head office is located at Peradeniya. Nearly 30 percent of the total population is represented by the age group between 14-25 years. There are a number of registered young farmers clubs throughout the country, but most of them are not functioning. The major objectives of the Young Farmers Organization are:

1. to encourage the affinity of rural youth in agriculture development, home making and rural life;

2. to influence the youth to love the rural life and like the land by teaching various aspects regarding rural community;
3. to cooperate with the Department of Agriculture in the developmental activities and other departments in the development of rural communities; and
4. to develop dedication, leadership and patriotism among rural youth.

The agricultural officer at the extension division branch of the Department of Agriculture is in charge of the young farmers activities at the national level. The subject matter officer is usually in charge of the young farmers activities in many districts. Even though there is no planned group or individual activities for the young farmers, the Department of Agriculture assists the Young Farmers Club in the following ways:

1. making arrangements for training in agriculturally related activities;
2. assist in obtaining admission to the practical farm school; and
3. arranging field tours.

The national head quarters of the Young Farmers Organization is involved in the international Young Farmer Exchange Program with the 4-H organization in the United States.

## CHAPTER IV

### A COMPARISON OF THE AGRICULTURAL EXTENSION PROGRAMS OF THE UNITED STATES AND SRI LANKA

The agricultural extension education program in the United States and Sri Lanka have been described in the previous two chapters. The organizational structure of extension education is similar in both countries, but as it was pointed out in Chapter I, there are variations in how the programs are conducted. The variations in stages of economic advancement, advancement in science and technology, per capita income of farmers, number of persons involved in farming activities, educational levels of farmers, stages of farmers in adoption of new farming methods, and sizes of farming operations reflect the progress of individuals or society as a whole and these variations contribute to differences in the agricultural extension education functions. In spite of these variations, both nations have a formal organizational structure for carrying out extension education activities. Therefore, it is appropriate to compare the agricultural extension education programs of the United States and Sri Lanka, with special attention to origin and development, organizational structure, level of training of those employed in the agricultural extension education system, availability of resources, responsibilities of extension staff, program planning, evaluation, mode of approach to farmers, use of local lay leaders, and activities of the youth organization in agricultural extension

education programs. A summary of the comparison of the agricultural extension programs in the United States and Sri Lanka has also been provided at the end of this chapter.

#### Origin and Development

The Cooperative Extension Service in the United States was formed to assist farmers in learning new ways to increase production. The service has continuously expanded over the years to include diverse programs and activities have improved in quality. Many legislative acts have provided funds and direction for operation of the Cooperative Extension Service at the Federal, State and local levels. The reason for its successful operation, especially at the local level, is that flexibility has been a part of the program objectives and thus programs have been able to change to the socio-economic and political needs and interest of the clientele. In contrast, the agricultural extension program in Sri Lanka is the by product of the British regime, where emphasis was given to the adoption of new crops and increased production. The system has not satisfied the changing needs and interests of the people, hence there is limited government support for the agricultural extension activities.

#### Organizational Structure

Organizational structure implies type of authority, categories of extension personnel, delegation of duties, linkages between various components of the system and method of administration.

Even though it is sometimes difficult to compare the extension organizational structure of two different countries, the organizational structure of the Cooperative Extension Service in the United States and the agricultural organizational structure in Sri Lanka show some similarities and differences. Both extension education programs have many hierarchy levels in their organizational structures. These levels reflect the functional and geographical divisions in the whole structure of both organizations.

In the United States, the Cooperative Extension Service is a cooperative arrangement between land-grant institutions, the United States Department of Agriculture and the local governments. This organization is called the Cooperative Extension Service and extends from the United States Department of Agriculture to every state and county. Agricultural extension education activities in the United States derive many of the resources from the land-grant institutions and the Service is functionally linked to institutions of higher education. In Sri Lanka, a single institution, the Department of Agriculture, is solely responsible for carrying out all agricultural extension programs. There is no formal, functional linkage with an agricultural university or college. The agricultural extension service includes a supply function in addition to the extension function, but the Cooperative Extension Service in the United States is responsible only for the educational function. The organizational structure of the agricultural extension service



in Sri Lanka is always facilitating for a single line administrative authority from top to bottom, but this is not always true in the Cooperative Extension Service in the United States.

