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To the Graduate Council:

I am submitting a thesis written by Jade Srinivasamurthy entitled "Potential Utility of Selected Research Methods and Techniques for Determining the Needs of Extension's Clientele with Application to Mysore State, India." I recommend that it be accepted for nine quarter hours credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.

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POTENTIAL UTILITY OF SELECTED RESEARCH METHODS AND TECHNIQUES FOR DETERMINING THE NEEDS OF EXTENSION'S CLIENTELE WITH APPLICATION TO MYSORE STATE, INDIA

A Thesis

Presented to

the Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

Jade Srinivasamurthy

August 1961

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CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS USED

I. THE PROBLEM

Background Situation

Extension's objective is ". . . the development of people themselves to the end that they, through their own initiative, may effectively identify and solve the various problems directly affecting their welfare."[1] With this objective in mind, extension leaders have always made an effort to improve and develop new methods and procedures for doing extension work. The experiences of the past fifty to sixty years in the United States have helped extension workers in evolving methods and procedures which are better than those employed during the past years. Three phases in the evolution of extension program making could be delineated, though not clear-cut in matter of time.

1. Extension program came primarily from Government or Agent.
2. Program was based largely on local information and conditions. People were made to feel largely responsible for the work.
3. Agents of Government and the people concerned together make the analysis of conditions, together selected the outstanding needs, and together made a program to meet these needs.[2]

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[1] John A. Hannah (Chairman), Joint Committee Report on Extension Program, Policies and Goals (Washington, D. C.: USDA and Association of Land Grant Colleges and Universities, 1948), p. 7.

[2] C. B. Smith and M. C. Wilson, The Agricultural Extension System of the United States (New York: John Wiley and Sons, Inc., 1930), p. 132.

At the present time the Cooperative Extension Service in the United States is taking steps to improve extension methods of working with people in the development of educational programs. A professional term "program projection" is now being used to describe the group method adopted by extension workers and farm people together to develop a sound longtime extension program. Dickson points out the difference in approach of the new method from the old in these words:

> It differs from the old, traditional long-range extension planning of former years not only in its use of a larger, more representative group of county lay people, but also in the fact that it takes advantage of the scientific approach to planning which includes the following steps: 1) collect facts; 2) analyze the situation; 3) identify problems; 4) state objectives; and 5) consider alternatives.[3]

This clearly indicates that extension has traveled a long way from the "trial and error" approach relying on the judgment of the individual responsible for the extension work in a given county to the systematic scientific approach to planning by the group.

Advances in social sciences and research methods developed have contributed a great deal to this scientific approach. Increased association of Social Scientists, particularly rural sociologists, with the Cooperative Extension Serive has helped in the process of orientation towards scientific approach. They are endeavoring to seek out valid theories and develop conceptual frames of reference in undertaking extension programs and educational work.[4] In recent years they are

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[3] L. H. Dickson, Program Projection and Extension Educational Process (Paper read at the Southern Regional Program Projection Workshop, Gatlinburg, Nov. 7-11, 1960), p. 1 (mimeographed).

[4] Rural Sociologists in Extension Look Ahead (Summary of a Workshop, USDA Federal Extension Service, Sept. 1959). (Washington: Government Printing Office 1959).

increasingly recognizing this responsibility as specialists to develop methods and techniques for application in the field work. They have suggested that methods and techniques developed for research could be employed in extension. Arthur W. Foshay addressing the Extension Research Workshop held during May 1957 has said:

> All of the techniques, methods, attitudes and ethics that are true of any research in the Social Sciences are also true of action research in the schools, or in extension work or anywhere else where human beings are the subjects.[5]

The trend in the thinking of extension leaders has been in the direction of increased application of scientific method in extension work. This naturally involves employment of methods and techniques developed by science. As C. M. Ferguson[6] suggests, there should be a development of extension technology. That is, extension work should be done in accordance with principles and methods derived from basic research in the behavioral sciences. Widespread use of such principles and methods can result when they are made a part of the day to day work of extension staff. The problem, therefore, is to explore the possibility of utilizing some of the research methods and techniques which are suitable for use in the different phases of the extension educational process. In this paper the discussion, however, is focused on the methods and techniques to determine the needs of extension's clientele. This is the phase which is delineated in the first three steps of program projection, namely

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[5]Arthur W. Foshay, "Action Research to Improve Extension Program and Personnel," Research in Extension, Summary of an Extension Research Workshop, USDA May 6-10, 1957 (Washington, D. C.: Government Printing Office, 1957), p. 71.

[6]C. M. Ferguson, "Introductory Statement," Research in Extension, op. cit.

1) collect facts, 2) analyze the situation and 3) identify problems.

The national extension service in India is also confronted with this problem--the problem of selecting appropriate methods and techniques in the program planning phase of community development. The extension service in India, it should be indicated here, employs community development as a method of working with people. The program planning procedure recommended by the Department of Community Development is "use of survey to collect basic statistics, assessment of needs and requirements by Panchayat and executive committees, assessment of resources and fixing priorities by the extension staff and the block development committee."[7] Hence it is necessary that the extension worker develop more of skills for conducting an effective educational program. He needs to be made aware of methods and techniques to carry out the responsibilities he is charged with in the different phases of extension educational process.

Statement of the Problem

Cooperative Extension Service in the U. S. is taking steps to improve the extension method of working with people in the development of programs. A new method of working with people designated as program projection--the first phase in the Extension educational process--has been employed since 1955. This concept of program projection takes advantage of the scientific approach to planning. It implies the employment of methods and techniques developed by science, in other words, the

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[7] Our Programme at Work (New Delhi: Ministry of Community Development and Cooperation, Department of Community Development, Government of India, October 1959), pp. 9-10.

development of "extension technology." Hence, here arises the need for selecting and developing suitable research methods and techniques which could be employed for collecting facts, analyzing the situation, and identifying problems--which means determining the needs of extension's clientele--the first three steps in the program projection process. The National Extension Service in India is also facing a similar situation. The problem, therefore, is to study the available research methods and techniques developed by social scientists and consider the potential utility they have have for determining the needs of extension's clientele. Attention will be focused on their possible application to extension work in Mysore State, India.

The purposes of this investigation, then, were:

1. To identify and examine the research methods and techniques generally accepted and used by extension workers and others with respect to their potential utility for determining needs of extension's clientele as a basis for extension programs in the United States.
2. To make recommendations for selection of appropriate methods and techniques for determining the needs of extension's clientele in Mysore State.

Importance of the Study

Program planning is an educational process of great importance. It is the responsibility of the extension staff to help the planning committee in carrying out the five phases of the program projection process. The extension educational process is conceptually based on the

needs of the clientele. The quote mentioned below makes this position clear:

> The Cooperative Extension Service is responsible for exercising the leadership necessary to determine the problems of the people, working through democratic processes. Its personnel, working cooperatively with the people determine family and community needs as the basis for developing programs of informal education.[8]

Hence, the extension staff should have available to it facts which are reliable and representative so that unbiased data for determining the needs of the clientele may be used in developing extension programs. Therefore, the extension staff is faced with the problem of how to help the planning committee to arrive at decisions and develop programs which are sound and purposeful. Methods and techniques the extension staff adopts in solving this problem would influence the quality and success of the program developed. It is, therefore, important that both the extension agents who are involved directly in determining the needs of their clientele and those of the extension staff who are helping these field workers are equipped with the knowledge of methods and techniques that are helpful in their respective jobs.

Importance of this aspect may be illustrated by a case cited by the authors of the textbook on "Research Methods in the Behavioral Sciences."[9] This case concerns program changes to help the organizations--

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[8]J. L. Matthews, National Inventory of Extension Methods of Program Determination, Extension Service Circular 477, Jan. 1952, United States Department of Agriculture (Washington: Government Printing Office, 1952), p. 1.

[9]Rensis Likert and Ronald Lippitt, "The Utilization of Social Science," Leon Festinger and Daniel Katz (Ed.), Research Methods in the Behavioral Sciences (New York: Holt, Rinehart and Winston, 1953), pp. 630-638.

the Agricultural War Boards in the Great Lakes dairy states--achieve its objective more effectively. Hence, it seems appropriate to consider this case as an illustration to show that the group responsible to lead a program needs full facts and reliable facts.

The X State Agricultural War Board members in 1941 while planning to undertake a compaign to increase the production of milk were confident that they knew the situation in the state well and had planned the following measures:

1. To assure an adequate supply of feed grains and protein concentrates at a reasonable price.
2. To facilitate the building of additional barn space.
3. To increase the available farm labor for dairy operation.

This plan was based on their appraisal of the situation as: (a) that the state had larger numbers of cows than at any previous time and the barns were overflowing (state agricultural statisticians data) and their own farms and their neighbors indicated this, so no further increase in number of cows was practicable. (b) The price of milk in relation to the price of feed made it highly profitable to feed milk cows heavily, including grains and protein concentrates in order to increase the milk production per cow. The members were following this practice and they knew that other farmers known to them also followed the practice.

However, the Division of Program Surveys was asked by the Department of Agriculture to help guide the War Board's campaign conducting a study. It undertook the survey in close consultation with the board.

The board, though it wanted to get all help, was not sure that such a study could help. They were confident that their assessment of the situation was sound. Later, the study, which was carried to find out the extent to which farmers were producing the maximum amount of milk and the steps which could be taken to make possible a further increase in dairy production, revealed quite a different situation from what the board expected. The study revealed that lack of barn space, labor shortage, equipment, and price were not at all factors preventing expanding dairy industry. But they were apprehensive of a collapse in price, they lacked information about the actions of government, and also lacked knowledge about the possibility of increased output through better feeding practices. These results were used by the board in revising their plans for the campaign.

This is an excellent illustration of the critical need for accurate facts for adequate analysis of a particular situation. In the above case, the Division of Program Surveys obtained information concerning resources, if any, the farmers felt they needed to increase their dairy production. They also obtained information useful in determining the extent to which dairy farmers in X state were motivated to attempt to produce a maximum amount of milk, what the influences were that were motivating them to increase dairy production and what the motivational forces were that were acting in the opposite direction. The interviews were conducted in a period of ten days (September 20 and October 1, 1941) with a sufficiently large sample--the design provided to treat the three major milk producing areas separately--and the results were made avail-

able immediately. The value of such study as a basis for planning was evidenced by a 6.7 per cent increase in milk production for the following twelve-month period; the highest recorded for the war period. The revised plan made it possible to conserve the scarce materials of steel, lumber, and cement called for in the earlier plan.

Thus, the importance of such studies to develop plans for action in the field of agriculture is demonstrated in the case cited above. The survey has been accepted as a method of collecting relevant facts needed for situation analysis in the process of program planning. Pauline V. Young discussing "The Social Survey in Retrospect and Prospect" states:

> The survey initiated the idea of gathering and possessing facts as the only basis for sound planning. Interest gradually shifted from ready made programs, evolved in distant Central Headquarters to the development of plans made through surveys to fit the the particular needs of the community concerned.[10] (Italics in original.)

Young also pointed out that the survey method has been accepted by a wide variety of organizations "not only as a basis for planning but as a medium for educating the public relative to social questions, policies, needed new legislation, and so on."

This study, as stated earlier, is concerned with the selection and development of suitable research methods and techniques which could be employed for determining the needs of the extension's clientele. Survey, therefore, is one of the most important research methods which needs close study for its application in the extension educational

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[10]Pauline V. Young. Scientific Social Surveys and Research (New York: Prentice-Hall, Inc. 1947), pp. 44-45.

process. Considerable work has been done in improving the techniques of survey in planning, conducting and evaluating programs. This study, therefore, attempts to examine many of these techniques as well as other research methods and techniques with a view to select and utilize them in the program projection process. It is hoped that the findings of this study will be helpful to all extension workers in their efforts to select methods and techniques that could be utilized by them in their task as educators to determine more effectively the needs of their clientele.

II. METHOD OF STUDY

The method selected for use in this investigation was library type research. Relevant information was obtained from both primary sources and secondary sources. Primary sources included the original publications while secondary sources consisted of review articles, bibliographies, research summaries and also reports summarizing the results of research work mentioned earlier. Attempts were also made to collect and utilize the pertinent unpublished materials available.

The investigation consisted of the following steps:

1. Collecting the relevant data from original publications, review articles, research summaries, and pertinent unpublished material available.
2. Stating the research findings and currently accepted theories by classifying them according to a generally accepted system.
3. Considering the implications of these statements for the problem stated.

4. Using the solution so arrived at for making application to a specific situation.

III. ORGANIZATION OF THE STUDY

The study has been organized into six chapters. Chapter II is devoted to a discussion of some fundamental concepts regarding motivation and needs and their importance in the extension educational process. Examination of methods and techniques used by extension workers and other educators for determining the needs of the clientele is presented in the third chapter. Specific projects or situations were selected and studied to provide an understanding of the past and recent experiences relating to the particular procedures and techniques employed. In Chapter IV an attempt is made to review research methods and techniques developed in the behavioral sciences (Social Sciences) which could be utilized in social action programs. Their potential utility in the process of determining the needs of extension's clientele is indicated. Applicability of these research methods and techniques developed in Western culture to other cultures, particularly to Mysore, India, is considered in Chapter V. The sixth chapter deals with the recommendations for the selection of appropriate methods and techniques to determine the needs of extension's clientele and its application to Mysore. A statement of Summary and Conclusions forms the last chapter.

IV. DEFINITIONS OF TERMS USED

For the purposes of this study, the following terms have been used throughout the remainder of the text of the thesis to have the following meanings as presented in this chapter:

Adult education. A systematic learning in organized educational activities for adults in which there is a continuing and direct relationship between the learner and the educational agent. It includes any voluntary, purposeful effort toward the self-development of adults, conducted by public and private agencies.[11]

Action research. Research carried on at the point of action, for the purpose of improving action decisions in "action research." That is, on-the-job type of problem solving research.[12]

Attitude. An effectively toned idea or group of ideas predisposing the organism to action with reference to specific attitude objects. It is a component of all behavior, overt or covert. And it is coterminous with or closely related to a considerable number of other psychological concepts such as interest, appreciation, motive,

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[11]Carter V. Good (Ed.). Dictionary of Education (New York: McGraw-Hill Book Company, Inc., 1959), p. 16.

[12]Arthur W. Foshay. op. cit., p. 71; Carter V. Good (Ed.). op. cit., p. 464.

more, morality, morale, ideal, complexes, values, prejudices, fears, sentiments, loyalties, ideologies, and character.[13]

Behavioral science. This term is used as a synonym of the term Social Science.

Community development. A social process whereby people identify their common problems, consider alternatives, and act upon the agreed courses of action to solve them. In this process, people rely mainly on their own resources, with limited external assistance.[14]

Extension educational process. The term extension educational process is used to describe the four essential phases involved in the educational program resulting in progress from a given situation to a new or more desirable situation. The phases or steps involved are in sequence and cyclical. The cycle consists of the following phases or parts: 1) Program projection, 2) Annual extension planning, 3) Extension teaching, and 4) Extension evaluation. These are interrelated.[15]

Extension technology. Science applied to extension's job is called "Extension technology." It specifically means techniques used

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[13]H. H. Remmers. Introduction to Opinion and Attitude Measurement (New York: Harper and Brothers, 1954), p. 3.

[14]R. Dwarakinath. "Rural Community Development: A Study of the Relevant Sociological Theories" (Master's Thesis: University of Tennessee, 1959).

[15]L. H. Dickson, op. cit.

in doing extension work in accordance with principles and methods derived from basic research in the behavioral sciences.[16]

Evaluation. 1) The process of ascertaining or judging the value or amount of something by careful appraisal; 2) consideration of evidence in the light of value standards and in terms of the particular situation and the goals which the group or individual is striving to attain.[17]

Measurement. The application of tests, scales, statistical analysis, and other measuring techniques and instruments to group phenomena such as association in groups, attitudes of persons toward values, social status, and social adjustment.[18]

Motivation. Motivation is a process in which the learners internal energies or needs are directed toward various goal objects in his environment. Arising from our basic needs, motives are the energies which give direction and purpose to behavior.[19]

Need. Need is a motive condition. It is expressed in terms of behavior.[20] While using the term "need" in the thesis title, it is used

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[16]C. M. Ferguson, op. cit.

[17]Carter V. Good (Ed.), op. cit., p. 209.

[18]Carter V. Good (Ed.), op. cit., p. 338.

[19]G. M. Blair and others. Educational Psychology (New York: The Macmillan Company, 1956), p. 151.

[20]Ibid., p. 155.

to convey the idea of a gap between the existing conditions (what is) and the directed conditions (what should be). Needs are brought out when we compare the situation with the "Standard" we may have arrived at by agreement (among the members of a planning committee).

Problems. In the process of satisfying a need or needs, difficulties are encountered. These are called "problems." Also, problem is a perplexing situation after it has been translated into a question or a series of questions that help to determine the direction of subsequent inquiry.[21]

Problem situation. A situation calling for an adjustment in which the nature or form of the adjustment is not obvious; a question for which the answer must be sought by reflective thinking and possibly by securing additional information or experience.[22]

Program projection. It is the first stage in the Extension educational process. It is the process of long range county program planning involving representative county lay people, appropriate resource people and Extension staff members.[23]

Reliability. When applied to "measurement," it is the accuracy with which a measuring device measures something; the degree to which a

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[21]Carter V. Good (Ed), op. cit., p. 414.

[22]Ibid.

[23]L. H. Dickson, op. cit.

test or other instrument of evaluation measures stably or consistently whatever it does in fact measure.[24] Coefficient of reliability is a statistic which indicates the degree of consistency with which a test or other instrument measures.[25]

Research. Careful, critical, disciplined inquiry, varying in technique and method according to the nature and conditions of the problem identified, directed toward the clarification or resolution (or both) of a problem.[26]

Research technique. A process, manipulation or procedure required in any research activity.[27]

Sampling. The process of selecting a limited number of observations, individuals, or cases to represent a particular universe.[28]

Scientific approach. Having orientation towards the employment of scientific method.

Social action. Any type of group action designed to bring about social change or other changes.

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[24]Carter V. Good (Ed.), op. cit., p. 428.

[25]Ibid., p. 107.

[26]Ibid., p. 464.

[27]Ibid., p. 554.

[28]Ibid., p. 476.

Social science. Science is defined as a method of acquiring knowledge and solving problems. Social science then is the use of scientific method to answer questions about human behavior.

Survey. Studies involving systematic collection of data from populations or samples of population through the use of personal interviews or other data gathering devices are called surveys. Stated in a different way, it is an investigation of a field to discover current practices, trends and/or norms.[29]

Validity. When applied to "measurement," it is the extent to which a test or other measuring instrument fulfills the purpose for which it is used.[30]

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[29] Ibid., p. 542.

[30] Ibid., p. 593.

CHAPTER II

SOME FUNDAMENTAL CONCEPTS REGARDING MOTIVATION AND NEEDS: THEIR IMPORTANCE TO EXTENSION WORKERS

It was indicated in the first chapter that this investigation was to find out which of the research methods and techniques could be utilized by the extension worker to carry out his job. However, it was also mentioned that the investigation would be focused on their application to an important phase of the Extension educational process, that is, to determine the needs of extension's clientele. Hence, it was considered profitable to include a discussion on some of the basic concepts such as "needs" and "motivation" and their importance to extension workers. This chapter attempts to present a discussion on this aspect.

I. HOW EXTENSION WORKER IS CONCERNED WITH THE CONCEPTS OF MOTIVATION AND NEEDS

The joint committee report on extension programs, policies, and goals indicates that the extension programs of work must of necessity be developed within the limits of two major controlling factors in order to attain extension's objective. One of these controlling factors is "the needs and desires of all those whom extension is or should be serving."[1] Elaborating this controlling factor they have said:

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[1]John A. Hannah (Chairman), Joint Committee Report on Extension Programs, Policies and Goals, USDA (Washington: USDA and Association of Land Grant Colleges and Universities, Government Printing Office, August 1948), p. 7.

> Extension programs, however well conceived in relation to the programs of the parent institutions, cannot be assured of maximum productivity without alinement with the needs and desires of those to be served. . . . Extension's assistance must, therefore, be geared to problems which people recognize and to the discovery of unappreciated needs or it will do no educational work at all.[2] (Italics not in the original.)

The group of agricultural experts of U. S. in a report submitted to the Government of India has explained extension education in these words:

> Extension education seeks to secure desired changes in human behavior by initiating, stimulating and guiding people in the process of education and motivating them to take desired actions. Extension methods are the devices used to create situations in which communication can take place and bring about desired behavior changes.[3] (Italics not in the original.)

The terms, phrases and clauses underlined in the above quotes are significant for our discussion and therefore should be kept in mind while considering the basic concepts mentioned in the title for this chapter. The passages quoted clearly indicate the nature of extension work and the important processes involved. It is evident that extension work, being educational, aims at changes in behavior. As Coolier Verner puts it--while interpreting the Smith Lever Act--

Diffusion of useful and practical information implies general dissemination of information on the assumption that some changes in behavior will be accomplished. To encourage the application of the same involves

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[2]Ibid., p. 8.

[3]Report of the Agricultural Production Team (Sponsored by the Ford Foundation) on India's Food Crisis (New Delhi: Ministry of Food and Agriculture and Ministry of C. D. and Cooperation, Government of India, 1960), p. 130.

change in behavior and more permanent change occurs as a result of certain learning processes applied systematically.[4]

He argues that the Smith Lever Act indicated that systematic learning through organized educational activities should be provided and not mere dissemination of information.

The explanations so far presented should convince us that extension work is concerned more with bringing about desired changes in human behavior which in other words means "educational work." If this is accepted and also that the methods employed by the extension worker provide situations in which communication can take place and learning may occur, then the extension worker cannot afford to overlook motivation and needs of the learners. John McLeish in his article on "Adult Motives, Education and Propaganda" makes this point clear in these words:

> No learning ever takes place in the absence of motivation. Education for education's sake is a great falsehood about human nature. . . . Purpose of education is to be found in the motives of the society which provides it as well as in the aims of those who submit to it as adults.[5]

The extension worker attempts to "bring about desired behavior changes." "The key to controlling and guiding behavior is the understanding of needs, motives and interests."[6]

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[4]Coolie Verner. "Problems of Adult Education in Meeting the Needs of Rural People," Rural Sociologists in Extension Work Look Ahead, Summary of Workshop. USDA, Fed. Extn. Service. (Washington, D. C.: Government Printing Office, 1959), pp. 10-11.

[5]John McLeish, "Adult Motives, Education and Propaganda," Fundamental and Adult Education, Vol. 12, No. 3, 135-138, 1960.

[6]Blair, Jones and Simpson, Educational Psychology (New York: The Macmillan Company, 1955), p. 150.

II. SOME FUNDAMENTAL CONCEPTS REGARDING MOTIVATION AND NEEDS

Meaning of "Motivation" and "Needs"

Let us therefore consider what meaning the above terms have and what relationships they may have to one another. According to Blair, Jones and Simpson, "motivation is a process in which the learners internal energies or needs are directed toward various goal objects in his environment. . . Arising from our basic needs, motives are the energies which give direction and purpose to behavior."[7] This definition is liable to be (apt to be) distorted if it is not made clear "that organic needs become motivational only after the organism has learned to interpret them in certain ways."[8]

John McLeish[9] explains motivation "as the permanent drives behind all the activities of the individual--persistent and periodical." The individual motives, however, are difficult to know absolutely and completely and in most cases, human beings never reach an adequate understanding of their own motives, not to mention those of other people.

The three fundamental functions performed by motives could be stated as:

1. Energizing behavior.
2. Directing behavior at any given moment according to the needs, goals, and purposes of the individual.

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[7] Ibid., p. 151.

[8] Alfred R. Lyndsmith and Anselm L. Strauss, Social Psychology (New York: Henry Holt and Company, Inc., 1956), p. 303.

[9] John McLeish, op. cit.

3. Selecting one course of activity from the numerous possibilities inherent in any given situation.

It should therefore be evident that those who are concerned with behavioral change should develop better understanding of the motives of individuals and the community--the environment in which the individual exists. This is particularly important for the extension worker who helps the individuals and groups to select one course of action out of several possibilities.

Classification of Levels of Motivation and Needs

Now, let us consider what adult motives are significant for an educational program. It is convenient to recognize three levels in motivation though human beings do not clearly and universally manifest all types of motivation in their normal behavior.

The three levels in motivation (or motive conditions) are:

1. Lowest or Primary: These are allied with bodily functions and are variously referred to as biological, biogenic, unlearned, basic. Lists given by various authors do not agree in detail. Motives such as hunger, thirst, sex, breathing, and evacuation are considered to be in this category.
2. Secondary, that is, derivative and psychological: These are synonymous as sociogenic, psychogenic, acquired. Most current writers believe that some, if not the majority of, social needs originate solely in social interaction. "Since needs are learned and since men learn to want, wish, aspire to, an almost infinite number of things, the

number of social needs are tremendous, and vary from society to society and group to group."[10] This has great implication to extension workers. James A Bayton[11] has classified basic psychogenic needs into three categories:

a. Ego bolstering needs--the need to enhance or promote the personality; the need to achieve--to better one's position in life; the need to gain prestige and recognition.

b. Affectional needs--the need to be able to form and to maintain warm, harmonious and emotionally satisfying relations with others.

c. Ego defensive needs--the need to protect the personality--to avoid harm, physical, material or psychological; the need to avoid being the object of ridicule; the need to prevent loss of prestige or recognition.

These are needs of the total personality and one can never be sure they could be satisfied:

3. Tertiary: These are the needs that are not clearly manifest but are latent. These would express themselves at appropriate time and circumstance. Need for truth, need for love, need for freedom are some of them.

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[10]Lindsmith and Strauss, Social Psychology, op. cit., p. 278.

[11]James A. Bayton, "Research Methods to Determine Motivations and Values," Research in Extension, Summary of an Extension Research Workshop. May 6-10, 1957. (Washington: United States Department of Agriculture).

It would be profitable here to further consider the concept of needs. Geoffry Vickers[12] in his book entitled "The Undirected Society" has delineated the following three kinds of criteria while discussing the criteria in matters of human well being.

1. Standards of behavior: Judging behavior of individuals by comparing with the standard set by the society.
2. Standards of need: If we see that human beings lack some condition which we think essential such as fresh air, free speech, we judge their state to be one of ill being irrespective of their behavior. Among criteria of need, the clearest are physiological. Science has developed a large body of doctrine about the physical needs of men and this moulds the standards which we apply in matters of diet, housing and so on. Psychological, social and spiritual needs are also derived partly from experience, tradition, the insight of great teachers and also supplemented by science.

This exposition of the concept of need, that is, need as a gap between "what is?" and "what should be?" has important implications for the extension worker. (See "Values and Needs" of this chapter for further discussion.)

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[12]Geoffry Vickers, The Undirected Society, (University of Toronto Press, Canada. 1959), pp. 41-43.

3. Standards of "want and not want": (Want is used to convey the meaning desire.) "Most obvious motivation is the urge to bring the actual into line with what is wanted or to prevent its converging with the not wanted."[13]

All these criteria are socially conditioned. The needs of men are largely social needs, which paradoxically include social obligations, and the pattern of society determines in what ways and to what extent they shall be satisfied.[14]

The implication of this statement becomes obvious to the extension worker if he is aware of the functions he is entrusted with. It should not be forgotten that the cooperative extension service in U. S. and other extension agencies in the different parts of the world are the institutions developed by the human society to satisfy their needs.

Values and Needs

Dwelling on the theme "that culture creates needs" Clyde Kluchohn and others[15] in a chapter entitled "Value and Value Orientation" have made some observation which are summarized and presented here: Needs arise out of the basic value of a culture. An American child growing up needs time to himself, a room of his own, freedom of choice, freedom

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[13] Ibid., p. 43.

[14] Ibid., p. 43.

[15] Clyde Kluchohn and others, "Value and Value Orientation," Toward a General Theory of Action, Parsons and Shils (Editors) (Cambridge, Massachusetts: Harvard University Press, 1951), pp. 426-429.

to plan his own life in contrast to Arapesh child because of different value orientation which is the value of socialism and attendant cooperative action. Symbolic transmission by a culture creates needs. But the relationship between the value system and the need system is complex because a value is a complex proposition involving cognition, approval, selection and affect values both rise from and create needs. A value serves several needs partially, inhibits others partially, half meets and half blocks still others. Some needs arise from a groups' desire for survival as a group.[16] Other needs are culturally created without reference to underlying conditions of social life but are conditioned and limited by other aspects of the culture, including its relative overall complexity. There is undoubtedly a close relationship between needs and values. The authors quote Dorothy Lee as stating "It seems to me that from infancy each social being derives an active satisfaction from participating in the values of his society, and that this satisfaction lies at the basis both of acquiring social values and of acting according to them, choosing a course of action."[17]

> The ways in which the needs--physiological urges are satisfied differ substantially in different cultures. In socializing the child each culture serves to organize the child's needs in such a manner as to cause it to expect its satisfaction in a particular

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[16]This is particularly in evidence in India where several subcultures are in a process of integration due to technological change (author).

[17]Clyde Kluchohn and others, op. cit., p. 429.

style and to fulfill its duties to others in the manner expected of it.[18]

This resume has attempted to focus attention on the importance of analyzing the motive conditions or needs underlying problems before effective corrective steps can be taken.

Manifestation of Need

It would be pertinent at this stage to mention that needs manifest themselves in behavior. This aspect is useful when we are considering methods and techniques to determine needs. Blair, Jones and Simpson[19] mention two such manifestations which are of importance to extension workers. One of them is the perceptual framework. How individuals see things and how they look at things depend upon their needs. Even slight changes in needs may change their activities. Bruner and Goodman[20] showed that perceptions may be a function of needs. An illustration from an Indian situation might clarify this aspect better. Cooperation of the landless labor class with the extension worker may depend upon the program he helps to develop. If the subject matter of his teaching is limited to improved agricultural practices such as fertilizer application, use of insecticide, line planting of crops, composting, green manuring,

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[18]Ashley Montagu, Education and Human Relations. (New York: Grove Press, Inc., 1958), p. 176.

[19]Blair, Jones and Simpson, op. cit., pp. 155-157.

[20]J. S. Bruner and C. C. Goodman, "Value and Need as Organizing Factor in Perception," J. of Abnormal and Social Psychology, Vol. 42, 33-44, 1947, cited by Blair, Jones and Simpson, op. cit., p. 155.

he should not expect whole hearted cooperation from this section of the village community. It is because these do not give them increased wages or increased income. Whatever gain that would be registered through such extension activities is to the landowners. On the other hand, if the extension worker were to direct his efforts in providing him or her an opportunity to learn one or two skills such as operating an umbar charka (an improved spinning machine), working on a sewing machine, carpentry or smithy work, which will raise his potential for earning more money, the attitude of this section of the community would be positive towards the program that the extension worker is initiating or associated with.

The second manifestation the authors--Blair, Jones and Simpson--have mentioned is "needs may affect the entire manifest personality." A study on "Experimental Starvation in Man"[21] indicated prolonged periods of depravation created major personality and behavior changes, that is, decreased sociability, marked irritability, and hostility. Perhaps, factions, jealousy and lack of cooperation among the individuals and groups that are manifest in many villages of India which the extension worker is confronted with while working with them, may be attributed to depravation of essential needs such as adequate food and clothing and good shelter. Extension worker in India faces complex problems arising out of such factors which he may fail to recognize, and will get frustrated

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[21]A. Keys, J. Brozek, A. Harschel and others, Experimental Starvation in Man, Laboratory of Physiological Hygiene, Minneapolis (Univ. of Minnesota Press, 1945), cited by Blair and others, loc. cit.

when he finds no response or inadequate response to his efforts. It is a common experience with the extension staff in India to see young farmers clubs, cooperative societies, recreation clubs and other community organizations and institutions failing to make any headway because these do not satisfy the villagers immediate and urgent needs. A similar situation was reported in British Cameroons whose villagers "cannot take time off to acquire it (education) for themselves or their children because of the ever pressing economic motive."[22] Understanding of the relationship between needs and manifest personality of the individual is therefore essential on the part of the extension worker or any educator who is involved in changing the behavior of the individual.

At this stage of the discussion, it would be pertinent to mention that in a free society all needs must become "felt" before they serve as motivating force. As Paul Leagans points out:

> Research in adult education indicates that adults often are not aware of many of their most important needs. To the extent that this is true, adults have needs which are "unfelt." Significant needs of which people are not conscious must be ferrated out and met in order for them to advance toward more desirable economic and social conditions.[23]

It is therefore evident from the above discussion that any educational program has to be developed on the basis of needs and if the most important needs are not felt, "leaders of programs must 'dig deep' and

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[22]A. B. Lawrence, "Apathy: An Example from British Cameroons," The Year Book of Education (Yonkers-on-Hudson, N. Y.: World Book Co., 1956), pp. 87-94.

[23]J. Paul Leagans, A Concept of Needs (Notes prepared by the author for consideration by graduate students studying Extension Education), p. 6. (Mimeographed).

identify needs people have which they do not recognize, then plan educational effort to convert these into 'felt' needs."

