DOCUMENT RESUME

ED 050 262 VT 012 919

TITLE	National Goals and Guidelines for Research in Home Economics.
INSTITUTION	Association of Administrators of Home Economics.
PUB DATE	Oct 70
NOTE	99p.
AVAILABLE FROM	Michigan State University, Information Services, Bulletin Office, Box 231, East Lansing, Mich. 48823 ($3.00)
EDRS PRICE	EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS	Community Services, Consumer Education, Environmental Influences, Family Life Education, *Guidelines, *Home Economics, *Human Development, *Interdisciplinary Approach, Research, *Research Needs

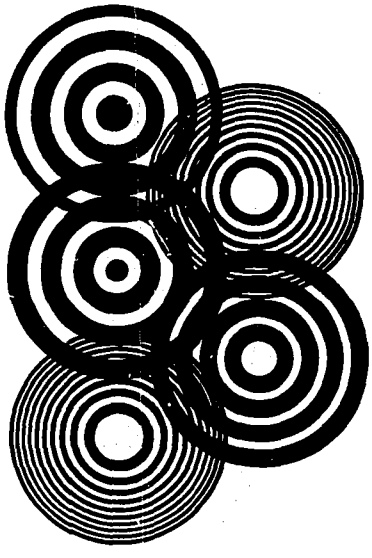
ABSTRACT

To indicate the scope and strengthen the research base in all areas of home economics as well as initiate interdisciplinary research, 82 members of official task forces and workshop sessions formulated these goals: (1) Improve the conditions contributing to man's psychological and sociological development, (2) Improve the conditions contributing to man's physiological health and development, (3) Improve the physical components of man's near environment, (4) Improve consumer competence and family resource use, and (5) Improve the quality and availability of community services which enrich family life. Included in this publication is a discussion of the study, a delineation of the goals with accompanying research problem and question areas, a discussion of responses of administrators and researchers to questions about creating a more dynamic research enterprise, and a summary of research development in home economics during the past 60 years. (SB)

National Goals and Guidelines for Research in Home Economics

A Study sponsored by: ASSOCIATION OF ADMINISTRATORS OF HOME ECONOMICS

JEAN DAVIS SCHLATER, Director



OCTOBER 1970
Reprinted January 1971

The Family

The term "the family" brings to mind an ever-changing series of pictures—a kaleidoscope of complex interrelationships, perceived differently by each observer.

Of all man's social institutions, the family is the most enduring and sustaining. No other social institution is older or more universal. In all times and places the family has been found to meet certain societal requisites most effectively.

Cultures differ in their views of structure and function of the family but, in general, regard it as the fundamental unit of the social system. Political, economic, religious and other social institutions responding to the need for education, law and health care are built around it.

In our society the family provides a setting for socialization, economic security, material necessities, transmission of values, protection and affection. The family is the source of sustenance and support.

Throughout the history of home economics, education and research programs have focused upon man's well-being, with special emphasis on the family. The goals of this document, also, are addressed to the family, its needs and concerns.

In general, the goals, research areas and questions herein speak most directly to the nuclear family, comprised of parents and children. They also concern the extended family, including relatives outside the immediate family. Assigning to the term its most broadly conceived definition, "family" may also be interpreted in this document as one person or a group of individuals living together in one household and performing many family functions.

CONTENTS

Foreword

During the planning and conducting of this study, many individuals from organizations, institutions, and agencies made evolving the broad goals and related research needs possible. Special gratitude is extended to all who assisted in the ground work for the study and especially to those who carried it through to completion.

In any discipline, both the research accomplishments and determination to move toward larger goals depend on cooperation and support from groups inside the profession and those outside which share common concerns.

Worthy of special note is the supportive position taken by representatives of agriculture, at state and federal levels, toward research in home economics during this study's development as well as in preceding years. Home economics national organizations making significant contributions are the American Home Economics Association, the National Council of Administrators of Home Economics, and the Association of Administrators of Home Economics (NASULGC).

A study of this scope and magnitude necessitates the involvement of many experts. An Advisory Group of 33 persons, selected by the Executive Board of the Association of Administrators of Home Economics, the sponsoring association, worked with the Director, especially in delineating broad research goals and future needs. The group involved active researchers, research administrators, representatives from the American Home Economics Association, the U. S. Department of Agriculture, the National Council of Administrators of Home Economics, and other persons from business, industry and government.

Within the Advisory Group three task forces were appointed: Bio-Physical, chaired by Dr. Lura M. Odland; Psycho-Social, chaired by Dr. William H. Marshall; and Technological, chaired by Dr. Lois A. Lund. All members of the Advisory Group appear on p. 94.

In conjunction with this study, a national Research Projection Workshop for administrators and research leaders in the field was held in Chicago in March 1970. This workshop reviewed the core section of the report, Section II, and contributed immeasurably to the content and shaping of the final report. The list of workshop participants appears on p. 97.

The Director is indebted to the Steering Committee, Dr. Pearl J. Aldrich, Mrs. Margaret M. Hard and Dr. Doretta S. Hoffman, who provided much constructive guidance and optimistic support during the study. Dr. Aldrich, the in-residence member, gave generously of her time and talent to further the study's progress.

Special acknowledgment is extended to the following persons for their substantive and constructive review of the manuscript: Drs. Pearl J. Aldrich, Margaret M. Hard, Frances M. Hettler, Doretta S. Hoffman, Lois A. Lund, William H. Marshall, Mary Beth Minden and Lura M. Odland.

For those outside the field of home economics, this report, especially Sections II and IV, may clarify the contribution of past research in home economics and its future potential. It is hoped the goals and research problem areas in Section II will replace stereotyped impressions held by some funding agencies and increase research concerning quality of living and family development in our society. For legislators, government agencies, and funding organizations, the report contains present and future research needs warranting special support.

Within the field of home economics, this report has special implications for administrators and faculty in research, resident teaching, and extension. In Section II the document addresses itself particularly to researchers, who will be responsible for achieving the objectives outlined. However, much of the report speaks directly to resident teaching, exteusion and other continuing education endeavors. For home economics administrators, the report provides aid for resource allocation decisions concerning research.

A resumé of the recent history of the group which provided leadership for delineating the goals and guidelines of this report is appropriate. With the 1966-67 reorganization of the National Association of State Universities and Land Grant Colleges, the Division of Home Economics was replaced by the Home Economics Commission, which contiuues to represent home economics to the present pareut organization. The former Divisiou, comprised of home economics administrators of resident instruction, extension, and research in the member institutions, reorganized to form a corporation. This group, granted a charter by the State of Georgia on July 1, 1967, became officially the Association of Administrators of Home Economics in State Universities and Land Grant Colleges, Incorporated. This Association spear-headed the activities resulting in this study and the document preseuted here.

Over a long span of time, many groups have discussed the impelling need for new approaches to more viable research programs. The Association of Administrators of Home Economics has provided the impetus and opportunity to bring this need to fruition.

October 1970

Jean Davis Schlater
Director

Summary

The primary purpose of this study was to establish major goals which would indicate the scope and strengthen the research base in home economics. The five mission-oriented goals delineating research contributions as established by task force groups are:

I. Improve the conditions contributing to man's psychological and social development.

II. Improve the conditions contributing to man's physiological health and development.

III. Improve the physical components of man's near environment.

IV. Improve consumer competence and family resource use.

V. Improve the quality and availability of community services which enrich family life.

These goals, with research problem and question areas, comprise Section II of this report. The goals reflect the continuing commitment of home economics to the family and to the interaction between man and his near environment.

The goals invite multidisciplinary research as many of the complex problems they represent will not be solved by research efforts of individual disciplines or specializations. Although the team approach is implied in many of the problem areas outlined, others require the contribution of individual researchers to enlarge the field of knowledge in another way. While the broad goals are stated in terms of mission, the research will require both basic and applied approaches.

Achieving these goals depends on implementation. A discussion of responses of administrators and researchers to questions about creating a more dynamic research enterprise constitutes Section III. In the final analysis, achieving the goals outlined rests principally at the local institutional level. By examining its own resources and establishing priorities in keeping with the local situation, each institution can contribute to the overall achievement.

Section IV summarizes research development in home economics during the past 60 years in the areas of nutrition, foods, textiles, clothing, housing, equipment and furnishings, child development, home management, family economics, institution management, family relations, related art, and education.

A summary of present research input in home economics, in terms of scientist-man-years, is also included in Section IV, together with the status

and distribution of major funding. Priorities for future input involve available and anticipated resources, both human and material, and urgency of particular family problems in our society. Periodic reassessment of progress and direction is implicit in the goals and guidelines set forth.

Eighty-two members of official task forces and workshop sessions participated in the study. This group included representatives from 39 colleges and universities, business and industry, social services and welfare, consumer institutes, CSRS and ARS divisions of the U.S. Department of Agriculture, the U.S. Department of Health, Education and Welfare, regional Agricultural Experiment Station Directors, ESCOP, ECOP, the American Home Economics Association, the Home Economics Commission of NASULGC, and the National Council of Administrators of Home Economics. In addition, other college home economics administrators and researchers also contributed.

Sponsors of the project, the Association of Administrators of Home Economics, believe that clearer research goals in the field will serve two major purposes: (1) give direction and emphasis for home economics research in the decades ahead, and (2) clarify the contribution home economics proposes to make through its research to improving man's future quality of living.

Section I—Introduction

In the past decade, home economics administrators and faculties have repeatedly sought answers to the question: "How can we make research in home economics more relevant to the present and future needs of people?" This document, especially Sections II and III, provides a partial answer.

Organizations, agencies, and individuals outside the field have asked other questions: "What is home economics about?" "What does it *do*?" This report responds to these questions, describing past accomplishments and projecting the field's future contribution to the total scientific effort.

Benchmarks of research progress, summaries of significant achievements, and recommendations for future research have appeared in numerous published reports, some of which are listed at the end of Section IV of this document. The accomplishments of the past sixty years testify to the leadership and responsiveness of home economics administrators and researchers to technological, social and political changes affecting families in our society. Research efforts throughout the period have related to the problems and concerns of the American family. Worthy of special note is the research emphasis during such stressful periods as World War I, the Great Depression, the Dust Bowl Era, World War II, periods of recession and inflation, and recent societal upheavals.

Aware of the many pressures impinging on families today, college and university leaders in home economics resolved to examine past and present research in order to expand and make it more pertinent to future family needs.

This section of the report concerns the development of this study and the activities which led to its completion.

Background of Study

This undertaking was given impetus by extensive discussions following the release of *A National Program of Research for Agriculture*[1] in 1966. The document concerned research areas of consequence to the rural population and the need for expanded efforts by agriculture, forestry, and home economics.

This long-term projection of research goals, the first comprehensive study of its kind by agriculture, was enthusiastically received by home economics administrators. By projecting research in terms of human needs essential to social and economic progress, this report focused in a

[1] *A National Program of Research for Agriculture.* Report of a study sponsored jointly by: Association of State Universities and Land Grant Colleges and U. S. Department of Agriculture. October 1966.

new way on the interrelations between home economics and agricultural research. As a result, the Home Economics Research Sub-Committee of the Experiment Station Committee on Organization and Policy (ESCOP) initiated a conference to discuss further the implications for future research in home economics.

Seventy-five persons participated in this conference,[2] known as "The Lincoln Seminar." Included were agency officials from the U. S. Department of Agriculture, Experiment Station directors, home economics administrators from State Universities and Land Grant Colleges, and other university representatives.

The feasibility of a home economics contribution to the ten broad goals set forth in the agricultural report was presented in a series of papers by scientists. Discussions by seminar groups identified the role of home economics in implementing the long-range research projection of agriculture. Recommendations concerning such a role were presented at the May 1967 meeting of ESCOP.

From the deliberations of this seminar, representatives of the Association of Administrators of Home Economics also began to plan for more complete and comprehensive projection of research goals in home economics. Although recognizing that much of the research in home economics would continue to be allied with agriculture, the administrators held that some research should be more inclusive. Members of the newly incorporated association of administrators believed a long-range projection of research in home economics should be undertaken at once.

Development of Study Proposal

Recommendations for this study and projection were formalized in November 1967, at the first annual meeting of the Association of Administrators of Home Economics. Recommendations of the Committee on Long Range Planning for Research in Home Economics, chaired by Mrs. Margaret Hard, were approved by the Association and referred to the Executive Board for further action.[3]

At its subsequent meeting in January 1968, the Executive Board appointed an *ad hoc* advisory committee to further develop the study proposal and make specific recommendations for implementing it. This committee, Dr. Lura Odland, Mrs. Margaret Hard, and Dr. Pearl Aldrich (Chairman), reported to the second annual meeting of the Association of Administrators of Home Economics. The Association approved the

[2] *Proceedings: National Seminar and Workshop for Home Economics Administrators.* Cooperative State Research Service, U.S. Department of Agriculture in Cooperation with the State Agricultural Experiment Stations. Held at the University of Nebraska, Lincoln, Nebraska. April 5-7, 1967.

[3] *Proceedings:* Association of Administrators of Home Economics. First Annual Meeting, November 9-11, 1967, Palmer House, Chicago, Ill. pp. 7, 34-35.

report and directed the Executive Board to implement and finance the proposed study.[4]

In a recent comprehensive study of home economics, McGrath pointed strongly to the necessity for increased emphasis on research. The discussions and recommendations of a workshop focusing on this report further substantiated the need for delineation of research goals and guidelines.[5]

Activation of Study

In November 1968, the AAHE Executive Board appointed Dr. Jean Schlater as Executive Director of the study and allocated the budget for activation in January 1969. The Executive Board also designated 33 persons to serve as contributors and advisers.

Advisory Group

This group was comprised of representatives from specialized research areas in home economics, administrators of home economics in Land Grant institutions, ESCOP, ECOP, AHEA, USDA-ARS, USDA-CSRS, the Home Economics Commission, the National Council of Administrators of Home Economics, non-Land Grant universities (representing home economics and other specializations), business and industry, social services and welfare, and consumer institutes.

Objectives of the Study

At the initial meeting[6] of the Advisory Group, the Executive Director presented the objectives of the study, earlier approved by AAHE:

1. To establish major goals which will enlarge the scope and strengthen the base of research in home economics.
2. To identify problem areas related to these goals to which particular competence can make a significant contribution.
3. To formulate within each problem area broad questions to which careful investigation can contribute knowledge.
4. To recommend allocation of resources to the identified problem areas on a 5 year and 10 year basis.

Approach to the Study

To avoid the limitations of projecting from within a particular area of specialization, the group concentrated on an adaptation of a global

[4]*Proceedings:* Association of Administrators of Home Economics. Second Annual Meeting, October 9-11, 1968. New Orleans, Louisiana and Home Economics Commission Task Force to Study the McGrath Report. May 1-4, 1968. Chicago, Illinois. pp. 3, 6, 7.

[5]*Ibid.* pp. 13-106.

[6]April 7-9, 1969. Kellogg Center, Michigan State University, East Lansing, Michigan.

ecosystem.[7] To pursue the concept provided by this model, the group divided into three task forces, each delineating broad research goals and related problem areas within one of the three systems: Bio-Physical, Psycho-Social, and Technological.

The task force reports and other inputs were combined into a first draft of the goals and research needs, appearing in revised form in Section II. The revision evolved from a special workshop,[8] designed to discuss the goals and their implementation.

In addition to the original 33 advisers, the workshop included 48 other persons. College home economics administrators nominated outstanding researchers from their faculties to participate. Persons were selected from this list, taking into account balanced representation of specialized areas and reasonable distribution among universities and geographical areas. Special invitations to participate were also extended to regional Experiment Station directors, the U.S. Office of Education, and representatives from state Cooperative Extension Services and college home economics education programs.

The participants met as a group at the beginning and end of the conference. For the remainder of the workshop, they functioned in six separate groups, each reviewing and discussing the proposed goals and research problem and question areas and submitting recommendations. The workshop participants also considered ways to expedite and expand research efforts and to communicate more effectively with the wide spectrum of publics about research activities and results.

The revision of Section II, based on workshop recommendations, was submitted together with other sections of this report to a review panel comprised of the chairmen of the three task force groups, the current president of AAHE, a representative from the Cooperative State Research Service, and the three-member Steering Committee for the project. More than a hundred participants contributed to the final form of the document.

Resources and Priorities

Only three of the four objectives outlined for this project were fulfilled. The fourth, "to recommend allocation of resources to the identified problem areas on a 5 year and 10 year basis," was, in the opinion of contributors to the study, an objective more appropriately the province of each institution.

Allocation of total resources, including researchers, supporting personnel, facilities, operating funds, consultants, and cooperators, springs from a uniquely different base in each institution. Only those knowledge-

[7]Adapted from model in: Document 6, *The Ecological Context: Energy and Materials*, John McHale, (Illinois: World Resources Inventory), 1965, p. 23.

[8]Held March 11-13, 1970, at the Conrad Hilton Hotel, Chicago, Illinois.

able about such details can make decisions or projections about resource allocation.

Neither did the project participants establish priorities among the five goals or among research problem areas presented in this document. It was agreed that determining priority of program focus, like recommending resource allocation, was the prerogative of each institution.