#### Objectives of the Extension Organization

Every extension education system is built upon some basic philosophies and objectives. Both countries appear to be:

1. providing an opportunity to everyone in the society to gain new knowledge in agriculture and its related industries;
2. creating a two way communication system between the extension organization and its clientele; and
3. keeping flexibility in the extension organizational activity according to the society's needs.

However, the Cooperative Extension Service in the United States not only delivers information in agriculture but also in Community Resource Development, Family Resources and 4-H activities. The agricultural extension education in Sri Lanka has a major thrust to provide only technical information in agricultural production.

#### Consistency in Education Level of Extension Personnel

Table 2 shows the educational levels of various extension personnel in the United States and Sri Lanka. According to Table 2 there are some similarities in the total years of education between various levels of extension personnel in the Cooperative Extension Service in the United States and Sri Lanka. But there is an obvious inconsistency in the total years of education between district and

Table 2

Total Years of Education  
of Various Level Extension Personnel  
in the United States and Sri Lanka

Levels of Extension Personnel	Total Years of Education	
	Sri Lanka	U.S.A.
State/Department Level	16-20	20
District Level	16	16-20
County/Village Level	11-12	16-20

Source: Swanson and Rassi; International Directory of National Extension Systems (1981)

county/village levels of extension personnel in Sri Lanka. The extension personnel in the United States tend to have a higher education level than their counterparts in Sri Lanka.

#### Availability of Resources

Manpower, finance, time, equipment, transportation and facilities are used as inputs to provide extension education activities to its clientele. The inherent nature of extension education demands more resources than other forms of education. Failure to provide optimum level resources will jeopardize all extension education functions in any community. The agricultural extension education program is a service oriented activity in the United States and in Sri Lanka. Availability of manpower, finance and time are critical limiting factors in executing the extension educational programs in both countries. In addition to this, the agricultural extension service in Sri Lanka has for many years experienced inadequate transportation, equipment and facilities.

One of the strongest features of the Cooperative Extension Service in the United States is cooperative financing. Federal, state, county and individual funds are used for the total extension budget. The Cooperative Extension Service receives financial support from the United States Department of Agriculture (35 percent), state appropriation (43 percent), county appropriation (19 percent), and non tax sources (3 percent) (Swanson & Rassi, 1981). Thus the Cooperative Extension Service is cooperatively planned, financed, and implemented. Funds are also allocated on

the size of the teaching job to be done in any locality. In the agricultural service in Sri Lanka, the Central Government must allocate the needed money for the Department of Agriculture through the Ministry of Agricultural Development and Research. Then the Department of Agriculture decides upon how much money will be allocated to the extension education activities. Fund allocations are not determined by the size of the teaching job to be done.

#### Program Development and Implementation

Agricultural extension education achieves its objectives through planned "programs." The Cooperative Extension Service programs in the United States are developed as a result of combining the knowledge and skill of local people with the knowledge generated at the land-grant institutions and colleges through research. Long range and annual plans of work are prepared to achieve the objectives of the program. The plans of work are prepared separately for each county and state. There is a large amount of autonomy at state and county levels. County extension agents have the freedom to plan and implement the local extension education programs and administrative direction has been kept to a minimum. The Cooperative Extension Service programs offer opportunity for people to learn in various areas. Thus, freedom of approach and independence of action in program planning and implementation makes the Cooperative Extension Service vigorous and effective in meeting the needs of people.

In the agricultural extension service in Sri Lanka, major program ideas are created by a group of people or sometimes by an individual at the top of the extension organizational hierarchy and these ideas are passed onto those at the lower levels. This method of program planning eliminates many ideas from the lower level extension personnel and the people in the communities.

#### Evaluation of Extension Education Program

The Cooperative Extension Service in the United States has its own evaluation unit. Evaluation activities are under the guidance of a trained staff member called an "Evaluation Specialist." The Cooperative Extension Service emphasizes accountability and people are kept informed on the achievements of the cooperative extension program through reports and news media. In the agricultural extension service in Sri Lanka, there is no evaluation unit or division operating within the structure to perform evaluative functions.

#### Communication Methods

The Cooperative Extension Service in the United States uses a combination of teaching methods to stimulate an efficient teaching and learning environment. The demonstration method has been used in the past and is still considered an effective procedure to impart knowledge and skill to its clientele. Demonstrations can be carried on by farmers on their farms and under typical farm conditions. County extension agents rarely visit individual farms

or in the home. Usually group instructional methods, such as demonstrations, meetings and conferences, are used to perform the teaching function. Facilities are available to the county agent to prepare and to distribute teaching materials to the clientele. Extension specialists or subject matter specialists develop teaching materials according to the needs and interest of clientele and these materials are distributed through county extension agents.