Summary

The important concepts brought out from the discussion so far may be summarized as follows:

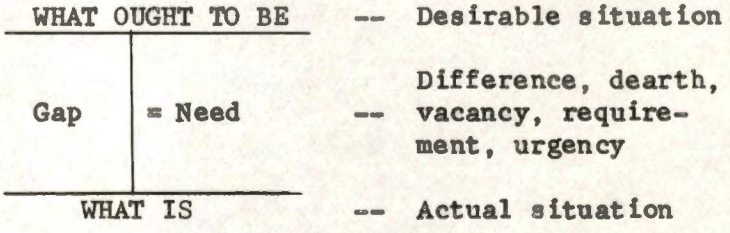
1. No learning ever takes place in the absence of motivation.
2. Motives are permanent drives behind all the activities of the individual. They arise from basic needs and provide direction and purpose to behavior.
3. Needs other than physiological are mostly of social origin and they arise out of the basic value of the culture.
4. The ways in which certain basic needs--physiological urges such as hunger--are satisfied differ substantially in different cultures. This is more true in the case of all other needs (i.e., psychological, spiritual, and social).
5. Needs manifest themselves in behavior.
6. Individual motives could serve as the starting point for the teaching-learning process.

III. APPLICATION OF THE MOTIVATION AND NEED CONCEPTS TO EXTENSION WORKERS

The discussion regarding the concepts of motives and needs presented above should have provided some background for considering what research methods and techniques might be used to determine the needs of

extension's clientele. The question we may have to answer before considering this aspect is "what needs of Extension's clientle should be determined?"

As brought out in the preceding discussion, needs arise out of the basic values of the culture and standards of need are established by the society. Having this concept as a basis, it could be suggested that the process of determining the need of Extension's clientele should involve three interrelated phases: (1) finding out where the people are, (2) establishing the standard to which the people wish to reach, and (3) identifying the gap between the two. This process is well illustrated as shown in the following diagram developed by J. Paul Leagans.[24]



The three phases described in the above paragraph are interrelated because the extension worker cannot organize his work to find out where the people are--(What is)--unless the aspects which the people wish to consider as being important for the extension program, are known. When attempting to establish the standard, people might wish to reach, an extension worker should encourage them to take into consideration where they are at the time. The extension worker should help the people

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[24] Ibid., p. 3.

through educational activities in establishing the standard of needs. it is here that his understanding of the concepts of needs and motivation would be of much help. His function is that of an agent of change. He should be able to present the research information (results) available in such a way that it would help the people to establish standards toward which they would like to move. In other words, he should be able to motivate them in the direction in which the society as a whole wishes to go. Hence, it becomes clear that the process of determining the need presupposes some educational work having been done. During this phase of the work, the extension worker will have to find out where the people are, particularly with regard to their value systems. He needs suitable techniques to undertake this responsibility as objectively as possible. His own value system may introduce bias. Methods and techniques to keep such bias to the minimum need to be developed.

Finding out"where the people are"not only involves knowing the value systems prevailing in the region in which a particular extension worker is functioning but also requires knowledge of other things relating to agriculture, home economics and related subjects. Specifically it is important for the extension worker to know the level of knowledge, skills possessed and the ability for efficient management of the farm and home of the people. Value orientations are believed to influence the process of adoption of improved practices. A high value placed on science and technology may help the community in deciding favorably to a recommended practice based on research. In this case, there would be rapid diffusion of research results

and the extension worker may not find much difficulty in his role as a link between the research station and the people. However, the situation would be quite the opposite where there is a high value placed on "tradition." He would then be faced with the problem of finding out ways and means of organizing experiences for and with the individuals and groups which would overcome this barrier or at least minimize its influence.

Hence, it is essential for the extension worker to know the value systems prevailing, the levels of knowledge and skill and other characteristics of the clientele as the first step in the process of determining the needs of the clientele. It should be mentioned here that the aim of the extension worker is to help the individuals satisfy their own needs whether he contacts them individually or in groups. Needs of the clientele consist of the sum total of the common needs of the individuals constituting that group.

It might be appropriate here to suggest a classification system including those items concerning the needs of extension's clientele which would be of value to the extension worker as he prepares to plan and conduct his educational program.

Items desirable for inclusion in such a classification system are:

1. Socio-economic attributes of individuals such as age, sex, family size, occupation, income levels, tenure status, education, residence.

2. Natural resources--land, labor and capital. This would include facts about all physical factors, soils, crops, livestock, home conditions, farm implements, production resources, community services.
3. Dominant and important values including those associated with the existing social organizations and institutions and other agencies in the area.
4. Response to the educational programs or attitudes toward agencies initiating and promoting socio-economic changes; contact with extension--kind, intensity and degree.
5. Degree of social participation of the clientele.
6. Level of knowledge and skills.
7. Problems--undesirable aspects of the situation which can be changed; what they think their needs are.
8. Programs and activities.

CHAPTER III

METHODS AND TECHNIQUES USED BY EXTENSION WORKERS AND OTHER EDUCATORS FOR DETERMINING THE NEEDS OF THE CLIENTELE THEY SERVE

I. INTRODUCTION

The development of different systems of formal and informal education both for the young and the adults in the United States during the past years was entirely due to the recognition of the need for such systems of education. "According to Toynbee, a civilization survives only so long as it makes adequate response to the challenges of its time."[1] The cooperative extension service, continuation education, vocational education and other systems were developed around the state universities and the public schools to provide learning experiences suited to the needs of different segments of the population.

Loomis in discussing adult education and its social systems in Rural America, has pointed out that:

> The conquest of the frontier in America was completely without many of the formal organizations we know today, as for example, the various Federal bureaus, the National farmers organizations, and the Land-Grant Colleges and University systems. . . . When security was no longer to be found in small informal groups, formal organizations began to appear. . . . The increasing participation of farmers in the many occupational and civic groups in order to meet special interests, is a part of the general quest

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[1] Homer Kemfer, Adult Education (New York: McGraw-Hill Book Company, Inc., 1955), p. 10.

for security and fellowship common among the urban middle classes of the western world.[2]

A perusal of the list of one hundred and thirty-eight organizations, associations and agencies mentioned in the directory of the "Handbook of Adult Education in U. S. 1960"[3] reveals their diverse nature as well as different educational needs of the population of the United States. Spence and Cass[4] have classified the agencies engaged in Adult Education into nine categories which will be presented in modified form together with sub-headings in brief outline below:

1. Agencies focused around Education
   a) Schools and Colleges
      (1) National Education Associations Department of Adult Education
      (2) U. S. Office of Education
      (3) University extension
   b) Libraries and Museums

2. Agencies focused around the personnel training aspect
   a) Agricultural Extension Service
   b) Business and Industry--training within industry
   c) Educational work in labor unions, University Service for organized labor
   d) Educating the workers on the job through training divisions in Government agencies such as the armed services, and
   e) Others

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[2]Charles P. Loomis, "Adult Education and Its Social Systems in Rural America," Rural Social Systems and Adult Education (Michigan: The Michigan State College Press, 1953), pp. 22-23.

[3]Malcolm S. Knowles (ed.), Handbook of Adult Education in the United States. (Chicago: Adult Education Association of the U. S. A. 1960), p. 565.

[4]Ralph B. Spence and Angelica W. Cass, "The Agencies of Adult Education," Review of Educational Research XX (June 1950), pp. 230-240.

3. Agencies focused around Home and Family
   a) Cooperative Extension Service
   b) Community development
   c) Others

4. Agencies focused around religion
   a) Catholic
   b) Protestant
   c) Jewish
   d) Others

5. Social Agencies
   a) Health
   b) Welfare
   c) Others

6. Agencies of mass communication
   a) Movies
   b) Press
   c) Radio
   d) T. V.
   e) Others

7. Others such as
   a) Correctional agencies (such as in prison)
   b) Agencies for the aged
   c) Ethnic groups

These agencies were developed to organize educational activities in order to provide needed learning situations. The experience of the efforts in developing, executing and evaluating the varied educational programs of such agencies should provide us with some reliable guide lines to use in selecting suitable methods and techniques for determining the needs of Extension's clientele.

II. METHODS AND TECHNIQUES DEVELOPED AND EMPLOYED IN THE FIELD OF ADULT EDUCATION (EXCLUDING AGRICULTURAL AND EXTENSION EDUCATION)

According to Jack London there "appears to be remarkable consensus among adult educators as to the formal steps in successful program develop-

ment."[5] The steps, as delineated by London include the following:

1. Determine the needs of the constituents.
2. Enlist their participation in planning.
3. Formulate clear objectives
4. Design a program plan.
5. Plan and carry out a system of evaluation.[6]

The similarity of the above concept with the Extension Educational process needs to be noted.

The above author has elaborated on his views on the first step, the step with which this chapter concerns itself, in the following sentences:

> Because adults do not have to go to school, but undertake adult education courses voluntarily, programs must be based on needs and interests which these students themselves express or which they can be led to recognize. . . . The needs of adults which the educators seek to meet are not just "felt-needs" but also the needs which educators impute when they view the gap between what is and what could be if their students achieved their full potential. . . . A stimulating and imaginative adult educator must develop materials and learning experiences which will enable the participating adults to grow in the breadth and depth of their concerns and interests. . . . Adult educators urge one another to conduct surveys, analyze census data, quiz community leaders, poll organizations via "self surveys", and in other ways find out as much as possible about their potential students so that their programs can be adapted, both in content and method, to their needs, abilities and motivations.[7] (Italics not in the original.)

In the italicized portion of the above quote, several methods which might be used for determining the needs of people to be educa-

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[5]Jack London, "Program Development in Adult Education," Handbook of Adult Education in the United States, Malcolm S. Knowles (ed.), op. cit., p. 66.

[6]Ibid.

[7]Ibid., pp. 66-67.

tionally served are indicated. In this connection, Joseph L. Matthews[8] in a review of program planning and development has mentioned that recent studies relating to collection of information for use in planning adult educational programs include, among other methods: 1) systematic surveys for gearing adult educational programs to the basic problems, interests and needs of the community; 2) fact finding conferences in stimulating a critical examination of local community needs and 3) planned interviews.

Earlier, Houle and Bowden[9] in their review of literature on the selection of content for adult educational program have mentioned the following three lines of approach:

1. Through the canvass of the needs and interests of proposed or representative students.
2. By use of the activity analysis technic.
3. By studying the community problems which may be solved by educational means.

The first line of approach mentioned above involved simply asking those who participated in such program what they wanted to learn. This approach was taken in the beginning of the adult educational program in the United States. Since they were not provided with reliable guidance to help them identify what they really wanted, a more rigorous sampling procedure, more intensive analysis and more precise statistical treat-

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[8]Joseph L. Matthews, "Program Planning and Development," Review of Educational Research, XXIX (June 3, 1959), p. 280.

[9]Cyril O. Houle and William Bowden, "The Content of Adult Education." Review of Educational Research, XX (June 3, 1950), pp. 198-204.

ment of data came eventually to be employed. The check list was also used but only to arouse interest. Both the Armed Forces and the co-operative extension service have employed such studies as bases in developing curricula.

The second line of approach, use of activity analysis technic, involved and involves analysis of the nature of a job for which instruction is offered in order to have a basis for developing curricula. This was used in the early days by workers in vocational education, and more recently by certain other adult educational agencies.

The third line of approach has been traditionally employed by agricultural extension workers. It involves identification of problems which can be solved by making changes in the behavior of people in local counties followed by consideration of alternative means for solving them.

Mention was made in the above summary that check lists were used to arouse the interest of participants. According to Sheats[10] these check lists, or check sheets, could be used by citizen planning committees or community councils to enable them to assess and evaluate various phases of community life and to arrive at some kind of community judgement as to the area in which improvement is most needed. W. H. Stacy of the Agricultural Extension Department at Iowa State College, Ames, has developed a check sheet which would prove useful for extension workers or other adult educators (see Appendix A).

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[10]Paul H. Sheats and others, Adult Education. (New York: Dryden Press, 1953), pp. 312-316.

Sheats and others[11] have suggested that some informal "research" could produce some useful clues concerning what people need and want. Some simple procedures they have suggested are presented below:

1. Watch the newspapers for a month and tabulate the subjects that receive greatest emphasis.
2. Talk with the librarian about what kinds of books and magazines seem to be most popular.
3. Exchange program announcements with other organizations of a like kind and see what is of interest to their members.

In determining the more specific needs of the people, they suggest the use of more direct avenues to obtaining information such as the interview; informal conversation; a meeting census; use of registration cards; suggestion or question boxes; questionnaire. One of these avenues, that of the "meeting census," particularly deserves attention. It is a technique by which members in a meeting are asked to cluster into groups of six or eight to list program items of their choice. They then elect a spokesman who will report the list suggested by the group. Preparing the group list may take a relatively brief period of time. A central secretary compiles them into a master list.

Another method has been found to be specially useful when it is necessary to subdivide the group into a number of smaller groups. This is the so-called "Phillips 66 Method" devised by J. Donald Phillips. Use of the method involves division of the large group into groups of six, and also certain specified procedures to be followed in small group discussions. This method of working in groups is sometimes called "six by sixes," six people discussing for six minutes. And it is also called

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[11] Ibid., p. 315.

"buzz session." This technique could be applied in many situations such as: 1) determining what the group wants to do or its problem; 2) planning single or long range programs or projects; 3) setting aims, goals or purposes of the group.[12]

Another technique which was mentioned earlier and which is worthy of consideration by extension workers is that of the "community self survey." It is a technique which adapts itself to bring about community action on the sound basis of facts obtained and studied concerning priority community problems. Credit for the development of this technique goes to the commission on community interrelations (C. C. I.). It includes a discrimination index, which measures the bias or prejudice which people have toward minorities. Several surveys of American Communities have been made using this technique.[13] Discussing the need for investigations into community dynamics and the effectiveness of community self survey technique, Bonner has said:

> . . . First, they reveal rather sharply that a community's perception of itself is a vital factor in its well-being. . . . Second, while there are many ways for a community to become

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[12]J. R. Cribb and others, Dynamics of Participative Groups (New York: John Swift Co., Inc., 1959), pp. 53-54; Sidney S. Sutherland, When You Preside (Danville, Illinois: The Interstate Printers and Publishers, 1952), pp. 32-37. Procedure suggested by Gibb and others for small group discussion included: a) group members introduce themselves to each other; b) they choose a leader; c) they choose a secretary-spokesman; d) each person spends one minute thinking of his best idea before discussion starts; e) each person in turn briefly expresses this idea to the group; f) they have free discussion of the ideas; g) a summary is made in the group and a check is made to see that the secretary-spokesman has the best thinking of the group.

[13]Hubert Bonner, Group Dynamics - Principles and Applications (New York: The Ronald Press Company, 1959), p. 319.

> aware of itself as cohesive and cooperative individuals, an effective technique is the community self survey. It would be a wholesome experience if every community made a periodic self survey in order to diagnose both its ills and its potentials for healthy growth.[14]

The self survey technique is in principle applicable to any of the vexing problems that deal with human relations in the community. Extension workers can make use of this technique when attempting to determine the needs of their clientele.

Knowles, dealing with planning dynamic programs in his book entitled "Informal Adult Education," has made the following suggestion:

> . . . Through informal community surveys, interest questionnaires, interviews, committee discussions and other devices, the planning committees can obtain information that will help them to create programs based on the real needs and interests of group members. These programs will be of different quality from those based on what someone - or some group - thinks the members ought to have.[15] (Italics in the original.)

He elaborates on some of these techniques under the heading of "The Administration of Adult Education," and has included exhibits illustrating a suggested community survey form, interest questionnaire and a club questionnaire (see Appendix B). He, further, has recommended a study of facts from census reports, chamber of commerce folders and the newspapers to develop a background of the community, together with an informal survey to be conducted by interviewing the leaders of the

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[14] Ibid., p. 332.

[15] Malcolm S. Knowles, Informal Adult Education (New York: Association Press, 1959), pp. 127-128.

community to obtain certain specific information. The list of such community leaders might include, among others: newpaper editors; government officials; church leaders; social agency directors; business executives; labor leaders; minority group spokesmen; civic leaders; educators and other people who have some standing or notable influence in the community. The interview schedule could be developed to get three principal types of information related to adult education: 1) What is being done now? 2) What are the important unsatisfied needs? and 3) For which of these unsatisfied needs should plans be made to seek solution? Knowles also listed a number of methods for determining peoples' interests, including:

1) Conduct of informal research into the interests people are already expressing through reading interests expressed in library books, popular topics presented in clubs and other social organizations as well as attention given to various subjects presented through mass media--radio, newspapers, and television.

2) Review of psychological studies reported in journals suggesting interest areas.

3) Use of an "interest questionnaire."

4) Organization of a certain proportion of designated staff time (say 10 to 20 percent) for evaluation and experimental activities.[16]

Thus far, we have considered a number of varied methods and techniques employed by adult educators and recommendations for the applicability to specific situations. It would now be in order to classify the methods employed for identifying educational needs in the

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[16] Ibid., pp. 176-182.

United States. Homer Kemfer,[17] after an intimate association with adult education work in the United States classified such methods under five major categories. A brief, revised and outlined summary of his classification system will be presented below:

1. Administrative procedures. Those identifying peoples' needs and interests based on:
   a) requests received by the adult education agencies, and specific programs developed on this basis.
   b) results of direct enquiries, such as:
      1) use of questionnaires
      2) systematic survey, using sampling technique
      3) "trial balloon" promotion, i.e., publicizing to test responses
      4) others
   c) reviews and use made of various documents, including:
      1) census reports
      2) reports of governmental agencies
      3) reports of private agencies
      4) special studies made by chambers of commerce, social agencies, labor unions, local foundation
      5) studies made by magazines, newspapers and libraries.
2. Advisory committees. Those identifying peoples' need and interests based on:
   a) the work and findings of general committee representative of the county or area (e.g., in extension this would include advisory and program development committees).
   b) the work and findings of special study committees representing specific subject matter area of program emphasis (e.g., in extension this would include sub-committees for appropriate area of emphasis selected from the nine listed in the so-called "Extension scope report" or for important commodities in the county).
3. Adult Educational Councils. Those identifying peoples' needs and interests based on:
   a) the judgements of members of informal association of major local organization from their point of views.
   b) the judgement of members of informal association from their points of view (e.g., in extension it might be informal meetings of leaders--voluntary leaders, professional men and other influential persons of the county).
4. Study and Action Groups. These could be set up when important and urgent specific community problems are to be tackled.

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[17]Homer Kemfer, op. cit., pp. 61-92.

5. Community Councils. Councils or associations consist of lay leaders. These represent organized attempt of individuals and groups to develop cooperative ways of working together for the benefit of the whole community. These members with the help of experts or specialists can identify needs and interests.

III. TECHNIQUES FOUND USEFUL FOR DETERMINING PEOPLES' NEEDS AND INTERESTS THROUGH EDUCATIONAL GROUP WORK

The review so far has revealed some of the methods and techniques employed by adult educators in determining the needs of the people they serve. It also would seem pertinent to examine some slightly more sophisticated methods and techniques developed and employed in situations where well trained educators have had to work closely with groups in group activities for educational purposes. These methods of work with groups necessarily include all logical or intelligent means of determining need of formal and informal classes, clubs, committees and other groups. They include methods that are especially effective in improving group functioning.[18]

As mentioned earlier, a new concept of working with the people--Program Projection--is increasingly being employed in extension education (since 1955). It is a group method whereby staff members and clientele work cooperatively together to develop a sound, longtime extension program based on the recognized needs and interests of the people. The extension worker not only has the responsibility to help develop educational

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[18]Ruth Strang, Group Work in Education. (New York: Harper and Brothers, 1958), p. 257.

program based on such needs but, also, to organize learning experiences for the clientele in order that they may come to recognize needs of which they might not have been aware, that is; unfelt needs. Hence, he might have to select some methods which would involve group work and techniques which could be employed while working with the group. Let us, therefore, consider methods and techniques that are available for such conditions.

Methods of describing and charting interpersonal relationship during group activity and group work techniques are the two important aspects that seem to be of possible value to the extension worker for determining the needs of extension's clientele. As Ruth Strang suggests:

> . . . Stenographic accounts of the interaction in the group make possible analysis of the group process and supply information on such questions as: What changes take place in relationship during the group activity? What questions and problems arise? What is going on when interest appeared to be highest? What took place when interest was low?[19]

It is obvious that such an appraisal of planning committees should be of considerable help to extension workers. Hence, verbatim records of a meeting or meetings, if possible with sound recordings might provide an adequate basis for analysis. Observation and short questionnaires also could be used to study certain kinds of behavior such as "preferred associates," "cordiality or antagonism of personal relationships," and "measuring leader-group social distance and relations."[20]

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[19] Ibid.

[20] Ibid., pp. 257-259.

Systematic study of groups in which friendly cooperation is demanded, such as in the program planning committees with which an extension worker would be working, yields information on the conditions which either maintain or hinder cooperation in specific situations (e.g., while determining the needs of the people the committee represents).

An even more sophisticated experimental method for observing social interaction in a group was developed by Kurt Lewin and associates.[21] It involves recording observable social interaction of the group by three or four persons seated at a distance and ignored by the group, having verbatim stenographic record of all conversation and combining these with the leaders account of the group activities. The test situations were also created by withdrawing the leaders for ten minute periods in order to compare the responses of the group under controlled and uncontrolled conditions.

Use of simpler techniques mentioned earlier would prove helpful to extension workers desiring to analyze the group work process. For example, by means of interviews and questionnaires, supported by recorded observations of the group in action, the attitudes of the 4-H Club boys and girls toward the club atmosphere, toward one another, and toward their home and school could be ascertained. In addition to the group observer technique which was discussed in the preceding paragraphs, "sociometric technique" and "group discussion" are the other two well known group

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[21]Kurt Lewin, Ronald Lipitt, and Sibylee K. Escalara, Studies in Topological and Vector Psychology, I, pp. 76-100. University of Iowa Studies in Child Welfare, XVI, No. 3. (Iowa City: University of Iowa Press, February 1940). Cited by Ruth Strang, op. cit., p. 259.

work techniques which have potential utility in the extension educational process.

Sociometric technique is a device for revealing the preferences, likes, dislikes and such other behavioral phenomenon obtaining among the members of a group. It is characterized by the procedure of obtaining from the individuals in a social unit a statement as to which group members (usually two to five) would be preferred as cooperating participants in various activities or relationships.[22] The extension worker's job is to involve people in the process of determining the needs. He has to employ techniques which help in the formation of and functioning of cohesive committees which share the responsibility in planning educational programs. The sociometric test requires ideally that each individual choose his associates in some real group experience, such as the following: (1) with whom would you like to sit at the same table (2) who are your best friends in the village (3) with whom would you like to work on the same committee (4) with which families in the community do you have visiting relations? exchange work? borrow tools? Choices are made upon preference levels--first, second, third choice. Some attempts have been made to study intensity of choice by asking the individuals to name as many persons as he wishes, and the same preference level, if he feels equally strongly attracted to them. The sociometric technique has been used to study and chart the informal interpersonal structure of groups in public schools, private schools, church groups, institutions

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[22]Carter V. Good (ed.). Dictionary of Education. (New York: McGraw-Hill Book Company, Inc., 1959), p. 511.

of higher learning, rural and urban communities, hospitals for mental disorders, prisons, training schools and camps. Apart from the research value in understanding the nature of the group, the Sociometric technique might be useful in:(1) identifying individuals in need of certain kind of relationship, (2) uncovering detrimental chains or networks, (3) helping the leader to form congenial groups and to give members some of their constructive associational preferences, (4) helping the worker to discover the natural leaders, (5) gaining understanding, through a follow-up interview, of the reasons for preferences and characteristics of individuals, who are chosen by many and rejected by few or of isolates whom nobody chooses.[23]

The value of Sociometric technique should therefore become evident to the Extension staff who are charged with similar responsibility.

Group discussion. Forum, lecture discussion, symposium, panel discussion, platform conversation, town meeting, parliamentary discussion, bull session, round table, seminar, committees, directive discussion and non-directed discussion are some of the ways through which democratic process is carried on. These techniques help in better understanding of a problem situation and in identifying needs and interests of the group, and promote group decision. Greater productivity seems to occur when the group is organized in terms of cooperative activities rather than competitive ones. Group discussion method seems to create a more favorable attitude, a greater eagerness to succeed in relating the goal they

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[23]Ruth Strang, op. cit., pp. 257-285.

set and willingness to cooperate regardless of personal likes and dislikes was demonstrated in two studies directed by Kurt Lewin.[24] Small group discussion also facilitates spontaneous interaction by removing restraints on individual expression which the larger group imposes.[25] The technique thus provides an environment and opportunity for expression of needs and interests of individual participation.

Ruth Strang[26] has made a number of suggestions for effective conduct of group discussion, four of them are indicated below as they seem relevant to this discussion, that is, the use of group discussion technique for identifying needs and interests of the people.

1. Enough time should be provided in selecting and formulating a problem of significance to all members of the group.
2. Facts are to be used in a discussion, not discussed.
3. Following the selection and statement of the problem, the next step is to relate it to the members' experience, view it in its larger social setting, and bring opposing points of view into open.
4. Once the problem is explored, the group can begin to mobilize the facts bearing upon it.

The group work techniques discussed above--use of group observer, sociometric technique, group discussion--as pointed out earlier might be found to be helpful by the extension worker as he seeks to determine the needs and interests of local county people to use as a basis for the development of a sound educational program.

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[24] Ibid., p. 283.

[25] Carter V. Good (ed.), op. cit., p. 178.

[26] Ruth Strang, op. cit., p. 278.

IV. METHODS AND TECHNIQUES EMPLOYED IN THE FIELD OF AGRICULTURAL EDUCATION FOR DETERMINING THE NEEDS OF THE PARTICIPANTS

There has been recognition almost from the beginning of agricultural education endeavors that each community must be systematically studied in order that a program of agricultural education "tailor made" for that community might be developed. Community surveys of various types have been carried out by teachers of agriculture and their students for purposes of program development.[27]

The following list of common sources of community information are usually available for use in studying community needs.

1. Records of the schools' agricultural department.
2. General school records.
3. Records of the county agent.
4. Soil surveys.
5. Records of the soil conservation district.
6. Records of the local office of the production and marketing administration.
7. Records of cooperators in farm management record projects.
8. Dairyherd improvement association records.
9. Records of the rural electrification administration.
10. Census reports.
11. Reports of the State Department of Agriculture.
12. Records of Agricultural cooperatives.
13. Records of general farmers' organizations.
14. Records of county officials.
15. Community maps.
16. Newspaper files.
17. Summaries of interviews with people connected with agriculture whose knowledge of the local situation can be utilized (e.g., progressive farmers and dealers in farm supplies).[28]

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[27]Herbert M. Hamlin, Agricultural Education in Community Schools (Danville, Illinois: The Interstate Printers and Publishers, 1950), p. 40.

In an earlier publication,[29] Hamlin discussed the use of advisory councils and community surveys in determining community needs, summary of this discussion follows. An advisory council has been found to be useful in giving a new teacher opportunity to estimate the community agricultural situation which can be the basis of his work until more thorough studies can be made. Councils which become interested in special studies and surveys are helpful in determining which data should be gathered, in supporting the studies and securing cooperation in them and in evaluating the returns from these studies. In Hamlin's opinion, council members like to know the community situation at the time the program is launched and to learn of changes in the situation from time to time as the program progresses. Community surveys, which have been much praised and little used by agricultural educators, seem to many council members to be necessary and reasonable means for getting information necessary for diagnosing the community situation, for use in teaching and for the evaluation of educational outcomes. Hamlin[30] then makes some of the following suggestions for practical and feasible studies:

1. Council members should be sold upon the idea and agree that they should sponsor it. High school boys and young farmers should be involved in collection of data and tabulation.
2. It should be limited to a particular object.
3. Printed survey cards 3 x 5 or 4 x 6 inches are adequate and should be used.
4. A random sample of the entire community should be taken.

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[28] Ibid., pp. 42-43.

[29] Herbert M. Hamlin, Using Advisory Councils in Agricultural Education. Bureau of Educational Research Bulletin No. 63 (Urbana, Illinois: University of Illinois, 1947).

[30] Herbert M. Hamlin, Agricultural Education in Community Schools, op. cit., pp. 44-51.

5. To keep the survey short it might well be limited to results (e.g., in livestock studies, rates of gain or mortality rates), but practices may be included.
6. "Personal" questions should be avoided where possible.
7. Pre-testing should be done and the revised form used.
8. There should be little writing required on the part of the farmer.
9. Interview should be used rather than mailing the questionnaire to those selected for inclusion.
10. If a polling procedure is to be used, geographically representative persons to be polled may be secured by laying a grill (a block of squares) on the map. At least ten percent of the farm operators in the community should be included.
11. In some surveys, the problem is not to secure a geographical sample but a sample representative of a group within a county.

In 1955, Wall conducted a study[31] to determine the needs of out-of-school rural youth in Kentucky for systematic training in farming. Review of that study illustrates the possible utility of systematic studies for developing programs in Agricultural Education. Rural young men (446) between the ages of 16 and 25 were interviewed. If out-of-school youth were to be given real educational assistance in their farming programs, first it became necessary to learn their needs, their backgrounds, what they had accomplished, their situations at the time, and something of their future hopes and aspirations. Elaborating on the purpose of the study, Wall commented:

> . . . Since young men on farms are not subject to public or family pressure to attend young farmer classes and are not necessarily looking forward to advanced school work, teachers should be able to plan their program to give emphasis to the interests of the young men. This study, in revealing needs, should throw some light on what the young men's interests are. It should contribute to the development of an educational program that will

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[31]Stanley Wall, The Needs of Out-of-School Rural Young Men in Kentucky for Systematic Training in Farming, Bulletin of the College of Education (Lexington: University of Kentucky, February 1955).

function more fully in meeting the needs of young men in becoming established in farming.[32]

According to the author, as a result of this study, opportunities for improving vocational agriculture programs were seen more clearly, general impressions were confirmed or refuted, new problems for study were brought out, and data and techniques were provided which should be useful in developing related studies.

As preparation to the Wall survey, an interview schedule was developed. In perfecting the schedule, ten agricultural teachers not included later in the survey, were asked to complete the schedule on fifty young men making note of questions not stated clearly, or that were difficult to interpret or difficult to answer. These teachers also were asked to make suggestions for better wording and to suggest ideas for other things that might be of value to them in planning a young farmer program for their own communities. Thirty-five pre-test interview schedules were completed. These were studied along with the suggestions made by teachers in developing the interview schedule and the schedule revised for final use.

Relative to selection of those to be interviewed, teachers of agriculture in fifty-five communities in thirty-two counties of Kentucky cooperated in securing the names of 1,195 young farmers who were living on farms adjoining the home farms of high school students in vocational agriculture. Five hundred and eleven interview schedules were mailed to these teachers, requesting that they secure the information from the

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[32] Ibid., p. 17.

young men who had been selected at random. Forty-five teachers in 28 counties interviewed 276 out-of-school on-farm young men. Eighty-seven other Kentucky teachers completed another 170 interview forms using a random sample of those young men who had been enrolled in their young farmer programs in 1952.

The schedule form was validated at the 0.05 level of significance by comparing the responses of the two groups mentioned above.

The data collected with these surveys revealed certain things that were rather significant relative to a program of systematic instruction in farming for out-of-school young men. They were classified under four main categories: 1) the number of young men on farms in Kentucky; 2) characteristics of the young men on farms; 3) farming statuses of the young men; and 4) the needs of young men for systematic instruction in farming.

Purpose of examining this study was not to dwell upon the findings and implications of this particular study but rather, to illustrate the validity of use of the survey method for determining the needs of the clientele before developing an educational program to suit the needs of the people it seeks to serve. The study has provided extensive information about the four categories mentioned earlier and the conclusions of the study suggest a number of implications for such educational programs. Some of the implications are selected and listed below to illustrate their possible applicability to extension studies:

1. Young men on farms need guidance in deciding whether to continue in their efforts to become established in farming or not.

2. The fact that many young men live on small farms may make it necessary to adjust the farming program to intensive-type enterprises.
3. Young men need help in making long-time plans for farming.

In a brief preface to the Wall study report, Carsie Hammond states:

> This study should be useful on a local level as well as in state supervision and teacher training. From it, all school people may obtain ideas on how to study local communities. From it also, local school administrators and teachers of vocational agriculture may be more firmly convinced of the need for making local studies in formulating local programs in young farmer work.[33] (Italics not in the original.)

As suggested by Carsie Hammonds in the above quote (see italics), examination of the study has shown how local communities may be surveyed which involves the utilization of research methods and techniques.

The Kentucky study has thus provided an excellent illustration of the potentiality of the use of research method and techniques for the determination of the needs of the participants (clientele) for whom educational programs are organized.