Determining priorities for research programs involves many complex and interrelated issues such as: the size, experience, competences, interests and potential permanency of the research faculty; the quality and scope of graduate programs; the number of doctoral and master's students and the availability of stipends or other financial aid; the quality, nature and size of undergraduate programs; the facilities available for support; availability of supporting services necessary for research; the presence or absence of a cooperative climate among departments and disciplines within the university; and the goals and priorities of the university itself.

Outside the university setting other factors also come into the decision. What are the most urgent problems in the state and nation? To which of these can the home economics research program, given the resources available or obtainable, make a meaningful contribution?

A Recommendation

This report makes no formal recommendations concerning long-range allocation of resources or priorities of goals or research problem areas set forth here. However, the study does recommend that each administrator, working with faculty and university officials, use this report to formulate a research program plan. Such a plan would establish priorities and directions for concerted research effort, project allocation of resources, and specify approaches to increasing resources by seeking a broader funding base.

The Projected Research Goals: A Final Comment

Recognizing that fruitful research cannot be regimented or directed toward narrowly conceived ends, the research goals in this document are broad. They are purposely mission-oriented and addressed to the basic needs of people, their well-being, and the enrichment of their lives.

Section II—Research Goals and Future Research Needs

The ultimate goal of research in home economics is to maximize the satisfaction and well-being of individuals and families through increasing knowledge and understanding of man and his immediate environment—his physical, cultural and social milieu. Attention is focused upon the reciprocal relationships between man and the quality of his near environment. Earlier research considered man and his immediate environment as distinct entities with sparse attention to the interfaces between them. Future research should reflect more concentration of effort at these interfaces.

Attainment of the paramount goal depends on increasing research-based knowledge with respect to several areas. Therefore, the joint task forces first formulated goals enabling home economics to develop new knowledge and use present knowledge in new ways. These goals provide a framework for projecting into the future, for evaluating current research programs, and for determining program adjustments needed to make research more viable.

The following research goals were formulated:

GOAL I. IMPROVE THE CONDITIONS CONTRIBUTING TO MAN'S PSYCHOLOGICAL AND SOCIAL DEVELOPMENT

GOAL II. IMPROVE THE CONDITIONS CONTRIBUTING TO MAN'S PHYSIOLOGICAL HEALTH AND DEVELOPMENT

GOAL III. IMPROVE THE PHYSICAL COMPONENTS OF MAN'S NEAR ENVIRONMENT

GOAL IV. IMPROVE CONSUMER COMPETENCE AND FAMILY RESOURCE USE

GOAL V. IMPROVE THE QUALITY AND AVAILABILITY OF COMMUNITY SERVICES WHICH ENRICH FAMILY LIFE

Research-related concerns regarding the five substantive goals are presented in this section. The material is organized into 36 research problem areas (RPA's) and are grouped under the goal to which each makes its major contribution. More specific research question areas (RQA's) are grouped under the RPA to which they relate most closely.

Research goals, research problem areas and research question areas

are all interrelated. A problem area may contribute to more than one goal. Likewise, a question area may contribute to several problem areas.

Identifying Research Problem Areas involved the following criteria:

1. A well-defined area of significance to the development and well-being of individuals and families in our society, and other societies as well.
2. An area in which home economics may achieve the stated goals through basic and applied research.
3. An area which contains specific questions or hypotheses that can be answered or illuminated by research findings.
4. An area which may combine research efforts with action programs, but does not deal exclusively with separate action programs.
5. One which is relevant to society's present and future concerns and identifies particular contributions of home economics.

At the RPA level, the task forces covered as comprehensively as possible all research areas that met these criteria. At the RQA level, the problem areas were further delineated. Selectivity was exercised, especially at the RQA level, using broad concepts rather than specific concerns. The listing, of course, is representative and not all-inclusive. Each question area represents sizable subject matter, and many additional questions can be deduced for each area. Research in the RQA's may also be pursued along the lines of other variables, such as family size and composition, role, socio-economic status, culture, ethnicity, life cycle stage and residence.

The ecological framework used to identify RQA's implies a multidisciplinary approach in much of the research effort. Although RQA's related to a specific subject area are concentrated under a given goal, closely related RQA's may appear under other goals.

Differences also exist in specificity and generality of certain RQA's. These differences are related to the present level of knowledge in the areas and to methodology, which varies from descriptive to analytical. Establishing norms by descriptive studies before determining casual variable relationships or diagnosing the origins of phenomena is a sound research approach.

The sequence in which problem and question areas are listed does not imply priority of importance. Establishing priorities for research activity is the province of each institution and involves taking into account personnel, available consultants, cooperators, services, most pressing needs, and resources necessary for carrying out projects and programs.

The remainder of this section includes goals, research problem areas and research question areas.

GOAL I. IMPROVE THE CONDITIONS CONTRIBUTING TO MAN'S PSYCHOLOGICAL AND SOCIAL DEVELOPMENT

The family is the basic unit in the social structure. Since the child's earliest social and psychological development occurs in the family, his early interactions with his family are critical. Early family experience is major in the development of both healthy and neurotic personalities.

To continue building a viable and stable society, we must learn more about the behavioral aspects of our nation's greatest resource and most fundamental social unit—the family. All around us people of all ages, especially the young, are re-examining traditional behavioral patterns, encountering problems involved in merging roles of men and women, groping for identity, and trying to cope with the turbulent changes in contemporary society. The family can play a unique role in dealing effectively with these issues, given the knowledge research can provide.

Only in the past few decades have researchers systematically investigated the basic principles of human social and psychological development. Some have dealt with reducing deviations and abnormalities. Others have been concerned with optimal development. Yet, countless basic questions about man's psychological and social development, especially in the family context, remain unanswered. The need for more knowledge about personality development and culture transmission, both largely attributable to the family, is crucial in our society today.

Throughout history families have had to cope with a variety of problems. However, the present differs from past periods primarily in that technological, economic, social and political changes have been so swift and their effects so global. Changes today are extremely complex. The result is confusion, frustration, and conflict resulting from individual and family loss of identity.

Our society, founded on the work-ethic and now faced with increased leisure time, is baffled. While some challenge the value of the traditional family unit, others seek ways to increase family stability. The shifting and merging of the once clear-cut roles of the male and female concern many. To aid the elderly in achieving satisfying lives has emerged as a societal concern and responsibility.

The nation has only recently regarded rapid population growth as affecting the future well-being of families in the United States. The realization that we are not exempt from this world-wide problem is accompanied by a sense of urgency to make information available about family planning and population control.

Ways to improve education, with special emphasis on educability of disadvantaged children, is emerging as a crucial national issue. Educators, government officials, and private citizens are all searching for edu-

cation approaches that will enable each individual to develop to his maximum potential.

Many issues of concern to individuals and families in the coming decades will require new knowledge about the interrelationships between man and his physical and social environment. Isolated research efforts must give way to broader, more comprehensive endeavors. The following categories represent areas in which home economics researchers can contribute.

The broad Research Problem Areas related to this goal are:

1. Social-Emotional Development
2. Cognitive Development
3. Family Structure and Function
4. Roles and Role Behavior
5. Husband-Wife Relationships
6. Parent-Child Relationships
7. Family Planning
8. Social and Technological Change

I-1. Social-Emotional Development

The most important function of the family involves the development and maintenance of the social and emotional well-being of its members. In a highly differentiated society, the family is more concerned with the development of its own members than with the larger society.

Although genetic determinants are important, the human personality in the main is not "born" but "made" through the socialization process. The early years greatly affect subsequent individual development. Not all such effects, however, are unalterable at later stages in life.

Because social and emotional development are mutually interdependent, they are treated jointly in this problem area. Social interaction overlays emotional interaction. This problem area focuses on factors from the family and societal setting affecting the social and emotional well-being of children and adults.

Research areas suggested here represent many which need intensive investigation.

(a) Basic processes involved in the development of social and emotional well-being throughout life.

(b) Relationships among genetic potential, physical health and development, intellectual development, and the social and emotional well-being of individuals.

(c) Impact of race, ethnicity, and social class on individual and family emotional health.

(d) Effects of social organization in the family upon social-emotional development.

(e) Influence of self-concept on individual behavior at various life cycle stages.
(f) Maintenance of individual and family autonomy in a society based on interdependence.
(g) Development of sexual attitudes; understanding of human sexuality in a family context.
(h) Factors in a marital relationship conducive to the social and emotional well-being of parents and children.
(i) Relation between social-emotional maturity of husband and wife and stability of marriage.
(j) Effects of marriage stability on social-emotional well-being of parents and children.
(k) Effects of alternate patterns of mothering, an autocratic parent, and a one-parent family on the developing child.
(l) Effects of the "late-life" child on child, siblings, and parents.
(m) Effects of siblings, birth order, and being an only child on the social-emotional development of the child.
(n) Effects of physical or mental handicaps, debilitating illness, and deformity of a family member on the social-emotional well-being of children and parents.
(o) Effects of physical components of the near environment on self-concept and social acceptance of individuals.
(p) Relation of civil liberties (e.g., legalized abortion, open housing) on the social-emotional development of individuals.
(q) The contribution of social agencies and institutions to the social-emotional well-being of the family.
(r) Intervention techniques to effect positive change in social and emotional development in individuals.
(s) Factors which contribute to self-actualization and maximum productiveness of individuals with physical or emotional limitations.
(t) Family socialization processes and conditions that lead to living patterns satisfying for elderly or handicapped members.
(u) Effects of quality of family interaction with a member during and after prescribed institutional living.
(v) Living patterns and their influence on social-emotional development of individuals.
(w) Influence of dietary intake on social and emotional behavior.
(x) Resource use as related to physical, social and emotional well-being.

I-2. Cognitive Development

Research in the area of cognition has increasingly come to the fore in connection with Head Start efforts to provide socialization and learning experiences for children from deprived backgrounds before they enter

the public school system. Intellectual capacities develop through responses to stimuli in the environment. Individuals having limited experience with the world of people and with objects and their characteristics fail to develop cognitive and perceptual powers believed to evolve spontaneously in more favorable settings. Information is urgently needed on how family and community environments can provide the optimum climate for developing cognitive abilities to their fullest potential.

Research in this problem area should be directed toward:

(a) Relationships between learning potential and early socialization experience, birth order, family size and composition, and socioeconomic level.
(b) Effects of prenatal nutrition on later cognition.
(c) Influence of family, peer groups, and societal factors on cognitive development.
(d) Factors in the immediate physical envrionment affecting cognitive development.
(e) Relation between physical coordination and mental development.
(f) Bio-psychological processes interacting in the area of cognition.
(g) Effect of handicap or debilitating disease on cognitive processes throughout life.
(h) Factors affecting development of creativity and methods for its assessment.
(i) Influence of previous and present nutritional status on learning ability throughout the life span.
(j) Identification of home and community environmental conditions which contribute to desirable or undesirable informal learning.
(k) Effective intervention strategies and reinforcement for increasing learning ability in home and community situations.

I-3. Family Structure and Function

The *structure* of the family, in terms of those it includes, varies from one society to another. In past eras, the extended family structure was common. Such households traditionally included members from two or three generations, with numerous kinsmen living close together. Many contemporary American families, living hundreds of miles from their birthplaces, regard themselves as virtually without relative or family ties.

Family *function,* in terms of the responsibilities the family assumes for its members, also varies widely among different societies. Functions may include any or all of the following: reproductive, socialization, emotional gratification, educational, religious, economic, and political. In our present society, highly specialized institutions share many of the utilitarian functions. In societies with strong extended family systems, many of these functions are still the responsibility of the family.

More knowledge and understanding of differences in family structure and function within particular ethnic, race, and socio-economic groups are necessary. Without more knowledge, federal, state and local social programs may fail to assist families in improving their quality of living. Lacking such a base, programs with the noblest of intentions may further alienate these families from society and contribute inadvertently to their instability, continuing economic disadvantage, and frustration.

Given the dramatic, rapid changes now occurring in family structure and function, research to examine objectively and record this evolution can contribute to our knowledge about "average" families. Even more vital, new knowledge must be available to understand *a priori* how families might best be structured to fulfill their functions in the future. Family structures and functions influence every societal institution.

Problems in this area which need investigation are:

(a) Relationship between family structures and family functions in contemporary societies.
(b) Effects of emergent family structures, such as communes, on the socialization and self-actualization of group members.
(c) Sex role identification achieved by children in the context of both typical and atypical family structures (e.g., one-parent, three-generation, communal family).
(d) Effects on individuals of functions performed by families versus these functions as performed by other societal units.
(e) Effects on individuals of deviation from the normal family structure (e.g., institutional living, broken family, "substitute" family members).
(f) Factors influencing increase in diversity of family structures and functions.
(g) Effects of different family structures on the productivity and creativity of its members.
(h) Effects of participation of family members in community affairs on family structure and functions.
(i) Effects of public programs which deliver services to families on family structure and function.
(j) Interrelationships of the family as an institution to other societal institutions.

I-4. Roles and Role Behavior

Roles of family members, once fairly clearly defined, are in a state of flux. This causes confusion about the relation of the family to external systems which impinge upon it. Thus, research on the changing roles of family members can contribute to individual identity in a complex social system. All about us the search for identity goes on—in the young, the retiree, the elderly, the corporation man, the minority group member, the

homemaker, the highly educated and specialized. A re-examination of meaningful roles in the social system of today and tomorrow is essential.

Research is needed in the following areas:

(a) Identification of behavioral components of various roles assumed by family members.
(b) Continuing examination of changing roles in relation to individual and family stability.
(c) Analysis of interrelationships within and among varying role constellations (e.g., managerial-work-social, work-parental-marital).
(d) Personal and situational factors which make various role constellations compatible or stressful.
(e) Effects of multiplicity of roles and varying role priorities upon family relationships.
(f) Effects of role conflict on mental and physical health.
(g) Nature and extent of the child's role as a socializing agent for the entire family.
(h) Effects of merging traditional male-female roles upon behavior and interpersonal relationships.
(i) Factors involved in development of positive or negative response to authority roles.
(j) Peer influence on role development and behavior.
(k) Use of components of the near environment in role identification, self-concept development, image projection and social acceptance.
(l) Impact of family planning on husband's and wife's roles in the modern world.
(m) Impact of birth control measures on the roles of unmarried males and females.

I-5. Husband-Wife Relationships

Much attention has already been given to the principal factors involved in marital success or failure. Personal happiness, sexual adjustment, and economic consensus are among the major criteria of success in a marriage. Although many factors involved in this intricate relationship are understood, much remains to be explored. Since the survival of a family unit depends on the husband-wife relationship, research in this area must be accelerated. Researchers must also examine the effects of peer groups, cross generations, and other social institutions on the marital unit.

Research in husband-wife relationships should include:

(a) Processes of interaction and behaviors associated with marital satisfaction at various stages of the family life cycle.
(b) Development of indices for evaluation and prediction of marital success.

(c) Problems and adjustment of partners in marital situations involving incompatibility, physical and emotional handicaps, death of family member, and marital disruption.
(d) Effects of changing sex role patterns on the husband-wife relationship.
(e) Impact of stage of life cycle upon the husband-wife relationship.
(f) Pre-marital and extra-marital experience as related to marital satisfaction.
(g) Interpersonal relationships in emerging social units as compared to the conventional marital unit.
(h) Effect of authority patterns in the family on the personality development of children, husband-wife interaction, and marital satisfaction.
(i) Needs and problems of husband and wife as reflected in their marital relationship.
(j) Changes in personalities of the husband and wife as a result of their marital relationship.
(k) Husband's and wife's perception of their roles, status and function and effect on their marital relationship.
(l) Impact of children or childlessness on husband-wife interaction at various life cycle stages.
(m) Effects of values held by husband and wife on family socialization and interaction processes.
(n) Effect of wife's employment on husband-wife relationship.
(o) Effects of socio-economic aspiration or satisfaction with present status on the marital relationship of the partners.
(p) Impact of husband's and wive's placement on the dominant-subordinate continuum.
(q) Effect of civil liberties on the marital relationship.
(r) Influence of long absences of either partner on the husband-wife relationship.
(s) Nature and extent of cross-generational associations with the marital unit and their effects upon those involved.
(t) Effects of "significant other" peers and peer groups upon the marital relationship.
(u) Effects of husband-wife interaction with other social institutions upon the marital and family unit.
(v) Development of more effective programs of marriage counseling both in its developmental and intervention aspects, including marriage enrichment.

I-6. Parent-Child Relationships

The family's influence on the emotional state of the child is widely recognized, although the reciprocal effect of the child on the parents is

often disregarded. The importance of the emotional climate within the family is receiving increasing emphasis today. The child perceptively senses acceptance and understanding among family members as they attempt to meet the child's basic needs. How the child feels about himself and his world is a reflection, primarily, of the emotional climate of the family. The quality of the child's sibling and peer relationships appears, in part, to be an extension of the effects of early parent-child experience.