The agricultural extension service in Sri Lanka receives needed teaching materials through the Education and Training Division of the Department of Agriculture. The Information Division, which is operating under the guidance of the Education and Training Division, usually prepares and distributes printed teaching materials and it is also in charge of agricultural radio programs. Production and distribution of teaching materials are not updated with changing needs and desires of the farmers. The village level extension workers do not have the capability to prepare printed materials needed in their area.

#### Approach to Clientele

The agricultural extension service in Sri Lanka has adopted a training and visit system as an approach to impart knowledge and skills to the clientele. According to this system, extension agents are expected to make individual visits on a particular day and particular time every fortnight. But in the Cooperative

Extension Service in the United States, clientele are met on a group basis rather than through individual visits. Personal visits are made only upon request. There is no special approach used by the Cooperative Extension Service in teaching clientele.

#### Staff Development

The staff development policy in the Cooperative Extension Service is to develop the competency needed by the extension agents. The county extension agents acquire knowledge in such areas as agronomy, entomology, pathology, breeding, engineering mechanics, weather, marketing, management, public affairs, production outlook, consumer demand, and government. In addition to this, extension agents are prepared in education concepts, the psychology of learning, teaching devices, writing, speaking, and other skills of the profession including organization and administration. Opportunities for graduate work occur after four years of experience and it is available to almost every extension agent. There are no nationwide inservice training centers available within the Cooperative Extension Service structure. Inservice needs are generally satisfied through college credit and non credit courses, printed materials, workshops, conferences and informal contacts.

In the Sri Lanka agricultural extension service, staff development is undertaken by the Education and Training Division of the Department of Agriculture. Separate preservice and inservice training centers are available to recruit needed extension agents.

Inservice training is emphasized under the training and visit system and the competency level of extension workers is limited to certain subject matter areas only. Opportunities for graduate work is available only to a few extension workers.

#### Youth Clubs

The continual growth of the 4-H club in the United States with its long term goals and objectives is very clear in the Cooperative Extension Service. The 4-H club functions as an educational tool for county extension agents. Year round programs, individual and group activities, and county, state, and national contests are prominent features of the 4-H club. The basic purpose of the 4-H club is to develop boys and girls to become responsible citizens of the nation. It is not preparing them for life on the farm. Since a majority of the club members do not live on farms, the exchange of young people within and outside the county for short visits has been found to be very useful and interesting. In Sri Lanka, young farmers club activities have been neglected over the years and it's activities are not found throughout the country.

#### Summary

As illustrated in the last few paragraphs, agricultural extension education systems vary from country to country in the world, however, some commonalities are found in all of them. The agricultural extension programs of the United States and Sri Lanka show more commonalities



in their functions than their organizational structure. However, the procedure used to perform extension education functions shows considerable amount of variations. These variations are attributable to the social system, technology, level of living, degree of specialization in agriculture and the importance of the agriculture being practiced. A concise summary of similarities and differences is presented in Table 3.

Table 3

Summary of the Similarities and Differences  
Between the Agricultural Extension Programs  
of the United States and Sri Lanka

Component	United States Cooperative Extension Service	Sri Lanka Agricultural Extension Program
Origin and development	Cooperative Extension Service originated to serve the needs of farmers. Smith-Lever Act of 1914 facilitated for the formal organization. Many legislative Acts have provided both funds and direction. Successfulness of the Cooperative Extension Service is attributable to its flexibility in its goals and objectives according to the changing needs of the society.	Agricultural extension program is a by-product of the British regime. Formal organization began in 1921. Its development and improvement have been neglected until very recently.
Organizational structure	A cooperative arrangement between land-grant institutions, the U.S. Department of Agriculture and the local governments. Many hierarchy levels in the organizational structure. Functionally linked to institutions of higher education. Responsible only for extension education functions. Decentralized administrative process.	The governmental Department of Agriculture is solely responsible for the entire organization. Many hierarchy levels in the organizational structure. No functional link with higher education institutes. Supply function is carried out in addition to extension functions. Centralized administrative process.

