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THE COOPERATIVE AGRICULTURAL EXTENSION SERVICE

I. INTRODUCTION

The Agricultural Extension Service is one of three major divisions of the School of Agriculture. The Service was created because of a felt need for some organized means of making known to the people of the State the research findings which were accumulating in the previously created Experiment Stations and U. S. Department of Agriculture and to encourage their use.

The objective of the Service has been and continues to be making technical, economic, and social information coming out of research available to the people and business firms of the State in an understandable manner and encouraging use of this information. This should result in higher incomes and levels of living and help insure an adequate supply of food and fiber at a reasonable price for the citizens of our nation.

This is accomplished through an educational program using every means of communication -- individual counseling, meetings, publications, press, radio, television, and demonstrations. Organizations have been created to provide mechanisms for reaching more people, the Home Demonstration Clubs and 4-H Clubs being excellent, although not the only examples. Some technology, such as artificial breeding of animals and community needs, such as a community house, cannot be secured by individuals. Hence, the Extension Service provides organizational know-how and guidance to people in developing organizations for securing for themselves these services and facilities.

While the legislation creating Extension makes its services available to all people, the efforts of the organization have been devoted largely to farm people and to a limited extent to the business firms serving them. There are Extension offices in every county of the State including 52

counties with Negro workers. Staffs of specialists, supervisors and administrators are located at State College and at A. & T. College in Greensboro.

11. TRENDS WHICH WILL AFFECT EXTENSION PROGRAMS

Extension accepts as a basic premise that its programs must change as the economy changes, as methods of communication change, and as new technology is developed.

The number of farms will continue to decline. A rather sharp decrease in commercial farms will be partially offset by the increase in part-time farmers. The number of rural non-farm residents and the number of urban people will increase. There will be an increase in the number of businesses supplying materials and services to farm people and in handling and processing farm products. The farms in the future will be different than those of today. They will be larger, require much more capital, be more specialized and require much more management ability on the part of the operator.

The producers of perishable commodities and perhaps some others will be part of an integrated industry where many of the important decisions regarding technology and marketing will be made by the persons providing capital and marketing services. More and more services will be performed by industry. For example, harvesting may be done on a custom basis. This means new industries will arise to serve agriculture. The farmers will have increased competition from industry-made substitutes for farm products and from foreign countries. This means efficiency must be constantly increased. Those farmers who take full or part-time off-farm employment will face greater difficulty in making their farm and non-farm activities compatible.

As agriculture becomes more dependent upon industry and as modern

transportation and communication "shrinks the size of the world", the farm economy becomes increasingly interdependent with the rest of the world. This means the farmer needs to understand those forces operating beyond the farm boundary, their effect on him, and how he can exercise some control over them.

Family living of rural people may change even more rapidly than farming. There will be an increasing separation between the business of farming and family living on commercial farms. Family living problems of rural people will become more and more similar to those of present urban dwellers. An increasing number of rural women will secure out-of-home employment and the problems created by this are obvious. An increasing number of services now performed by the homemaker will be performed by others. For example, completely prepared meals may be purchased which require only warming. Many additional home appliances will be available. There will be new developments in nutrition, housing, and clothing that will make existing knowledge and skills obsolete. The homemaker of tomorrow will handle much more money than she does today and yet she will likely be less able to meet the expanding needs and desires of her family. This means she must be a better businesswoman and a better manager of both time and money. She must learn how to use and care for more and more complicated and expensive equipment. While the actual job of feeding the family will be less time consuming and less burdensome, the decisions which must be made in selecting and in preparing food will be more numerous and more exacting. The same applies to all other phases of homemaking. Many rural families must adjust their attitudes and habits to live happily in urban or semi-urban communities. While the physical work in rearing children will lessen, instilling good habits, good morals, and good attitudes will become increasingly difficult because of an increasing

number of outside influences.