Research in parent-child relationships includes investigation of the following:

(a) Basic processes of parent-child interaction essential to development of healthy self-concepts of both.
(b) Effects of marital status on the parent-child relationship.
(c) Relationships between child rearing patterns and the child's personality development.
(d) Effects of child rearing patterns in the immediate family upon broader socialization experience of the child.
(e) Effects of parent education and parent-involvement programs on child rearing practices.
(f) Attitudes of the divorced mother, father, and their children toward each other; behavioral manifestations of these attitudes.
(g) Effects of changing sex role patterns on the parent-child relationship.
(h) Effects of a handicapped parent upon the developing self-concept of the child; effects of a handicapped child upon the parents.
(i) Effects of a mother's or father's absence for long periods of time upon the children.
(j) Impact of early mother-figure and father-figure on the development of the young child.
(k) Interaction effects and first-order effects of family members meeting their needs in dispersed community centers.
(l) Influence of siblings and peer groups on the child and on his relation with his parents.
(m) The nature and extent of the generational distance between parents and children and their effects upon both.

I-7. Family Planning

Family planning refers to limitation and spacing of children. In this country food and shelter are adequate for the present population and for reasonable increases, given more equitable distribution. For other parts of the world, the population explosion foreshadows probable starvation. In the United States, families tend to believe they will be unable to maintain a high level of living with a large number of children. This concern is especially prevalent in middle-class, upwardly mobile families.

Although an important concept of marriage is procreation, the viewpoint that this is the chief basis has shifted. Family limitation is widely regarded as a means of promoting responsible parenthood, consideration for the mother's health, the parent's ability to provide material necessities and attention for their children, and the general social and economic conditions of the country. Family planning is designed to promote more responsible parenthood for the number of children the parents are prepared to rear. Many families need assistance in deciding on an optimum number of children based on values concerning abundance of children, human life, health of the mother, standard of living, and the individual wishes of husband and wife. Medical knowledge is available to assist families in planning the number of children and in spacing them. Often, however, those who need such information do not possess it or utilize it.

The following areas require investigation:

(a) Relationship between success in family planning and other aspects of the marital relationship (e.g., communication, sexual satisfaction).
(b) Relationships among preferred family size, actual family size, and marital satisfaction.
(c) Attitudes toward voluntary and imposed sterilization and other means of contraception.
(d) Attitudes and practices relating to legalized abortion as they affect family planning.
(e) Family planning practices as related to religion, ethnic background, stage of family cycle, family size, role relationships, socioeconomic status, wife's employment status.
(f) Effects of unplanned and unwanted pregnancies on the husband-wife and parent-child relationships.
(g) Values, motives and aspirations held by families in relation to size of family.
(h) The family's consideration of its human and material resources as factors in determination of family size.
(i) Attitudes of husband and wife toward adoption of children as a contribution to society and as a means of population control.
(j) Identification of barriers to the use of family planning practices.
(k) Evaluation of educational programs designed to benefit families in relation to planned parenthood.

I-8. Social and Technological Change

It is important to obtain data on the family as a unit functioning in a rapidly shifting social and technological setting. Intervention programs are frequently undertaken with little or no understanding of potential effects upon individuals, families or the social structure. Though social

action programs seem necessary, more information is needed concerning family interaction in the changing social and technological milieu.

Research in social and technological change includes studies in the following areas:

(a) Nature and extent of families' involvement in social action and change.
(b) Conditions within the family that contribute to or hinder social change.
(c) Processes by which families mediate social change within the family unit and through societal institutions and mechanisms.
(d) Factors that determine and promote the participation of individuals and families in community decision making.
(e) Determination of family environmental conditions and role relationships that facilitate coping with the demands of contemporary living.
(f) Programs which stimulate individuals and families to influence and respond to social and technological change.
(g) Identification of adjustment situations resulting from social and technological change, with consideration of causal factors.
(h) Determination of factors affecting adoption or rejection of technological developments.
(i) Influence of social and technological change on the development and behavior of individuals and families.
(j) Role of individuals and families in determining rate of technological change and economic growth.
(k) Relation of individual's values to acceptance of or influence on social change.
(l) Internal and external factors affecting family mobility.
(m) Family and societal conditions associated with rejection of traditional values by youth.
(n) The role of families in assimilation of minority groups into the community.
(o) Processes for alleviation of prejudice and ethnocentrism in the family setting.
(p) Factors contributing to addiction in the family setting and its effects on family members.
(q) Use of increased leisure: clothing, furnishings and food as expressions of personal creativity.

GOAL II. IMPROVE THE CONDITIONS CONTRIBUTING TO MAN'S PHYSIOLOGICAL HEALTH AND DEVELOPMENT

This goal focuses on human physiological development, with the understanding that such development is intimately bound together with

the psychological and social aspects in Goal I. Other research areas related to physiological development also appear in Goals III and V.

The modern concept of health means more than the absence of disease or infirmity: it encompasses the total physical, social, mental and emotional well-being of the individual. Anything which interferes with this broader concept of health concerns physicians and other professionals interested in human welfare. However, the primary responsibility rests on the family to provide an environment conducive to the healthy development of body, mind and spirit of its members.

In the past, home economics research contributions to the goal of physiological health have been largely in the areas of nutrition and food science and have been concerned with the role of food and essential nutrients. New research must deal with other factors, not generally regarded in the past as relating to physiological health. Treating the physiological and psychological aspects of health as components inextricably bound together could well signal exciting research break-throughs in the future.

Continued food and nutrition research should be supplemented and complemented by these new inputs. Attention should be given to understanding the interrelationships between the bio-physical and the psychosocial aspects of nutrition and food; the role and meaning of food for man in different cultural, social and economic settings; food patterns and behavior formation; and the complex interrelationships of technological developments affecting food production and consumption in homes and institutions. The influences of family and community environment on physiological health and development should also be explored. In the decades ahead, housing, clothing and life style characteristics should receive more attention to determine their role in achieving and maintaining health.

In the immediate future, research endeavors must become more responsive to alleviating hunger and malnutrition. Efforts must be expanded to assess the adequacy of available food supplies, to cooperate in finding new food distribution methods, and to find more effective ways to communicate the relation between nutrition and health.

Of special significance also is the need to investigate interrelationships between nutrition and a variety of addictions now reaching critical levels in some sub-population groups. Not only the health of this generation is involved: the future *and* health of generations to come may well be at stake.

The broad Research Problem Areas related to this goal are:

1. Nutrient Requirements and Metabolism
2. Nutritional Status
3. Food Quality, Composition and Safety

4. Food Patterns
5. Health Related Variables
6. Food Service Systems

II-1. Nutrient Requirements and Metabolism

More knowledge of essential nutrients is needed, taking into account all stages of the life cycle, individual differences, and effects of factors contributing to variation in requirements for specific nutrients. Better understanding of metabolic pathways, systems, and interrelationships will aid in providing adequate diets for populations, especially those now existing at sub-minimal levels.

Another research-related input, currently called "action research," is needed to help people solve their nutrition and health problems. Such programs would also open avenues for collecting additional research data about people and their food.

Research is necessary in the following areas:

(a) Optimum sources, kinds, and amounts of nutrients, especially protein, fat, and carbohydrates for growth and maintenance of physical and mental well-being.
(b) Effect of variables such as physical and mental activity, stress, and disease on physiological needs for the various nutrients.
(c) Minimum-maximum range of nutrient requirements for all stages of growth, maintenance of health, and reproduction.
(d) Effects of endogenous and exogenous hormones, including oral contraceptives, on nutrient requirements and utilization.
(e) Effects of alcoholic beverages, narcotics, tranquilizers, and other pharmacological agents on food intake, nutrient needs, and metabolic processes involved in utilization.
(f) Effect of genetic variables on nutrient needs and utilization.
(g) Relationship of previous nutrient intake to current nutrient needs.
(h) Interrelationships of various levels of different nutrients in meeting physiological requirements.
(i) Relation between environmental stresses such as climate, altitude, gravity, pollutants, noise, and crowding and nutrient needs.
(j) Determination of special nutrient needs of individuals in disease or abnormal states and effective methods for meeting these needs.
(k) Metabolic pathways and utilization of nutrients in health and disease.
(l) Evaluation of effectiveness of prescribed therapeutic dietary regimes for attaining desired physiological response.
(m) Effects of variation in growth patterns and state of health on nutritional requirements and utilization.
(n) Roles of specific dietary components in degenerative diseases.

(o) Metabolic effects of toxic substances occurring in or added to foods.
(p) Utilization of nutrients in old age and the effect of specific nutrients on the process of aging.
(q) Relation of cultural food patterns to adequacy of nutrient provision.

II-2. Nutritional Status

Simpler methods are needed to assess the nutritional status of individuals and population groups. These must be dependable, valid techniques which can help alleviate specific deficiencies or general malnutrition. The development of indices for world-wide application would fill a critical need.

Several factors have improved the nutritional status of many people in this country in the last few decades. The enrichment of cereals and cereal products to replace nutrients lost during processing, have provided an inexpensive means to improve many diets. Wider dissemination of information about health, food, and obesity problems have increased public interest in nutrition.

Providing meals and health education has improved the nutritional status of thousands of preschool and school children. The nutritional status of the young is particularly important since the results affect present and future generations.

Although much progress has been made, the diets of many families still do not meet recommended standards. A national effort to eliminate hunger and malnutrition was recently made through the Expanded Food and Nutrition Education Program of the State Extension Services. Evaluating the outcome of such programs cannot be stressed too much for such efforts frequently only alleviate the problem temporarily. Only objective research can provide guidelines for future programs.

The following areas require investigation:

(a) Relation of physical, mental, and emotional health to nutritional status.
(b) Expansion and refinement of methods for measuring nutritional status as indicators of acute and subclinical nutritional deficiencies.
(c) Delineation of simplified indices for wide use in determining nutritional status to screen for subsequent, thorough examination.
(d) Evaluation of nutritional status of individuals in selected population groups (e.g., rural farm, non-farm, economically disadvantaged, teenagers, elderly, institutionalized).
(e) Correlation of past and present dietary intake with nutritional status.

(f) Further development of methods of anthropometric measurement and body composition.
(g) Determination of body composition and anthropometric measures during growth (normal, abnormal, diseased, obese), pregnancy, and adult life.
(h) Assessment of the impact of sponsored programs providing meals for preschool and school children on their nutritional status.
(i) Continuing investigation of all possible avenues for improving nutritional status of the population with special attention to needs of disadvantaged segments of society.
(j) Techniques for measuring the effectiveness of nutrition education in relation to health.
(k) Comparison of the effectiveness of innovative educational campaigns for disseminating nutrition information.

II-3. Food Quality, Composition and Safety

In the past decade changes in the technology of growing, processing and marketing of foods have outdistanced the evaluation of product quality, nutrient content, and safety. New synthetic foods, combinations of food materials, and methods of influencing consumer choices all contribute to consumer confusion. There is also a need for product development in areas of the world where millions exist on less than marginal food supplies. Research needs here run the gamut from information necessary to make intelligent food choices to expanding knowledge about nutrient components.

Research in this problem area should emphasize the following:

(a) Continual up-dating of information on composition, wholesomeness, eating quality and cost of foods widely consumed, including synthesized and ready-to-serve foods.
(b) Further development and refinement of methods for determining food composition.
(c) Effect of environmental elements, including geographic area, on composition of food.
(d) Continual development and improvement of protein food supplements.
(e) Determination of presence of microbiological organisms in food which result in toxic conditions and infection.
(f) Determination of intentional and incidental additives in food.
(g) Factors affecting wholesomeness in storing, preparing, holding, and serving food in home and institutional settings.
(h) Effects of commercial food processing and packaging methods on final food quality, nutritive value, safety and cost.
(i) Development of a wider selection of acceptable food items to meet special needs (e.g., low fat, low sodium, specific allergies).

(j) Expressions of consumer needs and desires for foods in new forms.
(k) Final product quality comparisons of foods prepared from primary ingredients of varying processed forms and by different food preparation methods.
(l) Partially and fully prepared foods: Interrelationship of extent of processing, market form, and final product quality with consumer acceptance and economics of utilization in homes and volume feeding establishments.

II-4. Food Patterns

Improving the nutritional state of man in all areas of the world and in subcultures of our own society depends on exploring the meaning of food to different peoples. By and large, people do not consume food because they think it meets their nutrient needs. What factors influence food patterns and behavior formation and transformation? How can people be motivated to modify eating habits to obtain adequate quantities of essential nutrients? Expanded research here is tantamount to improving the nutritional status of people in all walks of life.

Other related concerns will require expanded research and accompanying "action research" programs. These concerns involve the distribution and use of misinformation and pseudo-scientific information about foods and nutrients. The poor, the elderly, the overweight and the ill are most frequently the unwitting victims. Researchers must persist in defining the problem for the supplier and the receiver.

Research areas suggested here are representative of the many which need intensive investigation:

(a) Identification of factors which determine food choices and practices with special emphasis on the social, cultural, religious and economic factors.
(b) Values held by various populations concerning food; ways in which these values are mediated through food practices.
(c) Relation of aspects of living patterns (e.g., tension, alcohol, tobacco, drugs, exercise, social activities) to food intake habits.
(d) Techniques effective in motivating people to change their eating patterns.
(e) Extent of distribution and use of information about food fallacies, and methods of counteracting misinformation.
(f) Factors influencing acceptance or rejection of food fallacies and fads.
(g) The role of food as a component of social activities and ceremonies.
(h) The role of food in meeting psychological and emotional needs.

(i) Effects of sensory perception, psychological and environmental factors upon food acceptance and dietary habits.
(j) Assessment of practices and trends in the use of partially and fully prepared foods in homes and volume feeding establishments.
(k) Computer programming of food intake plans to meet nutrient, economic, and acceptability criteria.

II-5. Health Related Variables

Although the relation of food intake to health has long been recognized, other factors also affect individual health. Activities and settings in which family members interact influence their health and outlook, their responses to others, and their attitudes toward the world.

Many factors, subtle in their effect on health, have been overlooked by researchers in the past. We now recognize that many complex interrelationships between man and his environment affect his well-being.

Often extended periods of time obscure the original causal factor, such as the effect of prenatal nutrition. Other factors, appearing only tangentially related to health, such as home surroundings or clothing comfort and satisfaction, may elude researchers.

The need to view health in relation to a wide variety of factors is apparent. Such an approach will require carefully designed multidisciplinary approaches to be rewarding.

Investigation is needed in the following areas:

(a) Relation between social-emotional well-being and physiological health.
(b) Identification of values held by families regarding physical development and maintenance of health.
(c) Relation of selected activities and exercise to food intake and metabolic processes.
(d) Family and community activities which contribute to physical fitness and mental health.
(e) Relation of aspects of living patterns (tension, alcohol, tobacco, drugs, exercise, social activities) to physiological and mental health.
(f) Physiological responses to kind and quantity of food consumed and speed and frequency of eating.
(g) Effects of short or long-term nutritional deprivation on aspects of human health and capacities.
(h) Relation between prenatal nutrition and early diet of the child to mental and physical well-being throughout life.
(i) Relation between prenatal nutrition and subsequent health of the mother.

(j) Influence of immediate surroundings in the home on development and maintenance of physiological health.
(k) Determination of clothing comfort levels for various types of physical activity and in varying environments.
(l) Factors related to physical safety in the use of clothing and household textiles, specifically in the areas of cleanliness and sanitation, flammability, and accident potential.
(m) Determination of optimal levels of fabric utilization to insure privacy, reduce noise, and reduce fatigue in home and institutional settings.

II-6. Food Service Systems

Each year institutional and commercial food service establishments provide an increasing proportion of the food consumed by people in the United States. About one-fourth of the dollars spent annually for food and beverages is on items consumed away from home.

The food service industry represents a major component of the economy. It also contributes to the health of the population as a significant food supplier.

Expanded research is needed so the food service industry can serve both of these functions well. Investigations must provide information so that industry can keep abreast of technological changes in related fields. There is also a need for research concerned with providing wholesome, nutritious food for an increasingly mobile population. Such research has a direct effect, although not always discernible to the clientele, on the health of a larger number of individuals and families each year.

Research should emphasize investigation in the following areas:

(a) Relation of clientele needs (physical, psychological, social, cultural, economic) to physical layout and operation of food service systems.
(b) Continued exploration of computer applications for standardization, analysis, and control of operational processes and procedures (menu planning, forecasting, procurement, production, distribution, work scheduling, inventory, costing, accounting).
(c) Effect of increased unionization on human resource management in the food service industry (worker specialization, incentives, rewards, labor cost).
(d) Effect of mechanization and automation on employee roles and job skill requirements for worker retention and career advancement.
(e) Attitudes, values and expectations held with respect to school food service programs as a supplementary source for meeting the nutritional needs of children and adolescents.

(f) Effect of environmental, psycho-social, cultural and economic factors on extent to which individuals and families use institutional and commercial food services.

(g) Identification of professional skills of food service administrators essential for successful adaptation to social, technological and economic change.

(h) Evaluation of traditional versus recent developments in teaching and training methods and materials for maximum learning and retention for various position levels and specialized skills needed in the food service field.

(i) Effect of different types of food service equipment and handling procedures on the quality and cost of food prepared and served in quantity.

GOAL III. IMPROVE THE PHYSICAL COMPONENTS OF MAN'S NEAR ENVIRONMENT

The interdependence of man and his environment has implications for all five research goals but is especially pertinent to this goal. The physical components of emphasis here are clothing which is the transitional factor between the individual and his surroundings, and housing which provides the shelter for the family.