Table 3 (continued)

Component	United States Cooperative Extension Service	Sri Lanka Agricultural Extension Program
Objectives	Imparting behavioral knowledge through two way communication system and being dynamic in satisfying societies needs and interests through multifaceted programs in many subject matter areas.	The basic objective is the same as in the Cooperative Extension Service, but it has a major thrust to provide only technical information in agricultural production.
Level of training of extension personnel	Consistency in the total years of training between various levels of extension personnel. The range of years of training is 4 between the top and bottom levels of extension personnel.	An obvious inconsistency in the total years of training between various levels of extension personnel. The range of years of training is 8 between the top and bottom levels of extension personnel.
Resources	Manpower, finance and time are critical limiting factors in executing the extension educational programs. Cooperative financing of Federal, state, county and individual funds are used for the total extension budget.	In addition to manpower, finance, and time, inadequate transportation, equipment and other facilities are limiting factors. Central government must allocate the needed money.
Evaluation	Separate evaluation unit is headed by a specialist for evaluation purposes. Emphasis is given for accountability of extension programs. Public is informed about program achievements.	No special evaluation unit. Public is not aware about programs achievements.

Table 3 (continued)

Component	United States Cooperative Extension Service	Sri Lanka Agricultural Extension Program
Program development and implementation	<p>"Bottom-to-top" type of program development process. Long range and annual plans are prepared as a result of combining the knowledge and skills of local people with the knowledge generated at the land-grant institutions and colleges. Since each state and county has autonomy, individual plans are made. More freedom to county agent to plan and implement local extension program, and administrative direction has been kept minimum.</p>	<p>"Top-to-bottom" type program development process. Almost a common district implementation program is developed annually for each district but not for villages. Since administrative control is in the hands of higher level officers, most ideas of those officers are included in program development. No freedom for village level worker to plan and implement extension program.</p>
Staff development	<p>Extension agents are competent not only in technical agriculture but also possess knowledge in educational concepts, psychology, sociology, learning principles, speaking and writing skills. No nationwide inservice training institute. Inservice needs are met through collect credit and non credit courses, printed materials, workshops and informal contacts.</p>	<p>Extension officers competency is limited, they are recruited only in technical agriculture. Many inservice training institutes are available. Staff development is handled by the Education and Training Division of the Department of Agriculture.</p>

Table 3 (continued)

Component	United States Cooperative Extension Service	Sri Lanka Agricultural Extension Program
Approach to clientele	Clientele are met on a group basis rather than individual visit. Individual visits are made only upon request. There is no special approach used in teaching clientele.	Training and visit system is adopted as an approach to clientele. Visits are made on individual basis on a particular day and time every fortnight.
Youth club	Long term goals and objectives are defined. Year round programs, individual and group activities are prominent features of the 4-H club. 4-H prepares boys and girls for life on farms as well as assuming a productive role in society. Exchange of young people within and outside of the country is found.	Young farmers club activities have been neglected over the years. Activities are not found throughout the country.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

Agriculture, one of the largest and one of the most valuable industries, must keep pace with the needs of society through a continual development effort. Agricultural development not only depends on technological and institutional changes but also on the efficiency of farmers. The efficiency of farmers can be increased through extension education which is an extremely practical and concrete type of education. Different agricultural extension education systems have been developed in many countries and regardless of their socio-economic and political status, they generally vary more in organizational form rather than in their functions.

The United States of America possesses a well developed agricultural extension education system and it has been used as a guideline for review, reconstruction, and redevelopment of extension services in other countries. The Department of Agriculture, the sole agency for agricultural extension work in Sri Lanka, is undertaking a massive effort to establish or develop a viable and practicable extension approach to help the peasant farmers and improve the country's agricultural sector.

Sri Lanka has an agricultural based economy and her future development depends on increased agricultural production. The present situation of agricultural extension in Sri Lanka is obviously confused and unsatisfactory. Thus, the need to improve the present agricultural extension program has become a recent priority. The problem which this study addressed is that the current organizational structure of the agricultural extension program in Sri Lanka is unable to give leadership for the needed agricultural development in its own country.

The purpose of this study was to review a selected cooperative agricultural extension program in the United States with implications for the agricultural extension program in Sri Lanka. The study focused on the organization and operation of the agricultural extension program including: the history of agricultural extension program in the United States; cooperative extension work at the Federal, state, and county level; responsibilities of a subject matter specialist and county extension agent; program planning and evaluation; flow of information and teaching methods; staff development; and 4-H activities.