There will be changes in methods of communication which will enable Extension to do a better job. An increasing number of telephones and television sets will enhance the value of these media. Rising educational levels will make publications and news articles more effective. Improved roads and transportation facilities will make people easier to reach. There will be other factors which will make the job of reaching people more difficult. For example, in television the viewer can choose between Extension and commercial programs. Commercial sales appeal for specific items will increase in amount and intensity, which will increase the difficulty of making decisions and hence increase the demand for unbiased information. Hence, all means of communications must be improved.

III. EXTENSION PROGRAMS FOR 1970

The trends just outlined add up to a larger and much more complicated job for Extension in the future. It seems paradoxical that the size of the Extension job is increasing in spite of a decrease in the number of farms. It is obvious that at least part of the decrease in farm numbers is offset by increasing demands from non-farm people and from the increasing number of businesses serving agriculture. There is one big difference, however, in Extension as compared to resident instruction. The size of the Extension job is geared largely to the demands for assistance and information made available through research rather than to the number of students as in resident teaching. Because few people wanted assistance and because there was little to teach, one Extension worker was more nearly able to meet the demands in a county 40 years ago than 15 may be able to do in 1970.

The Extension programs visualized now for 1970 are explained more

fully in the paragraphs that follow.

A. Agriculture. The agricultural programs will be directed to four categories of people.

1. Commercial farmers. The goal of the Extension Service is to provide an "adequate" educational program for this group of farmers. This is the group with the greatest need for constantly increasing efficiency. The program for this group must include the entire range of production technology, economic information, business management, marketing information, and information on the forces beyond the farm boundary which affect their business. In many cases, farmers must form organizations in order to secure necessary services. The Extension Service will be called upon to provide advice in establishing workable service organizations.

Experience to date indicates that the commercial farmers learn of individual pieces of technology through the mass media. They do need help in appraising alternatives, in tailoring technology to their individual situations, and in fitting technology into the over-all plan. This assistance must be given on an individual basis, chiefly through farm visits. The so-called Farm and Home Development approach is ideal for providing the assistance these people need. The national farm organizations and the 48 state Extension Services, after studying the need and possibilities, have set a goal of one county Extension agent for each 250 commercial farmers. As the farmers specialize, the Extension workers serving them will need more specialized training.

2. The in-between group. A large number of the farms in the State today have very few resources and low incomes. In the future they must become either commercial farmers, part-time farmers, or full-time non-farm workers. The immediate need of this group is counseling on opportunities in or out of agriculture and how these opportunities may be realized. Those that make the decision to become commercial farmers will need the same assistance as commercial farmers, which was outlined above, plus much additional counseling on capital accumulation and adjustments during the transition period. Those who become part-time farmers will need the assistance outlined below for part-time farmers plus additional advice on adjusting farming systems to become compatible with their non-farm employment during the transition period.

Extension is gaining experience in providing assistance to these people in the three pilot Rural Development counties and in Farm and Home Development work. Experience to date indicates that the assistance must be given largely on an individual basis because the opportunities differ from family to family and also because this group is influenced less by mass media than any other group. A full work load is one agent for 250 families. As the work with this group becomes effective, the number of "in-between" farmers will decrease. This means that some of the personnel needed now to work with this group can be made available to work with commercial farmers.

3. Part-time farmers. Part-time farmers controlling many agricultural resources need and demand assistance from the Extension Service. These people can use the same sort of information as

commercial farmers but to a lesser degree. In addition, they need assistance on how to make the maximum income from the combination of farm and off-farm work.

An "experimental" Extension program with part-time farmers is currently being conducted by the Extension Service and Experiment Station to determine the problems and needs of these people and how they may be worked with most effectively. There are indications that individual assistance is needed while adjustments in farm operations are being studied and made. Once the adjustments are made, additional information can be supplied largely through mass media and through organizations such as community clubs, Ruritan clubs, etc.

4. Rural non-farm residents and urban dwellers. Any person who lives on a tract of land where there are trees, grass, gardens, or shrubs can use information which the Extension Service has available. An increasing number are demanding assistance which must be given as they are helping pay the cost of the service through taxes.