V. METHODS AND TECHNIQUES USED FOR DETERMINING THE NEEDS OF EXTENSION'S CLIENTELE BY THE COOPERATIVE EXTENSION SERVICE IN THE UNITED STATES OF AMERICA

Historical Background

Mention was made in the introductory chapter that extension program making has passed through three stages since the initiation of

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[33] Ibid., p. 2.

cooperative extension service in 1914. It was indicated that, in the early days of extension, the workers assumed that they knew what was needed in communities and on individual farms. The program, thus, was predetermined and taken to the farmer, who had virtually nothing to say about it. However, Dr. Knapp himself, who was one of the very early workers (1833-1911), came early to the conclusion that the agent's objectives were best achieved by consultation with farmers, at least in terms of procedures to be employed.[34]

Edmund deS Brunner and E. Hsin Pao Young (1949)[35] after a study of extension experience over its thirty-five year history, indicated certain principles in program planning. Four of them, those which were considered to be relevant to the discussion here, are mentioned below.

> 1. . . . Any educational program must be based upon facts. Facts refers here not only to content material presented in the conduct of a given program but also to a knowledge of the situation which justified the selection of any given activity and of the factors which should make it successful.[36] (Italics not in the original.)

Elaborating on this point they state that letters received from county agents have stressed more than once that even the observations of skilled agents were not sufficient to acquire this understanding. They quote several agents as saying:

> . . . There must be a survey first, then education, once the people, to the last man down the last road, understand community

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[34]Edmund deS Brunner and E. Hsin Pao Young, Rural America and the Extension Service, Bureau of Publications Teachers College Columbia University (New York: Columbia University 1949), p. 103.

[35]Ibid., pp. 106-109.

[36]Ibid., p. 107.

problems and the need for their solution the answer is forthcoming.[37]

The authors are convinced about the utility and importance of use of the survey in program planning when they quote another agent as saying "without surveys and subsequent planning we never would have reached the lower half of our population with their different needs."[38] They also indicated that studies and surveys help planners to locate the problem areas.

2. The program or any given unit of it should not only be useful, but also be of high interest in terms of a recognized problem, or if in the technical field, profitable.

3. Wise use should be made of data gathered from local records and other material for planning and development of an extension program.

4. Any educational program must take the habits, customs, and culture of the people into account. This means that the teaching may have to be psychological as well as logical.

These principles derived out of the analysis made of the past experience of extension worker and enunciated by Brunner and Young, together with efforts of other leaders in the field of Extension education, have contributed to the evolution of program planning procedure in the direction of adoption of more nearly scientific method. In this connection mention should be made of a recent review on principles

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[37] Ibid.

[38] Ibid.

of program planning. Ankegowda[39] in this review has summarized and presented a table of thirteen major principles of program planning and correspondingly eight extension educationists who agree with them. It has revealed that most of them have concurred that: 1) program planning is an educational process; and 2) a good program is the one that is based and grew out of the basic information, recognized problems and felt needs of local people. Other principles that are generally accepted by many of them include: 1) program planning is based on the analysis of the facts of the situation; 2) best people to obtain information are people themselves; 3) people decide by democratic procedure, what has to be included in the program; 4) program planning procedure based on these principles help them to see beyond their felt needs to basic underlying problems.

It should be noted at this stage of the discussion that two prime elements in the planning stage of program development came to be recognized as important elements between the time of passage of the so-called organic, Smith Lever, Extension Act in 1914, and the 1946 "Report of the Committee on the Scope of Extension Educational Responsibility."[40] The two elements referred to are: 1) survey as a means of understanding the community problem; and 2) subsequent planning for educational activities

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[39]K. Ankegowda, "A Review of Selected Principles and Procedures Useful in the Planning of County Agricultural Extension Programs in the United States with Application to Community Development Program Planning in India." (Master's Thesis: The University of Tennessee, August 1961).

[40]Report of the Committee on the Scope of Extension Educational Responsibility, 1946. (Washington: Federal Extension Service. United States Department of Agriculture) (Mimeographed).

based on the survey findings. It should not be forgotten that this recognition grew out of the field experience of Extension workers.

The Joint Committee Report on Extension Program, Policies, and Goals (1948) taking cognizance of the criticism leveled at the way in which extension programs were being carried out, recommended the following procedure for improving extension programs:

> 1. Utilization of representative county planning committees or councils throughout the year in all the extension matters.
> 2. These committees undertake a thorough analysis of the problems of the county as they relate to agriculture and rural people. They undertake surveys to develop a body of factual information as a basis for sound local planning. They foster widespread discussion of problems requiring group action to solve.[41] (Italics not in the original.)

These suggestions drew the attention of the extension workers towards the need for use of the scientific approach. As may be seen in these recommendations three elements distinguish the new approach, namely: 1) the representative composition of the recommended planning committees; 2) surveys and other means they devise and use in order to develop a body of factual information; and 3) the use of these data through systematic consideration to determine the needs of the people in the county. "Program Projection" (defined earlier) has resulted as a consequence of the efforts of extension leaders just prior to and following writing of the above report.

The latest guide provided for county extension workers involved in program determination is commonly referred to in Extension circles

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[41]John A. Hannah (Chairman), Joint Committee Report on Extension Program, Policies, and Goals, 1948, op. cit., p. 37.

as the "Scope Report" concerning program planning. It unequivocally states:

> In performing its function, Extension operates informally, in time with the most important local needs and opportunities, and with respect to both short-time and long-time matters of concern. It joins with people in helping them to:
>
> Identify their needs, problems, and opportunities.
> Study their resources.
> Become familiar with specific methods of overcoming problems.
> Analyze alternative solutions to their problems where alternatives exist.
> Arrive at the most promising course of action in light of their own desires, resources and abilities.[42]

In this connection it should be mentioned that a National Survey[43] was conducted in 1952 as a part of the initial step in a series of investigations aimed at analyzing the processes of program determination in the counties for the purpose of improving procedures and programs. A report on the study include mention of an inventory to provide information about the methods and procedures of extension program development then being used in the states--including Puerto Rico. The relevant statistical information is furnished in Table I.

Facts presented in the table indicated that, in three out of four counties reporting, organized committees determined county extension

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[42]H. L. Ahlgren (Chairman, 1957 Extension Committee on Organization and Policy). A Statement of Scope and Responsibility--The Cooperative Extension Service Today. (Washington: United States Department of Agriculture), p. 4.

[43]J. L. Matthews. National Inventory of Extension Methods of Program Determination. Division of Field Coordination and the Division of Field Studies and Training of the Cooperative Extension Service. Extension Service Circular 477, U. S. D. A. (Washington, D. C.: Government Printing Office, January 1952).

TABLE I

A COMPARISON OF METHODS USED IN DEVELOPING COUNTY EXTENSION PROGRAMS IN THE UNITED STATES AND PUERTO RICO (1952) AND AREAS OF EXTENSION EDUCATIONAL WORK REPORTED IN PERCENTAGES[a]

Method Used in Developing County Extension Program	Percentage of Counties Reporting Areas of Extension Educational Work			
	Agri-culture	Home Economics	4-H Club	Total
1. Representative county committee builds program following community planning meetings.	19.3	54.1	24.9	32.8
2. Representative committee selected from the various areas builds program in county level meetings.	35.5	21.9	32.5	30.0
3. A non-representative county committee determined the program.	15.5	16.5	17.4	16.5
4. Agents determine the program after individual consultations with leaders and others.	14.0	4.0	13.6	10.5
5. Agents determine program from own knowledge, after mail survey, or by selection from list of projects.	4.8	2.1	8.5	5.1
6. Commodity or special interest groups not organized as county committee determine the program.	10.9	1.4	3.1	5.1

[a]Adapted from the paragraphs presented in the report on "National Inventory of Extension Methods of Program Determination," Extension Service Circular 477, January 1952. United States Department of Agriculture. (Washington, D. C., Government Printing Office).

programs. County extension programs in the area of Home Economics seemed to be more representative in character than the other two areas. However, it should be noted that this inventory does not shed light on the methods and techniques employed by the extension staff with or without the assistance of the committee members. But the same author in a more recent (1959) review on "Program Planning and Development in Adult Education,"[44] cited some studies which indicated the possible utility of certain methods and techniques for collecting information to be used in program planning.

It was found that:

1) A cooperative procedure that included (a) deciding what information to collect, (b) preparing a survey questionnaire, (c) selecting sample areas, (d) tabulating and processing data and (e) using the survey information in program planning, provided realistic and useful information;[45]

2) Conferences can be effective in stimulating a critical examination of local community needs and they often lead to cooperative plans;[46]

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[44]Joseph L. Mathews, "Program Planning and Development in Adult Education," Review of Educational Research, XXIX (June 1959), pp. 280-284.

[45]William G. Howe and Frank D. Alexander, "A Report of a Demonstration in Using Survey Information in Program in Cattaraugus County, New York," County Agricultural Agent (June 16, 1958), p. 51, cited by Joseph L. Mathews, op. cit., p. 280.

[46]Clarence D. Jayne and J. R. Gibb, "Mountain Plains Project: A Report and Analysis," Adult Education, V (Summer 1955), pp. 195-209, cited by Joseph L. Mathews, op. cit., p. 280.

3) Interview technique could be used to determine the factors affecting the levels of technical knowledge of the farmers;[47]

4) A high rating was given to consideration of the educational needs of the potential program participants when program planning principles were tested for relevant literature with the aid of a jury of extension workers and agricultural teachers;[48]

5) A method developed for the purpose of determining the needs of the public for U. S. Department of Agriculture publications based on the classification by county agents and their secretaries of questions asked by the clientele was useful;[49]

6) A national survey was helpful in determining the personal and family characteristics of Home Demonstration Club members.[50]

These studies indicate to some degree the nature and adequacy of the research methods and techniques used in the field by extension workers

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[47]Douglas Sorensen, Factors Influencing Knowledge of Technical Soil Concepts by Wisconsin Farmers, Bulletin 27. Department of Agricultural Journalism (Madison, University of Wisconsin), cited by Joseph L. Mathews, op. cit., p. 280.

[48]Clarence E. Sarbaugh, Determining Publications Needs--A Growth Progress Report on One of Five Methods. U. S. D. A. Office of Information. December 1958 (Mimeographed), cited by Joseph L. Mathews, op. cit., p. 281.

[49]Patrick O. Boyle, "An Analysis of Selected Program Planning Principles of the Adult Programs of Vocational Agriculture and Cooperative Extension." (Doctor's Thesis. University of Wisconsin, Madison, 1958), p. 215, cited by Joseph L. Mathews, op. cit., p. 281.

[50]Jewell A. Fessenden, Home Demonstration Club Members and Their Families. (Washington, D. C.: U. S. Department of Agriculture, Federal Extension Service, 1958) (Mimeographed), cited by Joseph L. Mathews, op. cit., p. 281.

and other educators. Further discussion of this point will be made in a subsequent section of this chapter.

Present Position Concerning the Methods and Techniques Used

Reports on extension activities and accomplishments, on Home Demonstration work, and on 4-H Club work reveal definite progress in the direction suggested by the Joint Committee Report of 1948 as discussed in the previous section. The following brief extract will be presented so as to provide a clearer picture of the situation regarding the methods and techniques used for program determination at the time of the study. Concerning the present situation the 1959 report on extension activities and accomplishment states:

> Most of the counties in the U. S. now have county wide councils or committees to assist and guide the agents in the organization, planning and carrying out of the extension program. . . . 86 percent of the counties reported having overall or general advisory councils or committees, 87 percent of the counties had agricultural councils to advise agents relative to the overall agricultural program, 93 percent had some demonstration councils, 19 percent had 4-H Club councils or committees.[51]

Progress reported in Home Demonstration work has pointed out the increased time used on extension organization and program planning--26 percent in 1956 as against 19 percent in 1925--which apparently may be partially attributable to the emphasis given to program projection since 1955.[52] The report about 4-H club work also states that increased

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[51]The 1959 Report on Extension Activities and Accomplishments. Extension Service Circular No. 531, United States Department of Agriculture, July 1960 (Washington, D. C.: Government Printing Office, 1960), p. 11.

[52]Progress in Home Demonstration Work, Extension Service Circular No. 156. Federal Extension Service, United States Department of Agriculture, February 1958 (Washington, D. C.: Government Printing Office, 1958), pp. 35-36.

emphasis was given to a strengthening of this area of extension program emphasis to meet the needs of youth as reported, about 96 percent of all counties had councils or committees that helped to organize, plan and carry out the 4-H club program.[53]

Perusal of the six annual reports (1954 through 1959) of extension activities and accomplishments also revealed that a large number of fact-finding surveys (9 to 10 thousand each year) were made for program planning purposes in many counties (about 2,000 counties each year). In the area of community development and public affairs, these reports indicated definite increase in the number of "committees or groups assisted" and number of "counties assisted" in community problem studies and/or surveys.[54]

These reports, therefore, suggest that increased attention is being paid to the three prime elements of program determinated mentioned early, namely: 1) representative committees; 2) surveys and means they devise and use in order to develop a body of factual information, and 3) their use to determine the needs of the people. However, it is obviously rather

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[53]Statistical Summary--4-H Club Work and Work With Young Men and Women 1958. Extension Service Circular No. 529, Division of Extension Research and Training, U. S. D. A., January 1950. (Washington, D. C.: Government Printing Office, 1950), pp. 2-3.

[54]Extension Activities and Accomplishments. Issues of the period 1954 through 1959. Extension Service Circular No. 498, 509, 512, 517, 522, and 531. U. S. D. A. (Washington, D. C.: Government Printing Office).

difficult to determine the degree of attention being paid to each of these elements. It would be useful to examine a few case reports concerning the methods and techniques employed for collecting background information to determine the needs of the extension's clientele.

Further discussion of these points will be made below under the four most commonly found areas including: 1) Agriculture, 2) Home Economics, 3) Youth Development, 4) Community Improvement and Resource (including rural areas) Development.

Examination of Methods and Techniques Employed for Determining the Needs of Extension's Clientele in Specific Areas of Educational Work

a. Agriculture. An article[55] describing the way extension program planning was being carried out in Columbia County, Ohio, provides an example of one of the most common methods adopted by the cooperative extension service in developing extension programs. The 24-member county extension advisory committee consisting of representatives of the principal farm enterprises, County 4-H Council, the Home Demonstration council, farm organizations and members-at-large--"works and counsels with the agents in determining and analyzing the needs, interests and desires of the people."[56] The different interests mentioned above in their own committees, as well as in the county extension advisory committee,

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[55]Floyd Lower, "People Plan and Program," Extension Service Review, Vol. 28 (June 1957), p. 135.

[56]Ibid.

follow the procedure of: 1) listing the major problems that exist; 2) suggesting solutions to those problems; and 3) planning extension activities directed toward the solution of the major problems. As stated by Lower:

> One of the most common procedures in agriculture is for each committee to plan a county wide meeting. Many of these meetings include an adjoining county. Winter meetings in which the best speakers available, including out-of-state persons, present the latest information, are the rule.[57]

The article also made reference to an evaluative study conducted by the county extension advisory committee in the fall of 1957 to ascertain which phases of the extension program needed greater emphasis and to determine which might be deemphasized or eliminated, or which should be added. It named 40 committees consisting of five to ten persons each to meet, without an extension agent present, for the purpose mentioned above. A total of more than 250 people participated. They studied the situation, problems, objective, progress made, analyzed and criticized the program and made suggestions and recommendations for the future. This planning procedure proved helpful in developing more useful programs.

The above case may illustrate that an extension staff can depend on representative committees to make wise decisions. In modifying this idea, McDermott has directed the following statement to extension workers, "But you cannot rely on the committee to do your job of creating the environment in which to make good decisions. That is an educational job,

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[57] Ibid.

and education is your business."[58] Of the several things that constitute right environment, as recommended by McDermott one should,

> . . . Either present the committee with significant questions or help them develop significant questions and then be sure they have relevant information to answer them.[59]

He further states:

> . . . Questions and facts fit together. If you challenge the committee with significant questions they will demand facts. . . No matter how intelligent the committee is they will need facts or information.[60]

Available sources for such facts include, but are not limited to, the following: census data; a local college library and faculty; high school teachers and administrators; county and city officers; federal and state offices, chambers of commerce; urban or rural planning commissions; and large businesses.

McDermott further comments that:

> Some data not available can be obtained through simple surveys. High school classes may enjoy getting certain information. Your committee can get some. Use your imagination and improvise. Use your specialists in a new way.[61]

These suggestions from an extension specialist (from Indiana) reveal the awareness among the workers of the potential utility of

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[58]J. K. McDermott, "Program Projection is Craftsmanship, Not Magic," Extension Service Review, Vol. 30 (April 1959), p. 82.

[59]Ibid.

[60]Ibid.

[61]Ibid., p. 86.

research methods and techniques such as 1) the use of records as data for systematic analysis to describe a situation or find facts about the situation, and 2) the survey method and its techniques.

A few examples of the efforts of using research methods and techniques that follow may convince one of the validity of the suggestions made above.

In this connection mention should be made that a report on the "Suggested Procedure for Program Projection,"[62] in a summary of reports of work groups--Tennessee State (Hotel Neel, Nashville, October 16-17, 1956) indicates nineteen sources of information useful in the analysis of the situation. The list includes:

1. Census (supplied by Farm Management Department).
2. County Government.
3. County Superintendent of Schools and Board of Education.
4. Public library service.
5. Public Health Department.
6. Welfare Department.
7. Employment service.
8. A. S. C. Office.
9. S. C. S. Office.
10. Banks and loan agencies.
11. Buying and selling agencies.
12. Chamber of Commerce.
13. Civic clubs.
14. Community clubs.
15. State agencies (wild life and forestry service).
16. Electric coops.
17. Commodity groups.
18. Survey and questionnaire.
19. Any other source for local information.

These and the sources mentioned earlier (page 52) would probably form a rather exhaustive list of available sources.

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[62] Suggested Procedure for Program Projection. A summary of reports of work groups--Tennessee State, Nashville, October 16-17, 1956 (Mimeographed).

J. R. Hubbard, an Extension Poultry Specialist, made a study of broiler integration with suggested procedures for improving the extension broiler programs in Alabama.[63] He desired to know what part extension should play in the mushrooming vertical integration trend in the broiler industry in his state. To aid him in his decision, he surveyed available literature, drew on his teachers and other personal sources of information and conducted a mail questionnaire survey of agricultural agents, broiler farmers and feed dealers in the ten major broiler producing counties in Alabama during the late winter of 1958-59. This is an example of the use of research methods and techniques to aid extension workers at the specialist level.

Another example of the use of such techniques is seen in the efforts of R. L. Wilson in an Ohio study.[64] In order to develop an agronomy program in agricultural extension in Butler County, Ohio, a purposive sample of farmer cooperators in extension programs and activities was taken to provide the data for analysis of agronomic educational needs in the county. A five-man committee of farmers helped him to estimate the most urgent agronomic problems. A questionnaire to learn what

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[63]J. R. Hubbard, "Study of Broiler Integration with Suggested Procedures for Improving the Extension Broiler Programs in Alabama," (Master's Thesis in Extension Education. Cornell University, 1959), cited in Review of Extension Research, Jan.-Dec. 1959 (July 1960), p. 39.

[64]R. E. Wilson, "The Development of an Agronomy Program in Agricultural Extension in Butler County, Ohio." (Master's Thesis in Agricultural Education. The Ohio State University, 1959). Cited in Review of Extension Research, op. cit., p. 43.

respondents believed their problems to be, how they were going about meeting them and how will their actions compared with extension recommendations for dealing with such problems, was developed and used. They were distributed partly by mail and partly in person to farmers, living in various sections of the country, who were believed by the author to be receptive to extension teaching. Out of a total of 105 farmers contacted, 104 responded. Response was found to be directly related to the amount of personal contact employed in preparation for interviews.

Results of Wilson's survey indicated areas where extension teaching was most urgently needed. He, with the advice of his committee worked up a proposed program for the coming year. His research has identified the areas of probable interest and the specific points to emphasize in each of those areas and has pin pointed the subject matter content of his teaching for the next year at meetings, demonstrations and tours, as well as via the various mass media at his disposal. Wilson feels that similar surveys, with shifts in emphases and minor adjustments could be used to guide his work in future years.

A more rigorous procedure is being employed in a research project in Tennessee designed to reveal facts about corn production practice adoption and would help in developing appropriate educational programs in counties similarly situated as those under study. The design is more nearly experimental than that of the study above. Experts at the state level not only designed it but assisted county extension staff with conduct as well. This project will be examined in slightly greater detail below.

Methods and techniques used in this joint Department of Agricultural Economics and Rural Sociology, Agricultural Experiment Station, University of Tennessee and Tennessee Valley Authority project are worthy of examination because of their potential utility for determining the needs of extension's clientele. The title of the project at the time of the present study is "Changes in the Attitudes, Knowledge and Practices of Farmers Participating in a UT-TVA Trial Acre Program."[65] A brief summary of some of the highlights of the design of the "Trial Acre" investigation follows:

Problem: Fertilizer sales reached a general leveling off or "plateau" in 1950. There was little change from that time until 1960 even though there continued to be a rather large group of farmers who did not use even half of the amount of fertilizer recommended for corn production (based on soil tests) the results even though were most convincing that the practice was rewarding. Corn is one of the important crops in Tennessee as it is throughout the world. It has been found that the segment of the farm population which follows practices generally resulting in low yields also tends to be the segment that is relatively out of contact with the extension service, and with other reliable communication channels. Farmers in the segment have thereby tended to perpetuate and continue their low income position in the economy. Because of this, they constitute a problem group about which more needs to be known if an effective program to assist them is to be developed.

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[65]Project files maintained at the Department of Agricultural Economics and Rural Sociology, University of Tennessee, College of Agriculture.

Procedure: A random area sample of farm operators was selected in two counties in 1960 (Bradley and White). In Bradley County the Trial-Acre program was initiated following a benchmark survey. White County was used as a control. In both counties the farm operators within the selected sample areas were interviewed to determine their management practices including the amount and analysis of commercial fertilizers regularly used on corn. Analysis of these data in the near future is expected to yield an indication of the fertilization and associated bundle of management practices followed by farmers in the county. Research workers will try to determine the proportion of non-users of recommended corn production practices from this. A follow-up survey would be made in the summer of 1962 in both experimental and control counties. It is planned that data will be obtained in an effort to determine the impact of the Trial Acre[66] program on farmer's attitudes toward use of fertilizer on their corn, on their knowledge of management practices associated with corn fertilization and on their adoption of such management practices. (Project is expected to be completed by June 30, 1963.)

It should be noted here that the method adopted for use in this project was an experimental method. The attempt was being made to determine what factors hinder the adoption of agricultural research findings as well as the educational effectiveness of an experimental trial acre

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[66]A "trial acre" is defined as an area of approximately one acre on which a crop is grown following recommended practices and adjacent to the balance of a field on which the crop is grown using practices normally followed by a farmer. The trial acre program is being executed by the Agronomy and Extension Departments.

teaching method in terms of changed attitudes, increased knowledge and practices adopted. Results obtained should be helpful in developing and executing more effective extension educational programs in counties where similar "non-user" groups exist. The cost of the project in allocation of time and other resources would be small when compared to the relative importance of the corn crop in the state of Tennessee. Its estimated value in 1958 was $74,685,000.

The research project cited above pointed out three important things: (1) the potential utility of the research method and technique used for determining the needs of extension's clientele; (2) the experimental approach employed should have greater reliability than other less experimental ones; (3) the possible use of specialist staff and other organizations and institutions in the area might be considered to assist in the process of determining the needs of extension's clientele.

Another study, which indicates the efforts of specialists to teach the field staff to employ techniques of analysis of data available from records of operator units to identify problems, is worthy of attention.

A progress report (August 1959) on "Farm Operators' Production and Marketing Program"[67] out of the Henderson County study prepared by the Department of Extension Methods, Cooperative Agricultural Extension Service, the University of Tennessee is an example of an effort to collect

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[67]R. S. Dotson, "Farm Operator Production and Marketing Program, Henderson County Study--A Progress Report, August 1959," Department of Extension Methods. Cooperative Agricultural Extension Service (Knoxville: The University of Tennessee).

facts and identify problems as part of the process of determining the needs of extension's clientele. Lewis H. Dickson while recommending the use of this report states:

> Data included in this preliminary report were assembled for the main purpose of helping Henderson County Agricultural Extension staff members, County Program Planning Committee members, district agents, and other agricultural leaders not only to identify some of the major agricultural problems with which they are faced, but, also, to more clearly perceive and define some of the desirable alternative solutions which they may wish to consider as they plan to systematically solve such problems.[68]

This report is a result of the study of survey records for 221 operator units of Henderson County agriculture. It delineates three types of farming areas and presents statistics relative to farm production and marketing--trends, resource potential and problems--for each farming area as well as for the total area. It includes such items as use of cropland, crop sales, livestock sales and purchases, the labor force, farm adjustments, opportunity to increase size of farm and use of credit, and also an analysis of the area using the factor "Soil Association Groups." The report is an exceedingly useful document for those leaders (voluntary as well as functional) who have the responsibility to develop, execute and evaluate the county extension educational program. The method adopted here though involves considerable work in the way of analyzing hundreds of survey records, the result of such an effort outweighs the time spent on it. The present practice being the development of long time program plan, the example shown by preparing

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[68] Ibid., p. 1.

such a report for the use of program planning not only is practical and desirable but essential.

We will close the discussion on research methods and techniques useful in developing agricultural extension programs by citing one more example which is from California. C. L. Hemstreet[69] made a study on "Factors Affecting the Development of County Extension Programs." His purpose was to compare what producers--grape and deciduous fruits--consider the proper areas to emphasize with those he has been emphasizing and those extension has been emphasizing in order to be in a much sounder position for working out his immediate and long range teaching plans. The method and techniques adopted in his study were relevant to our discussion. The nine major areas of extension work as suggested by the 1958 "Scope Report," served as the basis for client ideas of their relative importance. He used these areas, and sixty-two special areas delineated under them, to prepare a mail questionnaire. He then asked 150 farmers, selected from a mailing list of 480 grape and deciduous fruit producers in San Bernardino County, California to indicate what they considered to be the relative importance of each topic. Information was transferred to unisort cards to aid in tabulation. Importance scores were assigned by applying numerical weights to the value terms checked by the respondents. These were converted to percentages of possible scores,--with scores of more than 66.6 percent being equated to "very

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[69]C. L. Hemstreet, "Factors Affecting the Development of County Extension Programs." (Master's typewritten report in Extension Education, Colorado State University, Fort Collins, 1959). Cited in Review of Extension Research, op. cit., p. 35.

important," those between 33.4 and 66.5 percent to "some importance" and those from zero through 33.3 percent to "little or no importance." The respondents in addition to assigning over-all ratings to the major areas assigned values to the specialized areas under each major area, such as "rodent control" and "fertilizer application."

Techniques of sampling, data collection and analysis used in this study were of note. Hemstreet suggests that such research techniques could be usefully employed for helping determine the needs of extension clientele.

The reports and studies so far examined have demonstrated that: (1) representative committees could be utilized for planning educational programs; (2) research studies could be undertaken to find out facts about the situation which could form the basis for developing educational programs, and (3) the studies could be undertaken at different levels such as the county, district, state or a segment of a population.

Further discussion under different categories of extension educational activities that follow should reinforce the above conclusion.

b. Home Economics. In a publication entitled "Ideas to Help You Explain, Teach, Expand, Extend Home Demonstration Programs,"[70] the following suggestions were made to those who would get the facts about people--their wants and needs:

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[70]"Ideas to Help You Explain, Teach, Expand, Extend Home Demonstration Programs," Extension Service Circular 510, Federal Extension Service, U. S. D. A. March 1957 (Washington, D. C.: Government Printing Office 1957).

Get facts from-- People	About their needs and wants through . . . your observations--"look to see," . . . discussion methods with groups-- "listen to hear;" . . . informal or formal surveys; and . . . trends shown in past records and reports
Your State Extension Service	About state and national trends, for needs based on research findings and outlook information
United States Census	About your county. Use census series-- H-A-7 housing, general characteristics P-A-7 population, number of inhabitants P-B-7 population, general characteristics
County Agencies and Organizations	About needs based on studies and experiences. Individuals, organizations, and agencies, such as probate judge, county school commissioner, libraries, health departments and government agencies are sources of help for you. Local newspapers Local radio and television programs Local merchants Other extension agents in your county Local clergymen[71]

Sources, methods and techniques to get facts indicated above are similar to those discussed in previous sections but are specific to Home Demonstration programs.

Two studies, one conducted at the national level and another at a city level, would very well illustrate the utility of selected research methods and techniques used for collecting facts as a basis for developing, conducting and evaluating Home Demonstration programs.

The first of the two studies was the 1958-59 National Study of various characteristics, needs and interests of Home Demonstration members

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[71] Ibid., p. 7.

conducted under the leadership of Fessenden. The findings have been reported in a series of six publications.[72] Personal and family characteristics of Home Demonstration club members were determined in a national survey of over 15,000 women. One of the six reports[73] selected for review in addition to providing information for describing socio-economic characteristics of women who were enrolled in organizations was used as a base from which to indicate future trends in Home Demonstration membership. Findings from this study describe some of the differences in women as related to education, income, place of residence, family membership and age. These differences suggest adaptations in program content and teaching methods to meet the various needs and interests. If programs are to be improved in line with the findings, the many interrelationships will need to be understood by and interpreted to volunteer leaders who assist with planning county extension programs. Knowledge of these relationships should help them more effectively reach more families with extension education. Findings of the Fessenden study have been used for many different purposes by state and county extension workers, planning groups, sub-committees and leaders.

State and county extension workers in fifteen states and 110 counties, in cooperation with members of the Federal Extension Service

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[72]J. G. Fessenden, "These are the Women Who are Members of Home Demonstration Organizations in the U. S." Extension Service Circular 528. Federal Extension Service, U. S. D. A. (Washington, D. C.: Government Printing Office, 1959).

[73]Also Extension Service Circulars 524, 525, 526, 527 cited by Review of Extension Research, Extension Service Circular 532. (Washington, D. C.: Government Printing Office).

staff, made the study of 11,000 women who were members of Home Demonstration clubs. As a sample they were selected to be representative of 1,255,000 white members in the U. S. Information in the report of family characteristics was based on a subsample of 2250 questionnaires drawn from the original sample. Data gathered (in 1957) was collected by personal interview and by mail questionnaire. This report as well as the other five reports mentioned earlier contains an analysis of the data which were tested to determine whether or not there were any significant differences.

The second Home Demonstration study[74] selected for examination was the survey organized and conducted by a Home Demonstration agent of Baltimore City, Maryland. Working with the City Council of Homemakers, and with the assistance of a specialist from the Agricultural Marketing Service. The press, radio and television stations cooperated to inform home makers that the survey was underway, and urged them to participate. Five hundred interviews of randomly selected home makers were conducted, partly members of Home Demonstration clubs and partly not. Forty-two members of the City Council of Homemakers clubs were trained and used for the interviewing. The home makers' programs six months prior to the survey were carefully studied, and specific questions in each of the subject matter areas involved were formulated. The study was useful in three ways: (1) The information about the interests and needs of women helped to develop more effective programs more nearly based on and aimed

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[74]Margaret E. Holloway, "We Used the Facts We Learned from 500 Interviews," Extension Service Review, Vol. 28 (July 1957), p. 139.

to satisfy such needs; (2) Knowledge about the media through which home makers could be reached (newspapers and TV) helped the home agent to make better use of these media in expanding her program to reach more people effectively with less effort; (3) the club members, from their experience in interviewing, themselves learned a great deal about the needs and interests of local women.

The two Home Demonstration studies here examined should serve to demonstrate how the indicated research methods and techniques could be profitably employed whether at the national level or at the city level.

c. Youth Development. According to Arvidson[75] in reporting on a 1948 4-H activities study, the use of scientific approach to planning, execution and evaluation has been one of the important factors contributing to the success of 4-H club county-wide, one day events. Arvidson developed his thesis on the opinions of sixteen 4-H club state and county leaders who were associated with successful one day events as determined by specific criteria. While mentioning principles falling under each of the three program development phases, he stated two principles related to the planning phase which seems to be particularly relevant to the present discussion. They were: (1) club members and leaders should assist the agent in planning through committees, (2) the event should bear relation to an important 4-H club problem, situation or need of the 4-H clubs or the 4-H club members in the county.

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[75]D. Arvidson, "Case Studies of Successful County Wide One Day Events for 4-H Club Members," (Master's Thesis, George Washington University, 1948). Cited by Findings from Research on Meetings, Extension Service Circular 507, U. S. D. A. (Washington, D. C.: Government Printing Office, 1956), pp. 31-32.