The near environment has significant social implications. Housing is the spatial environment in which man exists and interacts, and clothing comprises the most proximal near environment which influences interactions with others and reflects the wider social environment.

The immediate environment should satisfactorily accommodate man and his many activities and interactions. In addition to accommodating man's social needs, it should provide function, comfort, contentment, health, economic, psychological and aesthetic satisfactions.

The highly populated and industrialized environment has effected many new and pressing problems. With two-thirds of the country's population living in metropolitan centers, great quantities of waste materials are daily deposited in the surrounding air and water and on the land.

The widespread disregard for the aesthetic and humanizing aspects of man's environment has resulted in indescribable ugliness in many parts of the nation. Such disregard must give way to the recognition that environmental blight does not have to be a corollary of economic progress.

Only recently have researchers begun to discover possible relationships between blighted environment and blighted human beings. Both industry and government are now concerned for people and their well-being in new terms. Information about the impact of environment on man's nature must have high and immediate priority if society is to correct the damage already done.

The broad Research Problem Areas related to this goal are:

1. Housing and Environs: Human Needs
2. Housing and Environs: Psycho-Socio-Cultural Aspects
3. Housing and Environs: Aesthetic Aspects
4. Housing and Environs: Economic Aspects
5. Textile and Textile Products: Properties and Performance
6. Clothing: Human Needs
7. Clothing: Psycho-Socio-Cultural Aspects
8. Clothing: Economic Aspects
9. Clothing: Creation and Design

III-1. Housing and Environs: Human Needs

There is now widespread concern for the quality of the environment and its effects on people everywhere. Although to many "environmental quality" is limited primarily to pollutants in the water, air and land, the term has additional implications for home economics. Housing environs refers to both the interior, including its spatial arrangement, furnishings and equipment, and the immediate exterior surroundings. Man must often adapt to housing space instead of adapting spatial arrangements to his particular needs. New concepts of space use and alternative spatial arrangements relating to overall human needs are necessary.

Increased research is needed concerning the reciprocal nature of the relationships existing between man and his environment. To date research has focused more on how man changes his environment to serve his purposes. An emerging research need concerns the multiple effects of the immediate environment on man.

Investigation is necessary in the following areas:

(a) Effect of amount and arrangement of interior and exterior space upon family life, especially family functions and interaction.
(b) Role of flexible physical space in adapting to family member needs throughout the life cycle.
(c) Determination of physical environmental requirements to meet special needs of individuals.
(d) Development of new concepts of space use with emphasis on storage, task performance, leisure activities and anticipated technological changes.
(e) Effect of aesthetic aspects of space utilization on family well-being.
(f) Use of the computer in evolving environmental space designs.
(g) Role of housing, furnishings and equipment in influencing and meeting individual and family needs and aspirations.
(h) Effects of deprivation of housing, furnishings and equipment on man.

(i) Relation between over-crowding in housing and physical and mental health; levels of over-crowding sensitivity.
(j) Evaluation of housing prototypes as they serve the needs of families of various income levels, size and composition and in various life cycle stages.
(k) Assessment of the human response to low cost single-unit and multi-unit housing designs.
(l) Ideas held by persons over 40 about desirable housing conditions for their retirement years.
(m) Perception of retirees of their housing needs; extent to which present housing succeeds or fails in fulfilling these needs.
(n) Factors influencing satisfaction in changed living units following retirement.
(o) Extent to which separate communities and segregated housing for the aging meet human needs.
(p) Exploration of institutional housing and its effect upon man with recommendations for improving the humanizing aspects of institutional living.
(q) Factors affecting the degree of harmoniousness among families in a neighborhood.
(r) Determination of environmental factors that have a long-range detrimental effect upon individuals.
(s) Curtailment of environmental pollution directly produced by individuals and families.
(t) Man's need in alien environments: underground, underwater and outerspace.

III-2. Housing and Environs: Psycho-Socio-Cultural Aspects

To date, the concept of housing environment has been regarded as the physical, material, tangible surroundings in which people live. A new concept is now evolving which deals with man's psychological and social environment which surrounds as completely and affects him as markedly as does his physical environment. Increasing social and technological pressures require expanded research in this area if the physical environment is to add human dimensions to living.

Questions for which answers should be sought require investigation in the following areas:

(a) Cultural, historical and geographic factors affecting the social and physical environment.
(b) Identification of levels of man's need for social contact, individualism and privacy within his near environment.
(c) Social and psychological response to change in man's physical environment.

(d) Effect of new or frequently changed environment on patterns of family development and interaction.
(e) Impact of noise and sound levels in the environment upon psychological and physiological well-being.
(f) Relationships between perception of self and the quality of the physical environment.
(g) Housing, furnishings and equipment as symbols of social status; factors affecting symbolic meanings.
(h) The role of design in establishing identity through individuality or conformity.
(i) Social and psychological effects of separate or combined design components.
(j) Impact of single-class neighborhoods on socialization of children and social mobility of adult family members.
(k) Effect on individuals and families of living in groupings of identical housing units.
(l) Effects of selected technological developments on the quality of family life.
(m) Effects of technology on satisfaction and dissatisfaction within selected environments.
(n) Effects on family functioning of technological change within dwellings.
(o) Utilization of technology in the immediate environment to facilitate social development of family members.

III-3. Housing and Environs: Aesthetic Aspects

A most difficult area to research is man's aesthetic response to his environment and his need for expressing aesthetic drives. Elements of design have been well delineated and related principles have been applied to some degree in housing interiors and exteriors. Only recently has attention been drawn to the role of the aesthetic in people's lives. To improve the overall quality of our environment, researchers will need to deal more directly with the areas outlined here.

Research in this problem area should emphasize the following:

(a) Identification of levels of need for an aesthetic environment.
(b) Relation between development of creativity and aesthetic need and expression.
(c) Effects of aesthetic deprivation upon man.
(d) The role of housing, furnishings and equipment in fulfilling aesthetic needs.
(e) Relation between individual and family values and aesthetic expression.
(f) The role of individual components of design (line, form, texture, color, space) in achieving an aesthetic environment.

(g) Choice-making as related to functional and aesthetic considerations.
(h) The role of architectural components, both functional and decorative, in achieving aesthetically pleasing environments.
(i) The role of sensory cues (e.g., visual, auditory and tactile) in determining an aesthetic environment.
(j) Methodology for studying aesthetic creativity.

III-4. Housing and Environs: Economic Aspects

Provision of adequate housing at a suitable cost is a major problem facing families today, particularly the elderly and those with children. The dollar amount spent for housing, whether for ownership or rent, is as a rule the largest single outlay made for any item of consumption.

Although home ownership is a goal of the majority of families in our society, economic problems are a great deterrent to ownership. Of far greater concern is the provision of adequate housing irrespective of ownership. Adequacy must be interpeted as more than physical soundness of the structure and provision of basic facilities. As knowledge concerning the effects of housing upon individuals expands, the requirements for adequate housing become broader with the possibility of resulting cost increases.

Inadequate housing has become a first-order concern at all levels of government. The distance that exists between present housing and needed housing points to the need for more research concerning how this goal may be accomplished.

Research in this problem area should be directed toward:

(a) Economic effects of technological and fashion changes in housing, furnishings, and equipment.
(b) Analysis of the economic and qualitative benefits of various housing patterns, including innovative satellite village housing, "new towns," clustered age-integrated houses or apartments, together with landscaping and park areas.
(c) Effects of new technological changes in the house building industry and new materials used in the construction of houses upon the quantity, quality and cost of available housing.
(d) Assessment of the economic and qualitative benefits of mass-produced housing components—mechanical cores, storage, rooms and areas—that can be readily available, simple to install, lightweight, durable, low in cost and maintenance.
(e) Financial alternatives for provision of housing, household equipment and furnishings; evaluation of options and practices in relation to income levels and expenditure patterns of differing population groups.

(f) Impact of building codes, standards and ordinances, and preferential tax assessments on housing costs.
(g) Criteria used by builders and developers in determining design of housing for different income levels.
(h) Effect of economic considerations and availability of space on design of housing and surroundings.

III-5. Textiles and Textile Products: Properties and Performance

Advances of the fiber, textile and textile-related industries in the past twenty years have provided today's consumer with an almost infinite variety of choices. Expansion and development in these fields have been accompanied by marked increase in industry-based research.

Because of the competitiveness within the industry and the loose coordination among industries (producers and suppliers of fibers, fabrics, clothing, furnishings), the consumer often encounters problems he cannot solve.

One aspect of the problem is communication between the consumer and industry. Another is the need for objective evaluation of end-use performance, a service which frequently receives minimal attention from industry. Research in both these areas can increase consumer satisfaction with textiles and textile products and can complement and supplement industrial research.

Research in this problem area should emphasize the following:

(a) Effectiveness of various textile finishes and treatments in relation to their intended function.
(b) Interrelationship of controlling factors (e.g., fiber content, fabric geometry, and finish) with fabric performance in specific end-use situations.
(c) Consumer needs and preferences for specific characteristics in textiles and textile products including style, aesthetic qualities, level of performance and maintenance.
(d) Relation of various textile properties to comfort, functional and aesthetic considerations in clothing and furnishings.
(e) Performance and acceptability of non-textiles, such as paper, plastic and non-wovens, in clothing and furnishings.
(f) Development of laboratory test methods which will adequately predict end-use performance.

III-6. Clothing: Human Needs

Although a primary function of clothing has been protection from the climate, recent extensive use of climate-controlled housing, public buildings, and transportation vehicles has altered this function considerably. Wide participation of individuals in social and recreational activities has also increased the need for less cumbersome and restrictive clothing.

While climatic condition and activity involvement affect clothing, traditions and customs of people surrounding us are also important influences. The desire for distinction and recognition is a human trait often expressed through clothing. Clothes affect others as well as ourselves. Such factors have opened a vast, new area for research.

Investigation is needed in the following areas:

(a) Role of clothing in fulfillment of human needs and aspirations.
(b) Effects of technological and social change, such as climate control or increased leisure, on specialized needs for aesthetics, function and variety in clothing and textiles.
(c) Interrelationships among clothing comfort levels, activity, environmental factors, garment design and fabric properties.
(d) Clothing inventory requirements and holdings as related to such factors as age, sex, and socio-economic class.
(e) Determination of clothing and textile needs in alien environments: underground, underwater, and outerspace.

III-7. Clothing: Psycho-Socio-Cultural Aspects

Interest in clothing, the reasons for choosing particular apparel, the effects of clothing on behavior, and the way clothing is perceived are all dependent upon psychological, social and cultural factors. People interacting with others in social settings makes the role of clothing complex. Thus fashion, change of fashion and style as means of self-expression come to the fore.

Clothing affects how persons perceive one another. It also affects the action of the wearer and the role he plays in society. Knowledge of the psycho-socio-cultural aspects of clothing is, therefore, basic to the study of clothing.

Until the late 1940's, research emphasized clothing construction and design and the study of textiles. Scientists have only begun to examine pertinent psychological, sociological and anthropological theories in relation to clothing. Such research would increase the theoretical base in the applied discipline of clothing as well as in related basic disciplines.

Research areas suggested here are representative of the many which need intensive investigation:

(a) Clothing as a function of beliefs, sentiments, status, occupation, religion, ritual and ceremony.
(b) Cultural, historical and geographic factors affecting clothing modes.
(c) Functions of dress in various cultural and social situations.
(d) Factors affecting stability and change in modes of dress.
(e) Impact of clothing on the social acceptability of individuals to their peers and other groups.

(f) Influence of clothing on the developing self-concept of individuals.
(g) Social-psychological and physiological effects of clothing deprivation on man.
(h) Role of clothing in establishing individuality or conformity.
(i) Function of clothing as a form of symbolism in helping individuals and families to play roles, develop a self-image, or project a desired image.
(j) Establishment of research-based standards to assist low income families meet minimal levels of social and psychological acceptance with respect to clothing.
(k) Potential role of clothing and fashion as a tool in psychotherapy.

III-8. Clothing: Economic Aspects

Research has shown that a family of moderate income spends about 15 percent of its income for clothing. Many variables affect this expenditure such as the relative importance assigned to clothing and the reaction to social pressure to keep pace with one's associates. Investigations have also shown such factors as total income, age, sex, climate, level of social activity, and occupation to be related to clothing expenditures.

However, more research is needed to understand individual spending habits concerning clothing. Personal and local situational factors are important considerations. Factors linked with the clothing and fashion industries and the economy as a whole also need intensive study.

Research in this problem area should be directed toward:

(a) Relationships among aspects of the national economic situation; the clothing, textile and fashion industry; cost of clothing; and clothing expenditures actually made.
(b) Assessment of the complex of factors determining the portion of income used by individuals and families for clothing.
(c) Evaluation of financial alternatives and practices for provision of clothing in relation to income levels and expenditure patterns of differing population groups.
(d) Economic effects on individuals and families of fashion trends and cycles in clothing and textiles.
(e) Effects of technological developments in clothing and textiles on the economic outlay of individuals and families.

III-9. Clothing: Creation and Design

Clothing contributes to man's sense of well-being through effects created by colors, textures and arrangements of line. Through the medium of clothing, man expresses aesthetic feelings. Aesthetic impression and overall design of a garment are closely related to the way it is constructed. Construction features also relate to function, comfort, safety, cost, and

maintenance requirements. The construction process should complement the functional and aesthetic attributes of clothing design.

Research related to dress and adornment as means of aesthetic expression and satisfaction is in the early stages. Increased satisfaction and enjoyment in this area can result from accelerated research efforts.

Research questions for which answers should be sought require investigation in the following areas:

(a) Role of clothing as a form of aesthetic expression.
(b) Role of individual elements of design in achieving aesthetically pleasing dress.
(c) Development of functional and aesthetic design criteria for clothing, especially for the physically and mentally handicapped, the elderly and the young.
(d) Construction features in clothing which contribute to comfort, maintenance, safety, function and design aesthetics.
(e) Comparison of new methods of garment construction, such as stitchless "sewing" and heat fusion, with conventional methods.
(f) Establishment of standards for clothing sizes through continuing research on anthropometric measurements and proportions for all segments of the population.

GOAL IV. IMPROVE CONSUMER COMPETENCE AND FAMILY RESOURCE USE

In an affluent society consumer concerns increase as goods and services increase. Such concerns involve satisfaction with available goods and services, validated information about products and services, and effectiveness of resource management.

The consumer today is often forced to make decisions without adequate, valid information. Consumer laws have only recently received the attention necessary to protect health and provide security from defrauders.

Legal protection, however, will not enable the consumer to maximize his resources to achieve desired ends. Better ways must be developed to provide him with information for sound choice making, and he must learn to discriminate between valid information and misinformation.

The consumer must also communicate his needs to business and industry and become more informed about resource and credit management, legal and civil rights, and the channels for maintaining them.

Research is needed to provide new insight into consumer behavior, to supply valid information about goods and services, and to add to the understanding of behavioral factors. Increased knowledge is also needed about management and decision making processes to understand consumer choices. Management, with its essential elements of values, goals and resources, is especially important to consumer competence. The

ability of families and individuals to identify values, formulate goals and effectively use their total resource pool affects not only consumer satisfaction, but satisfaction in all other aspects of living as well.

Knowledge of management and decision making processes pervade all areas of home economics. The capacity for arranging means to meet ends in individual and family settings may play a significant role in society at large. Viewed over time, families in their managerial capacities may aid or impede societal goals. Therefore, there is need for increased knowledge about individual and family management in developing countries and subcultural groups in this country.

The broad concern in this goal is level of living. As used here, it encompasses all goods, services and conditions consumed or experienced in living: goods and services acquired in the market plus non-marketable goods, services and conditions such as use of public facilities, social status and location of residence. In contrast, the term, standard of living, encompasses the same entities but is a normative concept describing how the individual believes he ought to be living. However, to raise levels of living, standards must also be raised.

Research in the area of level of living, often considered synonomous with quality of living, presents one of the greatest challenges today. Goods and services acquired in the market can be subjected to quantitative measure. More difficult, however, is the objective assessment of intangible conditions which contribute to a wholesome family climate. Increased research must be conducted in this area if further enrichment is to be provided for family life.

The broad Research Problem Areas related to this goal are:

1. Consumer Service Needs
2. Consumer Choice Making and Behavior
3. Consumer and the Marketing System
4. Values and Behavior
5. Management and Decision Making Processes and Situations
6. Resource Development, Allocation and Use
7. Levels of Living.

IV-1. Consumer Service Needs

A continuing concern of home economics involves providing consumer information about tangible and intangible qualities of goods and services. Specific qualities of a particular product or service and the characteristics of each consuming unit vary. Both must be considered carefully by the consumer in making decisions.

Research is needed in each major category of consumer goods and services to determine needs and preferences of specific population groups, to establish quality attributes for particular end-use situations, and to disseminate this information to consumers and producers.

A special need exists to determine the extent of individual knowledge about legal protection. Although there is increasing pressure for more consumer laws, many citizens are not well informed about existing laws. Thus, a logical approach for adequate protection is first, the determination of consumer awareness; second, the development of improved methods for diffusing such information where gaps exist; and, finally, the assessment of need for additional protective measures.