The Service does not feel that at present appreciable resources should be devoted to this group until agriculture is adequately served. At the same time, there is probably no alternative to providing some assistance. Means must be developed for providing a minimum level of service to this group. Full use should be made of the mass media and of existing organizations such as garden clubs.

- B. Home Demonstration. Every family has a need for the latest information available on nutrition, clothing, food preparation and

conservation, housing, home furnishings, family relations, home appliances, management of time and money, and on business management. The need for assistance in the future will increase as the technology used in family living increases in amount and complexity. Decisions become more difficult due to a larger number of alternatives and higher cost of each alternative. Families are increasing the number of services purchased. This means an increasing number of industries are serving the family.

In the past, assistance in home economics has been directed largely to rural families because their need has been greater than that of urban residents due to the inter-relation of farming and homemaking. Distance from places to make purchases, production of family living items on the farm and fewer means of communicating with sources of information also made rural homemakers' needs greater. In the future, much of the difference in family living of rural and urban families will disappear. An increasing number of rural non-farm and urban families are demanding and securing assistance with family living problems. In the future, Extension should provide assistance in home economics to every family. Additional emphasis should be placed on consumer information and on the managerial and business aspects of family living.

It will obviously be impossible to plan for personalized assistance to every family. Full use must be made of the mass media and the Service must work through all existing organizations and perhaps help start new ones to provide a mechanism for reaching people effectively. Some families will require individual assistance. In appraising alternatives, in tailoring technology to their individual situations, and in fitting technology into the over-all

plan. This applies particularly to those who are making serious adjustments within agriculture, those combining farm with off-farm work, and in those cases where the homemaker secures non-farm employment. Personnel should be available for serving these cases. The State and County home demonstration staffs will have to maintain close contact with the commercial firms and other educational agencies and organizations providing services to families in order to render maximum service in family living. There may be instances where valuable assistance can be provided these firms and where this is so, the assistance should be given.

- C. 4-H Club work. The very first efforts of the Extension Service were directed to farm youth, and programs for and with young people are, and will continue to be a major phase of the total Extension Service program. Working with farm youth has often given agents an opportunity to help adults. Most of the youth work has been conducted through the medium of the 4-H clubs and to a lesser extent through the YMW organization. Through meetings, demonstrations, contests, and individual projects the young people are taught much about farming and homemaking. The Extension Service has always recognized that many rural youth will not remain on the farm. Hence, the major objective has been developing better citizens, although those who have remained on farms have received much information which will help them with farming and homemaking projects.

In the future, the need of rural youth for assistance will be even greater than in the past. Our goal should be having every rural youth participate in the 4-H program for six or more years. Program emphasis should be shifted to provide greater assistance in choosing vocations and in how to live and make a living in the complex inter-

dependent economy of tomorrow.

Organized 4-H clubs will continue to be the major medium for working with young people. More of the meetings should be held in communities and out of the schools, particularly for the older club members. The community 4-H clubs can probably be tied in with community organizations which are discussed below.

The number of adult leaders should be increased and they should be given increased responsibility for planning and conducting the 4-H program. The agents working intensively with the commercial and "in-between" farmers should coordinate their efforts with the 4-H club program and give intensive assistance to the young people in these families. Even with more leaders, there will continue to be a need for Extension personnel to serve the 4-H organizations in each county. Past experience indicates that there should be one agent to handle organizational work and meetings for each 500 club members.

- D. Assistance to Businesses Serving Agriculture. One of the most important trends in the agricultural industry has been the increase in number of services performed by commercial firms. New technology has been responsible for the development of many supplies farmers and homemakers now use, examples being insecticides, fumigants, growth regulators, farm and home equipment, processed and packaged foods, fabrics, etc. Where marketing once consisted largely of farmers delivering raw products directly to consumers, a tremendous industry has developed to get farm products to consumers in the form which they want. In the future, even more of the total job will be done by industry and less by the farm families.