The objectives of the study were:

1. To review a cooperative agricultural extension program in the United States with special reference to history; organizational structure at the Federal, state and county levels; responsibilities of subject matter specialists and county extension agents, program planning and

evaluation; flow of information and teaching methods; staff development; and 4-H activities;

2. To review the present agricultural extension organization and its activities in Sri Lanka; and
3. To suggest recommendations for further development and improvement of the current agricultural extension program in Sri Lanka.

The study was descriptive research based on literature review and personal interviews. The study revealed that the agricultural extension system in the United States and Sri Lanka shows both commonalities and variations in their organizational structure as well as in their operation.

#### History and Development

The Cooperative Extension Service indigenously stems from the farmer's desire to learn new ways to increase agricultural production. The Cooperative Extension Service has been continuously developed over the years since the Smith-Lever Act of 1914. Many legislative acts have provided funds and direction for its operation at various levels throughout the nation. The agricultural extension program in Sri Lanka began with British arrival in 1812. There has been no legal basis to provide needed direction and financial support for the program and its program development has been overlooked until very recently.



## Organizational Structure and Function

The Cooperative Extension Service in the United States is organized through the Federal, state, and local government levels and its programs are mainly controlled at the state level. The Service is mainly involved in satisfying the educational needs of its clientele in coordination with family resources, community resource development, and 4-H activities. The Cooperative Extension Service is functionally linked with land-grant colleges and universities. The organizational relationship with other agencies and responsibilities of each extension agent helps avoid duplication of functions and therefore avoiding a waste of time, money and other resources. The Agricultural Extension Service in Sri Lanka has a centrally controlled organizational structure with many hierarchy levels. The entire agricultural extension system deals with many problems which are related only to peasant agricultural production in Sri Lanka. The Agricultural Extension Service not only carries out the educational function but it is also involved in supply, governance, and marketing functions. There is no functional relationship with higher agricultural educational institutes in Sri Lanka. The agricultural extension work is duplicated by the field level officers of other departments and boards of the Ministry of Agriculture Research and Development.

## Responsibilities of Extension Staff

The responsibilities of extension personnel are based on prepared job descriptions in the Cooperative Extension Service. This helps extension agents limit their function to extension education.

Responsibilities of subject matter specialists and county agents are considered important in the whole Cooperative Extension Service in the United States. Agricultural extension personnel in Sri Lanka, particularly village level extension workers, do not have a well defined job description to limit themselves to the educational function. Thus, extension workers have a tendency to duplicate non-extension functions in the organization. The role of subject matter specialists in Sri Lanka is limited, hence, an inadequate number of subject matter specialists exists.

#### Program Planning and Implementation

The Cooperative Extension Service is achieving its objectives through preplanned long range and annual plans. In program planning and subsequent program implementation, greater emphasis is given to needs and interests of the clientele and the lay leaders. Thus, participation of people for whom programs are designed is high. An individual program is developed and implemented at each county level. The county extension agent has freedom in the preparation and implementation of the agricultural extension program. Integrated and coordinated activities of extension education, research, marketing, credit and supplies help the Cooperative Extension Service to prepare practical and feasible programs that are very useful to clientele in helping to solve their needs and problems. Manpower, finance, and time are considered to be critical limiting factors in implementing extension programs at county levels. The basic

objective of the cooperative extension program is to satisfy societies' needs and interest according to the changing socio-economic and political situation.

The Agricultural Extension Service in Sri Lanka is achieving its objectives through annual district implementation programs. The program objectives are developed based on the national goals for agricultural development. An important neglected part of the extension education program development and implementation program is the lack of participation of farmers and local lay leaders. Thus, little contribution is provided by the farmers for an effective and efficient agricultural extension education program in Sri Lanka. The implementation programs are not developed and implemented at local levels and local level extension workers do not have the freedom to prepare and implement a program which is most preferable by their clientele. Ideas of those officers who are in the higher level positions are ultimately included in the program development activities. Transportation, equipment and housing are the limiting factors in addition to manpower, finance and time. The basic objective of the agricultural extension service is to provide technical information for agricultural production.

#### Evaluation of Programs

The Cooperative Extension Service programs are evaluated by its own evaluation unit headed by a specialist. Both means and ends evaluation methods are used. The Cooperative Extension Service emphasizes accountability of its programs and clientele and the general

public are kept informed on the achievement of the cooperative extension program through reports and other news media. The Agricultural Extension Service in Sri Lanka does not have either an evaluation unit or evaluation specialist to perform appropriate evaluation functions.