Arvidson's contention therefore suggests the importance of developing educational programs or activities based on the needs of the 4-H participants. Another study in the field of 4-H club activity should illustrate a method and several techniques which might be employed to develop and promote suitable programs based on the needs of the members of the various clubs. J. A. Tilly conducted an investigation to discover recognized and unrecognized needs of local volunteer 4-H club leaders in Escambia, Orange, and Pinellas Counties, Florida.[76] All ladies who served as adult leaders of girl 4-H clubs in the three counties during 1958 were asked to respond to a 14-page, 48-item questionnaire; fifty out of sixty-seven complied in time to contribute to the study. In addition to necessary face data entries, the questionnaire solicited answers to test eight main hypotheses. One outcome of the study was acceptance of the hypothesis that "Four-H club leaders who have had previous training in teaching have a better understanding of boys and girls." This was accepted because the teacher group responded more favorably to five of six understanding statements in the questionnaire. This is a technique worthy of note for employment in such situations, not because of the particular nature of the subject matter involved (hypothesis cited) but rather, the possible merits of use of such a technique.

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[76] J. A. Tilley, "An Investigation to Discover Recognized and Unrecognized Needs of Local Volunteer 4-H Club Leaders in Escambia, Orange, and Pinellas Counties, Florida." (Master's Thesis, University of Maryland, College Park), cited by Review of Extension Research, op. cit., p. 33.

The findings provided an opportunity to examine the existing strengths and weaknesses of club leaders of girl 4-H clubs in the three representative counties (representing northeast, east and southeast Florida) and because a benchmark, for subsequent 4-H leader training activities in Florida. Tilley's approach provides an indirect way of gearing extension educational programs to the needs of the clientele. A more direct way of determining the needs of youth was that followed by a county extension staff in Tioga County, Pennsylvania. They conducted interviews with the help of selected local leaders.[77] The stated purposes of the survey were: (1) to get the facts about the "wants and needs" of older youth, and (2) to learn how extension might help youth meet their needs. Community leaders compiled a list of the names of all qualified rural young people. Names of approximately half of the county's older youth were obtained in this manner. A questionnaire was developed with the assistance of Pennsylvania's extension research staff. "The interviewers were extension executive committee members, 4-H members and leaders, and many older youth using the self-study method.

Training in interviewing was given and questionnaires distributed at meetings in five areas of the county. A follow-up meeting of interviewers was held after the survey was completed to learn the attitudes of those interviewed and to discuss how to use the findings.

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[77]Glenn G. Carter, "Wants and Needs of Older Youth." Extension Service Review, XXIX (May 1958), p. 108.

Though the survey conducted lacks the rigor of sampling and, consequently is less representative in character, the information collected appeared to be of help to the county staff by pointing out "the need for revising some techniques and showed the kind of program that older youth want and need." For example, it showed a definite need for recreational and educational programs for older youth (i.e., some type of organized recreation supplemented with educational features). Dancing, bowling, and educational programs on farming and home making were among program suggestions. It also revealed which communication media were currently in use. News letters and personal visits seemed to be preferred by the older youth to other media. The extension agency seemed to have neglected to use T. V. programs as an effective means of mass communication.

It should be concluded by the above example that there is a definite potential for the use of appropriate research methodology (e.g., survey method). It also indicated that the assistance of extension specialists could be utilized more advantageously than at present if the county staff would seek their help.

d. Community improvement and resource (including rural areas) development. The rural development program was initiated in 1954 in recognition of the fact that many of the rural families have not made as much progress in achieving higher levels of living as have other segments of the population. Following start of this effort, County Rural Development staff members worked closely with regular county extension staff until the writing of this thesis when pending legislation promises to make extension's role of coordination an even stronger one. Their work involves

working with the county committee in providing intensive, on-the-farm assistance to individual farm families. As indicated by Bowell in the publication on the rural development program, it

> . . . was developed to assist states, counties, and communities groups to improve the economy of their areas by helping rural people appraise their own economic and sociological problems and understand the adjustments which they should make to improve their plane of living.[78]

It would, therefore, be useful to our discussion to examine how the appraisal mentioned above is done. The manual cited was developed as a guide to help all agencies and committees involved in rural development program planning. It has sixteen parts (categories) and each contains forms for collecting and recording specific information together with suggested sources from which to collect needed information. This seems to be a useful and exhaustive guide to indicate the kind of information that should be collected and procedures for data collection.

However, statistical data alone may not provide all the information needed, as a basis for program development, such as the characteristics that distinguish local people from others, and strength and weaknesses found in program content and procedures. As Ward F. Porter states: "Under these circumstances, assisting this segment of the population effectively requires a fund of basic information which only research can provide."[79] He reports that such studies have been conducted in some

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[78]Purwell B. Bowell, A Guide for Studying the Economy of Pilot Counties in the Rural Development Programs. Agricultural Marketing Series, U. S. D. A., April 1957. (Washington, D. C.: Government Printing Office, 1957).

[79]Ward F. Porter, "Studying our Human Resources," Extension Service Review, XXIX (March 1958), p. 57.

low income areas but cautions that research to date has been insufficient to permit sweeping generalizations. However, he has summarized a few of the findings of such studies which seem to be of particular interest and significance to extension workers. They are categorized under the following five headings: economic characteristics, age of the population, educational status, social participation, and reaching the low income group, or communication. Porter, after indicating in detail the implications of these findings for extension, concludes:

> As educational leaders, extension workers, by training and experience, recognize the importance of motivation and an understanding of the other fellow in promoting changes in human behavior, the difficulties of motivating and understanding our disadvantaged families will prove considerably greater than for the majority with whom we have worked in the past. However, extensive use of existing findings can help us develop the insights and skill that may make this challenging assignment less problematic.[80]

Therefore, it should be said that research studies have been thought of as a necessary basis for the formulation and execution of rural development programs from the early stages of its initiation. The editors of Extension Service Review for March 1958 report that the Agricultural Research Service and Agricultural Marketing Service of the U. S. D. A. had initiated several research projects to provide information needed as a basis for effectively understanding and attacking the problems in low income, farm areas.[81] Some of the studies that

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[80] Ibid., p. 66.

[81] "Research Studies in Rural Development," Extension Service Review, XXIX (March 1958), p. 65.

will be examined in the following pages should lend support to the viewpoint that research methods and techniques have been employed--perhaps at all levels--National, State, and County--to determine the educational needs of the people extension serves.

Rural Development Program in Stevens County

A report of a pilot rural development area, Stevens County, Washington, indicated that two surveys were made at the time of initiation of the rural development program in the county. They were conducted under the supervision of the rural sociology and agricultural economics departments of Washington State University, where staff members analyzed and interpreted the data.[82]

One survey was made to obtain a picture of the human resources, including the size and location of the labor supply and, also, people's skills, needs, aspirations, and attitudes.

> The information included community development needs; educational, recreational, and occupational data; patterns of organizational participation; activities and interests of teen-agers; plans of older people; family life and levels of living; and agricultural data.
>
> The method and technique employed were:
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> Ten local interviewers were employed to make this socio-economic survey. A ten percent scientific random sampling of the total population was used, including farm and non-farm families. A sampling of families on the Spokane Indian Reservation was included.[83]

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[82]Mrs. Zeldabekr Bertsch and Lester N. Liebel, "Resource Appraisal--A Method and a Tool," Extension Service Review, XXX (October 1959), p. 205.

[83]Ibid.

Another survey was conducted to find out the nature of youth activity. It covered all students in grades 9 through 12 in the county's nine high schools.

Facts obtained from these surveys and other facts provided valuable background information for the Rural Development Steering Committee which was representative of different interests and, later, for the county wide planning council set up by the Steering Committee. The council and its 10 committees have been carrying forward the program of resource development. An interesting feature of the method adopted includes the use of local surveys to supplement the county-wide surveys to fill in the picture, community by community. For example, the Junior College committee obtained the help of residents of a proposed college community to survey housing, recreation and building sites; and the tourist and recreational committee made a county-wide inventory of tourist accommodations, attractions and recreational facilities for use as a basis for planning economic development and for expanding tourist facilities.

By way of partial summary of the report about the method and techniques employed in the rural development program in Stevens County, the following quotation, which indicated the utility of the method employed, is presented:

> Thus, by a systematic appraisal of resources, the citizens of Stevens County are learning a method whereby they can understand themselves and better plan for their ultimate satisfaction.[84] (Italics not in the original.)

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[84] Ibid., p. 219.

Two such systematic appraisals of resources for planning in Rural Development Programs could be cited from W. D. Davis' article "Framework for Community Improvement" based on work in Choctaw County, Oklahoma[85] and Vernon C. Hendrickson's thesis "An Appraisal of the Rural Development Program in Price County, Wisconsin."[86] These references indicated that research methods and techniques--surveys--were employed to collect facts to use as a basis for planning. Specialists from the land-grant universities assisted the field workers. The lay people--voluntary leaders and others--participated in collecting data.

In this connection, it might be noted that, because extension workers recognized that community needs should be identified by local people, the following organizations and groups were promoted: community clubs, community councils, community counseling service, special interest community organizations and other local committees.[87]

Research has shown that these organizations have done much to make the educational programs fit the needs of the people.[88] However, the

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[85]W. D. Davis, "Framework for Community Improvement," Extension Service Review, XXX (October 1959), p. 207.

[86]Vernon C. Hendrickson, "An Appraisal of the Rural Development Program in Price County, Wisconsin," (Master's Thesis, Department of Agriculture and Extension Education, University of Wisconsin, 1960), cited in Research in Cooperative Extension Work, 4th Series (College of Agriculture, University of Wisconsin, November 1960), p. 15 (Mimeographed).

[87]Seminar group report on "Community Organization and Development," Rural Sociologists in Extension Look Ahead, Summary of Workshop. Federal Extension Service, U. S. D. A., September 1959. (Washington, D. C.: Government Printing Office, 1959), pp. 50-54.

[88]Howard J. Bonser and Beryl Baraures. Process and Action in Organized Rural Communities. Department of Agricultural Economics and Rural Sociology, Agricultural Experiment Station (University of Tennessee and T. V. A., September 1953).

extension leaders, particularly rural sociologists in extension, felt that there was scope to improve the methods and techniques of group work (community club programs) and offered some helpful suggestions. One of them is pertinent to our discussion to

> Know and apply principles and concepts of Social Science and adult education at basic or crucial points in the programs, especially the broad areas of Socio-economic analysis, problem-solving and leadership development.[89] (Italics not in the original.)

The experience of application of such principles and concepts in the area of Rural Development Programs reviewed earlier should add credence to the view that they could be extended to other areas of extension work.

Some Selected Techniques Employed by Members of the Extension Agency

So far, the present discussion has been mainly centered around three fundamental interrelated methods for determining the needs of the extension's clientele. They were: 1) working with representative committees; 2) using available records to describe problem situations, and 3) surveying to collect relevant facts. Techniques involved in the employment of these methods were also reviewed. But there are a few techniques which have not been discussed so far and need special mention. Extension workers have developed several special techniques depending not only on the situation they have faced but also on their individual talents. Two such special techniques were reported in recent years. A summary of the technique used and the consequent experiences gained follows.

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[89] Rural Sociologists in Extension Look Ahead, op. cit., p. 53.

Record Keeping in Fairfax County, Virginia[90]

The system of keeping daily, detailed records of all office calls, phone calls, and farm and home visits has helped Fairfax County agents in several ways. Some of them listed were: 1) need for an additional assistant agent in 4-H and Youth work was shown by eight years' records of inquiry; 2) a rising number of requests for soils information led to employment of an additional person--a soils specialist; and 3) the program was planned more accurately to satisfy people's wants and needs. The system of record-keeping followed was that each agent kept a daily record of questions asked or requests made which the secretaries transferred to a 500-page journal. Over the years eight journals were completed. Phone calls also were recorded. Soil samples received and the results and recommendations recorded in another book.

The above technique of keeping track of questions asked and requests made, which certainly is a reflection of the needs and wants of the clientele, was cited in this discussion since records are considered to be one of the sources of data for research studies. Research methods and techniques would be useful only if reliable sources for data collection are available. Hence, the extension workers if they want to employ research methods and techniques in their work, should develop a sound system of record-keeping.

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[90]Lyman J. Noordhoff, "Gearing to the Peoples' Needs," Extension Service Review, XXVIII (December 1957), p. 249.

Challenge to Iowa--A Unique Mass Media and Discussion Program[91]

This technique was developed and employed by the Iowa Extension Service in 1958 to make Iowans aware of change and of the need for meeting it constructively. It combined a "mass media" and a "discussion group approach" to get people to analyze their problems and situations based on true facts and information, and to coordinate their educational programs by using mass communications media. Six selected topics, one in each week was presented in four ways--through newspapers, television, radio and "fact sheets"--to get maximum saturation. Each fact sheet condensed a great body of facts, figures, experiences, and knowledge on a specific topic. An opinion record sheet was enclosed with each fact sheet to register the opinion of the respondent on the subjects and to make these opinions known to county and state extension leaders. Groups were formed in both rural and urban areas. Volunteer leaders formed groups among their friends and neighbors. The leaders obtained fact sheets and other reference material from county extension officers. These groups were involved in the programs organized through the communication media mentioned earlier. Fifteen hundred leaders were involved and 38,826 people participated in 1,296 meetings. Reports of the impact of this program have been reflected in the improvement of the

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[91]Richard K. Seim, "Iowa's Answer to the Challenge of Change," Extension Service Review, XXIX (October 1958), p. 205.

programs developed in the counties.[92] Summaries of individual and group thinking about challenge subjects (six topics) were tabulated by the county staff and have been used in developing educational programs.

This technique is useful in making them feel or recognize the need which they were not aware of before. The process of determining the needs of extension's clientele certainly includes this obligation: to make people become aware of their needs as discussed in Chapter II.

Summary and Conclusion

The reports and studies examined in the earlier sections above have revealed that research methods and techniques, such as the surveys and systematic use of census and records, have been employed by extension workers to collect facts which have helped to determine the needs of extension's clientele. In this connection it should be mentioned that Edmund deS Brunner has pointed out that studies in Rural Sociology, through improved demographic analysis of the characteristics of rural people--analysis of culture, cliques, groups and other collective phenomena, have helped greatly in the effectiveness of action programs and in the improvement of established institutions.[93] He states that reform or ameliorative studies continue to be made, though not published,

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[92]Roger W. Leinbach. "And How One County Applied It," Extension Service Review, op. cit.

[93]Edmund deS Brunner, The Growth of a Science--A Half Century of Rural Sociological Research in the United States (New York: Harper and Brothers, 1957), p. 154.

with more sophistication as a basis for agency or community planning.[94] This has been particularly true in the case of rural development pilot counties.

Examination of the studies relating to extension work also revealed that they have been useful at different levels--National, State, County and a segment of the population.

The studies covered the important areas of the extension educational program and they have demonstrated that research techniques have been employed in all four major categories in the extension educational program areas, namely: agriculture, home demonstration, youth development and rural development and community improvement.

However, it should be noted that the purpose of review was not to reveal the use of these techniques as a regular feature of Extension work; but, rather, to indicate the potential use of these techniques in collecting facts and describing situations as a prerequisite to determining the needs of extension's clientele. Specialists at the National, State, or Regional levels could initiate, plan, execute and evaluate studies in order to help the educators in the field understand the socio-economic situations and behavioral characteristics of various segments of extension's clientele. This was illustrated by the National Survey relating to Home Demonstration members and their families, Trial Acre study in Tennessee and Broiler integration study in Alabama. Other studies such as those from Butler County (Ohio State), Baltimore City

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[94] Ibid., p. 40.

(Maryland), and the rural development pilot counties mentioned earlier, indicated that staffs at the county level were capable of undertaking investigations or studies to collect facts and present them to the planning committees thus helping create the environment to make good decisions. The "decision" here implies determining the needs of the population they represent. The studies examined also revealed the usefulness of the representative planning committee in the process of determining the needs of extension's clientele.

It should be pointed out once again that excepting in the field of rural development and community improvement and few other isolated areas of program emphasis, systematic procedures to collect facts, using records or surveys, do not seem to have been adopted. V. W. Darter[95] in a study of county extension program development has concluded that one of the obstacles to sound program development was lack of local surveys or attempts to bring together more than superficial data on the local situation. Hence, the research also indicates the need for adoption of methods and techniques which provide a greater degree of precision in assessing the situation. The review so far has revealed that such methods and techniques have been employed successfully at all levels and in all the different areas of extension program emphasis. The availability of such research methods and techniques for various problem situations will be discussed in detail in the next chapter.

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[95] V. W. Darter, "County Extension Program Development Case Histories of Twelve Counties," (Doctoral Thesis, Cambridge, Massachusetts, Harvard University, 1955), cited by Review of Extension Research, Extension Service Circular 506. (Washington, D. C.: United States Department of Agriculture, 1956), p. 12.

Succinctly stated, the review of reports and studies relating to the use of methods and techniques by the extension workers for determining the needs of extension's clientele indicated:

1. Local planning committees can be effectively used for collecting facts.

2. Inclusion of several small committees at different levels representing different interests, organizations and institutions will help in the process of correctly assessing the local situation.

3. Census and other records available through other institutions and organizations are useful sources for collecting data needed for extension program planning.

4. With the guidance of specialists and the assistance of local people, the county extension staff can employ relatively rigorous research methods and techniques for the collection of facts to describe socio-economic situations and psycho-social aspects of extension's clientele.

5. Specialists at various levels can initate, plan, execute and evaluate studies which would be helpful to county extension staffs in their efforts to determine the needs of their clientele.

V. CONCLUSION

The review of literature relating to the methods and techniques used in educational program development with particular reference to informal adult education which included special treatments of the areas in agricultural education and extension education provide us with a basis for arriving at certain conclusions presented below.

1. An agent having the responsibility of initating behavioral changes among people through educational programs should find the use of representative planning committees (or advisory councils) to be profitable and obligatory.

2. Group discussion which may include use of such techniques as the "meeting census," the "Phillips 66 method" and "fact finding conferences" to promote favorable attitudes and group decision has proved to be an effective method for use by these planning committees (or advisory councils).

3. Wise use of informal research can and should produce strong indication about what people need and want (e.g., techniques such as the use of suggestion boxes, registration cards, interest questionnaires, club questionnaires, check lists or check sheets, opinion fact sheets, record of phone calls and other inquiries, and other similar devices have proved to be useful). Also, use of such sources as the newspapers, local libraries and records made by local organizations and institutions would help in data collection for the above purpose.

4. Systematic formal research, conducted at agent, specialist, supervisory and administrative levels, to collect facts in order to describe psycho-social and socio-economic situations, help determine the needs and interests of the clientele to serve as a basis for the development of extension educational programs and has great merit and is justified. It has been demonstrated that appropriate research methods and techniques, such as surveys and use of records, in the area of rural areas development and community improvement in general, and in isolated

cases in other areas, such as, adult education, agricultural education, home demonstration and 4-H club work, have great potential utility for determining the needs of extension's clientele. Principle among these are the following:

A. Use of available records and documents (e.g., census reports, reports of organizations, institutions and agencies; farm operators records).

B. Community self surveys and sample surveys: use of interview schedule and mail questionnaire.

C. Experimental method: (including a control area to compare the effects of variables introduced in another area).

CHAPTER IV

POTENTIAL UTILITY OF RESEARCH METHODS AND TECHNIQUES FOR DETERMINING THE NEEDS OF EXTENSION'S CLIENTELE

I. WHAT IS THE NATURE OF STUDY INVOLVED IN DETERMINING THE NEEDS OF EXTENSION'S CLIENTELE?

It was mentioned in the first chapter that there is need for the development of an Extension technology, that is, science applied to Extension's job. This would imply the scientific method should be employed. Therefore, let us consider in this chapter what research methods and techniques commonly employed in scientific investigation might be applicable to determine the needs of Extension's clientele in a particular phase of Extension work.

Claire Selltiz and others in their book entitled "Research Methods in Social Relations"[1] classify research studies into these categories: Formulative or Exploratory, Descriptive and Testing causal hypothesis. The nature of investigation involved in identifying the needs of extension's clientele falls mostly under the category of descriptive studies. According to these authors, descriptive studies have this purpose: "To portray accurately the characteristics of a particular individual, situation, or group (with or without specific initial hypotheses about the nature of these characteristics)."[2] The

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[1]Claire Selltiz and others, Research Methods in Social Relations. (New York: Henry Holt and Co., Inc. 1960).

[2]Ibid., p. 50.

extension worker is interested in perceiving the true situation existing in his area with respect to agriculture, home economics and related subjects and in portraying the situation as he sees to the group of representative people involved in program planning. Descriptive studies, according to the same authors, also include studies which estimate the proportion of people in a specified population who hold certain views or attitudes or who behave in certain ways and also discover or test whether certain variables are associated. The extension worker would be engaged in similar investigation when he attempts to know the values which are important from the point of view of change in agriculture or homemaking practices. For example, he might want to know: are the dairy farmers of his county who value security and tradition willing to adopt improved techniques in dairy farming?

Therefore, methods and techniques employed in a descriptive study are of interest to extension worker. It is, therefore, proposed to examine a few selected studies reported in recent years in which problem situations, similar to the problem situation that an extension worker would be facing, are involved. It should be recalled that a classification system concerning the aspects which are of interest to extension worker for determining the needs of the extension's clientele was suggested at the end of the second chapter. The items delineated there indicate the problem situations which an extension worker might have to face.

II. SOME RELEVANT THEORETICAL CONCEPTS AND TECHNIQUES DEVELOPED IN THE FIELD OF SOCIAL SCIENCE

Before proceeding to the consideration of some of the studies reported, it would be profitable to consider the origin of the methods employed in these studies, that is, the concepts and techniques developed.

An early contribution, which had great influence in the development of social science research was that made in the field of psychology by Gestalt and his co-worker. This approach, as explained by Kurt Lewin, may be simply stated as follows:

> Social properties of a dynamic whole are different from the structural properties of sub-parts. Both sets of properties have to be investigated. When one and when the other is important depends upon the question to be answered.[3]

This integrated approach has been most marked in the field of anthropology. Studies of isolated communities, like those reported by Margaret Mead and her co-workers, were among the early attempts to generalize about human behavior using this study approach. The current strong cultural concept has developed from such studies. These studies helped to develop scientific thinking and the application of scientific method to the formulation and testing of fact finding procedures for use in the field of social science.

Another discipline in the field of social science in which valuable research methods and techniques have been developed is that of behaviorist psychology. Methods and techniques evolving from this source

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[3]John Madch, The Tools of Social Science. (New York: Longmans, Green and Co., 1953), p. 21.

have been based on the conviction that knowledge of human beings can be derived by observing them: "We can see what a man does, and we can hear what he says or read what he records."[4] Contrary to the method employed by the cultural anthropologist which was to investigate various characteristics and aspects of the group such as those encountered when one studies community, leadership, competition or cooperation, behavioral psychologists developed methods and techniques which focus on a detailed study of the individual. Analysis is then made by combining the data collected on an individual basis in such a way as to provide a total picture of the group situation. Discussing the advantages of this approach, John Madch says:

> Collection of data on individuals clearly favors description in numerical terms. Owing to the variability of social phenomena numerical and quantitative descriptions and the inferences based on them are predominently statistical.[5]

The use of statistics, particularly sampling procedures and techniques, has helped in making the methods based on behaviorist foundation more reliable and, therefore, more useful.

The two approaches mentioned above have important implications for the field of extension education. Research methods and techniques developed in leadership studies and certain community studies, which are based on the anthropological approach, are of much value. They may prove helpful in assisting research worker to generalize broadly concerning how an individual could be influenced in a cultural unit which might vary from a

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[4] Ibid., p. 32.

[5] Ibid., p. 35.

small isolated village or community to a large nation. However, an extension worker needs to know in a more precise way how the people behave and why they so behave. For such purposes one may have to rely on behavioral, psychological methods and techniques rather than anthropological ones. Moreover, the responsibility of the extension worker should be to organize learning situations for and with the individuals. Therefore, his effort is principally concerned with changing the behavior of the individual. It is only in the consequent learning process that he tries to determine the needs of the individual. However, many of the important needs being those common to the majority of the group he serves, he combines the data he collects on individual basis in such a way that it provides greater understanding of the overall group situation.

As mentioned earlier, the extension worker might be obliged to collect certain facts particularly difficult to obtain such as those relating to socio-economic attributes, important values, degrees of social participation, levels of knowledge and skills, and special problems. These have to be assessed on an individual basis for which methods and techniques developed by behavioral psychologists and other social scientists are helpful. In recent years there have been innumerable cases of such applications and also a continued evolution of concepts and techniques to solve or ameliorate the varied problems and situations. Carter V. Good and Douglas E. Scates[6] have mentioned such a list of concepts and techniques applicable to descriptive studies.

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[6]Carter V. Good and Douglas E. Scates, Methods of Research. (New York: Appleton-Century-Crofts, Inc., 1954), p. 688.

They are:

1. The concept of trends as the dynamic aspects of status.
2. Community surveys and studies, particularly in relation to the community school and its functions.
3. Self surveys and action research.
4. Cooperative procedures in implementing the results of school and social surveys.
5. Adaptability of school systems as related to factors in the communities served.
6. Improved concepts and techniques of sampling.
7. The depth questionnaire, and depth and focused interviews.
8. New standards of follow-up in relation to percentage of questionnaire returns.
9. Participant observation of behavior.
10. Improved mechanical aids for recording.
11. Small group study or group behavior analysis, as based on the concepts of group dynamics.
12. New theory and technique for content analysis of documentary materials.
13. Development and use of a wide range of educational psychometric and sociometric instruments of appraisal, including tests, scales, score cards, check lists, and indexes.

Analysis of data collected, of course, presumably would be done making use of appropriate statistical and other techniques in a descriptive study.

All these concepts and techniques should be of some interest to the extension worker. It should certainly increase his competence were he to familiarize himself with the research principles involved and were he to make use of some of the methods and techniques applied to situations where they would make for greater clarity and precision in investigations in which he might be engaged. This discussion has served to provide us with a basis for reviewing a number of recent studies with a view to selecting appropriate research methods and techniques useful for determining the needs of extension's clientele.

III. REVIEW OF SELECTED STUDIES CONCERNING THE UTILITY OF METHODS AND TECHNIQUES FOR DETERMINING THE NEEDS OF EXTENSION'S CLIENTELE

So far, in this chapter, the discussion has been on the nature of study involved in determining the needs of extension's clientele, and on the concepts and techniques developed in the field of social science relevant to this aspect. In this section a review of selected studies focusing on the research methods and techniques employed is made with a view to select appropriate research methods and techniques for determining the needs of extension's clientele. The criteria, used in selecting the studies for review, was the classification system suggested, at the end of the second chapter, for the extension worker as he prepares to plan and conduct his educational program.

While reviewing each study, the method generally adopted was to present first the findings and usefulness of the study in order to indicate the close similarity of the nature of the problem situation in that

study to the problem situations covered in the classification system mentioned above. Then, the research methods and techniques employed, with particular focus on the various techniques and devices developed or evolved for the specific problem situations, have been discussed. Such a procedure has the advantage of orienting the discussion first to the problem situation for which research methods and techniques have been selected and then to their appropriateness to the specific situation leading to the consideration of the particular research methods and techniques used for their utility for determining the needs of extension's clientele. The selected studies were categorized into the following five convenient aspects which was again based on the classification system mentioned earlier: 1. Studies relating to interrelationship of variables. 2. Studies relating to value orientation. 3. Studies relating to social participation. 4. Other studies which include the combination of the three categories mentioned above. 5. Studies relating to use of census data and other available records.

Studies Relating to Interrelationship of Variables

In a Pennsylvania study[7] which examined the relationships between level of aspiration and income among low income farm operators, it was shown that economic aspirations tend to be oriented away from the farm to other sources of family income. This suggests that educational programs aimed at assisting the low income farmer who wishes to stay in

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[7]Frederick C. Fliegel, "Aspirations of Low Income Farmers and Their Performance and Potential for Change," Rural Sociology, XXIV (September 1959), pp. 205-214.

agriculture may need to be structured around other than economic orientations. This is the type of knowledge and, consequently, training that would be of great help to the extension worker and the need for such studies is verified by a national survey conducted by Dickson.[8]

In the Pennsylvania study a random sample of non-contiguous townships was selected from the county--a rural development pilot county--as a whole. All commercial farmers in these townships were contacted yielding a total of 189 completed interview forms. Operators at different total family income levels were compared on level of aspiration. Ten items were used in constructing a measure of level of aspiration. The question design involved use of a projective technique.

The introductory statement of the question and items read as follows:

> Suppose you were offered a chance to make a lot more money than you are making now. Tell me whether these things would or would not stop you from accepting this offer. Suppose that it involved:
>
> 1. Endangering your health.
> 2. Leaving your family for some time.
> 3. Moving around the country a lot (with your family).
> 4. Leaving your community.
> 5. Giving up your spare time.
> 6. Taking on more responsibility in decisions than you have now.
> 7. Changing to a different type of farming.
> 8. Changing to an occupation other than farming.
> 9. Taking on a substantial debt.
> 10. Having a sale.

Three responses were possible for each item. They were (1) "would stop me," (2) "I'd be on the fence," and (3) "would not stop me."

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[8]L. H. Dickson, "Major Areas of Research Needed as Viewed by Extension Training and Research Personnel," A report presented at the National Extension Research Seminar, April 18-21, 1961. (Lafayette: Purdue University) (Mimeographed).

Preparatory to analysis responses were coded. The last two responses were coded together as representing a neutral position in contrast to the first response. Neutral and negative responses were arbitrarily given weights of one and zero respectively to combine the items into an index. The percentage of respondents neutral on a given item was plotted against an index score board on the remaining nine items (trace line analysis).

The procedure described above involved these important techniques:

1. Defining the Universe, random sampling.
2. Collection of data by interview, use of a projective technique in the question design.
3. Use of a construct developed to the specific situation to measure the response in quantitative terms.
4. Trace line analysis.

Such a rigorous procedure yielded a definite indication of the relationship between the two variables mentioned earlier. It is evident that carrying out such a study not only requires competence on the part of the extension worker but also resources in personnel. But the point that is to be stressed here is that techniques are available for those who are faced with such problems, solutions to which are required for the development of sound and effective educational programs. A county agent who wishes to determine the needs of his clientele need not undertake studies on all the aspects at once. But he should be able to use his judgement in selecting a few vital aspects which are key to his understanding of his clientele. Such a selection should be followed by a

thorough investigation and the results obtained outweigh the expenditure of time and money spent in the investigation. It should, however, be mentioned that the extension worker will normally have the assistance of the extension specialists and supervisory personnel in such undertakings. Studies to determine the needs of the clientele should possibly be undertaken on a wider basis than in the past depending upon the homogeneity of the population with respect to certain characteristics which might be involved. This could lead to a cooperative project and lessen the burden on a single county agent. Review presented in Chapter III should be able to strengthen this view point. Having these possibilities in view, the present study was undertaken.

Another study conducted in Kentucky, also indicated how the extension worker would be profited if he knew certain interrelationships between variables relating to the characteristics, behavior and attributes of the group with which he worked. The study was entitled "The Educational Attainment and Future Plans of Kentucky Rural Youth."[9] It provided data concerning interrelationship between the educational attainment and future plans of rural youths from low income farming areas in Kentucky. Rigorous research methods were used including: definition of the universe, sampling, collection of data by interview using a pretested schedule and use of an adapted form of the Sewell Scale in dividing the families into three socio-economic groups.

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[9]Youmans E. Grant, "The Educational Attainment and Plans of Kentucky Rural Youths," Kentucky Agricultural Experiment Station Bulletin 664 (Lexington: University of Kentucky, 1959).

Studies Relating to Value Orientation

According to Robin Williams' conceptualization values are ". . . modes of organizing conduct--meaningful, actively invested pattern principles that guide human nature."[10] Values, therefore, should influence the process of adoption of new practices. The importance of studies relating to value orientation is, therefore, self-evident.

G. G. Spencer in a Cornell study[11] made on values and the adoption of farm practices, used the area sampling technique, indexed data by means of scaling devices, and applied appropriate tests of significance. The data were assembled from the area sample of farm operator families who were interviewed for a related study to test value as adoption indicators of four socio-cultural variables--level of education, level of living, farm income, and economic land classification, and analyzed after converting them to indexes by scaling devices in terms of the four variables and assigning scores to each respondent in terms of a "time practice adoption scale" and a "farm practice adoption scale." The Pearsonian r and t test (or level) were used to determine the significance or relationships between the socio-cultural variables and each of the adoption scores. The author stated that such a study provided clues

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[10] R. M. Williams, Jr., American Society: A Sociological Interpretation. (New York: Alfred A. Knof, 1951), cited by Murray A. Straus. A technique for measuring values in rural life. Washington Agricultural Experiment Station Technical Bulletin 29. (Institute of Agricultural Sciences State College of Washington).

[11] G. E. Spencer, Value-Orientations and the Adoption of Farm Practices. (Ph. D. Thesis, Cornell University, Ithaca, 1958).

which might be used by change agents in selecting approaches for use with variously oriented socio-cultural types among their clientele while attempting to bring about desired change.