The Extension Service should serve these industries just as

they serve commercial farmers and a start has been made. For example, the Extension Service is now doing a good job of serving the seed industry. Similar assistance should be given to other farm and home supply industries.

The Extension Service has a legislative mandate to assist with solving marketing problems. Even though farmers are doing less of the total marketing job, each is still faced with the marketing decisions of what, when, and where to sell. The firms providing marketing services include local shipping and assembly markets; processors such as cotton ginner, meat packers, millers, and textiles; storage firms such as warehouses and elevators; transportation firms and the distribution system including brokers, jobbers, wholesalers and retailers. Consumers are a vital part of the marketing process as their preference and desires affect all producers and marketing firms.

In order to fulfill its role in marketing, Extension must work with farmers, consumers, and all firms handling farm products. In addition, attention must be given to the marketing system itself in order that all services will be performed efficiently and the gains from efficiency properly distributed. An example is the good job that has been done with the entire dairy industry, including farmers, processors, distributors, and consumers. A similar job should be done with other commodities. The Extension marketing program must include technology and economics. Lack of research results has been one of the limiting factors in the past to Extension doing more in marketing. With 35 million dollars

now being spent annually on marketing research by the Experiment Stations and USDA and with the amount almost certain to increase, the bottleneck of lack of information is fast disappearing.

Considering the size and complexity of the marketing job, a number of trained Extension workers will be required to give the needed assistance. Many counties will need one and perhaps more trained agents to provide advice on farm level marketing decisions and to assist local marketing firms. Marketing specialists will be needed to give assistance to the processing and distributing firms. Often the problems will be so complex and large that a team of specialists will be required. A relatively small number of well trained people will be needed to supply market information to consumers through the mass media. Likewise, a small number of highly trained persons will be needed to give attention to the entire marketing system.

- E. Community Development. There are an increasing number of services which rural people want and need that cannot be secured through individual initiative but can be obtained by group action -- examples being roads, health clinics, schools, etc. Modern transportation and communication have resulted in a rapidly changing population in many communities and have made many community institutions obsolete.

The rural communities need and are demanding assistance in developing community organizations, in evaluating community needs and possibilities, and in determining courses of action to accomplish the desired community goals. The Extension Service has the know-how and experience for providing the type of assistance needed. We know

that community organizations provide excellent vehicles for supplying rural people with information and are especially effective in motivating people to use it.

In the future, Extension should provide assistance to every community in organization, planning, and program execution. In some counties, this can be done by redirecting the efforts of personnel already on the job but in other cases additional assistance will be required. In both cases, specialist assistance will be required.

- F. Over-all Planning and Guidance. The Extension Advisory Committee recognized the need for some group to constantly plan for the development of the agricultural economy and indicated that the Extension Service was in the best position to render this service. This job will become increasingly necessary and difficult as agriculture becomes more specialized, more integrated, and North Carolina agriculture becomes more highly interdependent with other areas and other industries.

Every Extension worker must participate in this activity along with representative farmers, homemakers and youth, and with representatives from the industries serving farmers. There is a need, however, for two or three highly trained persons to work continuously on developing planning procedures, background information, and in helping evaluate plans that are made by other segments of the Service.

- G. Evaluation of Extension Programs and Methods. It is recognized that programs and methods should be evaluated constantly. The evaluation should consist of two phases. First, there should be self-evaluation by each worker and each unit within the service.

Second, there should be formal evaluation by persons trained in this type of research. The self-evaluation phase will be more effective if guidance in self-evaluation is given by people trained in this field.

Grants of funds from a Foundation and the TVA have made it possible for the Service to employ two specialists to begin some formal evaluation work. These men are now concentrating on evaluating the Farm and Home Development method and the Part-Time Farming Project. The effectiveness of every program and every method should be similarly determined. More effective methods of self-evaluation should be developed. Experience to date indicates that more resources must be devoted to evaluation if a majority of the programs and methods are to be improved.