Research questions to be answered require investigation in the following areas:

(a) Assessment of extent to which needs for consumer services are being met and implications for new or modified services.
(b) Identification and evaluation of alternate provisions for household services desired by families and individuals.
(c) Evaluation of criteria for judging attributes of consumer goods and services.
(d) Evaluation of different methods of providing information to consumers relative to availability and quality of goods and services.
(e) Extent of citizens' knowledge regarding existing laws (e.g., divorce, inheritance, tax, consumer) which affect their present and future welfare.
(f) Channels of information used by individuals and families regarding legal protection most directly affecting them.

IV-2. Consumer Choice Making and Behavior

Choice making is a complex problem today for both the affluent and those with sub-minimal incomes due to the variety of goods and services and floods of consumer information and misinformation. Daily choices, made consciously and subconsciously, markedly affect the present and future quality of our lives.

Most individuals are inadequately informed to function effectively as consumers, and little is known about why the consumer behaves as he does. Without increased knowledge, consumer competence cannot rise above its present level. Research is also needed to comprehend more fully the multiplicity of factors affecting consumer behavior.

Research in this problem area should involve:

(a) Knowledge contributing to consumers' capacity to discriminate among alternatives offered by the market for goods and services.
(b) Assessment of use of consumer information (e.g., grades, standards) by consumers in choice and use of goods.
(c) Assessment of factors, internal and external to the family (e.g., attitudes, values, goals, life cycle stage, mass media, laws and sanctions) affecting household consumption patterns.

(d) Identification of factors associated with choice making by different socio-economic groups.
(e) Development of models for evaluating consumer behavior.
(f) Development of measures for determining levels of consumer competence.
(g) Development and evaluation of computer systems helpful in providing alternatives in consumer decision making.
(h) Development of an operational theory of consumption that integrates theories of behavior from psychology, sociology and economics.

IV-3. Consumer and the Marketing System

Both the market and the consumer encounter problems when either fails to be knowledgeable about the other. The market sometimes presumes to project the consumer's needs without seeking his point of view. The consumer sometimes unrealistically demands goods and services at a price which disregards production and distribution costs.

Since each consumer is unique, there is no "average" consumer whose behavior can be predicted with certainty. Consumers have not succeeded in raising a unified voice to communicate their needs to the suppliers. Because the market is diverse, complex and profit motivated, it may view the consumer as a potential buyer without regard for his particular needs. Research bridging this communication gap should be useful.

Research areas suggested here are representative of the many which need intensive investigation:

(a) Knowledge about consumers useful for increasing consumer satisfaction through improved goods and services.
(b) Reciprocal impact of consumer choices and the development and availability of desired goods and services.
(c) Specific characteristics of consumer preference and its influence on the market.
(d) Factors affecting availability and cost of goods and services, including consumer practices and demands of varying populations and income groups.
(e) Determination of the responsibilities producers, processors, and suppliers feel toward the consumer and their efforts to fulfill these.
(f) Assessment of channels for establishing meaningful communication between consumers and suppliers and/or producers.
(g) Assessment of consumer understanding of the complexities of production and marketing processes as they relate to availability and cost of goods and services.
(h) Determination of the level of consumer's knowledge about legal protection in the market, consumer's use of legal recourse and

channels for reporting unfair and illegal treatment in regard to rights, goods and services.

IV-4. Values and Behavior

Because families are the most fundamental unit of the larger social order, some value changes over time are necessary in both by virtue of the family-society interrelation. However, some family values are well worth retaining and strengthening. Families continuously re-examine their values to maintain stability. They must frequently decide upon new ways of actualizing their high priority values as well as guiding value change over time.

Values are held both implicitly and explicitly. For most effective realization, they must be at the level of awareness. Herein lies a two-fold challenge: to identify implicit, as well as explicit, values and to develop means for bringing them to the cognitive level.

Research in the area of values, once considered elusive and visionary, is now accepted as basic to the understanding of behavior. Although the past decade has witnessed much methodology development in the study of values, value systems, and factors influencing value change, researchers are only on the threshold of this complex area. As more knowledge about values emerges, there should be better comprehension of both agreement and conflict within the family, within our society, and among societies.

Research questions for which answers should be sought require investigation in the following areas:

(a) Conceptual and methodological approaches to investigation and analysis of values.
(b) Identification of values and their organization into systems.
(c) Variables (e.g., race, ethnicity, socio-economic class) associated with particular values and value systems.
(d) Methods for bringing values of individuals and families to the cognitive level.
(e) Hierarchy of values within value systems of individuals and families.
(f) Objective measures for determining "desirable" value stances; approaches to change in values in the "desirable" direction.
(g) Coherence between values held and behavioral manifestations.
(h) Intrapsychic and interpersonal resolution of conflict in values.
(i) Human and material consequences of holding particular value systems.
(j) Congruence among individual and family values and cultural and societal values.
(k) Ways in which values and related concepts such as wants, preferences, interests and attitudes are formed and changed.

IV-5. Management and Decision Making Processes and Situations

In this context management is the process of ordering individual and family decisions to actualize human potential. Humans can and do exercise choice concerning the future in areas which are ever widening, including the technical, legal, social, economic, and political.

Management occurs most effectively at the cognitive level. An increased understanding of the management processes can help to effect desired managerial outcomes. Decision making characterizes all phases of the management process and involves goal formulation, selection and organization of resources, and courses of action to attain these goals.

It is necessary to further develop and refine the theoretical models of the management and decision making processes. Additional investigations are also needed to determine internal and external factors having significant bearing on these processes.

Questions for research require investigation in the following areas:

(a) Development of theoretical and operational models of the management and decision making processes as they occur in individual and family settings.
(b) Interrelations among values, goals and resources and their function in management and decision making.
(c) Effects of elements of the physical, social and psychological environments on development and use of managerial ability.
(d) Development of measures for identifying managerial behavior.
(e) Identification of factors associated with differences in managerial behavior.
(f) Development of means for measuring and evaluating management outcomes.
(g) Development of improved techniques for management and decision making.
(h) Identification of determinants of choice, internal and external to the decision maker, and factors affecting these.
(i) Relation between perceived and real fields of choice of the decision maker.
(j) Determination of attitudes held toward risk; assessment of effects of risk on choice making.
(k) Reciprocal effects of central decisions and subsequent or satellite decisions.
(l) Development of processes to facilitate goal setting and problem solving by individuals, independently and in groups.
(m) Development of methods for quantifying variables essential for making managerial decisions by computer technology.
(n) Identification of human and environmental factors associated with habitual versus conscious managerial behavior.

(o) Development of techniques and processes for managerial education at points of readiness for learning.

IV-6. Resource Development, Allocation and Use

Recognizing, developing, allocating and using human and material resources in ways that achieve one's goals contributes substantially to satisfaction with living. Each activity is an important component. And research data now point to a possible correlation between how effectively families deal with one or more of these components and their general quality of living.

Resources, once regarded as material goods or money, now are more broadly viewed to include human capacities, time concepts, knowledge, health, attitudes and other inputs. In this newer framework, much research will be required to understand how individuals and families organize their resources for goal achievement, and how they can achieve these goals through more effective resource development and use.

Today, special consideration must be given to credit as a resource. With credit so universal as a medium for purchase of goods and services, the need emerges for better understanding of the credit function, of ways in which credit can help individuals and families achieve their goals, and of the factors involved in over-extension of credit use.

Research needed in this problem area includes:

(a) Identification and measurement of total resources available to families.
(b) Analysis of interplay of all resources, including substitution and complementary effects.
(c) Patterns of family resource development, allocation and use; factors affecting these patterns such as income, size and life cycle stage.
(d) Time horizon (past, present, future orientation) and its relation to resource use for families within different cultural settings, socio-economic levels, and life cycle stages.
(e) Ordering of priorities with respect to alternative uses for resources.
(f) Comparison of means of conservation and use of scarce resources among selected population groups.
(g) Effect of changes in costs of consumer goods and services upon total family resource use.
(h) Effect of obsolescence of goods on consumer expenditures.
(i) Effect of public policies (e.g., tax laws, monetary and fiscal policies) on family resource development and use.
(j) Assessment of level of knowledge of consumers regarding credit use: bases for securing credit, alternative sources and their respective credit costs.

(k) Use of credit and its effect upon utilization of other resources.
(l) Factors associated with extent of and satisfaction with credit use.
(m) Development of more effective educational programs regarding wise use of credit.
(n) Factors associated with the nature, function and use of saving and investment by individuals and families.
(o) Factors associated with the nature, function and use of household production in individual and family life patterns.
(p) Development of more effective programs for diffusion of information concerning community opportunities as resources in individual and family living.
(q) Financial counseling and educational programs effective in increasing satisfaction with financial management outcomes.
(r) Ways in which individuals and families can be assisted in identifying and developing present and potential resources.

IV-7. Levels of Living

An optimal level of living results from goods, services and conditions that make possible the fullest development of each family member. Although the term has had primarily an economic connotation, here it includes qualitative as well as quantitative aspects of living.

Improving the level of living of disadvantaged segments of the population is a national concern. Such a task involves not only providing basic material necessities of food, clothing and shelter but also developing human dignity, worth, and self-respect.

Research in this problem area focuses on the constituents of levels of living, attaining and maintaining optimal levels, and long-term effects of various levels of living on human beings.

More specific research needs include:

(a) Identification of characteristics of the social and physical environment that give rise to and perpetuate poverty and disadvantagement.
(b) Establishment of research-based family expenditure patterns as guides to achieving desired levels of living.
(c) Household consumption patterns as related to levels of living.
(d) Methods of measurement for the quantitative aspects of living, such as goods and services consumed.
(e) Methods of measurement for the qualitative aspects of living, such as the aesthetic and psycho-social dimensions.
(f) Identification and quantification of minimal-optimal levels of living including the total cost of goods and services and conditions for various income levels and residence situations.
(g) Establishment of research-based standards to assist low income

families in meeting minimal levels of physical, social and psychological acceptance with respect to goods and services.

(h) Effects of the chain of decisions made by individuals and families upon their present quality of living and that to which they aspire.

(i) Determination of differing and changing needs for goods, services and conditions as required by the elderly, ethnic groups, migrants, low income groups, young married couples, physically handicapped, and those with other special needs.

(j) Determination of the goods, services and conditions that have the greatest impact on raising the family's level of living.

(k) Methods of working with low income families most conducive to motivating them to raise their levels of living.

(l) Impact of welfare-related programs on the recipient's level of living.

(m) Effects of being a long-term welfare recipient upon the family's motivation to become self-supporting.

(n) Long-term effects of various levels of living on the growth and development of the individual.

GOAL V. IMPROVE THE QUALITY AND AVAILABILITY OF COMMUNITY SERVICES WHICH ENRICH FAMILY LIFE

Society, once comprised of self-contained and self-sufficient individual units, is now characterized by complex interrelationships at the community, state and federal level.

Numerous governmental and private agencies and services carry out programs to strengthen and enrich the American family system. Their success varies widely. Existing weaknesses in various family programs may be attributed more to public apathy than to factors inherent in the programs themselves. The financial and organizational handicaps under which agencies often operate might well be minimized by more public support.

Although most people are vitally concerned about their own families, the general populace demonstrates little concern for the family *as a social institution.* This lack of concern manifests itself in many ways. One is the limited support for and participation in family enrichment programs. Another is the general failure of the public to consider the effects of social and moral issues on the family. Issues, such as liberalization of divorce laws, birth control, addiction and homosexuality, are constantly discussed in individualistic terms, but are less often debated in terms of their potential effect on the family.

Goal V concerns research relevant to strengthening the family as a social institution. Its scope includes defining and accomplishing community goals and programs which contribute to the well-being of fami-

lies and to larger societal goals. Past research involvement of home economics in these undertakings has been minimal. However, home economics inputs, through functional community channels, can further strengthen and enrich family life and society at large.

Team approaches to problem solving will be necessary in both research efforts and action programs at the community, state and national levels. Current challenges and opportunities for contributing to social programs are great. Meeting them will provide a base for more fruitful and cooperative efforts to deliver programs needed by families of the future.

Critical social problems communities must solve in the coming decade relate directly to population expansion and conjested living conditions. Some existing programs need to be expanded or modified and new ones developed. Programs for the future will be increasingly concerned with health delivery systems, youth problems, minority group needs and child care centers.

The broad Research Problem Areas related to this goal are:

1. Community Program Needs
2. Health, Safety and Recreation Programs
3. Continuing Education Programs
4. Housing Programs
5. Day Care Programs for Preschool Children
6. Family Influence on and Response to Public Programs

V-1. Community Program Needs

Although many social action programs strive to improve the human condition, much confusion and frustration often results. Despite such limitations, community programs for strengthening the family deserve every encouragement.

Support, participation and commitment by citizens are keys to successful programs, whatever their focus. To become more active in the planning and implementing of family programs, home economics needs to ascertain how it can best contribute. The interrelations among various programs must also be determined if the best interests of individuals and families are to be served. The acceptance or rejection of professional engagement in community undertakings and projection of needs also warrant careful examination.

Research questions for which answers should be sought include:

(a) Extent of involvement and potential role of home economics personnel in community programs designed to strengthen and enrich family life.

(b) Identification of needs and expectations for programs designed to serve community members.

(c) Factors affecting availability and use of existing programs and

resources designed to serve individuals and families in the community.

(d) Evaluation of relative impact of various programs in improving quality of living of families in a community.

(e) Assessment of community priorities in supporting needed programs for all groups (e.g., age, sex, minority groups) which contribute to attaining and maintaining individual and family well-being.

(f) Interrelationships and interdependence among the family as a social institution and other societal institutions with the view toward strengthening programs which serve goals in common with the family.

(g) Role of home economics personnel in community programs as perceived by federal, state and local community officials.

(h) Role of home economics personnel in encouraging family involvement in programs dealing with problems which affect the well-being of family members and the community.

(l) Identification of potential volunteer and paraprofessional inputs of time, competence, and other resources to enrich community programs.

(j) Delineation of special counseling needs of individuals and families (e.g., handicapped, elderly, disadvantaged, migrants).

(k) Assessment of existing packages of community services (e.g., counseling, informal teaching) that contributes to improved well-being of disadvantaged and dependent families; project new or modified approaches for unmet needs.

(l) Perception of citizens regarding program needs to improve the physical components of the community environment.

(m) Assessment of various staffing patterns for effective community program implementation.

V-2. Health, Safety and Recreational Programs

Since the average citizen spends half or more of his time in the community, it should offer him a safe and healthy setting in which to accomplish family tasks, enjoy leisure time, and participate in community efforts. The community needs to supplement family resources for such activities not feasible for the individual family to provide.

Many community programs could increase their effectiveness by periodic evaluation and revision. Home economics researchers, as a part of the community team, can bring their particular competence to bear on programs to improve community health, safety and recreation.

Research is needed in the following areas:

(a) Role of home economics personnel in identifying and solving

special problems related to improving the health of individuals and families, especially with limited resources.

(b) Availability and need for mental health services, including marriage counseling and psychotherapy, for all socio-economic levels.

(c) Level of financial and other assistance to provide adequate nutrition for families whose resources are limited to public funds; problems of present systems.

(d) Impact of supplementary food distribution programs on the nutritional status and general health of recipients.

(e) Community sources of information and misinformation about nutrition and health: roles played by mass media, local organizations, agencies and business establishments in diffusion of information.

(f) Identification of factors adversely affecting health and safety in the community.

(g) Factors affecting availability and use of recreational facilities within the community.

(h) Needs for community measures to alleviate environmental pollution.

V-3. Continuing Education Programs

Continuing education in our society is rapidly becoming a way of life. Public schools, colleges and universities offer to the community an ever broadening array of courses to satisfy many needs and interests. Given the projection of more free-choice time, individuals can pursue educational and creative interests which give added dimensions to living. As physical and social settings become more complex, the individual may be challenged as never before to learn more about his world.

In many of these areas of knowledge, home economics personnel have special competence. Research in the following can indicate where this competence could have the greatest impact.

(a) Determination of needs for educational programs to meet the life styles of men and women with respect to more effective participation in the family, the paid labor force, the political arena and various community programs.

(b) Special educational programs that would contribute to the economic and social advancement of disadvantaged and dependent individuals.

(c) Identification of ways in which professionals and paraprofessionals can effectively contribute to the quality of living for special population groups (e.g., low-income, handicapped, minorities, ethnic) through education.

(d) Educational programs needed to increase competence and effectiveness of volunteers and paraprofessionals in working with families.

(e) Characteristics of leaders effective in new programs for special audiences or with special objectives.

V-4. Housing Programs

Although the quality of life the family experiences in its housing greatly depends on the family climate, external forces also have marked effect. Among these forces are the general physical and aesthetic attributes of the neighborhood and community, the availability of essential goods and services, access to educational, religious and recreational facilities, and provision for transportation. Still other considerations are type of community government, kind of school system, public services provided, parks and recreational facilities, amount and kind of industry and business in the area, and the local tax base for education and community services.