Similar techniques to those mentioned above were employed in a New York study.[12] Twelve value orientations were tested to determine their relationships to two scales of practice adoption. One adoption scale involved behavioral adoption of four practices applicable to dairy farming, and the other involved knowledge, critical evaluation and the use of time data were obtained from a ten percent area probability sample of all dairy farmers in Cattaragus County. Scales were carefully worked out through three pretests of the interview schedule to determine what values seemed to be operating in the farm culture being studied. This was done in an effort to find a form of question which would obtain the measurement of twelve values and would determine the items which might be used to reflect each value orientation. A forced choice between items reflecting various value orientations was required of the respondents and they were asked to rank the items. An effort was made to scatter the items representing any one value orientation. Thus, effort was made to get answers in such a way that any two value orientations could be correlated perfectly negative, perfectly positive or not related. To determine the value orientations, Guttman Scales were developed for each of the twelve values, with all coefficients (coefficient of reproducibility) assigned

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[12]Charles E. Ramsey, Robert A. Polson and George E. Spencer, "Values and the Adoption of Practices," Rural Sociology, XXIV (March 1959), pp. 35-47.

values equal to at least .90. Such rigorous procedure yielded significant relationships between the time scale (cognitive adoption) and five value orientations: positive relationships with achievement, science, material comfort and negative relationships with security and traditionalism.

Studies on value orientation should help the extension worker assess the attitudes of local people towards local community organizations. Another Pennsylvania study[13] entitled "Value Orientations and Behavioral Correlates of Members in Purchasing Cooperatives," is one such example. As suggested by the title, the study provided data regarding the images that members have of their cooperative and the behavioral consequences that such images have. The study revealed that members of the cooperative organization studied valued the organization primarily as an economic institution and minimumized the ideological elements; but on the other hand, differential value orientations were correlated with differential behavior, so that those members whose values were most in agreement with the public goals of the cooperative were more effective as measured by organizational participation, satisfaction and felt responsibilities than those members who were oriented primarily to economic goals alone.

The method and techniques used in the Pennsylvania study will be summarized below. Farmer members of two purchasing cooperative units located in Lebanon County, who lived in the county and made purchases in

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[13]Emory J. Brown and Robert C. Bealer, "Value Orientation and Behavioral Coorelates of Members in Purchasing Cooperatives," Rural Sociology, XXII (January 1957), pp. 50-58.

1953 formed the population. A twenty percent random sample was used. A total of three hundred and twenty completed schedules were obtained through personal interview. The projective technique was used in framing the question and each respondent was provided with eight statements which were derived from past research findings indicating the reasons for joining and the benefits they felt they had derived from membership in the cooperative. He was asked to compare each of them with every other one and to choose from each pair only one statement that is "the more important, appealing or valuable thing to him as a patron of a farm purchasing cooperative." This technique is known as the paired comparison technique.

The studies of social phenomena examined to this point have revealed attempts made by researchers to use methods and techniques which seem reliable and valid. As Murray A. Straus says:

> . . . if and when adequate techniques for measuring such values as individualism, cooperativeness, and risk preferences are developed, they will open the way for testing many important hypotheses in studies of such topics as the adoption of modern farming technology and the suburban and part time farming movement.[14]

The extension worker is faced with the problem of measuring such values as mentioned by Straus. He needs to know what individual and family goals are if he is to provide adequate learning situations. Direct

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[14]Murray A. Straus. A Technique for Measuring Values in Rural Life. Washington Agricultural Experiment Station Technical Bulletin 29. Institute of Agricultural Sciences (Pullman: State College of Washington, 1959), p. 4.

attitude questions are suspect. Such situations require better techniques of value measurement.

Straus[15] conducted a study in Washington State in which such improved techniques were developed and used. The "forced choice technique" was used to construct a rural attitude profile designed to measure innovation proneness (designated I), rural life preference (designated R), primary group preference (designated P), and economic motivation (designated E). The technique is based on the principle that respondents must choose the phrase least and most like themselves. They cannot merely say "yes" to all socially desirable statements and "no" to all undesirable ones, as can be done in the usual "yes--no" test. They are forced, in effect, to make rankings within the tetrad (shown in Table II). The Straus tetrad used consisted of four phrases representing each of the four variables that were to be measured. These phrases were so chosen that they had approximately equal acceptability scores and each represented a different attitude or variable. In this study twelve tetrads were used. One tetrad is shown in Table II.

The author listed the following five reasons to justify this claim that the "forced choice" technique was the most promising method of measuring value dimensions discussed:

1. It eliminates response sets towards answering most questions as either "yes" or "no."
2. It seems to arouse less respondent resistance than comparable single response questions.

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[15] Ibid.

TABLE II

SOCIAL ACCEPTABILITY INDEX SCORES FOR TETRAD NO. 1[a]

Most	Least		Social Acceptability Index	Variable Measured
( )	( )	Feels that farmers have to work too many hours.	2.6	R
( )	( )	Feels a family ought to do things together.	1.1	P
( )	( )	Sees little value in studying agriculture in school.	2.5	I
( )	( )	Is a good farm business manager.	1.1	E

[a]This tetrad was developed and used by Murray A. Straus as reported in Washington Agricultural Experiment Station Bulletin 29 in 1959, p. 5.

3. It controls the tendency of some respondents to answer in terms of social desirability of the response rather than in terms of their own feelings or behavior.
4. It permits measurement of values in terms of choice thus remaining theoretically consistent with the concept of value.
5. It shortened interviewers time considerably.

Straus concluded that the "forced choice" technique is difficult to fake and provides a more valid measurement than the usual type of question format.

Studies Relating to Social Participation

Social interaction is the means by which the group arrives at decisions, and formulates and effects action. The higher the degree of social participation in a community, research has indicated, the better it will be for the extension agency.[16] This is true with regard not only to the dissemination of information but also to the determination of the needs of the people in the community. Frequently, social participation has proven to be less than desirable because of a lack of opportunities for such participation. Agricultural Extension Agents while trying to introduce new innovations have "widely used the technique of securing

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[16]Edward H. Spicer, "Conceptual Tools for Solving Human Problems," Human Problems in Technological Change. (New York: Russel Sage Foundation, 1952), pp. 281-293.

participation by the people in all phases of the innovation process."[17] Hence it is important that methods and techniques developed to study social participation and the relating aspects are understood by the Extension staff and employed suitably.

Therel R. Black[18] has developed a measuring scale for social participation. He based it on the theory that one's social interaction in the group is signified in part by his attendance at group meetings and may vary in intensity with the extent of his attendance. In the original Chapin Scale for measuring social participation, the items and their weights for scoring in points included: membership--1, attendance--2, contribution--3, membership on committees--4, and position as an officer--5. The previous years record was used. Scoring was on a family basis. Black revised the scale by sensitizing the measurement of attendance, adding another degree in participation involvement, that is, membership on committees, and omitting the term "contribution." The revised scale is presented in Table III.

Attitude of acceptance, social interaction and responsibility form the basis for this scale.

Techniques are available not only to measure the degree of participation as seen from Table III but also to test interrelationships between

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[17] Ibid., p. 292.

[18] Therel R. Black, "Formal Social Participation: Method and Theory," Rural Sociology, XXII (March 1957), pp. 61-66.

TABLE III

SCALE FOR MEASURING SOCIAL PARTICIPATION[a]

Involvement Item Listed	Weight Given (Points)
1. Membership	1
2. Attendance at about 1/4 of meetings	2
3. Attendance at about 1/2 of meetings	3
4. Attendance at about 3/4 or more meetings	4
5. Membership on Committee	5
6. Holding an office	6

[a]This scale was developed by Therel R. Black as reported in his article "Formal Social Participation: Method and Theory," Rural Sociology, XXII (March 1951), pp. 61-66.

participation and other important characteristics, that is, to answer the question why they were involved to a specific or particular degree. John R. Christiansen[19] by using factor analysis--a method of finding the common element or elements that underlie a set of measures--has been able to test the interrelationship of variables individually associated with family participation. He found that a socio-economic complex was moderately associated with a degree of family participation. Such a finding is really valuable to the extension worker.

Both studies suggest that, by developing suitable techniques for a particular situation, one should be able to measure social participation in a community and to identify causes for variations in the degree of social participation, if any, from one community to another.

Combination Studies

So far, review of research reports and studies have been made with a view to examine the methods and techniques employed to single problem situations with particular reference to the development of techniques for use in such context. However, it is more than likely that the extension worker will have to tackle a combination of problem situations rather than a single one. Though the extension worker needs to learn or develop techniques applicable to single problems under investigation, he also should learn or develop techniques for collecting facts concerning the same group of extension clientele on more than one

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[19]John R. Christiansen, Informal Social Participation in Five Kentucky Counties, Kentucky Agricultural Experiment Station Progress Report 43. (Lexington: University of Kentucky, 1956).

single problem as indicated in the list (Classification System) mentioned in the last part of Chapter II (page 33). Therefore, it might be beneficial to examine two such combination studies to develop an understanding of how they were organized.

The first study to be cited is the one reported by Walter L. Slocum and others.[20] It revealed that low extension contact families tend to be somewhat socially isolated, and do not participate in as many local social systems as the families where the operators or homemakers have greater contact with extension workers. Another important purpose the Slocum study served was to collect information concerning the characteristics of Washington farm families which was not available from the census or other sources. It would be profitable to examine the method used for the study.

Counties were selected from serpentined list of counties with probability proportional to the number of farmers in each county. The number of farms used in establishing cumulative frequencies for use in this method was obtained from the 1954 Agricultural Census. All commercial and part-time farms were included. The sampling goal was sixteen counties with a total of twenty interviews per county. The same number of interviews was made in each county because the unequal farm population of the counties were taken into account in selecting the counties. Within each county, the sample was selected at random from

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[20]Walter L. Slocum and others, Extension Contacts Selected Characteristics, Practices and Attitudes of Washington Farm Families, Washington Agricultural Experiment Station Bulletin 584. (Pullman: Washington State University, 1958).

the personal property abstracts in each county assessors office. The first twenty names meeting the eligibility requirement, a gross income from agriculture of $750 or more, were included in the sample.

Three permanent interviewers were employed during December 1955 to April 1956 for the field work. In some counties local interviewers also were used. This suggests that the cost involved in undertaking such a survey may not be beyond the capacity of the State Agricultural Extension services. Chi square and the analysis of variance were used for analysis of the data obtained in this combination type study.

Second combination study would provide an example of how a systematic survey employing sampling techniques and statistical analysis would help in determining the situation in a clearer and less ambiguous way. Therel R. Black and Jerrilyn Black[21] interviewed adults of every third household (heads of households or their wives) in the two Utah communities of Escalante and Ephraim in an effort to identify important economic, civic and educational problems requiring group action for their solution.

This approach was what the authors called the "macrocosmic approach." They have explained it thus:

> Another approach is to relate sociological data (say participation) to a wider variety of public problems, but to depend upon the literature and general observation to describe the problems

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[21]Therel R. Black and Jerrilyn Black, Community Problems and Group Participation. Agricultural Experiment Station Bulletin 411. (Logan: Utah State University, 1959).

> and to infer the nature of the relation between the problems and the sociological data.[22]

This approach is worthy of the consideration of extension personnel who, prerequisite to program planning, need certain basic information. They can use census reports and other reports available to them as they work with organizations and institutions operating in the county together with their own general or specific observations made while working with the people of the county. The Blacks' report, after listing, unwise use of water; advanced soil erosion; pest, disease, and weed infestation; and insufficient marketing opportunities as problem areas which could be solved by group action, they describe and discuss participation of individuals in community organizations with reference to each problem area delineated. Four indexes--membership (whether member or not), participation (infrequent attendance), active participation (frequent attendance), and leadership (officership)--measure participation in economic, civic, educational, religious and social organizations. It should be noted that these indexes closely resemble the scale developed by one of the authors in an earlier study that was examined (page 119). The data were subjected to statistical tests to indicate confidence that the sample does represent the total population and the differences that exist between percentages were statistically significant at levels prescribed (many of the data were reported in percentage of sample members

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[22]Ibid., p. 19. The authors define the opposite of this approach, the microcosmic, as the study of a public problem in minute detail giving as many sociological insights as one can to the one specific area of human activity.

interviewed responding). Interpretation of the data concerning the lack of participation in secular organizations indicated that: (1) Participation in these organizations was not a part of rural cultural expectations, (2) Close-knit, informal relations among rural people might have been disappearing while participation in formal groups might not yet have replaced them, (3) The institutional pattern has changed in that religious organization alone no longer takes care of community problems.

Before closing the comments on the Blacks' study it should be noted that the authors have generalized the findings of the two counties as being applicable to rural Utah on the basis that most rural communities in Utah are built on what is called the Mormon village plan, and have other similar characteristics such as population and religio-cultural background. Homogeneity of the population and its characteristics certainly help in adopting such procedure. Validity of the generalization in such cases entirely depends upon the homogeneity of the area for which one attempts to apply the findings from a sample.

Studies Making Use of Census Data and Other Available Records

It was pointed out in discussion of the Blacks' report above that use of census reports and other available statistical records would be of considerable help to extension workers in helping them describe the socio-economic situation and identify consequential problems. Numerous efforts to establish trends in social phenomena, such as population growth and its characteristics have been made. Such attempts to analyze the available data to reveal certain interrelationships would go a long

way in explaining many problem situations and help in identifying specific problems. As an example, the report on "Trends, Distribution and Characteristics, 1900-1950, Population in Massachusetts"[23] could be mentioned. This study used the census material to interpret the local situation in the influences of urban industrial expansion on agriculture in the northeast.

A series of studies conducted by Tryon[24] disclosed not only that these statistical records helped to explain the socio-economic situation but also that they indicated psycho-social situations. By employing a statistical technique known as "cluster analysis," he was able to suggest that demographic social areas can be identified on the basis of census data using three basic variables: socio-economic, independence; assimilation, or the incorporation of persons into standard, white collar, American culture; and orientation around the family. He also showed that a demographic social area is also a psycho-social area--that is, that residents of a common demographic social area will experience certain common socially relevant situations and certain common psychological states elicited by those situations, and will behave in certain common ways. These studies have not only indicated significant demographic characteristics but also have provided examples of how the available records could

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[23]David Rozman and Ruth E. Sherburne. Population in Massachusetts; Trends, Distribution, Characteristics, 1900-1950. Massachusetts Agricultural Experiment Station Bulletin 496: Amber St. 1957, 66 pp.

[24]R. C. Tryon, Identification of Social Areas by Cluster Analysis. University of California Publications in Psychology, 8 No. 1, cited by Claire Selltiz and others, op. cit., p. 321.

be utilized for explaining socio-economic as well as psycho-social phenomena. They also have provided evidence that techniques for such analysis are available.

IV. SUMMARY AND DISCUSSION

Consideration of the research reports and other studies examined above under the five categories selected indicates that reliable information can be obtained if certain prescribed collection methods and/or techniques are employed. It might be profitable to summarize such methods and techniques, and indicate their possible applicability to future determination of the needs of extension's clientele.

In most of the aforementioned studies (of the first four categories), the survey method was employed. Techniques for sampling population, for measuring attitudes, opinions and other qualitative concepts, and for testing to determine significance were, in the main, used. These were used to observe social phenomena and as sound basis for reports of what was observed. Attempts were made to develop techniques for use in studying special situations based on fundamental principles resting on a strong mathematical framework.

Sampling Technique

In the studies reviewed earlier in the chapter, the most frequently employed technique of sampling was that of the area or cluster sampling technique. The use of the principle of randomization is an important feature of this technique. In one or two instances, complete enumeration was undertaken. It would be pertinent here to note that it was the

sampling technique that gave representative character to the investigation. R. A. Fisher discussing this aspect has stated:

> Why do I say that the sample survey is more scientific than the only procedure with which it may sometimes be in competition, the complete enumeration? The answer, in my view, lies in the primary process of designing and planning an inquiry by sampling. Rooted as it is in the mathematical theory of the errors of random sampling, the idea of precision is from the first in the forefront. The director of the survey plans from the first for a predetermined and known level of precision, it is a consideration of which he never loses sight, and the precision actually attained, subject to well understood precautions is manifest from the results of the inquiry.[25]

The above statement explains the unique scientific character of sampling theory and practice.

It was also brought out from the review of the studies that the sampling procedure required a clear specification of the population, a determination of the number of observations to be drawn, and, also, a statement of the method of sampling and analysis to be used particularly with a view to getting the greatest degree of precision possible at a minimum cost. The sampling procedures adopted not only provided precision to the investigation but also had other advantages as well. With regard to the foregoing, W. E. Deming has stated:

> Speed is important because the social order is not static but dynamic. . . . in many types of inquiries, the complete census, by the time it is processed and tabulated, is often not as good a basis for action as the earlier returns of a small sample would have been. To the extent that sampling methods produce quicker

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[25]Presidential address by R. A. Fisher on "The U. N. Sub-Commission on Statistical Sampling," at the session on Sampling, International Statistical Institute, Berne, September 1949, cited by Palmer O. Johnson, "Development of the Sample Survey as a Scientific Methodology," Journal of Experimental Education, XXVII (March 1959), pp. 167-168.

results, they therefore often produce more accurate results for purposes of action and for prediction.[26]

Thus, it becomes evident that use of appropriate sampling technique, being both theoretically scientific and practially useful as far as needs of the situation under discussion are concerned should be considered prerequisite to the initiation of any kind of survey study. It was pointed out in the preliminary paragraphs of this chapter that descriptive studies which include survey studies might be employed in investigations for identifying the needs of extension's clientele. Hence, it can be suggested that sampling techniques are essential tools in the kit of the extension worker and thus might be considered as one of the important devices in "Extension Technology" for whose development there is a felt need (refer Chapter I).

Measurement

The studies examined above also revealed several successful attempts of measurement of different variables under study and to quantify certain selected qualitative aspects of the individuals studied. By converting qualitative measures into quantitative expressions, it was possible to describe a situation in a more precise manner and explain relationships between variables in a way that could be easily comprehended. It would also help the research worker, at the interpretation stage, to come to certain conclusions with a predictable degree of confidence. It was seen how the "forced choice technique" could provide

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[26]W. A. Deming. "What Sampling Is?" Sampling in A Government Statistical System. New York University (Mimeographed).

reliable data as well as serving as a valid instrument itself in the measurement of attitudes. Similarly, it was shown that techniques for measuring such socio-psychological phenomena as social participation and value orientation could be successfully employed.

An important consideration in the selection of such a technique should be that it should be capable of providing the degree of precision required for a specific purpose. The studies that have been reviewed have demonstrated that such techniques are available and that others could be developed on the basis of those already in use. Guttman Scales, improved Chapin Scales, paired comparison techniques, forced choice techniques, indexes to fit particular situations, and other similar devices have already been encountered and reviewed in our study. All of these techniques are useful to one degree or another, for measuring characteristics of individuals. It was mentioned in the early part of this chapter that the data would be collected on an individual basis and that it would be combined in such a way as to provide a total picture of the characteristics and needs of the population at a given level, for example a segment of the clientele such as dairy farmers or the farming population of the county, state, region or nation. From the review, it also may be evident that the investigator should exercise his best judgement in the selection of a sampling technique for a specific situation; following selection he must develop or adopt an adequate measuring device and employ it only after sufficiently checking its reliability and validity and making consequent revision. It became evident from the review that measurement not only allows to study the variation in the

amout of different variables but also is a means of attaining greater exactness and precision of observation than is possible otherwise. Further, it was revealed that measurement is very important in accurate classification, since cases cannot be placed in one class or another where the variable is changing in amount, unless the amount of value of the particular instance can be observed or measured as was noted in the social participation studies.

Data Collection

Regarding the methods used for data collection, basic tools used were the interview schedule and the mail questionnaire. In two cases[27] projective techniques were used to overcome personal barriers to communication in situations where respondents were likely to be either unwilling to discuss controversial topics or to reveal intimate information. Such techniques also may be useful in circumstances where respondents may be reluctant to express their true attitudes or even unable to give the desired information. In the study which examined the relationships between levels of aspirations and income (Fliegels' study), this technique was employed by the investigator to help the respondent reveal his intimate feelings by providing him with a hypothetical situation. Similarly, the study on value orientations and behavioral correlates of members in purchasing cooperatives reported by Brown and Bealer, used projective

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[27]Frederick C. Fleigels' study on "Aspirations of Low Income Farmers and Their Performance and Potential for Change," op. cit.; and Brown and Bealer's study on "Value Orientation and Behavioral Correlates of Members in Purchasing Cooperatives," op. cit.

techniques to bring out images they had of their cooperatives. Such images might not have been reflected if direct questions had been used.

Another technique for collecting data "the forced choice" technique has already been discussed. It was shown not only to be an improved technique for use in measuring behavior but also an improved way of data collection. Straus has listed five advantages of which elimination of "yes" or "no" response, less respondent resistance, and shortened interview time are mentioned.

Another important point relating to data collection that was revealed in the review of research reports is that data collected for one study could often be profitably utilized for another related study. For example, G. E. Spencer in his study on "Value Orientations and the Adoption of Farm Practices"[28] has used the data assembled in Cattaraugus County, New York in 1956 for a related study to test the value as adoption indicators of four socio-cultural variables--level of education, level of living, farm income, and economic land classification. Of course, the use of census data and other available records (which were mentioned in Chapter III) as another way of collection of data without resorting to survey was also indicated.

Analysis

The studies discussed in this chapter revealed that statistical methods were used to tabulate, analyze and interpret the data. Further-

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[28]G. E. Spencer, op. cit.

more they gave credence to the conclusions drawn. This was true in the Spencer study cited above. Correlation analysis and t test at .05 level were used to state the relationship between socio-cultural variable and each of the adoption scores. Such use of rigorous tests based on mathematical concepts gives a relatively high predictive value which is required in any kind of predictive study. Most of the studies discussed used suitable statistical method such as the chi aquare test, the analysis of variance, correlation analysis and factor analysis. It would be sufficient for the purposes of this discussion to state that there are statistical methods available for the investigator to enable him to have increased confidence in the data based on inclusion of an adequate number of replications. It should, however, be noted that the investigator should be able to conceptualize what statistical method he might appropriately employ so that he may plan to collect the data in a suitable manner. This same precautionary note should be considered in regard to selection and/or development of the measurement devices.

In summary by employing appropriate methods and techniques such as those discussed above at the sampling stage, at the time of development of measurement devices, when selecting ways to collect the data and in the analysis, a reasonably true description of a specific situation may be obtained for relatively small cost in time and money. It also revealed that these techniques could be developed to fit different problem situations. Hence, an extension worker or a research worker could utilize the proven research methods and techniques to overcome a given problem in the determination of the needs of the clientele. It depends

upon the research persons or the investigators understanding and knowledge of these methods and techniques and their use. The examples of studies selected for examination have shown that they could be utilized for situations with which an extension worker might be faced while he is in the process of trying to determine the needs of his clientele.

CHAPTER V

APPLICABILITY OF RESEARCH METHODS AND TECHNIQUES DEVELOPED IN WESTERN CULTURE TO OTHER CULTURES PARTICULARLY TO MYSORE, INDIA

I. INTRODUCTION

In the preceding chapters it was indicated that certain research methods and techniques developed in the field of social science might profitably be employed by the extension worker while determining the needs of his clientele. The purpose of this chapter is to consider the possibilities of applying these methods and techniques to different cultural situations, and, particularly to Mysore State, India.

Before discussing the specific problems encountered in applying research methods and techniques to different cultural situations, it would be useful to mention what Provinse said on this topic. In a paper entitled "Western Research Techniques and Non-Western Values," he stated:

> With the exeption of some contributions by anthropology deriving from primitive or simple societies, most modern-day concepts have been built up empirically by analysis of socio-economic and cultural data from societies and cultures of western types. So long as these concepts are at a very broad or generalized level, such as family, marriage, work, supply and demand, social class, they seem not to create too great a hazard in the cross cultural application of research techniques. But as the research becomes more incisive, and the concepts necessarily become more refined, the more difficult it is to employ without adaptation concepts based on behavior or reactions in one society in the study of what looks to be similar behavior and reactions in another society.[1]

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[1]John H. Provinse, Western Research Techniques and Non-Western Values (Paper presented at the CECA Conference on the Teaching of Agricultural Economics in Southeast Asia, held at the University of Malaya in Kerala Lampur May 8-14, 1960 - Issued by the Council on Economic and Cultural Affairs, Inc., New York, 20.), p. 20.

He illustrates how broad concepts, such as cooperation and social security, though having identical objectives in both situations - western and oriental - have different and contradictory meanings and functions in-so-far as details are concerned. "In the west generally social security is associated with individual independence; in much of the Philippines social security is a matter of dependence."[2] This phenomenon certainly has implications with regard to the framework within which a research worker undertakes his study. It might be that "one could be fooled by verbal responses to inquiries that may not have been intended to be leading questions but which in the context of his relationship to the informant and the western concept against which he is asking the question can easily result in half the truth, often more dangerous than no knowledge at all."[3]

Such hazards are felt not only by a westerner but also by an oriental who is educated under western system and has developed western concepts with less of insight concerning the value system at the village level. This is quite often true in the case of those who are born and educated in cities and later undertake studies at the village level.

Another problem that generally faces a research worker has been pointed out by Provinse, that of the lack of understanding that a people may have about the nature of research to be undertaken and the role of the research worker. What is the role of this investigator? Provinse suggested that villagers might think:

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[2] Ibid., p. 3.

[3] Ibid., p. 3-4.

> . . .Is he a tax collector, a government agent, a missionary, or what? Everyone must have some motive for being out in the field asking questions or observing, and a researcher who tries to explain his purpose or gathering information in order better to understand how people behave almost inevitably becomes a bit queer--most people already know why people behave the way they do so why study it?[4]

The author further adds on this point:

> . . .Who you are, or most important, who you are conceived to be, will bare heavily upon the kinds of answers you receive. Some will underestimate their crops or their income; others overestimate their accomplishments. In instances there will be evasion but more often they will be an effort to please, an effort to give you an answer it is thought you want. Not because the respondent is dishonest or uncooperative or devious, but because he wants to please--this is his way of treating a stranger. . .[5]

The statement above underscore the research worker's need to consider basic cultural differences before trying to apply western research techniques to oriental or underdeveloped or low income areas of the world. Differing value systems which give rise to different concepts of socio-economic phenomena, and the lack of understanding on the part of the people about the nature of research need to be noted and necessary precautionary measures undertaken.

Let us now consider some specific problems involved in applying western research methods and techniques to other cultures with particular reference to Mysore.

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[4] Ibid., p. 4.

[5] Ibid., p. 4.

II. SPECIFIC PROBLEMS INVOLVED IN APPLYING WESTERN RESEARCH METHODS AND TECHNIQUES TO OTHER CULTURES WITH PARTICULAR REFERENCE TO MYSORE

Wilson conducted a study entitled "Problems of survey research in modernizing areas".[6] Problems were classified under four major headings, including: (1) sampling; (2) selecting and training interviewers; (3) establishing rapport; and (4) assuring reliability and validity. Problems listed in each of these categories will be elaborated on in the next few paragraphs. They appear to be reasonably consistent with and verify problems identified by other research workers in the underdeveloped areas of the world. If is conceivable that some of the problem areas listed could be solved by the scientists or field workers who are native to a specific underdeveloped nation or region. However, most of the items entail certain difficulties in operationalizing research even for those who are of the same culture. It should be mentioned that most of the problem areas listed do exist in Mysore state in lesser or greater degree. The following paragraphs both will include a listing of the problem areas delineated by Wilson and a discussion of their relevance to Mysore State. A number of brief suggestions also will be made as to how certain of the problems might be solved.

Sampling

Problems listed under sampling and suggested solutions to some of them for Mysore State are:

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[6] Elmo C. Wilson. "Problems of Survey research in Modernizing areas" Public Opinion Quarterly XXII (Fall 1958), p. 230-34. Cited by Sociological Abstracts VIII: No. 4 (Oct. 1960), p. 257.

1. There is a lack of secondary sources of data on population. In Mysore State these are available with the village accountant ("Shanubhog" -- a heriditary office which is being replaced by an offical of the village panchayat) who maintains detailed records of: (a) the population characteristics including households, age, sex, bith, and deaths, marital status, occupation and property owned; (b) livestock; (c) cropping; (d) machinery and implements; (e) yield estimates, and (f) natural resources. Hence, many of the difficulties mentioned below also could be overcome if these records were consulted.

2. The fact that use of equal probability theory in the selection of city blocks for area sampling actually may result in larger sampling error than maybe found to be true where controlled or purposive sampling techniques are used.

3. Stratification for all practical purposes is impossible.

4. Making valid population estimates or projections is too complicated and difficult in most underdeveloped areas.

5. There are no ready checks or controls on sample performance

The explanation regarding the situation in Mysore State under the problem one above should suggest that the rest of the problems excepting the sixth and the seventh do not exist to such a degree as to preclude the consideration of the use of rigorous sampling designs. The latter could very possibly be overcome with the closer collaboration of the local leaders. However, it should also be recognized that such collaboration may itself lead to some bias in representativeness.

Selecting and Training Interviewers:

Following are the problems listed by Wilson under this category, together with applications to Mysore State:

1. The availability of enough people with the necessary skills is limited as they are usually fully occupied.

2. Housewives are often barred from employment by custom.

Considering these two problems together with respect to Mysore State they cannot be viewed major problems there because there have been in recent years, a relatively large number of qualified people who remain unemployed. Moreover, for the extension agency it should not be a problem as it has sufficient staff consisting of eight extension officers with college degrees and one village level worker (Gramasevak) for each ten villages who has a high school certificate and has completed one to two years of induction training. If the extension agency wants to involve local volunteer lay leaders in interviewing, a sufficient number of high school educated men is available in the block (A Block is a unit roughly corresponding to the county). On the other hand there is some difficulty in getting women interviewers. But, nevertheless, a sufficient number

would be available if teachers in the primary schools and middle schools (lower secondary grades) were employed on a part time basis during the school days and full time during vacation. Men teachers also would be available if needed. It might be prudent to employ these teachers - men and women - for conducting interviews on behalf of the program planning committee from two points of view. First, they will have worked in the villages and the villagers will be more willing to answer questions and will express their opinion with less bias than they might to a Gramasevak or to any member of the extension agency which they view as a Governmental agency charged with providing service and other facilities to the people rather than with educational responsibilities. Second, these teachers being professional educators and not normally directly involved in the execution of development programs would be able to carry out interviews in a more objective way. However, it remains without saying that it would be necessary to provide orientation training to all those who might be employed.

3. Because of strong class and status identification and the use of more than one language or dialect interviewers must be exceedingly well trained in human relations, sociology and communication areas to name a few, if they are to be able to communicate with the people and establish necessary rapport. The former aspect would not pose a problem to the workers of the same culture. Language difficulty, however, might be overcome by pretesting translations of the schedule and questionnaire to be used. An example of how the procedure works may be seen in a study

that examined social change in Jordan.[7] (See Appendix C.) The schedule was translated into colloquial Arabic from English and pretested in Cairo and Irbid cities in order to make appropriate revisions regarding local differences between Egyptian and Jordanian Arabic before it was used.

4. Personal loyalty of interviewers to the field director frequently leads interviewers to try to falsify results of interviews in order not to disappoint him.

5. Feelings of national pride frequently may lead interviewers to make up responses to mask mass ignorance or apathy.

Neither of the last two problems exist to an appreciable degree in Mysore State, though both point a precautionary finger at the need to reduce interviewer bias to a minimum by making it clear to him (interviewer) that real and honest responses are sought.

Establishing Rapport

The two major problems identified by Wilson in this area were:

1. There is a gulf between the comparatively well educated urban person and his less privileged urban or rural neighbor.

2. Courtesy calls on local leaders and token interviews with persons not designated by random sampling are sometimes necessary. This may consume an undue amount of time.

The two problems stated above are certainly applicable to India in general, and Mysore State is no exception. However, the employment of teachers to do the interviewing as suggested earlier should help

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[7]Gordon K. Hirabayashi and Maylshaq. "Social Change in Jordan: A Quantitative Approach in a Non-Census Area." The American J. Sociology LXIV (July 1958), pp. 36-40.

to overcome these difficulties to a great extent.

Assuring Reliability and Validity

This is perhaps the most serious and probably most difficult problem area to cope with, especially where people are unaccustomed to voicing their frank opinions on controversial subjects. Inexperienced interviewers are not always able to extract reliable information from respondents. Either both the respondent and interviewer end up agreeing with each other or the interviewer accepts non-committal or incomplete answers to certain questions.

The above points discussed by Wilson are also of concern in Mysore State.

A survey[8] was conducted to determine the extent to which general survey techniques may be valid for use in Northern India. Then a report was made concerning the reliability and validity of the data collected in that survey. Interview involved administration of a questionnaire to 984 male respondents in a geographically stratified sample. The report discussed the influence of interviewer affiliation responses. Summary of the discussion is presented here as many of the aspects discussed seem to be applicable to the situation in Mysore State and the techniques used are worthy of consideration.