#### Flow of Information and Teaching Methods

The Cooperative Extension Service in the United States has not adopted any special system to approach its clientele. It emphasizes more of a group approach rather than an individual approach. Individual visits are made only by request. Various levels of extension personnel can be either informally or formally contacted by its clientele. The Cooperative Extension Service uses a combination of teaching methods to stimulate an efficient teaching and learning environment. The demonstration method has been used in the past and is still considered an effective method for disseminating information. Demonstrations are carried on by farmers on their farms under typical conditions. Extension specialists usually prepare needed teaching materials according to the needs and interests of the clientele and these are distributed through a centralized distribution center. County agents also prepare, use, and distribute appropriate materials for their own geographical area.

A special approach, called Training and Visit System, in Sri Lanka is used to approach farmers. This system emphasizes an individual approach rather than a group approach.

Farmer contacts are mainly limited to village level agricultural extension workers. A combination of teaching methods is used, but demonstration as a technique is used too infrequently. Teaching materials are prepared and distributed through the Education and Training Division of the Department of Agriculture. Village level extension workers have limited capability to prepare teaching materials needed in their areas.

#### Staff Development

The staff development process of the Cooperative Extension Service provides an opportunity for extension agents to acquire knowledge in educational concepts, psychology, sociology, anthropology and writing and speaking skills in addition to technical knowledge in agronomy, entomology, pathology, breeding, engineering, weather, marketing and government. Opportunities for graduate work occur after four years of experience and it is available to almost every extension agent. There are no nationwide in-service training centers within the structure of the Cooperative Extension Service. In-service needs are generally met through college credit and non-credit courses, printed materials, workshops, and informal contacts. Due to the effective staff development program, there is a consistency in the total years of training between the various levels of extension personnel in the Cooperative Extension Service.

The staff development aspects of the agricultural extension service in Sri Lanka is undertaken by the Education and Training Division of the Department of Agriculture. Separate preservice

and in-service training centers are available to recruit needed extension workers. In-service training is emphasized under the training and visit system and the competency level of extension workers is limited to certain subject matter areas, particularly to the technical aspects of agricultural production. Opportunities for graduate studies are available only to a few extension workers. An obvious inconsistency in the total years of training between various levels of extension personnel is evident in the Agricultural Extension Service in Sri Lanka.

#### Young Farmers Activities

The 4-H program in the United States is well developed with its long term goals and objectives. The 4-H club functions as a educational tool for county extension agents. Year round programs and individual and group project activities are prominent features of the 4-H club. The 4-H is not preparing boys and girls to become farmers, but the club assists its members in becoming responsible citizens of the nation. The exchange of young people within and outside the country has been found to be very useful and interesting.

In Sri Lanka, young farmers activities have been overlooked. There is a nationwide young farmers club operating but it has been very ineffective.

### Conclusions

Based on the findings of this study the following conclusions are drawn about the Agricultural Extension Service in Sri Lanka:

1. The government of Sri Lanka has failed to support and direct the Agricultural Extension Service through legislative acts and this has hindered the development of the extension program.
2. The lack of a formal functional relationship between the Agricultural Extension Service and the higher educational institutes has limited the use of personnel and resources available in the institute.
3. Non-extension duties performed by extension workers in Sri Lanka are limiting them in carrying out educational functions of the organization.
4. The lack of job descriptions for agricultural extension workers leads to confusion concerning their duties and responsibilities.
5. Village level extension workers are not receiving adequate help from subject matter specialists due to their inadequate numbers.
6. The Agricultural Extension Service in Sri Lanka has not used local clientele committees during the program development process.
7. The village level extension workers do not have input in the preparation and implementation of the programs at the local level.

8. An evaluation unit or commitment for evaluation is neglected in the organizational structure of the Agricultural Extension Service in Sri Lanka.
9. The individual approach adopted in the Agricultural Extension Service in Sri Lanka leads to the neglect of many farmers.
10. The demonstration method of teaching has been overlooked and is used too infrequently in agricultural extension education activities.
11. Technical assistance provided by extension workers is limited to agricultural production.
12. There is a wide range in the total years of educational preparation held by the extension personal at various levels in the Agricultural Extension Service in Sri Lanka.
13. Effectiveness of local agricultural extension activities has been limited due to the lack of a working relationship between extension workers and the local agriculturally related institutions.
14. Young farmer program activities have been neglected for many years.