Primary interest of each resident is likely to involve the family's dwelling and those near him in the community. As a result, he is concerned that area housing provide the best possible setting for his own family and neighbors. To assure this, residents must actively shape community policies and programs affecting housing and complementary services and facilities.

In a community, people's needs must be given highest priority in planning for future development. Residents must more actively determine the quality of their surroundings. Of vital importance is the balance of services, housing and programs necessary for a dynamic community. To achieve desired ends, families must communicate their needs to local governing boards.

Often residents do not participate as well-informed citizens in community planning and activities. As a result, those interested in financial gain may overshadow others and disproportionately affect the shaping, growth, direction, and quality of the community.

Research areas listed below represent needed knowledge about living units and their surroundings as they relate to the community and the satisfaction of its residents.

(a) Identification of family needs which must be considered in developing more satisfactory housing for all socio-economic levels, with special emphasis on design, location and financing.
(b) Evaluation of the extent to which public financed living units fulfill family needs.
(c) Identification of special needs of families who are adjusting to improved housing conditions; alternative methods of meeting these needs using action research approaches as a basis for establishing program guidelines.
(d) The perception held by private enterprise regarding its role in closing the gap between present housing and needed housing.

(e) Response of builders, suppliers and financiers of housing to proposals for more livable housing designs.
(f) Perception of citizens of their role in effecting decisions (e.g., zoning, codes, special permits, tax base) which determine the long-term quality of housing in their community.
(g) Evaluation of current program approaches to housing with emphasis on the social values of improved housing for the family and community.

V-5. Day Care Programs for Preschool Children

The increasing number of mothers in the labor force has drawn attention to expanding day care facilities for preschool children. Such facilities should provide the child with opportunities for social adjustment, for learning to function effectively in the group, and for developing his full preschool learning potential. The high incidence of school failures and learning disabilities among children from disadvantaged homes has further emphasized the importance of enrichment programs.

Many facilities and programs have evolved in the past decade, ranging from those offering little more than attending to the child's physical needs and safety to those providing educational experiences to enhance overall development. *Nursery schools,* representing this latter function, originated from efforts of the fields of child development and education. *Day nurseries,* developed by the social welfare field, initially provided care and supervision for young children of working mothers. Originally far apart in practice, theoretical approach, and purpose, both are now concerned with providing preschool children from all socio-economic backgrounds with an environment geared to their particular developmental needs.

Research associated with Head Start programs has recently contributed knowledge about the physical, emotional, social, and intellectual development of the young child. More research, however, can increase knowledge in areas of program effectiveness, long-term effects of programs on the child's later social adjustment and learning capacity, effects of intervention techniques, outcomes of parent involvement in programs, and other related areas.

Research question areas suggested here are representative of the many which need intensive investigation.

(a) Extent to which the needs of families are being met in the provision of day care facilities for preschool children.
(b) Evaluation of current program approaches to day care for preschool children with emphasis on the basic developmental needs of the child.
(c) Effect of day care programs, particularly in the earliest years of

life (infants, one and two year olds), on the child's need for a close relationship with his mother.

(d) Effects upon the young child of the greater routinization of care in the group situation and the necessity of conforming to group demands before the child has defined his identity as an individual.

(e) Provisions made by the community for safeguarding the quality of care provided for children in the day care facilities.

V-6. Family Influence on and Response to Public Programs

Many citizens believe public community programs are imposed on them. Often they make little effort to understand how they could influence the direction programs take. Their influence is felt, however, either by active participation, by tacit acceptance without involvement, or by vague, critical reaction based on hearsay.

An accurate profile of special competences community members could provide to meet program goals would be useful in creating more responsiveness on the part of local individuals and families. Such a resource profile could be drawn from a research survey. Many families, not understanding how they can contribute, do not become involved. Since program effectiveness depends largely on resident support, each community needs the participation of its population, especially those with particular talents.

Research is needed in the following areas:

(a) Identification of special competences community members could provide to meet public program goals.

(b) Influence of the family on decisions concerning the development, adequacy, quality and cost of education, health and housing programs and other public and private services in a community.

(c) Perception of citizens regarding their role in optimal decision making about community programs to serve families now and in the future.

(d) Comparison of expected effects and actual effects of public programs on families.

(e) Impact of present public and private programs on the motivational level of low-income families.

(f) Identification of factors which influence family involvement in and support of programs and services.

(g) Interaction processes through which individuals and families become involved in identifying their needs and in influencing priority assignment of community resources to meet them.

(h) Factors related to community program effectiveness including individual and family competence in dealing with socio-political systems.

Section III—Foundations for a Dynamic Research Enterprise

This section deals with increasing the contributions of home economics research to the national scientific effort. Increased research productivity is imperative if present and future resident instruction, extension and other service programs are to have a solid research base.

Substantive inputs to this section were obtained from a national sample of administrators and researchers by a mailed questionnaire. The sample included 21 administrators, representing institutions with the largest home economics research programs in the nation, and 42 researchers who had been nominated by their administrators to participate in the Research Projection Workshop held in conjunction with this study.

The questionnaire was open-ended to allow respondents the greatest possible freedom. The responses were reviewed with emphasis on suggestions for making research programs more viable and productive. Since the intent of the survey was not quantitative, the number of respondents contributing similar ideas was not determined. The primary purpose of the survey was to elicit imaginative thinking from the researchers and administrators. Respondents' suggestions vary in their implications for individual institutions, since each local situation is unique.

The ideas presented here are representative responses from the questionnaire. Because the subheadings of this section are interrelated, an idea discussed in one division has implications for other divisions.

Increasing the Scientist-Man-Year Input

Respondents agreed that obtaining competent and productive researchers was the objective as contrasted with an overall increase in numbers. An increase in scientist-man-years with that connotation permeates this section.

In most units of home economics across the country, the number of scientist-man-years (SMY's) is low, as compared with the number of full-time equivalents (FTE's) involved in resident teaching and continuing education programs. How can the SMY input be increased?

Research Priority

Most administrators believed they must assign a new and higher priority to research in order to increase the effectiveness of present and potential SMY's. This action alone would, for practical purposes, increase SMY's to some extent.

To assign a higher priority to research also implies re-ordering other priorities. Substantially increasing research must be balanced by less

emphasis on other facets of the total program. To provide a sound base of knowledge relevant to future needs of undergraduate and continuing education programs, assigning a higher priority to research activities is of paramount importance.

Reassignment of priorities involves difficult decisions such as undergraduate versus graduate-research emphasis or curtailing or discontinuing some programs. Administrators agreed the issue of priorities was central to almost every satellite decision.

In exploring ways to increase research priority, each institution can examine the ratio of scientist-man-years to other inputs of the total program. This ratio will quantitatively measure the relative priorities assigned to activities in terms of human resources.

The ratio can also indicate how well allocated resources match aspirations for research output. Increasing the ratio of SMY's to other inputs might contribute substantially to output. However, the ratio for maximizing output would vary from one institution to another.

Joint Appointments

Administrators suggested making joint appointments, research-teaching appointments and research-extension appointments, the norm rather than the exception to strengthen not only research but also other programs.

At present, it is difficult to obtain a sizable proportion of faculty with joint research appointments because funds and personnel are not readily available. Administrators pointed out the need to recruit research personnel with long term objectives in view. Such efforts would include intensive recruitment of new graduate students and those with advanced degrees who are not presently professionally involved.

Recruitment from Basic Disciplines

Administrators believed they were in a favorable position to expand the research reservoir. Several suggestions were advanced. Research personnel could be increased by recruiting from the basic disciplines with which interests are shared. For example, human nutrition research has flourished in recent years because it has integrated researchers from fields such as physics, genetics, microbiology, organic chemistry and others.

The applied disciplines generally prosper as they establish research programs affiliated with their basic disciplines. As a result of the plentiful supply of Ph.D.'s in certain disciplines, well trained researchers may increase exploration of related areas. Many administrators believed this was an ideal time to increase recruitment of research faculty from the basic disciplines.

Administrators saw the scope and direction of research in home economics as increasing the possibility of attracting researchers from other disciplines. Many home economics units in colleges and universities are

making significant changes in goals and emphases. This reflects a broader conception of the total field, both present and future. The conceptualization of the family as an ecosystem concerned with man-environment interrelations becomes increasingly relevant in meeting needs of a changing society. This new emphasis may be a tremendous challenge to scientists in related disciplines as well as in home economics.

Recruitment from Teaching and Extension Faculty

Some teaching and extension faculty, while inexperienced researchers, are interested in becoming involved. Administrators, in particular, agreed that all interested and trained faculty should be encouraged to do so. Support for attending scientific meetings and released time to develop a pilot project or cooperate in an on-going project were suggested to encourage participation. A favorable climate is essential to encourage interested teaching or extension faculty to conduct research. Administrators also saw the need for more assistance for new faculty researchers.

Recruitment from Alumni

Administrators expressed the necessity of bringing back into research alumni with good academic backgrounds. Individual guidance, refresher courses and well-planned programs could prepare them for research or staff support positions. Encouragement could be extended through flexibility in programs for mature persons returning to the academic field. The potential here is almost untapped. But to avail itself of these resources, the profession must initiate and develop a plan workable for the recruit and the institution. The availability of special educational grants to implement such undertakings should be explored.

Research Component in Undergraduate Programs

Respondents saw the need to identify and motivate potential researchers in the undergraduate years. Undergraduate programs should provide students with a sound base in science as well as depth in their specialized fields. Undergraduates need to be convinced that researchers do work with real life problems and people. They need to experience the excitement in the research process, the discovery of new knowledge, and the application of knowledge to the solution of contemporary problems. Since undergraduate students are becoming increasingly social conscious, action oriented research relating to contemporary problems should interest them.

Other suggestions for undergraduate involvement were: research assistantships or work assignments in research activities, junior and senior level courses in which research-type activities are undertaken, and a research methodology course for upper level students. Researchers, as well as research facilities, should be more visible to students.

Administrators expressed the importance of encouraging young people

to work for the doctoral degree early in their careers so that contributions to the field can be made earlier and on a continuing basis throughout the professional years. Motivation efforts should start with the freshmen and continue in succeeding years. The best way to recruit young people to enter the field, respondents agreed, was to expose them to the enthusiasm of competent researchers involved in exciting research pursuits.

Research Component in Graduate Programs

The need to provide more meaningful research experiences for graduate students was expressed by respondents. Seminars and related activities would enable well-known researchers and graduate students to discuss research ideas and methods. More discussion and less formal presentation of findings were suggested to add meaning to the student's experience.

Researchers, in particular, expressed the need for re-examination of non-thesis options in master's programs. When students are given a choice between an all-course program and one involving research and a thesis, most choose the non-thesis option. The reasons for this choice merit careful study. Several respondents concurred that the non-thesis option may be more appropriate to the professional goals of some students. However, when a large proportion choose the non-thesis option, there is cause for concern in terms of future research personnel and productivity.

Many view the thesis experience as primarily a learning experience. However, many researchers pointed out that the thesis experience often enhances research by contributing exploratory, pilot projects for larger scale research; generating hypotheses to be tested in later research; following up aspects of staff research; and adding to the general research climate of a department, school or college.

Researchers strongly favored increasing thesis-based degree programs with the supporting courses such as research methods, statistics and computer applications in research.

Faculty and students are exploring alternatives to the thesis experience in some graduate programs. Students may earn research credit by participating in various phases of one or more on-going research projects. There appears to be no substitute for actual involvement in the research process in training researchers, although the means utilized may vary.

Almost all respondents expressed the need for more innovation and aggressiveness in providing assistantships, internships, and fellowships of greater monetary value to permit comfortable self-support for graduate students.

Researcher Image

Impressions about researchers are formed early in the undergraduate experience. Researcher respondents, in particular, stressed the need to

create a more favorable image of the researcher. Many students believe researchers work alone in some secluded corner with "things" rather than people. Researchers agreed that the stimulation, satisfaction and challenge of research should be accented in contacts with students and faculty.

Publication of Significant Research

Administrators regarded publication of significant research as effective in attracting more researchers. They also emphasized the importance of presenting major research findings at scientific meetings, conferences and symposia. An exciting, challenging, productive research program, many pointed out, is the best possible way to recruit followers.

Many respondents believed greater visibility through publication and participation in the scientific community required more initiative by administrators and researchers. To achieve this, institutions need to establish their own research objectives and periodically review progress toward them.

Preparation for Administrative Positions

Respondents from both groups emphasized the need to examine the practice of tapping outstanding researchers, teachers and extension staff for administrative posts.

Both researchers and administrators pointed out the advantages of an administrator who was knowledgeable about research as well as undergraduate, graduate and continuing education programs. Some believed actual research experience was essential to understanding research and providing leadership for research endeavors.

Others emphasized that future administrative roles would differ markedly from those of the past. They envisioned future administrative responsibilities as involving as much concern with relations outside the college or department as within it. In this context, they questioned how well outstanding performance in research, teaching and extension prepared an individual for such responsibilities.

Some suggested that qualities of future administrators might not be similar in all settings. In institutions with strong emphasis on graduate study and research activities, an administrator knowledgeable about research would be needed. In colleges and universities where the focus is on undergraduate education, different background and commitments may be more appropriate. In either case, the future role of the college administrator was viewed by most of those presently occupying administrative positions as one requiring new insights and competences.

The real challenge of providing future research personnel, respondents pointed out, is identifying needed competences and encouraging their development. This is also true for developing outstanding teaching and

extension staff and administrators. Future hope lies in using limited human resources wisely and providing the opportunity for optimum contribution.

Maximizing the Scientist-Man-Year Output

Increasing SMY input does not automatically increase output, but it represents a way of moving in that direction. Other approaches to maximizing output also increase accomplishments.

Support Systems

Administrators agreed they needed to give increased attention to adequacy of support systems essential to productive research: funds, physical facilities and equipment, data processing facilities, statistical services, as well as subprofessional reinforcement from graduate assistants, secretaries, clerks and technicians. Ancillary and auxillary personnel, they indicated, are essential to free the professional researcher's time for thinking, planning, interpreting data, and reporting findings.

Both groups of respondents believed released time must be implicit in the researcher's appointment. Almost all researchers in home economics are involved in resident instruction, continuing education or administration. Thus, "paper" SMY's may be sacrificed by other demands. In many instances, research time is channeled into teaching and other responsibilities. Increase in research productivity can be achieved only by directing economic and human resources toward research ends. This assumes that administrators will not divert research resources to other endeavors. Such a stance may require meeting commitments in new ways so that researchers function primarily in roles related to research output.

Monetary Support

To expand research, it is necessary to pursue a course which will broaden the base for research support. This will require initiative and continuous effort by administrators and researchers. The search for research funds from government and other agencies becomes increasingly competitive. Researchers and administrators will need to be more knowledgeable and sophisticated in their planning and approaches. Those who have previously been successful in seeking funds may provide suggestions useful to the less experienced.

Administrators and researchers continually expressed the need for increased monetary support. Some respondents pointed out that verbalizations about monetary need might be a way of rationalizing limited research output. Not infrequently, many home economics researchers have limited their projects to fit funds from a specific agency. Such limitations, no doubt, have affected the type and scope of projects undertaken.

Funds from multiple sources broaden the opportunity to study several facets of a problem.

There were favorable comments about the policy of most Experiment Stations to provide salary money on a continuing basis, even if at times this meant no sizable increase in operating budgets. Respondents agreed that in the foreseable future financial increases for research would have to come from other sources.

Sources, whether federal, state, industry or foundation, depend on the nature of the research and available local resources. Although it is important to be knowledgeable about sources of support, of even greater concern at present is becoming adept in support strategies. A more aggressive stance in seeking outside support was essential, according to both groups of respondents. It was recommended that a foundation connected with a home economics national association or other appropriate organization could provide on a continuing basis some monetary support and assist institutions in seeking potential sources of support.

Many researchers related the frustration they experienced in preparing and submitting elaborate proposals which were not funded. Using a substantial research question as a base, a researcher or team may be able, with minor changes in emphases, to tailor a proposal for submission to several funding agencies. Becoming astute about areas in which major funding can be expected from support sources is also an important strategy. A number of listings and indices are available describing special interests of public and private sources of funding.

Additional monies are necessary especially for behavioral science research and applied research related to critical social problems. The present climate regarding these is more favorable than in the past. The questions researchers and administrators face now are: Does the most urgent need involve more money? Or is there a greater need for more aggressiveness and ability in locating sources and competing for available funds?

Long Range Planning

Most respondents said resource allocation needed review in terms of immediate and long-range institutional goals. Human and material resources available for research also need to be examined in relation to projected programs and future needs. Several stressed the importance of developing more systematic long-term plans for obtaining additional research faculty, supporting technical aid, and increasing operating budgets.

Continuous long-range planning is essential to maximize research output. With a careful selection of appropriate goals and priorities, even programs with limited funds, staff and facilities can produce high quality

research. Both groups of respondents expressed the need for developing ways to check progress toward research goals.

Commitment to Research

Maximizing SMY output involves all of the points presented here and many more particular to each institutional setting. Recognition of the need for an all-out commitment to research by administrators and faculty pervaded the responses. Such a commitment, many respondents thought, would place research in an appropriate perspective and integrate the functions of research, resident teaching and continuing education toward their shared objectives.