There is a great need for basic research in motivation, administration and in communication. If the colleges do not perform this research, Extension should devote some resources to this in order to make its total program more effective.

IV. HOW TO GET THE JOB DONE

The main areas which must be given attention in getting the job done are training, organization, and staffing. Each of these are discussed below.

- A. Training. If Extension is to render greater service, its personnel must be better trained in their respective fields than the people they serve. Also, they must be sufficiently well trained to understand increasingly complex research findings, put the results in understandable language, and show those we are helping : the information to use. Extension workers must be much better trained in the future than they have been in the past if they are

to do the Job.

Even assuming that the requirements for a B.S. in agriculture and home economics degree will increase, Extension workers at all levels must look forward to graduate work. While we do not intend to raise the basic educational requirement above the B.S. level, county workers need training equivalent to that required in a M.S. degree and specialists need training equivalent to the Ph.D level. One reason why formal degrees will not be required is that most advanced degrees now feature training for research and give highly specialized training. While Extension workers need a firm foundation in basic principles, they usually need a more generalized course and training in Extension methods.

In the future an increasing number of Extension workers will have specialized assignments. For example, some will work with poultry farmers, some with food handlers, some on nutrition and some with community organizations, etc. Extension workers with specialized assignments must have advanced training in their specialty.

The fine on-going, in-service training program must be continued and improved. There must be provisions for retraining personnel who are given new assignments. Special pre-service training consisting of courses in communication, psychology, Extension methods and philosophy must be provided.

Formal training has proven insufficient. An on-the-job training program should be developed for all new employees. The new workers should be trained under good agents and the time of such training should be sufficient to qualify the person to perform the job he was employed to do.

Administration and supervision will be increasingly difficult and complex as programs are broadened and staff increased. Advanced courses are now available in public administration, supervision, personnel management, and fiscal management. Administrators and supervisors should be required to take such courses in the future with or without college credit.

The necessary training will be secured only if a sabbatical leave program is provided and if a qualified training officer, with the necessary assistance, is provided.

B. Organization of the Service. Organization should be adjusted to programs rather than programs to organization. The organizational pattern should encourage the maximum contribution of each employee toward agreed upon goals. Several needed changes in organization are becoming increasingly apparent.

1. At the county level. If the service accomplishes the program outlined in Section III, the size of staff in most counties must be increased. Most of the workers will have specialized assignments in terms of subject matter, communication methods, or the groups of people they serve. As the programs develop, there may be a need for a category of sub-professional technicians such as soil testers, moisture testers, etc.

While there will be a number of programs directed to widely varying groups of people, all efforts must be coordinated into a single program. One person must be designated as chairman and given the time and training necessary to provide administrative leadership and guidance at the county level.

2. Specialists. While specialists currently do much work with industry and contact many farm families, particularly through the mass media, their major job is providing training, material, and assistance to county staffs. They also serve as program leaders on a state-wide basis. As programs are broadened and the number of county workers increase, additional specialists will be needed.

Specialists operating directly out of the college will be required to provide much of the assistance to the industries serving agriculture and families which was described in Section III. This represents a major departure in organization. Such a change will be necessary, however, because of the relatively small number of firms in any given type of industry and the need for highly specialized training of personnel working with these industries. A high percent of the increase in specialists will fall in this category.

Specialists, as well as county workers, will become more specialized. Broad problem areas will require the knowledge of a team of specialists so there must be sufficient coordination to secure whatever teamwork is necessary.

Information specialists are now working largely in a service capacity -- that is, editing bulletins that other specialists write, etc. While this work must continue, in the future real guidance should be provided to the total staff in improving methods of communication. Information conveyed through the mass media needs to be localized as much as possible. Specialists in the use of mass media should be located in the

major communication centers. These specialists would not only "localize" information coming from the state level, but would also help other Extension workers in the area make more effective use of mass media.