#### Recommendations

The study of organizational structure and operation of the Cooperative Extension Service in the United States and its comparison to the Agricultural Extension Service in Sri Lanka yield some useful information for the improvement of the



present situation in Sri Lanka. Based on the findings and conclusions of the study, the following recommendations are made.

1. That a legal basis for the extension organization and operation be established.

The government of Sri Lanka has failed to support and direct the Agricultural Extension Service through legislative acts. The Agricultural Extension Service in Sri Lanka should possess some legal basis, especially to receive financial support and direction. This will not only lead to the development of the Agricultural Extension Service but also encourage relationships with other agencies. This type of legal basis for the extension function will be of great value in its gaining recognition as a service institution in Sri Lanka.

2. That a formal functional relationship be established between the Agricultural Extension Service and the higher educational institutes.

At present, there is no formal functional relationship between the Agricultural Extension Service and the higher education institutes. Establishing such a relationship between the Agricultural Extension Service and the higher education institutes, such as the Faculty of Agriculture and its affiliated colleges and the Post Graduate Institute of Agriculture in Sri Lanka, will not only increase availability of

resources and personnel but also help the Agricultural Extension Service to cover more subject matter areas in its extension activities. This will also assist in overcoming the inadequate number of subject matter specialists in the Agricultural Extension Service.

3. That a policy decision be made by the Ministry of Agriculture Research and Development to free extension workers from performing non-extension work.

The Agricultural Extension Service in Sri Lanka now undertakes certain non-extension functions such as supply, marketing and governance. This encourages extension agents to spend a considerable amount of their working time on non-extension functions. Due to this situation, extension agents fail to perform their extension duties because of their heavy work schedule.

4. That the duties and responsibilities of extension workers at the various levels be defined.

The lack of job descriptions for agricultural extension workers, particularly for local extension workers, leads to a confusion of the duties and responsibilities. Field level staff belonging to various institutions such as Department of Agrarian Service, Land Commissioner's Department, and Department of Agriculture are duplicating functions of each other. This duplication occurs unintentionally when efforts are made to advise and help farmers.

This confusion is not only misleading to farmers but it also is a waste of resources.

5. That the number of subject matter specialists be increased.

The number and the availability of subject matter specialists in various subject matter areas of agriculture is far less than the number needed for quality programs. This situation is a very limiting factor in providing adequate professional help for local level extension workers and the local level extension workers are not prepared to handle all needs and interests of the farmers during the cropping seasons. It is important to increase the number of subject matter specialists not only in the agricultural production subject matter area but also in other subject matter areas.

6. That advisory committees be organized at each hierarchy level of the organizational structure of the Agricultural Extension Service.

The Agricultural Extension Service in Sri Lanka has not used clientele or farmer committees in planning agricultural extension activities. Organizing such committees for the Agricultural Extension Service will not only increase participation of local people and clientele but also increase the consistency between the agricultural extension education program and the felt needs and interests of the clientele.

Organizing such advisory committees at various levels will increase the practicality and feasibility of extension programs.

7. That agricultural extension programs be developed and implemented at local levels.

The agricultural extension education programs are prepared and implemented at the district level through district implementation programs. In this situation, much of the extension work is directed toward things and ideas that the district level extension worker understands and wants rather than toward what local extension workers and farmers desire and can do. Farmer's beliefs, values, habits, traditions, facts and practices are not incorporated when this type of program development process is used. Since there are enough differences in the needs of local people from one village to another and one Agricultural Service Center to another, developing and implementing the extension education program at local levels will incorporate felt needs and interests of farmers.

8. That an evaluation unit be created as part of the Agricultural Extension Division.

Creating an evaluation unit as a part of the Extension Division will help guide extension agents in performing their extension education function. An evaluation unit would provide information to program planners for introducing changes needed to improve the program. An

evaluation unit also helps maintain accountability to the government and the people.

9. That agricultural extension education programs be carried out through organized farmer groups.

The present agricultural extension education program emphasizes an individual approach rather than group. This situation results in the extension workers neglecting many present and potential farmers. A group approach could be used to reach more farmers in a community and the individual approach could then be reserved for special assistance type of situations.

10. The demonstration technique of teaching be used as a primary teaching method.

The demonstration technique of teaching has been overlooked and is used too infrequently in agricultural extension activities in Sri Lanka. Using the demonstration technique as a primary teaching approach will be more efficient and motivating when diffusing information.