Defining and delineating functions, if treated too specifically, may divide groups with common goals. Continued efforts to interrelate these functions, respondents emphasized, is important to achieving the commitment necessary to maximized research output.

Development of Research Leadership

Both groups of respondents stressed the development of research leadership. Students, at the undergraduate and graduate levels, must be well versed in the basic disciplines to assure knowledge of theoretical foundations and methodological approaches related to applied disciplines. Faculty with foundations in the basic disciplines can contribute a base firmly rooted in these disciplines. Some respondents also suggested recruiting outstanding undergraduates from the related disciplines as a means of accomplishing this end.

Other administrators proposed action through accreditation procedures to assure home economics programs a strong basic discipline foundation. Developing research competence must be given as much attention as preparing specialists in subject areas.

Undergraduate and graduate programs need to be examined to increase flexibility and encourage program development suitable to the student's competence and objectives. Stimulating graduate research experiences, free of unnecessary frustration, need to be assured. Increasing the graduate student population to counter the relatively high drop-out rate also warrants consideration.

Administrators suggested that preparing graduate students for research should include involvement in writing research proposals and drafting research reports for publication as well as actively participating in the core phases of the research process. Graduate students should also become acquainted with sources of research funds and procedures for obtaining them.

Researchers and administrators stressed the importance of commitment to publication. Graduate students should be involved in the publication effort for the experience and the attitude this would instill

in them as future researchers. Research publication has implications for leadership as the researcher's reputation grows primarily from reports of his work.

In general, administrators saw the need to provide research staff with many opportunities to exercise their leadership potential. An effective administrator can encourage researchers to develop their abilities to lead and to work independently or with others.

In-Service Training of Scientists

In-service research training involves encouraging and assisting staff to upgrade and update skills. Several appropriate means were suggested by respondents: sabbatical and intermediate leaves to work, study, and observe in university and industrial research settings; provision of time to audit pertinent courses in theoretical developments, methodology, statistics, and computer science; use of visiting research consultants; provision of short courses; national, regional and local research workshops; and regularly-scheduled research seminars for testing ideas and sharing knowledge. Administrators expressed the need to encourage post-doctoral study among research personnel.

Meaningful training for new researchers comes with a close working association with accomplished researchers. Ideally, such an association would not be an apprenticeship, but would be an opportunity to test ideas with an experienced researcher.

In the final analysis, the researcher is responsible for his own in-service training, but he needs encouragement by co-workers and administrators. In-service training is effective to the extent that the researcher has high internal motivation. Some respondents noted that participation in workshops and conferences in basic disciplines was one of the strongest motivators for research accomplishment.

Information Exchange

Accessibility of information facilitates research progress. Exchange of research techniques and approaches can often move studies to completion faster and with better results. Computer programs need to be documented and their exchange facilitated. Building data banks and exchanging data would eliminate unnecessary duplication of data. A central information retrieval system, such as the Current Research Information System (CRIS), can aid researchers in locating information about current projects.

Various regional and interregional Experiment Station committees, especially the R Committees, are increasingly serving the need for more information exchange and interaction among researchers. Researchers and administrators might also explore other opportunities for such exchanges within their institutions and with other institutions.

Centers for Research Concentration in Specific Areas

The potential of centers of research concentration were evident in most responses. For home economics research to make necessary strides, efforts will be needed to cooperate and develop areas of strength in the various institutions. With the increasing need for greater breadth and depth in problem approaches and with the shortage of qualified leadership personnel and other resources, centers of concentration were strongly supported.

For an individual institution, the *center* concept does not preclude research in areas other than those pursued in connection with a center. Since research is intertwined with the teaching and service functions, all research broadening the base of knowledge for these functions is appropriate. To obtain qualified teaching and extension personnel and to provide quality graduate programs, research opportunities in several areas are essential. Institutions, being primarily state supported, are subject to the demands and educational objectives of the individual states. These may necessitate research different from that conducted within a center of research concentration.

Regional centers involving cooperation among closely situated institutions were favored. The model of regional research programs among Experiment Stations is a useful guide. Since research projects across the nation vary widely, greater coordination of project and interest groups is necessary. More institutions are allowing students to study at other institutions to take advantage of particular program specialties. Centers of concentration would provide more thrust to this trend.

Interdependence of Research, Teaching and Extension Programs

Administrators and researchers expressed the need to capitalize more on the interdependence of research, teaching, extension and other service programs. Opportunities for research abound in teaching and service programs, and the classroom and community provide laboratories to test research theories.

Communication needs to be as open as possible so faculty can be familiar with each program's activities. Much exchange occurs informally, fostered by an open, cooperative atmosphere. Coordination and control of the three functions in the field by one administrator would encourage three-way flow of information and facilitate staff appointments to utilize abilities to the maximum.

With more emphasis on problem-oriented and action research, the three-way linkage becomes more visible and viable. Research programs stemming from the needs of Head Start and the Expanded Food and Nutrition Education Program of the State Extension Services are illustrative. Also, research projects related to community service programs

provide supervised research and service experiences for students and background for more realistic teaching.

Communication of Research Findings to Potential Consumers

Researchers have a responsibility to publish their work in scientific bulletins and professional journals so their findings become part of the body of knowledge of their disciplines. For some areas of home economics, the *Journal of Home Economics*, which serves many purposes and audiences, is the only journal outlet for exchange of research findings. Researchers suggested creating a national research journal to disseminate home economics research findings, frameworks, methods, and philosophies. Such a journal would contribute to the cross-fertilization of ideas implied in multidisciplinary research approaches.

Although the dissemination of research findings among scientists and to special audiences is important, many findings need to be communicated more effectively to society at large. Scientific information must be presented in terms understood by potential producers of action programs and by the larger society. Television would be the most powerful device by which to convey such information. Scientists need to work with mass media experts in translating their technical messages into media output for consumption by lay audiences through all types of media—newspapers, popular magazines, television, radio and film.

Not all scientific findings are appropriate for every audience. However, media experts can present complex scientific information understandably to lay audiences. Also, the sharing of research findings among scientists sometimes indicates the need for terminology commonly understood across related disciplines.

Unidisciplinary Research Endeavors

Without continuing coordination of investigations, research activities can become fragmented. Home economics is well suited to programs including a variety of ancillary studies. Overall frameworks may evolve within one institution or among several, each contributing to a different facet of the problem.

Unidisciplinary research may involve joint endeavors in one applied discipline within home economics at an institution, or team efforts within an applied discipline among two or more institutions, or a single-investigator inquiry. Respondents favorably viewed joint or team efforts for the concerted attack provided.

Respondents stressed the need to coordinate research within institutions through task forces focusing on specific problem areas of a master project, as is done in regional research projects. Cooperative research could also be accelerated on an inter-institutional basis, with institutions emphasizing particular aspects of a problem. Research institutes were

suggested for fostering team research endeavors on unidisciplinary and multidisciplinary problems within and among institutions.

However, some researchers produce more effectively in an individual-endeavor situation. Thus, the researcher should be given freedom to work individually or as a team member.

Multidisciplinary Research Endeavors

Numerous opportunities exist in home economics for multidisciplinary approaches to research problems. Home economics faculties often include psychologists, sociologists, economists, physiologists, biochemists and artists as well as many other members with minors in one of the basic disciplines.

Home economics, an amalgamation of applied disciplines, is in a unique position to undertake problems requiring a multidisciplinary approach. These may be joint efforts among applied disciplines within home economics or cooperative efforts between applied disciplines in home economics and other disciplines.

While not all problems necessitate the multidisciplinary approach, it is implicit in many of the fundamental problems facing families today. Home economics researchers must assume more initiative and leadership in defining problems and enlisting cooperation of other disciplines.

Respondents who had been involved in multidisciplinary research pointed out that such an approach requires extraordinary resources in terms of time, funds, attitude and perseverance. They mentioned some of the difficulties of this type of research, particularly at the conceptual level, but emphasized the long-range advantages of this approach in the solution of major problems.

Structural and administrative systems can encourage and facilitate multidisciplinary approaches. By emphasizing the values of this approach and eliminating structural barriers, administrators can aid scientists from various disciplines in approaching problems cooperatively.

Research Coordinator

Administrative respondents favored having a research dean or coordinator working part-time or full-time. The research coordinator would be a spokesman for research, occupy a major policy making role within the home economics unit, establish working relationships with other research structures in the institution, facilitate securing funds, identify and foster opportunities for multidisciplinary research, and concentrate on increasing a favorable research climate. The research coordinator could also objectively look at all research efforts, assist in formulation of proposals, and encourage the generation of research ideas among faculty and students.

The coordinator might also develop linkages between the academic setting and community social service programs. Such a linkage could

provide entrée for researchers into action programs and also add vigor to the academic setting.

Organizational Structures to Facilitate Research

Organizational structure is related to institutional size and function. A structure that effectively facilitates research in one situation may prove ineffectual in another. Guidelines for structure building to facilitate research productivity are necessary.

Maximum flexibility compatible with the broader organizational needs of the institution is indicated. Also, a unit with a minimum of substructure allows for maximizing output. However, organizational spirit and tone appears more important than the organizational pattern itself.

Organizational factors facilitating research productivity are removing departmental barriers and administrative obstacles and increasing interarea communication. Democratic organizations give researchers direct lines of communications and individual autonomy with full responsibility for leadership and control of funds.

Research programs where home economics is a distinct entity within an institution tend to have better support and visibility than those where home economics is a part of another organizational unit. A research institute, as a separate structure within a home economics unit, holds considerable promise for facilitating research across department and discipline lines.

Utilizing Computerized Information Systems

During this National Goals and Guidelines study, the need for an inventory system which includes the total home economics research program became evident. The two systems most closely allied to home economics, the Current Research Information System (CRIS), and the Science Information Exchange (SIE), lacked certain information important for assessing present status and projecting for the future.

CRIS, in operation since 1968, includes dollar support and scientist-man-years involved in each project, as well as title, objectives and content description. Complexity in deriving inputs and diversity in content and use characteristic of CRIS require time for the system to become completely operational. Further, the CRIS system includes primarily federally funded projects. Research funded by state allocations or grant and contract money may not be included, depending on completeness of coverage by Experiment Stations in different states.

The SIE retrieval system is more mature and broader in project coverage than CRIS, but lacks some important information. SIE covers all federal projects, including those reported by CRIS, in addition to foundation, state, and university supported projects. However, SIE data compilations do not designate academic department for some projects,

a major clue in identifying home economics projects. Retrieval by SIE contains no scientist-man-year or dollar support data.

CRIS appears to be potentially more functional for identifying home economics research. The Association of Administrators of Home Economics has endorsed the need for a more comprehensive inventory than afforded presently by either system. AAHE is investigating the feasibility, cost, and general procedures for including in the CRIS system more complete home economics research records. The research problem areas identified in this study offer a working base for modification and addition of CRIS codes. Present codes, built around the RPA's delineated in the 1966 Agriculture Study, could, with minor adjustment, more adequately aid in planning future research in home economics.

A more complete and definitive retrieval system for the national home economics program has many service implications for individual administrators and scientists. The system could describe the scope and content of the research program and provide a basis for program and budget planning and justification. Such a system could provide documentary information for certain administrative reports and serve researchers through retrieval of information concerning current funded projects. It could also increase recognition for home economics research as a scientific entity.

On a broader scale, through a comprehensive inventory system, the national home economics research program could be identified and analyzed on a meaningful time-period basis to determine progress and to project future programs.

Broadening the Concept of Research

Expanding research in home economics involves recruiting and preparing an increased number of competent scientists. Progress in the future will depend upon reaching and motivating bright young students in secondary schools and undergraduate colleges to consider research as a professional goal. Interpreting the research function, explaining the research process, and demonstrating the excitement of involvement can markedly affect the recruitment of new scientists.

Achieving the desired research impact will depend also on greater faculty understanding and involvement. Perhaps less sharply defined faculty roles for resident teaching, research, and service will counter over-commitment to a single function. Minimizing these traditional functions as discrete entities may also help to establish research as an integrative function.

More student and faculty understanding of the research function may also dispel reservations commonly held about the relation between research and the total educational program.

Function of Research

In a recent presentation before the U.S. House of Representatives, the following case was eloquently presented for basic research:

> Man's capacity to enjoy and improve the world around him has been shaped by scientific research. What we have learned from the natural sciences has affected the material things that touch our lives; it has had an impact on our political institutions, domestic and international, and it has affected the degree with which we regard and understand ourselves.
>
> There may be differences of opinion on whether the fruits of this endeavor have been good. But knowledge and understanding are not responsive to the test of being good or evil. Only what we, having conscience and feeling, do with them can be called to answer to this test. The question for us is: *should* man try to understand himself and the world around him.
>
> For those who believe in human progress there is no answer but the affirmative. Man's progress is directly proportionate to his ability to experience, to appreciate and to enjoy. To increase this ability he must free himself from the limitations imposed by the material world, and from the ignorance and superstition of his primitive state. In freeing himself and extending his powers, science is man's most effective ally.[1]

To understand the empirical world, facts must be discovered that lead toward theory development. Indeed, the basic aim of science is theory, which intricately relates to fact. Popular opinion views theory and fact as opposites. Theory is regarded as speculative and facts as definite. To the scientist, however, theory concerns factual relationships and meaningful ordering of facts to explain and predict phenomena.

Without research-based data, theories cannot be sufficiently developed to suggest studies testing their validity. Therefore, much research contributes to development rather than testing of theory by clarifying concepts and initiating and reformulating theory.

Both research and theory development proceed together to increase knowledge. A scientist may start with either, but he must consider the bearing of his work on their interrelation. If he concentrates on empirical research, he examines its relevance to theory. If his major interest is in theory development, he considers ways of testing and expanding his theory by empirical research. Otherwise, his theory is little more than interesting speculation.

There is never a lack of problems requiring investigation in any field of study. New areas for exploration open every day, and discoveries already made suggest limitless possibilities for further research. Although

[1]Congressional Record—House: H 6790, July 15, 1970.

present achievement in human learning is impressive, still ahead lies the task of exploring and mastering a huge body of knowledge about our environment and about ourselves.

Research Process

Methods often used in adding to human knowledge are chance, trial-and-error and generalization from experience. *Research* or *scientific inquiry* goes beyond these elementary methods and is the most reliable means of learning new truths and advancing knowledge.

The meaning of research, as used here, is the systematic, controlled, empirical investigation of hypothetical propositions about presumed relations among phenomena. Being systematic and controlled, research gives the scientist greater confidence in outcomes. Being empirical, research provides a means for testing beliefs or hypotheses against objective reality.

Research in any field involves asking carefully formulated questions and systematically seeking answers to questions by the *research process*. This process is characterized by: (1) identifying a researchable problem, (2) developing an appropriate design and method of approach, (3) collecting, analyzing, and interpreting data, and (4) communicating findings and their implications. Through the research process scientists explore relationships among variables to explain, understand, predict, and control phenomena.

When questions and answers pertain to home economics, their substance is home economics, but the methodology is derived from science at large. Home economics research is oriented to goals related to improving individual and family quality of living. Achievement of such goals requires in-depth knowledge of factors and interrelationships bearing on these goals and is the overall mission of research in home economics.

Basic and Applied Research

Research questions are of two general kinds: intellectual, based on the desire to know or understand; and practical, based on the desire to do something better or more efficiently. These two types of investigations are often labeled *basic* and *applied* research, although other terms are also used. At times they are discussed as if they were diametrically opposed or mutually exclusive and as if one were more useful or academically respectable than the other. The majority regard neither position as valid.

Historically, scientific investigation has been concerned both with knowledge for its own sake and with knowledge for its practical application. This dual emphasis is especially appropriate in home economics. On one hand, its responsibility as a science is to develop principles that enable understanding and prediction of human phenomena and inter-

action. On the other hand, because of its social orientation, home economics solves immediate problems of human beings, particularly in the family context.

The starting point of a study does not necessarily determine whether its contribution will be basic or applied. Research on practical problems may lead to the discovery of basic principles, and basic research often yields knowledge that has immediate practical utility. Intellectual and practical investigations both require sound research procedures. For healthy scientific development, both basic and applied research need to be represented in an interrelated perspective.

Regardless of classification, no research provides final, ultimate answers. Research does provide an answer under given conditions and at specific times. But research becomes outdated, variables change, and procedures are constantly refined. Thus, research is an on-going process, constantly discovering, extending, correcting and verifying knowledge.

Major Strategies for Inquiry

Research methods have been classified in many ways. The four major problem approaches presented here represent major areas of methodology, but do not exclude other approaches or terminology.

Any research classification may be artificial and arbitrary. Often different approaches are combined, a practice which will increase as multidisciplinary efforts increase. Since the object of all research is to discover truth by the most effective means possible, a combination of methods is implicit in many research problems.

Documentary research examines past evidence and experience in order to analyze and interpret the present. This approach involves learning new facts and principles through the study of documents, records, and other available data. While this type of research is used in every academic field, it has been particularly important in the study of history, literature, linguistics, and the humanities in general. Historians use this method so constantly that it has also become known as the historical method. In certain documentary research, more ideas than facts may be involved. In such a case, research then consists largely of critical interpretation of these ideas.