The schedule included reliability check which asked respondents to say whether or not they had ever participated (a) in any kind of

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[8]Max Ralis and others, "Applicability of Survey Techniques in Northern India." Public Opinion Quarterly XXII (Fall 1958), pp. 245-50, cited by Sociological Abstracts VIII: No. IV, October 1960, p. 256.

voluntary work and (b) in a "Shramdan" (a voluntary contribution to public labor). Ninety-five percent of the respondents who reported participation in Shramdan also reported participation in voluntary work while 95 percent of those who never participated in Shramdan denied participation in any kind of voluntary work. Internal consistency was shown by the fact that 50 percent of the respondents who participated in Shramdan recognized the term whereas only twenty percent of non-participants recognized it at the time of interview.

In the same study cited above, five checks of interviewer bias were conducted. Those who were both government related and/or Cornell University affliated were studied. Findings included the following: (1) there was found to be little effect of the affliation of interviewers on their ratings of respondents capacities and comprehensions; (2) those who were affliated with government were found to have a greater tendency than Cornell interviewers to report the most desirable kind of interview situation without bystanders and uninitiated participants; (3) the distribution of interviewers ratings of respondent's age, education occupation and caste by government affliated interviewers was found to differ significantly from the equivalent distribution of Cornell interviewers; (4) government affiliated interviewers were found to be more likely to leave the question "what are your greatest worries and difficulties?" as a blank or to report respondents as saying "I have no cares or worries"; and (5) villagers appeared to be more reluctant to tell government representatives than they were to tell Cornell inter-

viewers that the government rather than the villagers should build their roads. A correlation test showed that the correlation between education and occupation held for both sets of interviews.

The report therefore suggests that by suitable techniques one could establish reliability and develop suitable designs for use in conducting surveys and analyzing the data collected.

Another report could be cited to show that there are suitable techniques, which could be employed in non-literate societies to determine validity. Dobb[9] in a study of "The use of different test items in non-literate societies" indicated that visual aids, if suitably employed, could overcome some of the problems peculiar to non-literate societies. This technique might prove useful in situations in Mysore State as well. Data on certain individual attitudes, modes of perceiving and abilities were obtained in two-hour interviews by the use of 5 kinds of projective instruments and four formal tests. Male members among the Granda in Uganda, the Luo in Kenya and the Zulu in the Union of South Africa, participated--a total of 292 was interviewed. The projective instruments consisted of Rorschach Plates II, III, VI, and VIII, four ambiguous drawings and several unstructured questions. Formal tests included sorting cardboard pieces into piles of those seeming to be alike; recalling a prior audio message; locating models embedded in

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[9]Leonard W. Dobb, "The Use of Different test items in Non-literate Societies," Public Opinion Quarterly XXI (Winter 1957) pp. 498-504 cited by Sociological Abstracts, VIII, No. IV (Oct. 1960), p. 256.

more complicated drawings (Watkin's adaptation of Grottschaldt) and Benton's visual retention test. The results demonstrated that (1) the magnitude of a score for a sample may depend on the item for which the score was derived and (2) different items may produce similar scores in one society and not in another. However, it was found, an item may be quite useful in pointing up differences within a particular society if its validity can be determined. Generally of differences between societies indicated by an item, is limited by the instrument used and the conditions of its administration. This report indicated that techniques could be employed in other cultures also, provided that certain cultural differences are considered.

A more positive answer to the question as to whether or not survey research methods and techniques could be applied to India was provided in a study reported by Lloyd Rudolph and Susanne H. Ruldoph.[10] Based on the findings, they commented that "there are areas of research which can be suitably handled by survey methods especially research on the growth of public opinion in underdeveloped areas". They, however, suggest six assumptions which should be taken into account in the planning and conduct of research based on their observations from a sample survey of 600 urban rural persons in Madras State. The assumptions were that: (1) most people hold opinions on a broad range of issues and are capable of articulating them; (2) the unit of opinion is the individual; (3) for purposes of a sample survey all opinions are of equal weight; (4) that a clinical or neutral stance

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[10]Lloyd Rudolph and Susanne H. Rudolph. "Surveys in India: Field Experience in Madras State," Public Opinion Quarterly XXII (Fall 1958) pp. 235-244 cited by Sociological Abstracts.

on matters of concern to social science is possible or legitimate; (5) that private research carried out by bonafide scholars is entitled to the respect and cooperation of the general public and the public officials; and (6) that a climate of committment to and an understanding of professional standards in the Social Sciences exists in some measure. Authors also commented that some of the questions which the opinion survey can answer in the west can be better answered by the anthropologist using methods of clinical observation.

These studies examined under the topic "reliability and validity", and other earlier studies reported on, have definitely indicated that research methods and techniques developed in the west are applicable to other cultures provided adequate reliability and validity tests are designed and used. The studies have also, through their findings, thrown new light on many of the aspects involved in the application of research methods and techniques to the determination of people's needs and interests. It should also be noted that the use of these methods and techniques was being discussed in the reports for purposes of application to research. However, the suggestions made in this chapter and the discussions in earlier chapters should not keep one in doubt about their potential utility for the extension agency in the planning and evaluation phases of the Extension educational process, particularly in the process of determining the needs of extension's clientele. Also, the extension agency in Mysore State could profitably utilize such research methods and techniques. An example of how such research techniques as those discussed in this section might be

applied in areas where census and other necessary data are inadequate or lacking will be found in Appendix C.

III. CONSIDERATION OF SUGGESTED PROCEDURES AND TECHNIQUES FOR AGRICULTURAL ECONOMICS SURVEYS IN LOW INCOME COUNTRIES FOR THEIR APPLICABILITY TO OTHER SOCIAL SCIENCE FIELDS

In this connection, it would be pertinent to refer to certain suggestions in Methodology made by John W. Meller[11] for those engaged in village level research in the field of Agricultural Economics in low-income countries. In making suggestions Meller has taken note of the fact that

> . . . Most low income countries have not had the long tradition of data gathering with its attendant perspective to allow theoriticians to draw from others the data for development and testing hypotheses. Similarly, the lack of previous tailoring of theory to problems of low income countries places a greater burden of hypotheses building on those whose primary interest is collection and presentation of empirical data. . . .[12]

After pointing out that village level research in low income countries requires some departure from standard western procedures due to differences in agricultural production conditions, research objectives and availability of research resources, he recommended certain specific procedures and techniques for use in agricultural economics surveys. They are listed below.

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[12]John W. Meller, Village-Level Research, (Paper presented at the CECA Conference on the Teaching of Agricultural Economics in Southeast Asia, held at the University of Malaya in Kanla Lumpur, May 8-14, 1960, issued by the Council on Economic and Cultural Affairs, Inc., New York 20).

1. Multiple interviews rather than single interviews should be planned. Subsistence-type farming, the rarity of written records, the prevalence of non contiguous tracts and the limited experience of farmers with economic survey all combine to introduce important biases ranging from faulty memory to purposeful concealment. A series of interviews with carefully constructed questionnaires, timed according to major input and output cycles, facilitates the more accurate collection of data and also reduces error arising from these problems mentioned above.

2. In the initial stages, "diagnostic studies" with small samples on the order of 30-60 farms should be undertaken in homogeneous areas. As soon as possible, focus should be shifted to carefully defined "problem oriented" studies with samples purposively selected. As knowledge of the Universe increases, sampling efficiency can be greatly increased through stratified, random sampling and/or purposive sampling.

3. As discussed earlier, adjustments in certain concepts have to be made, e.g., when obtaining measures of income levels, farm family incomes and farming success.

4. Relatively gross analytical techniques would be sufficient in the early stages of village level survey as the data are normally of sufficient accuracy. They could be handled by relatively simple analytical techniques such as tabular analysis, scatter diagram and simple farm budgeting.

These suggestions made are for research in the field of agricultural economics. But most of them may be found to be relevant for other specific fields in the behavioral sciences.

IV. CONCLUSION

In conclusion it can be stated that the efforts to apply research methods and techniques to areas which are different in culture than the west where these were developed, have been to this time quite encouraging.

The technical difficulties can be overcome by: (1) developing suitable sampling techniques; (2) using visual aids for interviews; (3) training interviewers; (4) adopting multiple interviews rather than single interview; (5) employing certain reliability and validity checks. Awareness of the differences in value system and consequent variation in socio-economic concepts as well as the lack of understanding on the part of the people about the nature of research should help the researcher in forseeing the effects of such problems on the nature of data collected and on the interpretation of behavioral data. And with this knowledge he should be able to design, execute and interpret socio-economic studies using adapted version of western research methods and techniques. The literature review of such efforts helps us to state that the western research methods and techniques do have potential utility in situations existing in Mysore and elsewhere.

CHAPTER VI

SUGGESTIONS FOR THE USE OF RESEARCH METHODS AND TECHNIQUES THAT ARE APPROPRIATE FOR DETERMINING THE NEEDS OF EXTENSION'S CLIENTELE AND THEIR APPLICATION TO MYSORE, INDIA

It was concluded in the previous chapter that research methods and techniques developed in Western culture could be utilized in Mysore and in other cultures provided differences in value systems and other characteristics were recognized and taken note of in designing such investigations. In this chapter, an attempt will be made to outline suggestions for the use of appropriate research methods and techniques to determine the needs of extension's clientele in Mysore State. The suggestions take note of the cultural differences between rural Mysore and rural America from whose experience of applying research methods and techniques in program development many of them were drawn. Roles played by Mysore extension staff members at different levels (field workers, specialists and supervisors) in the process of program development used in extension work through community development have been delineated and spelled out in light of the directive principles and concepts worked out in the successive five-year plans together with other relevant community development literature. Reference is also made to appropriate reports and publications pertaining to the National Extension Service in India as well as to the Cooperative Extension Service in the U. S. for role delineation. This outline, then, suggests research methods and techniques that functionaires at each level in extension could utilise for determining

the needs of extension's clientele in Mysore State. Suggestions relating to training of personnel to develop competencies will also be made taking into consideration the existing resources and the organisational structure. However, one important assumption that this set of suggestions had to make was that the leaders of the Indian extension work, using the community development approach, are oriented to the idea that research, education, and extension should be closely coordinated if not administratively integrated. It also is assumed, in light of the review presented in earlier chapters, that Action Research to support extension program development (block and village level) would help make planning of Extension educational programs more scientific and, consequently, more effective than the present method based only on the individual and group assessments of the extension staff and the program planning committee members.

I. SIMILARITIES AND DIFFERENCES BETWEEN COOPERATIVE EXTENSION WORK IN THE UNITED STATES AND COMMUNITY DEVELOPMENT IN INDIA

Elements pertaining to this discussion were brought together in Tables IV and V. Perusal of this presentation should reveal that the elements of similarity outweigh the differences. In this context Joseph Di Franco has remarked that "In both approaches, the basic effort is educational and concerned with dealing with people, to involve them in activities to bring about desired changes."[1] The differences indicated,

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[1]Joseph Di Franco, "Differences Between Extension Education and Community Development," Community Development Review, International Cooperation Administration IV (March 1959), pp. 23-25.

TABLE IV

SIMILARITIES BETWEEN COOPERATIVE EXTENSION WORK IN THE U. S. AND COMMUNITY DEVELOPMENT IN INDIA

Item of Comparison	U. S. Cooperative Extension Service	India National Extension Service (Community Development Program)
1. Fundamental objective:	". . . the development of people themselves to the end that they, through their own initiative, may effectively identify and solve the various problems affecting their welfare."[a]	". . . development of self-reliant and harmonious village communities," that is, "to build up the community and the individual and to make the latter the builder of his own village centers and of India in the larger sense."[b]
2. Scope of the educational program:	Nine areas of program emphasis include: a) Efficiency in agricultural production. b) Efficiency in marketing, distribution and utilization. c) Conservation, development and use of natural resources. d) Management on the farm and in the home. e) Family living. f) Youth development. g) Leadership development. h) Community improvement and resource development. i) Public affairs.[c]	Six general areas of program emphasis include: a) Increased production as well as efficiency in agricultural production (includes Animal Husbandry). b) Organization and promotion of cooperatives in as many activities of the community as possible. c) Education and social education - development of men, women and youth, including promoting social institutions and young farmers associations for greater community participation. d) Rural Industries. e) Rural health and sanitation. f) Communications - peoples participation in projects developing communication.[d]

TABLE IV (CONTINUED)

Item of Comparison	U. S. Cooperative Extension Service	India National Extension Service (Community Development Program)
3. Methods and Procedures of Program Development: a) Program planning-	". . . The people who are to benefit from extension work should participate democratically and effectively in determining program emphasis in light of what theybelieve will benefit them the most."[e] Planning committees or advisory committees are involved.	. . . A distinctive feature of the programme as it is conceived has been its emphasis on democratic planning and execution. This implies that building of plans from below.[f] Panchayats, Taluk Boards and District development councils at the village, taluk and district levels (respectively) are involved.
b) Teaching methods employed -	Extension methods and techniques such as individual counsel, demonstration meetings, discussion groups, bulletins and other information media.[g]	Extension methods and techniques such as individual contact, group contact and mass media mentioned in the column for the Cooperative Extension Service of the U. S.[h]
4. Finances made available from:	Four sources - Federal appropriations, county appropriations and contributions from local non-Governmental sources. (This last applies only in such states as New York.)[i]	Six sources - Central, State, District, Taluk and Panchayat and contributions from non-Governmental sources -- people's participation.

TABLE IV (CONTINUED)

Item of Comparison	U. S. Cooperative Extension Service	India National Extension Service (Community Development Program)
5. Staff:	County Staff - County agent and his co-workers who assist in several areas of program emphasis. Supervisors - District supervisors (management, agricultural programs, home economics programs). Specialists - Extension specialists for different research areas such as Agronomy, Forestry, Soil Conservation.	Block Staff - a) Village level:- Gramasevaks and Grama Sevikas; b) Block level.-Block development officer and extension officers in the six subject matter area mentioned under item 2 above. Supervisors - Project executive officers and Deputy development commissioners for administrative purposes and District officers of the development departments such as the District Agricultural Officer for technical guidance and assistance. Specialists - Technical assistants such as plant protection assistants at the district level working with the supervisory staff of the district but having direct access to the research departments and special scheme establishments.
6. Training:	Pre-service, induction, inservice and graduate training and educational programs.	Induction, inservice and undergraduate training and educational programs.

[a]John A. Hannah (Chairman), op. cit., p. 7.

[b]R. Dwarakinath and others, Some Thoughts on Agricultural Extension Methods and Community Development in India (Bangalore: Department of Agriculture in Mysore. 1959), p. 20 and A. R. Desai, Rural Sociology in India (Bombay: The Indian Society of Agricultural Economics, 1959), p. 334.

[c]A Statement of Scope Responsibility - The Cooperative Extension Service Today, op. cit., pp. 8-12.

[d]Our Programme at Work, op. cit., pp. 3, 11 to 18.

[e]John A. Hannah, op. cit., p. 37.

[f]The Sixth Evaluation Report on Working of Community Development and N. E. S. Blocks, PEO Publication No. 31, Program Evaluation Organization, Planning Commission (New Delhi: Government of India, June 1959), p. 6.

[g]John A. Hannah, op. cit., pp. 33-35.

[h]Report of the Agricultural Production Team, op. cit., p. 130.

[i]John A. Hannah, op. cit., p. 48.

TABLE V

DIFFERENCES BETWEEN COOPERATIVE EXTENSION WORK IN THE U. S. AND COMMUNITY DEVELOPMENT IN INDIA[a]

Item of Comparison	U. S. Cooperative Extension Service	India National Extension Service (Community Development Program)
1. Method	a) Emphasizes individual action for improving rural conditions for all people. b) Uses the indirect government approach to help people help themselves. c) Aims at bringing about change by emphasizing decision making by individuals.	a) Emphasizes cooperative or group action for improving rural conditions for the benefit of its individuals. b) Uses more direct government approach to involve people while helping to help themselves. c) Aims at bringing about change by emphasizing decision making by groups or representatives of groups.
2. Educational program	a) Hopes to improve social organization but not directly concerned. b) Is fairly highly specialized by concentrating on agriculture and home economics, and cooperates with individuals and agencies in the field of welfare activities like health, fundamental education and other public utilities.	a) Promotes social organization by initiation. b) Is directly responsible for all elements of human welfare in rural areas.
3. Organization of research, resident teaching and extension	Land Grant College system integrates the three.	Research, resident teaching and extension are separate. In the field of Agriculture and Animal Husbandry they are integrated at the level of the

TABLE V (CONTINUED)

Item of Comparison	U. S. Cooperative Extension Service	India National Extension Service (Community Development Program)
		Directorate of the respective departments. In other fields such as Engineering, Health, Home Economics, Cooperation and Social Education, the resident teaching is not even remotely connected with Research and Extension. Hence, coordination between the three programs is not to the degree that is seen in U. S.

[a]Joseph Di Franco, "Differences Between Extension Education and Community Development," Community Development Review, International Cooperation Administration IV (March 1959), pp. 23-25.

however, are due to differences in philosophy and organization.[2] Di Franco, commenting on this aspect, has said, "Just as each member of a family is not an independent and separate entity in matters of rural family living, so must each family be reckoned with and identified as an important unit within a larger family, the community."[3] Hence, emphasis on the group approach appears to be preferable to the individual approach in community development work in countries such as India where individualization has not taken place to the degree that could be seen in the United States.

Thus, the above discussion leads one to conclude that the methods and techniques which have proved their usefulness in extension work in the U. S. might be applicable to India with suitable adaptations.

II. CHARACTERISTICS, VALUES AND OTHER FACTORS APPLICABLE TO RURAL MYSORE AND THEIR COMPARISON WITH THOSE OF RURAL AMERICA

It would now be pertinent to enumerate certain characteristics, values and other factors found in rural Mysore and compare them with those common to rural America. The differences identified in such a discussion have to be recognized while developing a plan to select appropriate research methods and techniques of western origin.

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[2] Ibid.

[3] Joseph Di Franco, A Collection of Principles and Guides, Cooperative Extension Publication Number 4. New York State College of Agriculture (Ithaca: Cornell University, July 1958), p. 33.

The presentation and discussion below follows the classification system concerning the needs of extension's clientele suggested at the end of Chapter II (page 33). This has been done for the convenience of organization as well as to be consistent with the frame of reference delineated at the beginning of this study. The method employed in presenting this discussion was to first list the different items under each category with reference to rural Mysore and point out the difficulties they pose in applying methods and techniques of western origin, and, second, to indicate the situation in rural America as compared to that described for rural Mysore.

Socio-economic Attributes of Individuals

Rural Mysore:

a) Lack of written family and village records--this limits the degree of precision possible regarding data on costs of production, levels of living and many other aspects of family and community life.

b) Low level of literacy--the 1959 figures for percentage of literatures were--(1) 7 to 20 in the plains region, and (2) 20 to 25 in hilly areas.[4] This suggests the difficulties in collecting data from individuals by mail questionnaire, suggestion box or similar avenues which involve the respondents writing or checking answers to questions.

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[4]Statistical Outline of Mysore. Compiled by the Department of Statistics. Principal Information Office, Government of Mysore (Bangalore: Government Press, 1959).

c) Lack of individualization and joint family system of living which has these characteristics:- (1) owning property in common and sharing its earnings and (2) members being subject to the authority of the head of the joint family. It would be difficult to validate individual responses. The family rather than individuals might have to be treated as a unit when collecting socio-economic data.

Rural America:

a) Almost all farm operators have certain records to income tax, social security and other requirements. However, the quality of these records has been found to vary widely.

b) Not only is the level of literacy extremely high, but also the number of years of school, which was 8.5 for females and 8.6 for males in rural parts in 1950.[5]

c) Individualism has taken place to a greater degree and "family relations are becoming more 'contractual' and impersonal in nature."[6] However, the average farm is still a family enterprise and decisions on farm matters frequently involve family members other than just the operator.[7]

Because of the above facts U. S. extension workers have a definite advantage over their Indian counterparts in data collection from indi-

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[5]Alvin L. Bertrand (ed.) and his associates, Rural Sociology (New York: McGraw-Hill Book Company, Inc., 1958), p. 60.

[6]Ibid., p. 44.

[7]Ibid., p. 395.

vidual respondents, even when using methods which involve respondents in writing and expressing themselves without outside help.

Natural Resources - Land, Labor and Capital

Rural Mysore:

a) As previously mentioned certain information is available with the village accountant and at the taluk office.[8] However, no reliable land use classification based on systematic soil survey is available, excepting in three regions served by major irrigation projects.

b) No estimate of the unemployed and underemployed is available.

c) Lack of a systematic Banking System, and the common practice of investing in jewelry (gold or silver) make correct estimation of financial resources or indebtedness difficult. Added to this is the widely prevalent system of exchange labor which introduces complications when budgeting.

Rural America:

a) Records relating to natural resources, population characteristics and other important items are available for U. S. Censuses in greater detail than in Mysore.

b) Frequent estimates of the unemployment situation in the country is made with the use of appropriate statistical techniques.

c) Well-organized Banking Systems serve and protect the rural families.

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[8] "Village," "Hobli" - Group of Villages, "Taluk" - Consisting of many Hoblis, i.e, about 100 to 400 villages - are the three levels within a revenue administrative unit in Mysore.

The three factors indicated above should suggest certain limitations for an extension worker in rural Mysore when trying to help the planning committee develop programs relating to resource development (e.g., the extension staff will not be able to estimate correctly the potentialities of the land and other resources in the area and thus will be unable to help the committee to establish achievable objectives). Though American extension workers have the advantage, their information, too, is somewhat short of perfection.

Dominant and Important Values

Rural Mysore:

It should be stated that the family goal orientations with which an extension worker would usually be concerned, are in a state of flux. A change has been initiated to replace "fatalistic ascetism" by "economic orientation." In each region and in many cases in each village or hobli, depending upon the degree of exposure to technological change, the change that has occurred varies. In fact, the change takes place in individuals and, hence, variation could be seen between individuals in a family unit itself. In such cases, individualization will have taken place and might introduce complications for an investigator collecting data on the basis of the family as a unit (which was suggested earlier).

Rural Mysore being predominantly populated with Hindus, the value system that dominates is, in the words of Bouquet, ". . . the world renouncing ascetic is the type universally admired and his renunciation is in no sense altruistic or philanthropic but purely self

regarding."[9] Thus, self-mastery and the renunciation of desire is nobler than becoming rich for the Hindu. This dominant value has its ramifications in other values and in the overall value system that an individual develops, unless shaken by the impact of modern technology on the individuals.

In Mysore State, it could be generalized that, in regions where agriculture has developed by the adoption of better farming techniques, such as the use of fertilizers, plant protection chemicals, better varieties of seeds, machinery-pumpsets, tractors and power sprayers, the family goal orientation is more dynamic, economical, than static, merely carrying on what one is "destined to do." Such areas can already be located in the coffee, areca, cardamum, pepper and orange estates of the hilly tracts, and in special commodity crop areas such as cotton, groundnut, tobacco, sugarcane, and in certain irrigated regions. In regions where millet cultivation is predominant, the traditional Hindu family goal orientation has not yet been replaced by economic goals.

As pointed out earlier, such technologically advanced regions or segments and backward regions or segments could be found in each district, and in many cases in taluks, and even villages. The extension research worker has to recognize this phenomenon when planning his studies, whether they be informal or formal research.

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[9]A. C. Bouquet, Comparative Religion (3rd Ed. Rev.; Harmondsworth, 1950), p. 152. Cited by Kingsley David, op. cit., p. 300."Social and Demographic Aspects of Economic Development in India," Economic Growth: Brazil, India, Japan, Simon Kuznets and others (ed.) (Durham, N. C.: Duke University Press, 1955).

Rural America:

In contrast to the still dominant Hindu value indicated above for rural Mysore, the dominant value in rural America is more nearly based on individuals depending more on rational behavior in carrying on everyday affairs and less upon superstitution, faith, and the supernatural. "Experimentation becomes the criterion for accepting innovations in farming and home practices, and economic efficiency."[10] Evidences of this kind of increasing "rationalization of life conduct" are found in areas other than the purely economic.

It is obvious that such value orientation helps a given rural American respondent to appreciate the significance of socio-economic research and, thus, offers far less difficulty for the investigator collecting data there than in India.

Response to the Educational Programs or Attitudes Toward Agencies Initiating and Promoting Socio-Economic Change, Contact with Extension in Kind, Intensity and Degree

Rural Mysore:

The villager is accustomed to responding to a Government lead and does not like to say no to somebody who appears to have his interests at heart.[11] It has been always the practice of enlightened leadership--

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[10]Alvin L. Bertrand, op. cit., p. 44.

[11]Maurice Zinkin, Development of Free Asia. Issued under the auspices of the Institute of Pacific Relations (London: Collins Paper Books, 1959), p. 196.

administrators as well as voluntary leaders--to initiate socio-economic changes by promoting social organizations and institutions. Such efforts might include intensive rural development work done through the Mysore Economic Conference (1912-1935), the Rural Development Scheme (1940-1946), the Multipurpose Cooperative Societies Movement (1948-present), and Visweseraih Rural Industries Scheme (1948-present) and the Community Development Movement (1952-present) to mention the more important statewide efforts. Excepting the last mentioned program, all efforts have lacked in basic educational content but have stressed providing services, though educational intent was implied and behavioral changes were anticipated. The results of these efforts have been encouraging, the people's response has been sustained, and consequential desired development has taken place in areas where the educational content has supported the activities organized for development purposes. It also should be stated that response has depended upon the professional and voluntary leadership that a specific subject matter and geographical area had. The experience of extension workers and other developmental workers has been that people have responded where the programs have been developed on the basis of their felt needs.

Rural America:

The history of farmers' movements during the last one hundred and fifty years reveals that rural America has been keenly aware of its interests and has continually demanded and helped organize institutions to meet the needs of the changing situations. Adult Education Programs and the Land-Grant College System, which includes the Cooperative Exten-

sion Service, are results of such awareness and the organizational efforts of rural leadership.[12] This is exactly the opposite of what has been happening in rural Mysore where enlightened outside leadership has been trying to develop the rural sector of the population.

This difference has certain implications for data collection in the conduct of research to support program development in Mysore. Establishing rapport becomes somewhat complicated. Detailed discussion of this point has already been presented in Chapter V.

Degree of Social Participation of the Clientele

Rural Mysore:

While considering this aspect in Mysore State, one has to take note of the following characteristics of rural life, many of them being common to other parts of India as well:

a) Farm people of the hilly regions ("Malnad") usually live on their farms isolated from each other--"scattered farmstead"--in contrast to the farm people living in plains (Maidan") where clustered houses make village settlements--"Nucleated Agricultural Village Community."

b) There are no organizations such as community clubs or recreation centers, though these are being initiated by the National Extension Service presently in the villages. Even the religious life of the people has not provided opportunity for regular and frequent social participation as the churches have done in the west. As A. C. Bouquet says, "As

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[12]Alvin L. Bertrand, op. cit., p. 233-236.

an institution, Hinduism partakes of the formlessness and unorganized character of all Eastern religions."[13] Worship is mainly an individual, not a community affair. However, the Muslim and the Christian population in the villages have their religious organizations which promote greater opportunities for association. Thus, formal participation is limited.

But social participation--if the term could be extended to include people working together thus promoting social interaction, which could be classified as informal social participation--does exist in greater degree than in the west because of the prevalence of the system of exchange labor between families not only within groups (klan, caste, landlord-tenant) but also within a village and groups of villages extending for a radius of some five to ten miles. For weeks during each of the planting, weeding and harvesting periods, families (men, women and children) work together in the fields. It is such mutual but informal group effort that influences the thinking and action of individuals in their day-to-day living.

The researcher and the extension worker have to be constantly aware of this characteristic.

c) Social structure and social stratification are based on the Caste System which "developed out of a process of organic or functional differentiation within society."[14] The Caste System, however, does not

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[13]A. C. Bouquet, Comparative Religion, op. cit., p. 152.

[14]Radhakamal Mukerjee, "Social Structure and Stratification of the Indian Nation," Transactions of the Second World Congress of Sociology Vol. II (London, WC 1: The International Sociological Association, 1954), p. 16.

inhibit social participation but has influences on economic life.[15]

d) There are many villages which have come under the influence of movements of social equalization initiated by social reformers and Government agencies. Adult Education Programs, Cooperative movements and other Ghandian Constructive programs have also had their effects on social participation in some of the villages.

Rural America:

a.) The scattered farmstead arrangement is common in the U. S. The Nucleated village form of settlement is found only in New England, the Southwest, Utah and also in some of the few remaining large plantations of the South.[16]

b) "American Society has long been characterized by the large numbers of groups of which it is made up."[17] Another Bertrand quotation underscores the American penchant for family groups.

> Americans of all ages, all conditions, and all dispositions constantly form associations. They have not only commercial and manufacturing companies in which all take part, but they have associations of a thousand other kinds--religious, moral, serious, futile, general or restricted, enormous or dimunitive. . .[18]

Hence, it could be stated that a high degree of formal and informal social participation prevails in rural America; while at least the type

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[15]For better understanding of this aspect, refer to pages 296-298 of Kingsley Davis' paper cited earlier and pages 209 to 219 of Maurice Zinkin's Development of Free Asia, op. cit.

[16]Alvin H. Bertrand, op. cit., pp. 78-81.

[17]Ibid., p. 335.

[18]Ibid., p. 335.

of informal social participation mentioned in the case of rural Mysore does not exist to any recognizable degree.[19]

c) In contrast with, for example, medieval Europe and rural India today, America has a highly fluid class system.[20] Social mobility is high.

d) Because of cheap land and the great scarcity of labor, the ability of the population to move rapidly, the absence of occupational differences or favoritism and the ideology of the people who settled in the New World, have all contributed to the "leveling influence," they have served to flatten out the social pyramid and eliminate extremes in social classes.[21] However, there are regions where class differences based on tenure and economic positions do exist to a certain extent.

These differences need to be recognized when conceptualizing specific investigations to be conducted in rural Mysore utilizing adapted techniques successfully employed earlier in rural America.

Level of Knowledge and Skills

Rural Mysore:

a) Lack of records--in addition to the difficulties this factor offers a researcher or an extension worker, it has been difficult for the farmer to try to assess the economic and other benefits that use of many small practice innovations could give him. Hence, one finds

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[19] Ibid., p. 148-149.

[20] Ibid., p. 131.

[21] Ibid., p. 137.

that farmers who practice improved methods on an employer's or landlord's estate or farm do not adopt them for use on their own farms. This has to be recognized while measuring the levels of knowledge and skill not only in the field of agriculture, but also in the fields of homemaking and rural industries, including handicrafts.

b) Variation in the degree of exposure to technological changes depending upon the communication channel--fringe villages around taluk headquarters and cities have better contact with the outside world than do interior villages. Newspapers do not reach all the villages nor are radios available to them.

Rural America:

The first two elements do not exist to any appreciable degree and could be stated almost as being negligible.

Mass communication media (radio, television and newspapers) "bombard the farmer and others alike with positive assertions of universally held cultural values, and, insofar as they are successful, the farmer is blended into the broader American society."[22]

This suggests that there are compartively few communication barriers to continuous technological change in American rural parts when compared to those of Mysore.

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[22] Ibid., p. 422.

Problems: Undesirable Aspects of the Situation Which Can be Changed Rural Mysore:

a) Most of the villagers, particularly in those villages which have lesser contact with the outside world, have no "standards" by which to feel undesirable aspects of their situations because of their ignorance about current technological changes or improvements.

b) Prevalence of a fatalistic attitude--Apart from the "fatalistic ascetism" mentioned earlier, rural people do not believe that they could better themselves in the face of conditions to which they believe they are condemned for life.

c) Villagers cannot perceive and delineate specific problems in an overall situation in which an individual or family is placed. They can state their problem at a general level such as lack of cultivable land for farming for a family to maintain a particular standard of living. However, if one were to pursue in digging deeper to try to elicit a more specific answer, they might state their problem as lack of bullocks for farming or lack of wells for irrigation which would increase their income or assure adequate production.

d) People generally express problems that are community problems or community aspirations such as need for a road, a school or a drinking water well rather than problems faced in their occupations in the fields of agriculture or home industries (cottage industries), and, much less, individual or family problems. This is perhaps due to the fact that they are not ware that an extension worker or any educator could help them to learn new things that could provide them with increased incomes

and higher living levels.

The most important factor that a researcher or an extension worker who is involved in collecting data relating to problems of the people is the lack of individualization to which reference has already been made. It is not uncommon for the outsider such as the researcher or the extension worker to hear the answer that the leaders should be consulted and in fact he might simply direct the investigator to one leader or a group of leaders to get information on such matters.

Rural America:

The elements discussed in the above six categories (better schooling opportunity, high formal social participation, economic orientation towards farm business, stressing on economic efficiency, easy and better communication facilities between the outside world and the rural world) should suggest that the major difficulties encountered in rural Mysore in assessing the problem areas do not exist, at least to the same degree of intensity, in the U. S. that they do in Mysore.