11. That the competency level of extension personnel be improved through a systematic and planned preservice and in-service preparation programs.

At present, technical assistance provided by extension workers is limited to agricultural production. An extension worker should be able to guide, lead and

assist farmers according to their needs and interests. Extension workers must have a thorough knowledge and skill of new research findings and facts they should know how to work with farmers in specific conditions. All extension personnel should receive training in extension education, educational psychology, rural sociology, and farm management economics in addition to the knowledge required in technical agricultural production. A continuous in-service training program to update personnel is essential.

12. That a certification standard be established for the various levels of extension personnel.

There is an inconsistency in the total years of educational preparation held by extension personnel. It is important to maintain a standard level of competence to increase intellectual and subject-matter understanding between various levels of extension personnel.

13. That adequate working relationship be established and maintained at local levels between the Agricultural Extension Service and agriculturally related institutions.

Effectiveness of local agricultural extension work has been hampered due to the lack of a working relationship and participation between agriculturally related institutions. Maintaining coordinated and integrated

working relationships with other institutes in carrying out the extension education program will facilitate an effective and efficient extension service at the grass root level.

14. That the Department of Agriculture require village level extension workers to organize young farmer clubs in their range.

Young farmers activities have been neglected for many years in the Agricultural Extension Services in Sri Lanka. Organizing young farmer clubs throughout Sri Lanka with planned programs will definitely help young people to become involved and the organization will increase the young people's capabilities to function as individuals and as potential clientele of extension education activities.

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A STUDY OF THE COOPERATIVE AGRICULTURAL EXTENSION  
PROGRAM IN THE UNITED STATES WITH IMPLICATIONS FOR  
THE AGRICULTURAL EXTENSION PROGRAM IN SRI LANKA

by

Kathiravelu K. Navaratnam

(ABSTRACT)

A descriptive type of research was conducted to study the Cooperative Extension Service in the United States with implications for the Agricultural Extension Program in Sri Lanka. The Commonwealth of Virginia's Cooperative Extension Service was selected for detailed study and information was collected through literature reviews and personal interviews. Based on the writer's experience and available materials, information concerned with the Agricultural Extension Program in Sri Lanka was presented.

The information on organizational structure and operation of the cooperative agricultural extension program in Virginia, including the history of agricultural extension programs in the United States; cooperative extension work at Federal, state and county levels; responsibilities of extension personnel; program planning and evaluation; flow of information and teaching methods; staff development; and 4-H activities were collected and compared with similar aspects of the agricultural extension program in Sri Lanka. The comparison of the Cooperative Extension Service in the United States and the Agricultural Extension Program in

Sri Lanka shows both differences and commonalities. Basic functions and the general objectives of both extension programs are almost the same, but there are differences between the two extension programs in organizational structure, subject matter coverage, approach to the clientele, procedures of program planning and implementation, staff development and in 4-H activities.

Based on the findings of this study, the following most important conclusions were drawn: (1) a lack of formal functional relationship between the Agricultural Extension Service and the higher educational institutes has limited the use of personnel and resources available in the institutes; (2) the lack of job descriptions for agricultural extension workers leads to confusion of their duties and responsibilities; (3) the Agricultural Extension Service in Sri Lanka has not used local clientele committees during the program development process; (4) the village level extension workers do not have input in the preparation and implementation of the programs at the local level; (5) an evaluation unit or commitment for evaluation is neglected in the organizational structure of the Agricultural Extension Service in Sri Lanka; (6) the demonstration method of teaching has been overlooked and is used too infrequently in agricultural extension education activities; (7) technical assistance provided by extension workers is limited to agricultural production; and (8) young farmers program activities have been neglected for many years.

Based on the selected conclusions of this study, the selected recommendations were made to help strengthen the Agricultural Extension Service in Sri Lanka:

1. that a formal functional relationship be established between the Agricultural Extension Service and the higher educational institutes;
2. that the duties and responsibilities of extension workers at the various levels be defined;
3. that advisory committees be organized at each hierarchy level of the organizational structure of the Agricultural Extension Service;
4. that agricultural extension programs be developed and implemented at local levels;
5. that an evaluation unit be created as a part of the Agricultural Extension Division;
6. that the demonstration technique be used as a primary teaching method;
7. that the competency level of extension personnel be improved through a systematic and planned preservice and in-service preparation programs; and
8. that village level extension workers organize young farmers clubs in each of their ranges.