3. Administration and supervision. The size of the administrative job will increase greatly as new programs and staff are added. Specific administrative functions must be identified and major responsibility turned over to a staff person trained for this work. Such functions now identifiable include personnel procurement and management, fiscal management, public relations, training, over-all planning, evaluation, and administrative reports. All of these persons will serve as staff members for the line officers responsible for program supervision and execution. While they will be classified as "staff" positions, they will assist in formulating policies in their field.

The line officers will consist of the director, associate or assistant directors, state leaders, and district supervisors. The organization now planned, which was recommended by the Extension Advisory Committee, will consist of a director; 3 assistant directors, with one concentrating on administrative management and two on programs; a State 4-H club leader; a Negro state leader, and six teams of district supervisors. Each district team will consist of an agricultural supervisor, a home demonstration supervisor, and a 4-H club supervisor, with the agricultural supervisor serving as chairman. In addition, there will be three similar teams of Negro supervisors whose efforts will be coordinated with those of the white supervisors. While this pattern of organization is satisfactory, it is doubtful if the persons in the

positions named can handle the job in the future even with addition of the staff officers previously mentioned. Additional assistant directors must be added to handle specific program areas such as assistance to industry, 4-H work, public relations, etc., or assistants must be assigned to the assistant directors. Some of both could happen. The latest theory of public administration is to add people with the title of coordinator or a similar title just below the director level.

It appears that even if staff officers take over some of the work now performed by district personnel, that the work load will be too large for the proposed district teams to properly handle.

If this proves to be the case, additional teams must be employed.

C. Staffing. The programs outlined in Section III will require an increase in staff. The size of the staff is projected to increase on the assumption that both demand for assistance and research results will increase. The size of the staff needed in 1970 is shown in the attached table. The projected staff will not be able to do the total job outlined in Section III but it will enable the Extension Service to keep pace with a reasonable demand for information and assistance.

<u>Class of employee</u>	<u>Present No.</u>	<u>Increase by 1970</u>	<u>Total Number by 1970</u>
<u>Professional</u>			
County personnel	679	585	1,264
Specialists	126	95	221
Adm. & Supervisors	25	18	43
TOTAL	830	698	1,528
<u>Clerical</u>			
Entire Service	308	260	568
GRAND TOTAL	1,138	958	2,096

Each county has recently completed what has been labeled "program projection". In this activity a group of local leaders studied their situation and developed a long-time program, including staff additions needed to carry out the program. The 6,064 leaders who participated in this activity throughout the State indicated that 435 additional county Extension workers were needed to carry out the projected program. The number has been increased by 150 to accommodate home economics work at a minimum level with urban people and marketing work, two programs not included by most counties.

Most of the increase in the specialist staff will be used to work with the industries serving agriculture.

About half of the projected increase in administration will be for staff personnel in the functions of personnel, fiscal, public relations, over-all planning, training and evaluation. The others will be additions to the line personnel, largely at the district level.

- D. Budget and Facilities. The projected program will require about twice the amount of the present budget. While the projected staff increase is .4 percent, the present staff is inadequately supported with supplies, equipment, and training aids. Also, the present budget does not provide for pre-service and in-service training and sabbatical leave. The Extension Service is financed by state, county, and Federal appropriations. The total budget for the current fiscal year is \$6,907,000 with the State supplying \$2,331,624. Assuming the same financial structure in 1970, the State should supply \$4,663,240. If there is additional inflation, the figure should be adjusted upward. The increase should be spread evenly throughout the years.

The counties currently provide offices for all county personnel and there is no reason not to expect this arrangement to continue. Hence, additional physical facilities will be needed only for the additional personnel located at the college. This includes 95 specialists, 18 administrators and supervisors, and 61 clerks. An average of one office will be needed for each 2 persons or a total of 87 offices. Each of the 18 subject matter departments will need one additional laboratory or workroom. The increase in facilities should keep pace with the increase in staff throughout the years.