The dominant values, characteristics and certain other physcho-social elements that could be identified in rural Mysore and compared with those prevailing in rural America have been presented and discussed above in an attempt to help extension workers or research workers who desire to utilize appropriate research methods and techniques for the collection of facts and the assessment of the situation as preliminary steps to planning the extension educational program. Generally, extension workers in the field and specialists at the different levels are persons educated in institutions where western thought has a predominant place. Therefore, their orientation toward life as a whole may have

changed considerably without their being really aware of it. Consequently, the framework within which they undertake village-level situational studies, and the concepts they use, frequently overlook certain aspects of the actual cultural situation which exist in rural life. This problem might be still more serious if the person happens to be an individual with urban upbringing. It was, therefore, found necessary to indicate certain basic characteristics, dominant values and other related elements peculiar to rural Mysore and rural United States, prior to trying to recommend suggestions for the selection of appropriate methods and techniques for determining peoples' needs that would be applicable to Mysore.

III. A BRIEF DESCRIPTION OF THE COMMUNITY DEVELOPMENT ORGANIZATION IN MYSORE STATE, THE ROLE OF THE EXTENSION STAFF AND THE PRESENT PROGRAM PLANNING PROCEDURE

In this section it is proposed to provide a brief description of the organizational set up and the working of the community development department. This will supplement the basic elements discussed in section I. The section is again further sub-divided into the following three convenient parts: (1) Organization of community development work in Mysore State; (2) Role of extension staff in program development; and (3) Procedure followed in program planning in community development, and the need for its modification and improvement.

Organization of Community Development Work in Mysore State--Administrative Set Up and Democratic Institutions Involved

At the outset, it should be desirable to take note of the several organizational levels involved in community development work in Mysore State. The following organizational Table (Table VI) indicates the levels of community development work, the next table immediately following (Table VII) shows democratic institutions with which the administrative levels are associated.

In this connection it should be mentioned that the Planning Commission, Government of India, envisages democratic institutions as interrelated parts of one connected structure of administration,[23] and, the Committee on Planed Projects (COPP), the Parliamentary Committee, which thoroughly reviewed in the year 1956-57 the working of community development activities, indicated the following:

> . . . it is for the people's representatives assisted by the development staff to work out and execute the details of the plan. The fixation of targets should, therefore, be the joint responsibility of the state on the one hand and the local representative institutions on the other.[24]

It would be pertinent here to mention the recommendations of the Planning Commission, with respect to the planning of community development programs. The relevant suggestions are cited below:

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[23]The Third Five-Year Plan - A Draft Outline, Government of India (New Delhi: Planning Commission, June 1960), p. 159.

[24]COPP Report: Report of the Team for the Study of Community Projects and National Extension Service, Vol. II, Government of India (New Delhi: Committee on Planned, Projects, November 1957), p. 26.

TABLE VI

MYSORE COMMUNITY DEVELOPMENT ORGANIZATION LEVELS INDICATING AREA AND STAFF INVOLVED

Level	Area Delineation	Staff Involved
I. Action or Operational:	1. Village (circle of villages) 2. Block (usually one taluk)	Gramasevak and/or Gramasevika Extension officers in subject matter and Block Development Officer (B. D. O.)
II. Supervisor: Administrative	Revenue Subdivision	Project Executive officer (Ex-officio function of the Revenue Administrative officer).
III. Supervisor: A. Administrative	District (usually two sub-divisions)	Deputy Development Commissioner (Ex-officio function of the Deputy Commissioner who is the district leader of all Government departments).
B. Technical	District	District officers of the development departments and their specialist extension staff.
IV. Direction: A. Administrative	Division (3 to 5 districts)	Divisional Commissioner
B. Technical	Division	Deputy directors of the development departments and their extension specialist staff.

TABLE VI (CONTINUED)

Level	Area Delineation	Staff Involved
V. Direction:		
A. Administrative as well as technical	State	Development Commissioner assisted by Director of Youth, Director of Inservice Training, and other "peripatetic training" staff.
B. Technical	State	Heads of Departments--Development departments--assisted by Joint Directors and/or other specialist staff.

TABLE VII

MYSORE STATE DEMOCRATIC INSTITUTIONS AT VARIOUS LEVELS AND THE RELATIONSHIP OF THE EXTENSION STAFF TO EACH

Level (Area)	Institution and Its Representative Character	Relationship of the National Extension Staff and Other Development Department Staff
I. Village	Panchayat[a] (Direct election)	Gramasevak attends as advisor--educational role--when community development plans are being considered. He also can initiate discussion.
II. Block	Taluk Development Board (Indirect election. Chairmen of the panchayats are members.)	Block Development Officer is Ex-officio secretary.
III. District	District Development Committee (Indirect election from Panchayats and Taluk Development Boards)	Deputy Development Commissioner is Ex-officio chairman. District staff members of the development departments attend meetings when required.

[a]Panchayat is a statutory body of the local self government at the village level.

1. To plan and develop village production plans "to reach all the farmers in the village or to mobilize effectively the efforts of the local community."[25]

2. To link up ". . . block programmes with efforts in the village."[26]

3. To include in the block plan ". . . all social and economic activities undertaken within the block which call for (a) planning initiated locally at the block and village levels and (b) coordination with the plans of various departments which are implemented within the block."[27]

Furthermore, the National Planning Commission envisages that, in certain sectors, the block plan has these roles--preparation of five-year plans and annual plans.[28]

Role of Extension Staff in Program Development

The discussion preceding was intended to provide a background concerning the organizational structure within which the extension staff works. Now, in program development, the role of the extension staff at different levels would be as delineated below.

Village level worker or Gramasevak: He should help the panchayat in identifying needs of the villagers and in developing programs. He has the responsibility to coordinate educational programs of the several

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[25]The Third Five-Year Plan, op. cit., p. 156.

[26]Ibid., p. 156; "Block" is the administrative and operational unit for the National Extension Service. It covers an area of about 150 sq. miles with 100 villages and 66,000 population approximately.

[27]Ibid., p. 158.

[28]Ibid., p. 158.

development departments--being a Multipurpose Extension worker[29]--based on the objectives stated in the village development plan. The latter, many times, involves locating "unfelt needs" and developing educational programs to make "unfelt needs" felt. His role is visualized as that of an extension worker whose concern is to carry new ideas to the villagers and help them adopt these.[30] He should aid in identifying their needs, fostering their awareness of needs and organizing people in relation to available resources. By nature of his intimate acquaintance with village people, he has the opportunity of effecting change toward both immediate and long-rane village extension goals.[31]

Thus, the Gramasevak's job, which has been described as that of a multipurpose worker includes the important role of an educator needing first to identify the needs of those whom he seeks to serve. Furthermore, the role envisaged includes that of fostering an awareness of needs. Hence, in extension program development, he has an important role to play and being very close to the people his role very much decides the effectiveness of the extension program that is developed at the village level. He also is the contact person for the subject matter specialists at the block level who have to identify the problem areas for program development based mostly on the new assessment of the village situation conducted by the Gramasevak. He also gives them his assistance and

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[29]The Fifth Evaluation Report on Working of Community Development and N. E. S. Blocks. Program Evaluation Organization Publication No. 26. Government of India (New Delhi: Planning Commission, May 1958), p. 51.

[30]Ibid., p. 50.

[31]Report on India's Food Crisis and Steps to Meet it by the Agricultural Production Team. Sponsored by the Ford Foundation. Government of India. (New Delhi: Ministry of Food and Agriculture and Ministry of Community Development and Cooperation, April 1959), p. 116.

cooperation in studies undertaken to help determine the needs of extension's clientele in the area for which he is responsible.

Block Level Extension Officer: "He is a specialist under the guidance of the B. D. O. but receiving technical information from departmental district officers." [32] "He is the person who knows best the needs and possibilities of the area in his field. He has also the primary responsibility for executing the plan."[33] It, therefore, becomes evident that he has to characterize factors such as the farm, the soil, the farmer, his intelligence and educational level, his financial abilities and needs, his attitudes toward change; the resources of the community, and other relevant factors, if he is to be ready to do the job.

Hence, the two specific roles of an extension officer in program development are: 1) to help the Gramasevak in identifying both "felt" and "unfelt needs" in the subject matter area, 2) to cooperate with his colleagues in developing integrated block program plans both long-range and immediate. In this process he has to assist the Block Development Officer who functions as a leader and works with the Taluk Board as its secretary in developing block development plans.

District Level Specialist: He has to provide technical guidance to the block level specialists[34]--Extension officers. This implies that

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[32] Ibid., p. 117.

[33] The Fifth Evaluation Report on Working of Community Development and N. E. S. Blocks, op. cit., p. 37.

[34] Ibid., p. 38.

he should take the following responsibilities:[35]

(1) Analyzing with extension officers current block programs in terms of significance of problems attacked

(2) Helping extension officers collect and interpret background information and make decisions as to program needs

(3) Studying with extension officers their program planning techniques and ways to improve skills in:

(a) Collecting and analyzing background data

(b) Involving people in planning

(c) Formulating objectives and making decisions as to significant problems to be worked on

(4) Helping extension officers interpret and use research findings about extension. Initiate and carry out fact finding studies in order to help the extension officers.

Division or State Level Specialist: He has to provide not only program substance--research knowledge--but also program leadership to the district and block staff. For this he has to explore the specific problem areas, analyze the relevant data (and information), and appraise the field staff of alternatives. This involves systematic investigation, or Action Research. Closely related to this aspect is the assessment of problem areas indentified by the field staff, while working with the people, and, also, by the specialist himself, with his knowledge of the

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[35]Extension Supervision--Part II--Criteria and Performance. Extension Service Circular 523, Federal Extension Service (Washington, D. C.: United States Department of Agriculture, September 1959).

latest research. Thus, be it at division or state level, he will develop an over-all picture of the problem situation as well as being able to identify specific regional problems. This should help by providing needed program guidance. He initiates seminars, workshops and conferences of district and block level subject matter specialists. He takes full responsibility for initiating, organizing and conducting Action Research on the specific problem areas identified through the deliberations mentioned above.

Procedure Followed in Program Planning in Community Development and the Need for its Modification and Improvement

The procedure followed in planning extension programs in the community development blocks has involved three steps listed below:

1) Collection of basic statistics for each village by the Gramasevak in a prescribed schedule called a "village survey report." Such a report is used by the extension staff to work out certain targets for achievement rather than for systematic analysis to help isolate undesirable aspects of a situation which could be corrected.[36]

2) Indication of the needs of the people at a broad, general level by Block Advisory Committees (B. A. C.) e.g., need for schools, intercommunication roads between villages and the main roads, and need for the introduction of improved varieties of crops and the need for

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[36]The Sixth Evaluation Report on Working of Community Development and N. E. S. Blocks, Program Evaluation Organization Publication No. 31, Government of India (New Delhi: Planning Commission, May 1958), p. 15, and Report of the Team for the Study of Community Projects and N. E. S. p. 45.

an adequate supply of fertilizers. The needs mentioned would generally be related to "works programs" and service programs.[37]

3) Formulation of an annual program plan by the Block Extension Staff based on what Block Advisory Committee has indicated and what they themselves have identified as needs. The plans of various development departments, which consist of a set of targets to be achieved for socio-economic development of the region are then incorporated into the block plan. The Fifth Evaluation Report (1958) indicated the procedure in the following way:

> The plans of the different departments should be broken down to the level of the block and recombined into an integrated plan for the area, embodying the contributions of the departments, the district and block level specialists, the B. D. O. and the popular representatives on the B. A. C.[38]

This was also recommended in the "C. O. P. P." report mentioned earlier.

The Block Extension Staff meets periodically to review the work done and work out plans of work for the coming month or months.

It could, therefore, be seen that the process of determining the needs of the people rests on two factors: 1) the training and qualification of the advisory committee--which might not be fully representative--and its understanding of the objectives of community development, 2) and the training and qualification of the extension staff, their assessment

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[37] C. O. P. P. report, op. cit., p. 91.

[38] The Fifth Evaluation Report on Working of Community Development and N. E. S. Blocks, op. cit., pp. 35-36.

of the situation and their understanding of the objectives of community development and their role in community development. Without digressing so far as to again discuss the weaknesses of the procedure now followed (which weaknesses should have been made reasonably clear by the discussion in the earlier chapters), recommendation for the utilization of research methods and techniques by the extension staff to assess and describe the problem situation in a more precise way, so that appropriate decisions may be assured regarding the objectives and priorities in the long-range program plan for extension work, is presented in the following pages. The need for such a plan was recognized in the Sixth Evaluation Report (1959) when it pointed out that "there is no attempt at an organized assessment of local needs and resources and adjustment of the targets to these needs and resources."[39] Furthermore, it adds ". . . In some areas surveys had been conducted by the Government after the selection of blocks for the C. D. and N. E. S. programs. But they are either not used at all or used only at the higher levels."[40]

It should also be mentioned again that the Ministry of Community Development, Government of India, has recommended a program planning procedure which includes: 1) collection of basic statistics; 2) assessment of needs; 3) assessment of resources, and 4) fixation of priorities, thus recognizing the need for modifying[41] and improving the existing procedure toward a more scientific approach.

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[39]The Sixth Evaluation Report on Working of Community Development and N. E. S. Blocks, op. cit., p. 15.

[40]Ibid., p. 15.

[41]Our Programme at Work, op. cit., pp. 9-10.

IV. APPROPRIATE METHODS AND TECHNIQUES FOR DETERMINING THE NEEDS OF EXTENSION'S CLIENTELE AS APPLICABLE TO MYSORE STATE

The recommendations presented below consist of two principal parts: 1) suggestions for better use of available records, and 2) suggestions for utilizing the survey method more effectively to determine the needs of extension's clientele. These were two of the more frequently used methods reported by extension workers and other educators in the United States for collecting facts and analyzing situations as the first step in the development of educational programs as revealed in the review presented in Chapter III above.

Use of Available Records

Use of available records with the employment of certain techniques such as "trend analysis" and "cluster analysis" should help to explain many problem situations and identify specific problems.

It was indicated earlier that the extension staff in the Community Development Blocks make use of certain data collected by the Gramasevaks who are given a schedule--vilage survey report form--for use. This procedure of collecting basic statistics and certain related information pertaining to the village is usually described as a "survey to collect basic statistics." The two main sources of such data are: 1) records maintained by the village accountant, and the institutions of the locality such as cooperatives and schools, and 2) informal inquiry with local voluntary leaders, progressive farmers, office bearers of the panchayat and other bodies, educated individuals, teachers and other

functionaries living in the village. Informal inquiry is employed to collect information on such aspects which are not available from the records (e.g., agricultural practices, production levels, farm credit situation, economics of village arts, crafts and industries, domestic economy, recreational facilities, and health and sanitation).

There is great scope for improvement in the procedure presently being employed. Many sources of available records are not used; the schedule used by the Gramasevaks needs to be modified if true and precise knowledge is to be reflected in the completed schedules; and appropriate analytical techniques should be selected and used if interrelationships of variables in the socio-economic situation are to be properly established while interpreting and analyzing the data collected from the records. The discussion relating to informal inquiry will be mentioned while discussing the survey method.

Available sources of records in Mysore State for collecting data for use in the process of determining the needs of extension's clientele include:

a) Records of the Agricultural Demonstrator's office: Annual reports; Demonstration Register; records of sale of seeds, fertilizers, insecticides, machinery and other farm supplies; reports relating to special schemes (i.e., intensive extension programs)

b) Records of the Cooperative Inspector's Office

c) Records of the Veterinary Inspector's Office

d) Records of the Rural Health units

e) Records of the Forest Ranger

f) Records of the Inspector of Schools

g) Individual school records

h) Records of Rural Industries Scheme's Office

i) Records of the Taluk Office

j) Census reports

k) Mysore seasonal and crop reports

l) Marketing reports of the chief marketing officer and the records of the Regulated Marketing Offices

m) Reports of special surveys and studies

n) Records of the Operator, Mysore Electricity Board

o) Records of the welfare organizations, such as Social Welfare Board units and Adult Literacy Council units

p) Mysore Gazetteer (1920-1940)

q) Reports of the Mysore Economic Conference (1914-1935)

Although the last two sources mentioned above relate to the period dating back to 1920-1940, data relating to natural resources of the region will continue to be of use until a systematic reappraisal is made.

An example of how such records might be used is found in an unpublished study conducted by Srinivasamurthy[42] in Bangalore District (1960) to determine which cultivation practices were being used by vegetable growers, and what their principal problems were. Available records, especially those mentioned under the items a), k), l), m),

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[42]Jade Srinivasamurthy, "Study on Vegetable Cultivation Around Bangalore - Extension Contacts, Practices and Problems of Vegetable Growers Around Bangalore - 1960." (Hebbal, Bangalore: Agricultural College, 1961).

p) above, were used to estimate and project the trends in population growth and the consequent increasing demand for vegetables in the coming years and to identify the problem areas of the vegetable growers who supply vegetables to the Bangalore market. The latter aspect (problem areas) was subsequently confirmed by survey findings in addition to identifying many more specific problems.

It should, however, be pointed out that an extension worker or a research worker who tries to make use of available records will be confronted with situations where the records, though available, may not be useful because of incomplete entries (due to a lack of use of a systematic approach to record keeping and due to inadequate selection of the more important and discriminating items needed by the research worker). Hence, the way in which the records are maintained is very important if they are to serve the purposes discussed in this section.

Suggested Modification of the Village Survey Report Now Used by the National Extension Service

The schedule used by the Gramasevak to collect basic statistics, the so-called "village survey report," needs modification if it is to reflect true and precise knowledge about the village socio-economic situation. In this connection it is pertinent to cite a similar comprehensive schedule[43] developed for the use of extension workers in pilot counties in the rural development program. This schedule, or

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[43] Burwell B. Powell, A Guide for Studying the Economy of Pilot Counties in the Rural Development Program. Agricultural Marketing Series. United States Department of Agriculture (Washington, D. C.: Government Printing Office, 1957).

manual, is entitled, "A Guide for Studying the Economy of Pilot Counties in the Rural Development Program," and has sixteen parts each of which deals with a major field of human endeavor or resource. Such convenient division helps to undertake assembling and reporting data at different times as money and capable personnel become available. The village survey report, which has now seventeen major sections, also could be divided into such convenient categories.

Furthermore, the guide mentioned above is so structured that even individuals and groups of lay people in the area could make use of the guide. It has been found to have the desirable features listed below.

1) For each division, a short introductory paragraph is provided to indicate how the information assembled in that part would be useful in planning. This helps to stimulate and motivate the individuals or groups who use the guide.

2) Suggested sources of data and suggested sources of assistance are included for each division. The advantages of these items are obvious.

3) Items sought for are clearly stated--not leaving it at a vague, generalized level--so that the persons who make entries should not find themselves in a position to exercise their own judgement as to the form of reporting (e.g., units of measurement and categorization).

4) The guide also provides scope for a) making recommendations on opportunities for developing different types of farming, b) indicating trends taking place in marketing service and facilities and c) including certain other aspects of the situation related to rural development.

The four desirable features of the rural development schedule mentioned above are worthy of consideration while attempting to modify and improve the village survey report. As pointed out earlier, Indian extension leaders envisage the participation of the local people in all the phases of planning. Hence, it becomes essential that the village survey report be modified in such a manner that it could effectively be used by local, voluntary lay people. In this connection mention should be made that, during the period 1914-1935 when the Mysore Economic Conference functioned at the three levels of taluk, district, and state, the local voluntary leaders and development department staff worked together in assessing the resources of the region and suggesting development projects (including educational programs). The reports of the Mysore Economic Conference, which were included in the list of available records, presented in the previous section, are evidences of such systematic efforts. Perhaps inadequate sources and lack of persistent efforts in the face of economic depression had their effects on the system. This past experience is cited here to indicate the practicability of associating local voluntary leaders in systematic assessment of resources through the use of "village survey reports" modified to the purpose along lines of the rural development guide recommended by the Cooperative Extension Service in the U. S.

Use of Appropriate Techniques to Interpret and Analyze the Data Collected from the Available Records

Trends[44] relating to: 1) population characteristics, such as farm and non-farm, owner cultivators, tenant cultivators and landless laborers; 2) cropping patterns; 3) market demand; 4) rural industries and 5) other important socio-economic phenomena, could be established to help determine the needs of the different segments of extension's clientele. This could be done by use of the trend projection technique. The basic steps in this technique usually include 1) collecting relevant data relating to the past and present, 2) presenting the data collected on the line or surface of projection, that is, trend fitting,[45] 3) projecting the trend line so presented to a given future time in order to make predictions about phenomena under investigation.

Another very important and helpful procedure which seems essential in Indian extension work through community development is the delineation of demographic social areas. Identification of areas or segments of an underdeveloped population is possible by a technique known as "cluster analysis" mentioned by Tryon[46] in a series of studies cited in Chapter IV. The technique involves the selection of appropriate variables, for example, proportion of agricultural laborers, literacy level and

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[44]Maurice G. Kendell and William R. Buckland, A Dictionary of Statistical Terms (New York: Hafner Publishing Company, 1957), p. 297; these authors have defined "trend" as: A long term movement in an ordered series (e.g, a time series) which may be regarded, together with the oscillation and random component, as generating the observed values.

[45]Ibid., "Trend fitting" as defined by Kendell and Buckland, is the general process of representing the trend component of a time series. A trend may be represented by a particular curve form, or by a particular form of the general class of polynomial in time, or by a moving average.

[46]R. C. Tryon, "Communality of a Variable: Formulation of Cluster Analysis," Psychometrike, 22, 241-260.

communication facilities, and, by using the census data and other available records, identifying demographic social areas with different degrees of socio-economic development. Such an effort to delineate underdeveloped areas and/or segments of the population would be helpful in guiding the work of the program planning committee of the block level. The extension staff would also be profited by knowing the magnitude and relative difficulty of solution of such problems. The awareness caused by such analysis and discussion in the planning committees about these findings will help in developing programs based on the actual problem situations and needs without overlooking such specific top priority problem areas.

Use of Surveys

One of the important conclusions at the end of Chapter III was that employment of systematic fact finding procedure, by the use of research methods and techniques developed; 1) in the areas of rural development and community improvement in general; and 2) in other areas, such as agricultural education, agricultural extension in general, and home demonstration and 4-H Club work in particular, has demonstrated that such procedure has great potential utility for determining the needs of extension's clientele. The review and discussion in Chapter IV indicated that appropriate design should spell out the techniques to be employed at the sampling stage, at the time of development of the measurement devices, at the time of selecting ways to collect data and at the stage of analysis in order to assure presentation of a reasonably true description of a specific situation under investigation. Discussion presented in Chapter V substantiated the stand that research methods

and techniques developed in western culture could be employed in Mysore State with some adaptations, taking into consideration such cultural differences as population characteristics, values and other factors which might vitiate the techniques employed. It should be recalled that discussion in the earlier sections of this chapter provided a background about the working of the National Extension Service in Mysore, and of the characteristics, values and other factors peculiar to rural areas of that Indian State. This background was provided to serve as a frame of reference from which to approach what is presented in the recommendations for using research methods and techniques in conducting surveys for determining the needs of extension's clientele in Mysore State.

It would be pertinent to mention at the outset of this discussion of suggestions that the example cited in the Sixth Evaluation Report (1959) on the use of surveys. The report stated that:

> In Rajpur, Madhyapradesh, the block plan, which is prepared by the B. D. O., and his extension staff on the basis of village surveys and the minimum programme, is considered by the Block Development Committee and finally approved by the Collector and the Divisional Commissioner. But the panchayats are consulted on the breakdown of the block targets for the V. L. W. circles and the villages.[47]

Here, it should be mentioned that the term "surveys" refers to a general process for the "collection of basic statistics" and other background information through informal inquiry by the Gramasevak which

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[47]The Sixth Evaluation Report on Working of Community Development and N. E. S. Blocks, op. cit., p. 16.

was indicated in the previous part of this section under the heading of "Use of Available Records."[48] The basic approach followed in Rajpur seems to be in line with the scientific approach or problem solving approach conceptualized in the Program Projection process by theorists in the Cooperative Extension Service in the United States. The problem faced by extension workers in Mysore and in other parts of India, however, is the lack of an adequate outline of procedure and delineation of responsibilities among the members of the extension staffs at the different levels. With this need in mind, the recommendations listed below are made for the consideration of leaders in the community development approach to extension work in Mysore State, India.

Suggested Use of Research Methods and Techniques by the Members of the Extension Staff at Different Levels in the Process of Determining the Needs of the Clientele

a) Gramasevak: The Gramasevaks could collect basic statistical and background information on the socio-economic aspects of the situation of the village level through well-planned, informal fact-finding research. He could use the "village survey reports" modified along the lines suggested earlier, as a starting point. The Community Development Ministry has suggested the involvement of the lay people in the accurate assessment of the village resources. The suggestion reads:

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[48] Our Programme at Work, op. cit., p. 8.

> The Panchayat, the Gramasahayaks, other progressive workers of the area, the members of the B. D. C. have to take a keen interest in the compilation of this questionnaire.[49] This forms the background information and initial mistakes may subsequently be difficult to rectify.[50]

In line with the thinking of the Community Development Ministry, it could be suggested as an elaboration of this suggestion that community self-surveys could be developed, both to identify needs and to determine the amount and kinds of educational activity. Youth organizations, unattached educated youths and students attending high schools and colleges also could be involved as interviewers. The purposes and procedures of the surveys should be discussed in full with the people who would be involved. The discussions should help indicate the specific problem areas on which a survey should be made. Such surveys may be limited to one village or extended to other villages depending upon the problems identified.

Another way of conducting informal, fact-finding research as a first step in program development (determining the needs of the clientele) is through systematic group discussion involving representative people at the village level. Techniques such as "meeting census" and "Phillips 66 method" mentioned in Chapter III could be adapted to a particular village situation. It was indicated that individualization has not advanced in many villages of Mysore. The techniques suggested will provide scope for the existing groups to participate in decision-making

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[49]"Gramasahayaks" means village leaders; "B. D. C." is the short form of Block Development Committee, "Questionnaire" refers to the "village survey report."

[50]Our Programme at Work, op. cit., p. 8.

yet to maintain group characteristics of the village. They also promote individualization by providing opportunities for individual thinking and expression of ideas.

The above techniques could also be used at a stage after the community self-survey is made. The Community Development Ministry has suggested this procedure for a second stage of program planning.

> . . . Having completed the survey, the next stage in planning is the assessment of needs and requirements. For this purpose, the members of the panchayat are to sit together in their executive committee and also with the adult members of the village, to prepare a list of various things that the village needs.[51]

It could be seen that the discussion techniques mentioned above are extremely useful if such a procedure is to be followed.

Thus, the Gramasevak can profitably employ both the methods (i.e., community self survey and group discussion), either singly or in appropriate combination, for helping identify the needs of the clientele.

b) Extension Officers: One of the roles of the extension officers is to assist and guide the Gramasevaks. Therefore, the methods and techniques discussed in the previous paragraphs should be well-known by these functionaries. They should consolidate the data collected through the village survey reports and also should be expected to develop an overall picture of the problem situation pertaining to their area of responsibility based on the village needs listed by the village planning groups or committees. These attempts would suggest specific problem areas for further investigation or systematic study. They may, then,

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[51] Ibid.

by using survey methods and techniques, identify specific characteristics of a problem, and help the program planning committee to determine the real needs and interests of the clientele. Examples of the county extension staff in the United States conducting such surveys as bases for program planning in all the areas of program emphasis were cited in Chapter III. Certain problems, such as those found in the program area of rural industries, produce marketing, conservation and wise use of natural resources, to mention a few, need systematic fact finding research at the block level and, sometimes, at the district level, rather than at the village level, in terms of informal research.

However, extension officers might utilize such techniques of informal research as "fact finding conferences" and "group discussion techniques" during leader training meetings, field days and other occasions when representatives from the villages may meet.

c) Specialists: While delineating the role of specialists it was indicated that specialists at Divisional and State levels should take the responsibility for "Action Research." It was also mentioned that specialists at the district level should initiate and carry out fact finding studies to help the extension officers. Of course, the roles of the specialists at these two levels, as has been conceived here, are supplementary as well as complementary. Hence, they should coordinate and develop specific projects for Action Research. They might categorize such research into two kinds: 1) those studies that apply to one district only, and 2) those studies that apply to more than one district. For example, a study of the level of knowledge and skill of the farmers

growing a specific crop or combination of crops (such as cotton and/or groundnut) might have to be undertaken on a district level, though it might sometimes involve more than one district. Homogeneity of the population with respect to the investigation cited is not likely to extend to an area covering more than a district. On the other hand, studies to identify the problems of the farmers who need to adopt new methods of cultivation as a result of the advent of new major irrigation projects might have to be planned on a regional basis, though the factor of homogeneity of the population is limiting. It could, therefore, be stated that classification of projects under the two categories mentioned above could be made on the basis of the nature of the specific problem to be investigated. Furthermore, it should depend upon the relative importance of problems to be investigated in each district.

However, studies relating to social participation, value orientation, and acceptance of practices, response to educational programs, nature of communication channels between the farmers and the outside world, need for and availability of farm credit, indebtedness of farm families and other such topics of more generalized character could be conveniently dealt with on the basis of the demographic, social areas identified, taking the state as a whole. Also, such studies might be economical if undertaken at state and regional levels rather than at block, or even district, level. For example, interior malnad, fringe malnad or transition belt (transition from hilly region to plains), deep black soil tracts, red soil tracts, tracts long under irrigation, and tracts which have more recently come under irrigation, have their

own distinctive socio-economic and even psycho-social characteristics. Hence, by first establishing criteria, depending upon the nature of the investigation, to delineate demographic social areas (which include economic aspects also), Action Research studies might be undertaken.

In the section that follows, examples of problem areas for state level specialist Action Research will be presented and discussed for illustrative purposes. In this connection, it should be mentioned that two factors were taken into consideration. They were: 1) where Action Research is new and has to be built into the system gradually, the initial steps should naturally be initiated at the specialist level, and 2) the organizational pattern in Mysore for "mass education" does not provide for a closer or more integrated functioning of Research, Education and Extension. The latter situation, therefore, puts greater responsibility of Action Research on the specialists in the extension wing. In a subsequent section of this chapter a suggestion will be made for bringing together the teaching staff of the colleges with research responsibilities and the extension specialists to coordinate in undertaking Action Research projects.

Examples of Problem Areas for Action Research for Specialists Responsible for the Extension Program in Mysore State

A number of examples of the problem areas that the respective specialists responsible for guiding and supervising extension workers in the National Extension Service, should consider for study and investigation are listed in Table VIII. The study areas mentioned are included

TABLE VIII

SPECIALISTS RESPONSIBLE FOR THE COMMUNITY DEVELOPMENT PROGRAM IN MYSORE STATE AND SUGGESTED STUDY AREAS FOR ACTION RESEARCH

Specialist's Designation	Example of Study Area for Action Research
A. Director of Youth, Office of the Development Commissioner	1. Future plans and needs of rural youth. 2. Participation in youth organization. 3. Factors contributing to the success of youth clubs. 4. Factors contributing to the success of youth activities. 5. Wants and needs of older youth and how extension can help.
B. Director of Inservice Training[a]	1. Characteristics, practices and attitudes of families not contacted by extension. 2. Reasons for lack of a "self-help" attitude even in those villages where "community projects" were employed as a method of bringing about socio-economic change. 3. Peoples' participation studies--degree, nature and impact on participant behavior through participation in community projects and in social organizations promoted by extension agencies, and comparison of these organizations with other social organizations in the village. 4. Reasons for slow progress in increase in adult literacy and identifaction of factors contributing to the promotion of literacy.
C. Specialists[b] having joint Research and Extension roles: Department of Agriculture- (1) Joint Entomologist (2) Joint Plant Pathologist (3) Chemist--Compost Scheme (4) Divisional Soil Conservation Officers	1. Level of knowledge and skills, and identification of the principle problems of the farmers in the respective fields.

TABLE VIII (CONTINUED)

Specialist's Designation	Example of Study Area for Action Research
(5) Cotton Officer for Cotton Expansion Scheme (6) Special Officer (Agriculture) Tunga Bhadra Project	
D. Department of Animal Husbandry: (1) Poultry Development Officer (2) Dairy Development Officer (3) Officer in Charge of Fisheries Development	1. Studies relating to characteristics, occupational training, levels of knowledge, resources available for the farmer and problems relating to feeding and equipment use, processing and marketing.
E. Department of Health: Joint Director of Public Health	1. Responses of people to educational programs such as maternity welfare, family planning and village sanitation; and educational assistance they need from health personnel.
F. Director of Rural Industries	1. Economic characteristics, educational status, occupational training of the different categories of artisans and craftsmen in rural Mysore and their problems. 2. Needs of the local people for different articles of daily use: (a) the existence of artisans or skilled workers and (b) raw materials.[c]
G. Deputy Registrar of Cooperative Societies	1. The people's image of cooperative societies--multipurpose, produce marketing, farming and credit.
H. Chief Instructresses, Home Science wings in Gramasevak Training Centers[d]	1. Personal and family characteristics of village women who participate in women's organizations, women's programs and who have responded to contacts made by Gramsaevikas by adopting recommended practices.

TABLE VIII (CONTINUED)

Specialist's Designation	Example of Study Area for Action Research
	2. Aspirations and future plans of the girls and young women, their needs for equipping themselves to fulfill their aspirations and how extension can help.

[a]In the absence of Extension Methods Specialist, Rural Sociologist and Specialist in Social Education, the Director of Inservice Training has to take up the Action Research responsibilities relating to these fields in the earlier stages. . . . Later on, these responsibilities might be shifted on the staff of the extension wing of the Agricultural Colleges.

[b]These specialists of the Department of Agriculture, some of whom are attached to the research sections, are under the direction of the Joint Director of Extension and hence they should be able to coordinate the work when needed.

[c]Our Programme at Work, op. cit., p. 17.

[d]In view of the complete independent set up of the two aspects of the Home Science teaching in the University and the Home Science extension work, the Home Science wings at the Gramasevak training centers who are responsible to train Gramasevikas should have to take up "Action Research" responsibilities.

only for illustrative purposes. The list does not comprise an exhaustive or comprehensive one; nor is it based on actual problem situations.

Suggestions for Assessing and Augmenting Certain Resources and for Assignment of Responsibilities for Action Research

The rather lengthy list of possible study areas relating to program development in Table VIII is only indicative of the need for specialists at the state and regional level to undertake such Action Research. It is assumed that district level specialists play a very important part in the design and carrying out of these studies. However, there are certain existing resources that have to be reassessed and augmented for the use of these specialists if they are to be expected to undertake the suggested responsibilities for Action Research. Suggestions in that direction are made below for the consideration of those in authority.

a. Identification of problem areas: A series of periodical--annual or biennial--seminars for extension officers should be held at the divisional level for each subject matter area, followed by workshops of subject matter specialists of district and regional levels at the colleges. In the case of workshops, related departments or colleges, such as the Agricultural College, Veterinary College, Engineering College, College of Education, Medical College and Economics Department of the Arts Colleges (for research in the area of cooperatives) should take the responsibility for organizing them. It might be convenient and profitable if Alumni associations were to take the organizational responsibilities.

The seminar reports and workshop reports should indicate some specific areas for Action Research studies.

b. Formulation of research projects: The respective state level specialists should form a small group of three to five involving district level specialists concerned, the regional statistical assistants and one member of the teaching staff of the college. This groups should design the project in detail and entrust the data collection responsibilities to the district level specialists involved.

c. Data collection: District level specialists should undertake the responsibility of organizing the data collection. They could use three types of investigators depending upon the nature of study.

(1) Gramasevaks and Gramasevikas.

(2) Voluntary leaders, young farmers association members, Shramdan campers and other university student summer campers. Currently, there is a proposal to prescribe six months of village development for every student, who wishes to join the University. With previous planning, and depending upon the talent and aptitude of the students, these could be profitably employed.

(3) School teachers.

d. Analysis and interpretation of data: The group that formulated the research project should take this responsibility. However, the teaching staff associated with this group whould be able to do this job. They have the resources and competence, when compared to other members, to take this responsibility.

Such an association of the teaching and specialist staffs in the extension departments would be in line with the present trend toward integration of Research, Teaching and extension activities.

e. Training of personnel for Action Research: The suggestions so far made naturally imply that the extension specialist staff, the teaching staff and extension field staff who are to be involved in the several phases of conducting Action Research should be competent enough to take the responsibilities indicated for the respective functionaries. Two types of knowledge and skill are involved in conducting Action Research: 1) problem formulation, designing the study which includes the selection of sampling procedure, the method of collecting and analyzing data, the measurement technique and the statistical tests, and 2) the interviewing itself.

If training is to be effective, it will be necessary to organize short inservice courses to develop better understanding of the above among the members of the staffs involved and to provide opportunities for them to acquire necessary skills for carrying out the responsibilities indicated. Such an effort has already been made in the Agricultural College, Hebbal, Bangalore, during recent years. Two seminars were conducted under the leadership of the University of Tennessee-India Technical Cooperation Team located at the college. About 30 research workers and teachers participated in the 1959 seminars on "Research Methods and Techniques in Agricultural Economics." Such seminars could be organized in the respective colleges to which subject matter specialists belong. If possible, the National Institute of Social

Studies, Gokhule Institute of Public Affairs and other institutions which have pioneered in social research, and have experienced educators and social scientists on their staffs, might be requested to organize training courses in social survey methods and techniques. The first named institute is already offering such a course to social workers engaged in industrial units.

In each district there is a College of Arts and Science affiliated with the University. The facilities available in these colleges could be utilized for training field workers in proper interview techniques and in informal research techniques. The trainers from the colleges could organize a peripatetic program for imparting training during summer holidays or other vacation periods. Such a training scheme for rural school teachers in social education activities is presently being carried out under the community development inservice training programs for extension workers.

In this connection it should be mentioned that the Gramasevaks and Gramasevikas training courses include study of the village survey method (i.e., interview forms, technique and collection of basic statistics). These are provided during 1½ to 3 months village stay practicals. Also, the extension methods course offered in the Agricultural College, Bangalore, includes regular village visits for practical training in survey, and a two month village stay experience during the summer when trainees are taught the technique of interviewing and reporting.

Hence, by this experience, it could be stated that it would not be difficult to organize training in village survey techniques for other personnel.

However, there should always be opportunity to improving training content. In this connection, it might be pertinent to mention the training of village workers which included survey making at the Barapali Training Center at Orissa organized by the American Friends Service Committee as part of their rural and community projects in india.[52] Training in how to make social surveys in the village included enumeration of certain data by the method of interview and use of the census chart in collection of statistics relating to socio-economic conditions of the families. Such experiences could be utilized in developing better training programs.

IV. SUMMARY AND CONCLUSION

1. Approaches to extension work being basically the same (i.e., educational nature of the work and methods for dealing with the people), the research methods and techniques which have been effectively employed for determining the needs of extension's clientele in the United States could be utilized by the National Extension Service in Mysore.

2. Differences in characteristics, values and other factors between the situation in rural America and rural Mysore should be recognized in order to develop appropriate concepts at the time of planning Action Research and in order to modify the techniques selected.

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[52]Howard M. Teaf, Jr., "Origins of a Private Village Improvement Project--American Friends Service Committee in India." Hands Across Frontiers--Case Studies in Technical Cooperation. Howard M. Teaf, Jr. and Peter G. Frank (ed.) Netherlands Universities Foundation for International Cooperation (Ithaca: Cornell University Press, 1950), p. 109.

Important differences between rural Mysore as compared to rural America recognized in this connection were: a) lack of written records, low level of literacy and low level of individualization; b) inadequate records relating to natural resources; c) dominance of "fatalistic ascetism" and lack of economic orientation for family goals--high value placed on self-mastery and renunciation of desire; d) people relying on Government agencies for service and supply facilities and also for leadership in social organizations; e) more informal participation and lack of formal participation and f) variation in the degree of exposure to technological change.

3. Action Research should be planned and conducted to support the extension workers in their efforts to help planning committees develop programs adapted to the local situations as well as, in their educational efforts, to make the unfelt needs felt. Specialists should accept the responsibilities for Action Research and should seek the help of the teaching and research staffs and other available personnel. Block staffs should utilize informal research techniques and cooperate with the specialists in carrying out Action Research projects. The needed training for these responsibilities could be provided with the existing resources. By systematic reassessment of the existing resources, in terms of personnel of the development departments and of the colleges, a working arrangement could be developed to bring the three branches of Research, Extension and Teaching together to make the community development approach to extension work more effective. If this can be achieved, it should not be difficult to employ the scientific approach

to program development based on sound and relevant facts derived from valid studies designed to determine the real and important needs and interests of extension's clientele--the people of India.

CHAPTER VII

SUMMARY AND CONCLUSION

I. SUMMARY

The Cooperative Extension Service in the United States has taken steps to improve extension methods and procedures for working with people in the development of more effective county extension programs. Program Projection, a relatively new process for long-range extension program planning involving local people, has been employed to one degree or another throughout the United States since 1955. This method takes advantage of the scientific approach to planning. The phases involved in the process are: 1) collecting facts; 2) analyzing the situation; 3) identifying problems; 4) stating objectives and 5) considering alternatives. This, therefore, implies the employment of methods and techniques developed by science, in other words the development of an "extension technology." This indicates that American extension workers have the need to select and/or develop suitable research methods and techniques which could be utilized for collecting facts, analyzing situations, and identifying problems--the three phases which, for the purposes of this study, are seen to constitute the process of determining the needs of extension's clientele.

Workers in the National Extension Service of India also have this urgent need for suitable research methods and techniques to help them determine the needs of the people in the approximately 5,580,000 villages of India.

The problem selected for investigation, therefore, was to study the available research methods and techniques developed by the workers in extension education. Adult education and the various social sciences, and to consider the potential utility they might have for determining the needs of extension's clientele. Attention was then focused on the possible application of the findings to extension work in Mysore State, India. Stated purposes of this investigation were:

1. To identify and examine the research methods and techniques generally accepted and used by extension workers and others with respect to their potential utility for determining the needs of extension's clientele as a basis for developing sound extension programs in the United States.

2. To make recommendations for selection of appropriate methods and techniques for determining the needs of extension's clientele in Mysore State, India.

Long-range county extension program planning (Program Projection) is an educational process of great importance. It is the responsibility of the county extension staff to help the planning committee in carrying out the five phases of the process. The staff should seek to obtain reliable facts so that the process of determining the needs of the clientele will be unbiased and the program developed will be sound. The importance of designing and conducting systematic studies to develop plans of action was illustrated by relation of the experience gained by a state agricultural warboard in a 1941 campaign to increase the production of milk

The findings of the study, which consisted of a review of literature and discussion with a view to resolving the problem stated earlier, indicated that currently accepted concepts of motivation and need and their importance to Extension education set forth the principles outlined below.

1. No learning ever takes place in the absence of motivation.

2. Motives, which are permanent drives behind all the activities of the individual, arise from basic needs and provide direction and purpose to behavior.

3. Needs, other than physiological, are mostly of social origin and arise out of the basic value system of the culture.

4. The ways in which certain basic needs, particularly psychological, spiritual and social, are satisfied differ substantially in individual cultures.

5. Needs manifest themselves in behavior and, therefore, an educator can determine the needs of the clientele he seeks to serve.

6. The process of determining the needs of Extension's clientele should involve three interrelated phases, namely: a) finding out where the people are; b) establishing the standards to which the people wish to reach, and c) identifying the gap between the two.

Review of the principles stated above, and verified by available published and unpublished material, suggested the need for development of a classification system including those items concerning the needs of extension's clientele which would be of value of the extension worker preparing to plan and conduct his educational program. The

items included in the classification system were: 1) Socio-economic attributes of individuals; 2) Natural resources; 3) Dominant and important values; 4) Responses to the educational program; 5) Degrees of social participation; 6) Levels of knowledge and skills; 7) Problems and 8) Programs and activities. This classification system provides a convenient framework for the extension worker to use while planning to determine the needs of his clientele.

This classification scheme was also used as a convenient frame of reference in categorizing the several research studies (including methods and techniques) examined for their utility for determining the needs of extension's clientele.

The review in Chapter III regarded methods and techniques employed by educators in the various fields to determine the needs of the people, and provided evidence of effective employment of certain research methods and techniques. They were found to be efficient tools for extension workers to employ preliminary and prerequisite to program planning. Both systematic informal and formal research techniques have been used.

Informal research techniques found to have been effectively used, included: 1) suggestion boxes; 2) registration cards; 3) interest questionnaires; 4) club questionnaires; 5) check lists or check sheets; 6) opinion fact sheets; and 7) records of phone calls and other inquiries. Also, use of such sources as the newspapers, local libraries and records made by the local organizations have proved to be helpful in data collection.

Formal research methods and techniques that were found to have been employed for determining the needs of the people educators serve, included:

1) Use of available records and documents

2) Planning and conduct of self surveys and sample surveys using interview schedules and mail questionnaires for collecting data, and statistical tests of significance for analyzing the data collected.

3) Application of experimental design using a controlled situation together with randomization and replication.

Furthermore, consideration of the concepts developed regarding the value of selected research methods and techniques indicated that it is appropriate, on occasion, for the extension worker to rely on certain methods and techniques developed by behavioral psychologists and other social scientists.

Examination of the studies relating to the areas in the classification system mentioned earlier indicated that the reliable information required can be obtained if certain appropriate collection methods and/or techniques are employed. The two prime research methods that were found to have greater potential utility for this purpose were: 1) the use of available records, and 2) the planning and conduct of surveys. The review revealed that by the wise and proper use of census reports together with statistical records available from the different organizations, institutions and agencies, the extension worker could formulate a relatively comprehensive description of the socio-economic situation and identify problems of consequence. "Trend projection" and a statistical technique known as "cluster analysis," employed to delineate demographic social areas, were the two specific useful techniques which were identified as having potential utility for determining the needs of extension's

clientele. An examination also was made of techniques for: 1) sampling the population; 2) measuring attitudes, opinions and other qualitative variables; and 3) testing the significance of an observed phenomenon.

The techniques which appear to have greater potential utility for determining the needs of extension's clientele were:

1. In the area of sampling:-
   a) Random sampling, including stratified sampling
   b) Purposive sampling, including area sampling
2. In the area of measurement:-
   a) Forced choice techniques
   b) Guttman scales
   c) Improved Chapin scales
   d) Paired comparison techniques
   e) Indexes to fit particular situations
3. In the area of data collection:-
   a) Interview schedules
   b) Mail questionnaires
   c) Projective techniques--based on the literature reviewed and the experiences related by the various authors and the claims made by them for the techniques
   d) Forced choice technique.
4. In the area of statistical analysis:-
   a) Chi square test
   b) Analysis of variance and "t" test
   c) Correlation analysis
   d) Factor analysis.

The discussion revealed, furthermore, that research techniques could be developed to fit different problem situations.

Hence, it was possible to conclude that an extension worker or a research worker could utilize the proven research methods and techniques to overcome a given problem in the determination of the needs of the clientele, depending upon the person's understanding and knowledge of these methods and techniques and their appropriate and proper use.

The review and discussion in the first three steps outlined above established the potential utility of research methods and techniques for determining the needs of extension's clientele in the United States. The techniques considered in these discussions being of western origin, it was necessary to investigate whether or not they might be applicable to different cultural situations, particularly to Mysore State, India. Specific research problems were found to exist in the general areas of 1) sampling, 2) selecting and training interviewers, 3) establishing rapport with local people and 4) assuring reliability and validity of data, and the problems in each area were dealt with in the literature review. It was found that most of the problems could be overcome by suitable adaptation and modifications. Examples cited from the experiences in South Africa, Jordan and India provided evidences for such conclusion.

Some of the suggestions and recommendations made for adapting and modifying western techniques so as to permit their use in a specific oriental cultural setting are summarized below.

1. Care must be taken in the use of certain concepts such as "cooperation" and "democracy."

2. In the initial stages, diagnostic studies or pilot studies with samples should be undertaken. As soon as possible, focus should be shifted to carefully defined problem-oriented studies with samples purposively selected. Appropriate sampling techniques need to be developed for each different situation.

3. Multiple interviews, rather than single interviews, with carefully constructed questionnaires, timed according to major input and output cycles should be planned. Use of visual aids might help establish rapport in specific situations.

4. Relatively gross analytical techniques would be sufficient in the early stages of a village level survey.

5. Certain reliability and validity checks have to be employed.

Thus, the discussion presented and conclusions made in the four successive stages of this investigation have pointed toward the potential utility of selected research methods and techniques for determining the needs of extension's clientele both in the United States and in Mysore State, India. Recommendations, taking note of some of the important differences in organization of the two extension services and in characteristics, values and other factors between rural America and rural Mysore, were then made for Mysore State. The main recommendation for Mysore State Extension Work was for Action Research to support the extension staff members in their work with the block planning committees in developing extension programs adequately adjusted to the local problem situations. It included the following specific suggestions:

1. Specialists should assume the responsibility for Action Research, and, with the cooperation of the teaching and research staffs of the colleges and other educational institutions and agencies, should plan and carry out Action Research projects. (A list of suggested problem areas was included for illustrative purposes, see page 200).

2. The extension staff in the Community Development Block should utilize appropriate informal research techniques indicated in the present study and cooperate with the specialist in carrying out Action Research.

3. Systematic training in better understanding and use of the appropriate research methods and techniques found to be effective should be provided to the staff involved.

4. The two prime methods of research which could be most practicably utilized were found to be: a) the use of available records, and b) the planning and conduct of sample surveys.

II. CONCLUSIONS AND IMPLICATIONS

The investigation to identify and examine the research methods and techniques generally accepted and used by extension workers and other educators with respect to their potential utility for determining the needs of extension's clientele as a basis for extension program development, revealed and suggested the conclusions listed below.

1. Generally accepted concepts regarding motivation and need have useful application in the Extension educational process.

2. Efforts of the social scientists during the past three to four decades have resulted in the development of certain research methods

and techniques (different sampling techniques, measurement devices, data collection procedures and analytical techniques, including statistical tests) based on strong mathematical frameworks. These have potential utility in the fields of applied social sciences, particularly in Extension education. Two methods, 1) the use of available records and 2) the sample survey, have potential usefulness for county extension workers seeking to determine the needs of extension's clientele.

3. Extension educators and other educators have employed the above mentioned methods and techniques to determine the needs of those they served. The results of such use indicated that these methods and techniques not only serve the purpose appropriately but also are practicably useful in most of the related fields, such as adult education, agricultural education and extension education.

These conclusions should naturally lead one to suggest that basic ground work for the development of an "extension technology" has already been laid. The specific problem with which this investigation was concerned has been partially solved already by the efforts of social scientists, educators and extension workers who have begun to use the scientific approach to extension program development. However, the present need is for these techniques to be used by the majority rather than by the isolated few of the educational workers. Educators in all fields, particularly extension workers, should become aware of this fact, develop necessary competence in the wise use of these research methods and techniques and apply them in their regular roles as educators in county extension program planning. When this is done, a

contribution will truly have been made to the development of an "extension technology," the need for which was the basis of this investigation. The research methods and techniques considered in this thesis have potential utility not only in the first phase of the Extension educational process (i.e., determining the needs of extension's clientele as a part of program projection), but also in other evaluative phases of the extension educational process.

Another purpose of this investigation was to make recommendations concerning the use of selected methods and techniques for determining the needs of extension's clientele in Mysore State.

The review of experiences relating to the use of research techniques developed in the west and in other cultures lead to the encouraging conclusion that they could be applied in cultures which are different from the west, this conclusion also applying to Mysore State, India, in orient. Application, however, requires that certain adaptations and modifications be made after taking note of peculiar local situations. The suggestions made in the last chapter indicated that the National Extension Service in Mysore, even within the existing organizational framework and with the present resources available to it, should be able to undertake Action Research to support field workers in carrying out educational responsibilities based on the needs of people. It can employ proven research methods and techniques developed in the United States in determining the needs of its clientele as a basis for developing extension programs at the village, block and district levels.

While earlier establishing the need for the study, it was suggested that it is essential for the extension staff to have available to it facts which are reliable and representative so that unbiased data for determining the needs of clientele may be available for use in developing extension programs. Certain research methods and techniques have proven their worth for use in the collection of facts which can be relied upon and which are representative in character. This investigation has clearly brought out this fact. And, therefore, extension staffs both in the United States and in India must accept the responsibility for developing competencies in the use of appropriate research methods and techniques here identified in order to be able to more effectively carry out their educational responsibilities to the people they serve.

By way of recommendation for further study in this area, research should be conducted to develop, test and put into use clearly stated and well defined approach to the determination of the needs of extension's clientele at the county (and block) level, each approach to include such phases of design as sampling, data collection, analysis, testing for significance and reporting on findings.

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APPENDIXES

APPENDIX A

COMMUNITY ACTION CHECK SHEETS[1]

1. WHAT CAN WE DO IN MY COMMUNITY?

Postwar planning aims to provide jobs, promote freedoms and expand the American way of doing things in local communities.

Thirty different phases of community life are distinct. These may be grouped in eight divisions as shown below. Although all are interrelated, they can be treated separately and for each a detailed checksheet is available listing desirable goals.

Check the following list to indicate the types of improvement which you think are most needed in your community.

_____ EDUCATION

_____ (1) Adult education programs
_____ (2) Elementary and secondary education
_____ (3) School buildings, grounds and equipment
_____ (4) School staff and administration

_____ FARMING

_____ (5) Farm business
_____ (6) Farmer relationships
_____ (7) Conservation of resources

_____ GOVERNMENT

_____ (8) City planning and zoning
_____ (9) Local government administration
_____ (10) Protective services of government
_____ (11) Public social welfare
_____ (12) Veterans' services programs

_____ HEALTH

_____ (13) Nutrition and food supply
_____ (14) Organized health programs
_____ (15) Mental health programs
_____ (16) Prenatal care and child health
_____ (17) Sanitary programs

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[1] Paul H. Sheats and others, Adult Education. New York: The Dryden Press, 1953), pp. 313-314.

_____ HOMES

_____ (18) Family life program
_____ (19) Housing and farmstead improvement
_____ (20) Rural homemaking group activities
_____ (21) Town women's group activities

_____ RECREATION

_____ (22) Community recreation facilities
_____ (23) Community recreation program

_____ RELIGIOUS LIFE

_____ (24) Church administration and equipment
_____ (25) Religious leadership and cooperation
_____ (26) Religious programs

_____ TOWN BUSINESS

_____ (27) Community hospitality
_____ (28) Industrial development
_____ (29) Retail trade
_____ (30) Service occupations

Remarks: _____

_____

_____

_____

_____

Name _____

Address _____

Postwar planning in the average community means:

1. Having a few leaders "talk it up" with others.
2. Gaining the support of the town council and other responsible groups.
3. Holding a community planning conference bringing together leaders of all institutions and organizations.
4. Establishing a Community Coordinating Council to correlate and carry forward the program.
5. Organizing community action committees to obtain facts and develop programs.

Note: Thirty Community Action Checksheets are available from the Agricultural Extension Serivce, Iowa State College, Ames, which present reminders of things to be desired in each phase of community development listed above.

The materials on this page and on pages 314 and 316 are reproduced from guides developed at Iowa State College by Dr. W. H. Stacey.

2. Iowa Community Action Checksheet No. 1

ADULT EDUCATION PROGRAMS

To be desired	Your Community Score A = Good B = Fair C = Poor D = None
1. All citizens voting intelligently in every public election	____
2. Timely information and education al discussions in the programs of:	
a. Luncheon service clubs - - - - - - - - - - - - - - - - -	____
b. Chambers of Commerce - - - - - - - - - - - - - - - - - -	____
c. Women's clubs- -	____
d. Parent-Teachers Association- - - - - - - - - - - - - - -	____
e. Church adult classes - - - - - - - - - - - - - - - - - -	____
f. Farm groups- -	____
g. Labor groups -	____
h. Business and professional clubs- - - - - - - - - - - - -	____
i. _____	____
3. Public library service providing reading material free for all- -	____
4. Newspapers supporting adult education programs - - - - - -	____
5. Representative citizens cooperating through a community council to develop adult education programs- - - - - - - -	____
6. Public forum program bringing leaders who stimulate and broaden interest in public affairs - - - - - - - - - - - -	____
7. Radio listening groups discussing public service broadcasts- -	____
8. Vocational education available for men and women in city and country- -	____
9. Avocational adult education programs provided which help adults develop hobbies and crafts- - - - - - - - - - - - -	____
10. Program planning conferences held annually for program chairmen of local groups - - - - - - - - - - - - - - - - -	____
11. Leadership programs providing training for leaders of community activities - - - - - - - - - - - - - - - - - - -	____
12. Adult education integrated into a program of community development- -	____
13. _____	____

Recommended action: _____

_____

Submitted _____ by _____

Date Committee members

APPENDIX B

1. INTEREST QUESTIONNAIRE

INFORMATION, PLEASE!

WE NEED YOUR ADVICE. The Community Center has decided one of the important new services it can offer to its members, and others, is a streamlined program of informal adult education. We want to offer those subjects which you--and people like you--will want to take. Will you let us know your desires, by checking the blanks below (check the column that most nearly reflects the way you feel). Then, will you place this sheet in the postage-paid envelope enclosed and mail it right back to us? Thanks.

	Good Idea	Am interested	Would Enroll
BUSINESS			
1. Principles of Real Estate.	_____	_____	_____
2. Salesmanship	_____	_____	_____
3. Starting a Business of Your Own. . . .	_____	_____	_____
4. Insurance (specify type)	_____	_____	_____
5. Psychology in Business	_____	_____	_____
6. Principles of Accounting	_____	_____	_____
7. Other:	_____	_____	_____
PERSONAL DEVELOPMENT			
8. Public Speaking.	_____	_____	_____
9. Sex and Marriage	_____	_____	_____
10. Psychology and Personality	_____	_____	_____
11. Getting Along With Others.	_____	_____	_____
12. The Science of Health.	_____	_____	_____
13. Other:	_____	_____	_____
HOBBIES AND LEISURE-TIME LIVING			
14. Photography for Amateurs	_____	_____	_____
15. Home Movies.	_____	_____	_____
16. Stamp and Coin Collecting.	_____	_____	_____
17. Writing for Publication.	_____	_____	_____
18. Getting More Out of Music.	_____	_____	_____
19. Enjoyment of Literature.	_____	_____	_____
20. Painting as a Hobby.	_____	_____	_____
21. Amateur Astronomy.	_____	_____	_____
22. Social Dancing	_____	_____	_____
23. Other:	_____	_____	_____

WORLD AFFAIRS AND CURRENT EVENTS

24. The United Nations and Peace	_____	_____	_____
25. Behind the Headlines	_____	_____	_____
26. Government, Labor, and Capital	_____	_____	_____
27. Other:	_____	_____	_____

Most convenient time for you: 5-6____; 6-7____; 7-8____; 8-9____.

Name_____ Address_____

2. CLUB QUESTIONNAIRE

WE WOULD LIKE TO BE OF SERVICE TO YOU

The Community Center is interested in learning how it can be of service to you after you have completed the courses you have been studying. You are learning many sills and at the same time making many friends and acquaintances. We would like to develop a program that would make it possible for you to continue these leisure-time activities with your friends here at the center. Listed below are various suggested activities. Please let us know your desires by checking those activities you would be most interested in joining.

CLUBS

1. Hikers	( )	7. Painting	( )	13. Writing	( )
2. Dance	( )	8. Bridge	( )	14. Dramatics	( )
3. Discussion	( )	9. Riding	( )	15. Bowling	( )
4. Couples	( )	10. Camping	( )	16. Glee Club	( )
5. Speakers	( )	11. Men's Club	( )	17. Ceramics	( )
6. Camera	( )	12. Music	( )	18. Golf	( )

OTHER_____

_____

INFORMATION

1. What would be the best time to hold club meetings?

6:30 P. M.	( )	7:30 P. M.	( )	8:30 P. M.	( )
7:00 P. M.	( )	8:00 P. M.	( )	Other	_____

_____

2. What would be the best day to hold club meetings?_____

3. What is your occupation? _____

4. Where do you work?

Downtown	( )	North Side	( )
West Side	( )	South Side	( )

Other_____

5. Courses you are now taking _____

Name Mr. / Mrs. / Miss _____ Age _____

Address _____

Phone _____
Home Business

APPENDIX C

SOCIAL CHANGE IN JORDAN: A QUANTITATIVE APPROACH IN A NON-CENSUS AREA[1]

An illustration of how research techniques like those discussed in Chapter V (page 144) concerning sampling procedure, data collection and analyzing data, might be applied in an area where complete census figures do not exist should be helpful. For such an example, let us consider a Jordanian study conducted by Hirabayashi and Maylshaq[1] in 1958 concerning changes in the status of women over a twenty-five year period. The research difficulties confronted by the investigation in Jordan were very similar in nature to those which might face an extension agency in Mysore. As the authors pointed out, "methodologically the study suggests that one need not be limited to the case study and participant observation techniques even in areas lacking available census data." The details of the study and findings are summarized below.

The study related to education, occupation, marriage, age, and mate selection, extent of veiling and social participation among the women of Amman. Thus, it was a sociological study to find out the status of women in Amman.

Method

Definition of the Universe: Two distinct groups, one including women of forty years of age and over, and the other fifteen through

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[1]Gordan K. Hirabayashi and Maylshaq. "Social Change in Jordan: A Quantitative Approach in a Non-Census Area." The American J. Sociology, LXIV. July 1958, pp. 36-40.

thirty-five, were selected for purposes of observing differences which could be interpreted as evidence of change. The women were residents of Jordan before 1947 (and living in Amman at the time of the survey).

Selection of the sample: Since current and reliable census data for research purposes were not available for Amman, a sample design based only upon an over-all estimate was developed. The sample was arbitrarily limited to one hundred cases. The city of Amman being built mainly on seven hills, three hills were selected at random from which the sample for the study was secured. According to the Jordanian Bureau of Census of 1952, there was an estimated population of 19,000, 6,000 and 3,000 on the three hills selected. These estimates formed the basis for determining sample proportion, which was 68, 21 and 11.

Selection of households and respondents: As there were no street names or numbers, the number of households was estimated by dividing the population figure by 5 which was assumed as the size of the household. Dividing the sample number, 68 for the first hill, into the number of estimated households, 3800, an index of 56 was established. The interviewer then interviewed 1 household out of 56 during the systematic coverage of the streets and lanes of this hill until 68 cases were interviewed. If the selected household was not part of the defined universe, women in the household to the right of the original were interviewed. If this household, too, was disqualified, the household to the left of the original selection was interviewed, followed by the second to the right and the second to the left and so on. Within a selected household, a woman of forty or over or a woman between the age of fifteen and thirty-

five was interviewed in a pattern which alternated according to the age group from household to household.

Schedule: A schedule was first constructed in English followed by a translation into colloquial Arabic. It had already been pretested among women of various ages in Cairo and Irbid, and appropriate revisions made in light of local differences between Egyptian and Jordanian Arabic before its use in Amman. The final field version of the schedule included 45 items of which 7 were open-end questions. The schedule type interview produced only 2 percent refusals.

Findings

The younger group had a higher percentage of literacy and occupational and educational participation. They married at a later age, desired fewer children, insisted upon a greater say in the choice of husband, shunned veiling, and participated much more actively in social activities.

The above study illustrates how certain cultural limitations could be overcome by devices developed appropriate to the situation in order to apply research methods and techniques in social investigation. The lack of recent and reliable census data, the absence of street names and house numbers and variations in the language spoken were real difficulties. But attempts were made to develop suitable techniques to overcome these difficulties through use of a scientific approach. The findings indicated that the investigation was successful since the social changes that have taken place in the status of women living in Amman were revealed to a great extent. Hence the Jordanian illustration could be taken as an

appropriate example to show that research methods and techniques developed in western culture can be applied to other cultures when suitable modifications are made to fit specific local situations.

APPENDIX D

IMPORTANT RESEARCH TECHNIQUES IN CURRENT USE IN INDIA

Case study techniques have been in use in India for many years to describe the socio-economic structure of the villages, communities and tribes. Several individuals and institutions have pioneered in such attempts, and the results of their efforts have helped in planning some of the development programs (e.g., a Rural Credit Survey[1] making use of previously conducted studies was undertaken prior to the initiation of the now popular and useful rural Credit Schemes providing short term, medium term and long term loans to farmers and village artisans).

The sample survey method using interview technique has been successfully employed by the Program Evaluation Organization to evaluate both the community development approach to extension work and the National Extension itself since their initiation in 1952.

There are many instances of the use of such techniques (both case study and sample survey method) by the scholars and the graduate students in Indian universities in recent years. There also are instances where available records have been effectively used in research to describe sociological phenomena (e.g., a socio-ecological study[2] in 1959 tracing the history and development of Bangalore City).

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[1]Reserve Bank of India, All India Rural Credit Survey.

[2]K. N. Venkatarayappa. Bangalore - A Socio-Ecological Study. Sociology Series No. 6, University of Bombay Publications (Bombay: University of Bombay, 1957).

President of the Indian Society of Agricultural Economics stated in the forward to a recent reference book concerning rural sociology in India that:

> During the intervening period (1953-1959) considerable literature portraying the condition of rural India has been coming out as a number of insitutions, government and private, as well as individual scholars and constructive workers are conducting valuable researches. The studies, on the one hand, provide rich material portraying various facets of Indian Rural Life and on the other, indicate diverse research techniques used for the study of Rural Society.[3] (Italics not in the original.)

The instances cited above should suggest that the application in India of research methods and techniques developed in western culture is not altogether untried. The lessons learned from these attempts should certainly be of great value to those who plan and conduct Action Research. However, few attempts have been made to employ valid research methods and techniques to collect facts for developing educational programs.

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[3]A. R. Desai, Rural Sociology in India (Bombay: The Indian Society of Agricultural Economics, 1959).