Survey research canvasses present practice or establishes norms or central tendencies against which differences are compared. Survey data are characteristically quantitative. The survey usually describes a condition or determines status in order to draw valid conclusions from the facts discovered. The survey is also useful in providing information for comparison studies and in identifying trends.

The *experiment* determines the effectiveness of a given procedure under controlled conditions. It is generally conducted in a laboratory

with special equipment, often using animals as subjects. However, certain methods have been devised for experimenting with human beings by observing them singly or in groups in or outside the laboratory. Though experiments are undertaken with single subjects, the need for a large sample to yield valid results makes the group method well adapted for experimental work with people.

The *case study* determines relationships among variables or finds the origin or cause of differences. The case study involves a thorough examination of the life and behavior of one individual, or "case," with respect to selected phenomena. The same techniques used with individuals may be applied with similar effect to a study of groups or to a particular aspect of human behavior. The case study generally yields qualitative data and involves a strong element of subjectivity. Nevertheless, the case study, especially when used in conjunction with a more objective approach, often draws attention to information that cannot be obtained successfully in any other way.

Strategies of inquiry are included here to differentiate research methods from more casual collections of information. They are also outlined because scientists, although familiar with acceptable methods in their own specialized fields, are often unfamiliar with approaches used in other disciplines. It is not uncommon for those in different fields to regard with skepticism the methods used by others.

Mutual understanding and respect for sound methods of inquiry across disciplines is necessary to future progress in all fields. This is of special importance in the coming decades when cooperative efforts of the natural and social sciences and the arts will be essential to attacking major social problems.

Section IV—The Development and Present Status of Research in Home Economics

The following quantitative background and historical perspective provides a general backdrop for those involved in research in home economics and others interested in past research inputs. Since home economics shares with many disciplines a concern for family welfare, home economics researchers have drawn upon their particular competences and directed their efforts toward facets of larger problems.

The projection of future goals often deals largely with project numbers and total resource proportions. Important as the quantitative aspects of past endeavors are, they do not convey research impact and relevance in its particular time and setting. Neither does equating research productivity entirely with science-man-year input and dollar support sufficiently provide for decisions about future emphases. Used alone, either approach may hinder imaginative re-direction by concentrating too much on the expansion of past efforts.

The sound projection of major research goals requires a brief inventory of past accomplishments in the *context of their role in the development of the field.* Viewing research contributions in the *context of the history and growth of society* adds another dimension to projection by providing historical perspective and preventing past endeavors from appearing misleadingly simplistic. Such a resumé can also reveal gaps and fragmentation which need consideration in determining future directions and emphases in a field.

Resumé of Research Development[1]

During the first half century after home economics was established as a field of study (1909-1959), research support came primarily from the State Agricultural Experiment Stations and a series of offices, bureaus, institutes, and divisions within the U.S. Department of Agriculture. In the past decade, expansion of state and federal programs concerned with family needs has broadened research support in home economics and other fields.

The beginning of the twentieth century was characterized by increasing interest in the American household, its economy, and production of family goods and services. The first of ten conferences, later to be known as the Lake Placid Conferences, was held in 1899 and concerned college homemaking programs. In 1900 the conference considered ways to initi-

[1]For details about development of research in subject areas, see reference list at end of this section.

ate graduate work and research and to prepare students for professional home economics roles. Subsequent conferences, involving representatives from the Department of Agriculture, concerned this developing field of study and potential for research in the area.

In 1902, conference participants agreed upon the following definition of the field:

> Home Economics in its most comprehensive sense is the study of the laws, conditions, principles and ideals which are concerned on the one hand with man's immediate physical environment and on the other hand with his nature as a social being, and is the study especially of the relation between those two factors.[2]

The tenth and final conference, in 1908, established a national organization, the American Home Economics Association, to carry on the work. In the early years after its founding, the Association developed educational programs which synthesized and applied knowledge that had special relevance for the family. Service programs, now extension programs, evolved later. Research, the third major facet of the field, gradually began to expand, providing new knowledge and seeking new ways of application to meet the needs of families and society.

In 1887 Congress enacted the Hatch Act, establishing Experiment Stations at Land Grant colleges and universities. The Stations were to conduct experimental work to enrich teaching programs and provide practical solutions to problems in agriculture and rural living. Early in the twentieth century, home economics programs were established in many universities, and research was begun in a few Experiment Stations.

In 1894 Congress voted the first special funds to support nutrition research in the Department of Agriculture. Dr. W. O. Atwater, widely known for his research in foods and nutrition, directed and coordinated this research for the next decade and provided leadership for cooperative nutrition research among Experiment Stations and colleges.

In 1906 the Human Nutrition Investigations headquarters moved from Middletown, Connecticut to Washington, D. C. The food and nutrition investigations were transferred in 1915 to the Office of Home Economics, an agency created as a part of the new States Relations Services in a reorganization of the Department of Agriculture. In addition to nutrition research, the Office conducted investigations in household management, clothing and textiles, equipment, and food. It also initiated the first standard of living survey.

The Office of Home Economics was elevated to the Bureau of Home Economics in 1923. Subsequent reorganizations strengthened research administration in the area.

---

[2]Lake Placid Conference on Home Economics: *Proceedings of the Fourth Annual Conference*, Lake Placid, New York, September 16-20, 1902. p. 71.

In 1924 Dr. Sybil L. Smith compiled the first list of home economics research supported by State Experiment Stations, *Experiment Station Projects of Application to Home Economics.* Similar compilations have been periodically made since that date. The original compilation listed 124 projects, distributed among 32 stations, and included four major categories: foods and nutrition, textiles and clothing, economics and sociology, and household equipment.

During the period reported in this first compilation (1909-1924), many disciplines were involved in rural home and family research. Then, as now, research concerns were shared, each specialization having unique competence to bring to the research effort. There is little documented evidence, however, at this date, of cooperative research efforts between home economics and other fields.

Although coordination of early research may have been less than perfect, the results had significant impact by discovering knowledge for solving crucial problems of the times and by building a base for future research directed toward solution of problems identified with home and family life. Inputs came from bacteriology, chemistry, dairy industry, animal industry, horticulture, agricultural economics, agricultural engineering, sociology, and others. Home economics accounted for 14 of the 124 projects listed, and this work was centered in four Experiment Stations. Some home economics areas, which were later to contribute significantly to the field, had not yet come into being or were only developing.

The Purnell Act of 1925 gave impetus to research in home economics by providing for economic and sociological investigations of the rural home and rural life. The following decade brought a striking increase in research activity in home economics. Following World War I, the country was struggling to recover from the strain and drain of the war years. The 1930's saw the country sink into the depths of the Great Depression which struck a staggering blow to family resources. Much of the research in home economics focused on optimizing limited resources and on related family problems. Responding to the needs of the times, researchers in home economics concentrated on problems of the consumer-buyer and the use of home resources, with special emphasis on time, money and energy.

Many facets of nutrition research also developed during this period, in contrast to the preceding decade when such research had been based chiefly in chemistry. Food research became more sophisticated with new emphases. Together foods and nutrition accounted for 177 of the 258 projects listed in the 1936-37 compilation of on-going research projects in home economics at Land Grant colleges.

This expanded research effort in foods included projects dealing with cooking fats, food preservation and preparation, palatability evaluations,

cooking methods, milk, and other foods. Nutrition researchers were investigating food habits, nutritive value of foods, energy metabolism, dietary studies, nutritional requirements, nutritional status, caloric values of foods, and related areas. Foods and nutrition workers contributed to advancing knowledge about vitamins and minerals, then in early investigative stages.

Being closely related to agriculture, food and nutrition research expanded over the years more rapidly than other areas in home economics. These two areas shared with agriculture many common interests and goals, including food production and utilization for the development and well-being of man and animals. A common language in the physical and biological sciences strengthened this working alliance which has continued to the advantage of both fields.

Since Experiment Stations were established, they have supported foods and nutrition research more than research in all other home economics areas. Despite this close relationship with agriculture, not all stations have supported these two areas in home economics.

At present, however, national concern has emerged for research to alleviate malnutrition and hunger. To this end, following the release of *The National Program of Research in Agriculture*, one special task force on Food and Nutrition and another on Food Safety were established. The task force reports, listed at the end of this section, concern not only research to alleviate present stress conditions but also to prevent them in future generations. Intensive regional efforts are also underway to strengthen nutrition and foods research and to contribute further to the future health of the population.

Other home economics specializations, less directly related to agriculture, have their roots in the behavioral and social sciences, using language and methodology which differs markedly from the physical and biological sciences. Experiment Station support in these areas has depended on interpretations of the Hatch Act and the appropriateness or relevance of such research for agricultural goals. In recent years an increasing number of Directors of State Agricultural Experiment Stations and federal funding agencies are viewing these areas as significant to rural living research. Recent evidence of this interest was expressed in a 1968 report of a joint USDA-State task force on Rural Development and Family Living, listed at the end of this section.

Limited textiles research was undertaken fairly early in regions where natural fibers, wool and cotton, comprised a major agricultural output. Some attention was also given to silk and linen. Early research involved the selection, purchase, use, and care of textile products.

Other investigations included fabric properties, attributes desired by consumers, and the relation of fiber and fabric properties to end-use performance. Studies were also reported on ready-to-wear and homemade

garments, comparison of construction techniques, and sizes of ready-to-wear garments. Projects were conducted to determine thermal insulation properties of selected materials and the relation of dye structures to color-fastness. Some early research concerned methods and materials for cleaning weighted silks and fur pelts, widely used in the Twenties. Research on laundering reagents and service qualities of fabrics were also reported.

In the past, the emphasis in clothing and textiles research has been on knowledge about textiles and textile products with consumer pertinence. Such research now is limited and often difficult to promote.

Several factors account for the decline of textiles research in home economics. The development of synthetic fibers in the textile industry, a highly competitive field, was accompanied by the establishing of research facilities within the industry. A decline in consumer concern for utility and durability of textile products has also resulted in changes in research emphasis.

Research of the past decade reflects increased interest in clothing as it relates to self-concept and social acceptance. More researchers are becoming involved in these studies which can significantly contribute to understanding man's relationship to this aspect of his near-environment.

Passage of the Purnell Act spurred research in family or household economics which included family economic history, household production, family income, consumption habits and standards, budgeting, control of family wealth and income, and consumer buying. Some of these areas later became more specialized fields.

Early research in family economics drew support from the U.S. Bureau of Home Economics, and some Purnell funds were provided through a few State Experiment Stations. Additional research was undertaken without specific funding in colleges and universities offering graduate study in family economics. In the late 1920's the Bureau of Home Economics conducted a nation-wide survey regarding use of time by homemakers. The Bureau also cooperated with the Bureau of Labor Statistics in 1935 to launch another national study focusing on standards and levels of living.

"Rural Home Management Studies" were first reported in the 1926 Proceedings of the Association of Land Grant Colleges. The wording of the Purnell Act, from which some support came, limited research to rural projects. Four major research areas were launched: (1) use of time by rural homemakers, (2) efficiency studies of the household plan, (3) farm family food expenditures, and (4) standards of living and family expenditures.

Investigations of use of time by the homemaker later gave way to standards and levels of living and consumer-buyer problems. Specific problems rather than general investigative areas also began to be favored.

Little early research in family economics obtained specific data for

developing a profile of family income-expenditure patterns as researchers believed this area belonged more properly to the economists. They also regarded the problem of obtaining valid income data as extremely delicate. Gradually they began to see the potential for exploring possible relationships between income-expenditure data and other areas of family functioning.

Researchers and educators were also beginning in the Thirties to raise questions about many home practices. Were expenditures of time, money and energy directed toward the satisfactions of family members? Or were they "rituals" from a period when household labor was low in cost and easily available, resulting in elaborate activities later burdensome to the homemaker and her family?

Although management of human and material resources had been an important part of early research, management did not become clearly identified as a research area until the 1940's. By 1950 researchers and educators had reached a consensus, defining home management as "a series of decisions making up the process of using family resources to achieve family goals."[3]

Early classifications of home management research, including primarily housing and equipment research, contributed to the general confusion surrounding the area. Later, research in such areas as family living, household engineering, institutional management and several aspects of housing were reported under the classification of home management in some publications.

With the delineation of management as dealing with decision making and its attendant processes, research with a clearer focus emerged in the late 1940's and 1950's. Much of the early leadership in this new direction for management research stemmed from the efforts of workers at four Experiment Stations. Largely from their pioneering work evolved the now widely accepted concepts of home management. Another result of these efforts are the presently emerging conceptual frameworks related to management and decision making processes, involved in the use of family resources.

Recent management research is concerned with learning more about conscious and subconscious values underlying decision making. Management as it relates to interaction and communication of family members has also moved to the fore in recent research.

As interest in family housing developed, various aspects of housing began to emerge as specific research areas. Late in the first quarter of the century, national concern with the adequacy of family housing became evident. The President's Conference on Home Building and Home Ownership, called in 1931, further stimulated interest and helped to

[3]Irma H. Gross. Research in Home Management. *Journal of Home Economics*, Vol. 51, No. 4. April, 1959. p. 260.

identify problems needing study. In 1934 and 1935 a number of home economists participated in the Federal Farm Housing Survey, sponsored and directed by the Bureau of Home Economics.

Studies from the survey contributed to the knowledge of housing conditions and needs in rural homes in Iowa, Oregon, and Washington. Subsequent investigations dealt with standardization of working heights based on homemakers' physical measurements and dimensions of space units in the house; planning of work centers and equipment to improve efficiency and ease of performing household tasks; and investigations of housing materials and their maintenance.

The need for personnel with more fundamental and specialized preparation for research in housing was recognized by the Research Committee of the American Home Economics Association. In 1936 a program was proposed to provide such special training, establishing a broader concept of housing research.

Another landmark event in the development of home economics research was the enactment of the Agricultural Marketing Act of 1946 which stipulated that research was to be undertaken relative to human nutrition and farm homes. The Act also provided for regional research funds and the formation of research teams comprised of scientists from two or more states. This organizational change led to some decentralization of home economics research, as regional funding brought scientists from additional Stations into the research picture. As these scientists became involved, more graduate students were also exposed to the research process. In recent years regional research has led to multidisciplinary studies, while in the early years regional committees tended to form along university departmental lines.

The Agricultural Marketing Act provided impetus for rural housing research which reached a peak in 1960. These studies provided a research base for the Cooperative Farm Building Plan Exchange, a cooperative effort between the U. S. Department of Agriculture, the State Extension Services and the Experiment Stations.

Home economics has had a continuing concern for the family's immediate environment. Therefore, it is difficult to explain why housing research has developed more slowly than other areas and why it has had little impact on the "livability" of family structures.

Housing researchers in recent years have turned their attention toward understanding housing factors which contribute to greater occupancy satisfaction. The relation of space arrangements to family functioning, communication, and well-being of family members are presently under investigation. Recognition of changing family needs also necessitates new research approaches for home designing and financing.

Future researchers in housing will need to communicate more effectively with business, industry and government to insure that their findings

have impact on the quality of available housing. Ultimately, they must find ways to become involved in determining the quality and kind of housing provided for the population.

Research in household equipment and furnishings was frequently reported in the early years of home economics research and dealt with selection, performance comparisons, and effect on the use of time and energy by the homemaker. The past two decades have been characterized by rapid development and expansion of labor saving equipment for the home. As a result, equipment has come to be increasingly regarded as an integral part of the house and a managerial resource. Consequently, investigations specifically identified as research in equipment have tended to disappear.

Most home economics areas described here involve research inputs related to the family and its needs in the home. The significance of institutional settings, however, was not overlooked even in early parts of the century. A statement from the first constitution of the American Home Economics Association reflected this concern: "The object of this association shall be to improve the condition of living in the home, the institutional household, and the community."[4]

Demonstrating this concern, Ellen H. Richards, scholar and one of the founders of home economics, established the country's first school lunch program in Boston in 1894. She urged studies of the problems of institutional administration, organization and management of food services, financial operation, food production, and other problems.

However, it was not until some thirty years later that specialists in the field began to turn from solving practical operating problems to engaging in limited research. Even as late as 1940 only 12 persons were engaged in institutional research from a total of 450 researchers in home economics. With the advent of World War II, institutional research gave way to meeting the expanded needs for mass feeding, both in the military and in industries and institutions supporting the war effort.

Following the war, the American Home Economics Association and the American Dietetic Association continued to encourage research programs related to institutional management problems. In the mid-fifties cooperative research was begun in the North Central Region. Since then, increasing research has been conducted regarding problems related to the operation of hospital dietary departments, school lunch programs, college food services, commercial food operations, and other types of mass feeding establishments and programs. Recent contributions include the development of computer methods for making management decisions and streamlining routine, time consuming operational tasks.

Since the beginning of home economics, two areas, related art and

[4]*Journal of Home Economics*, Vol. 1, February, 1909. p. 40.

interior design, have had a pervasive influence on other areas in the field. Educators and graduate students in these areas have made worthwhile contributions, many of them identified with clothing, furnishings, and consumer preferences. Some research has been concerned with color perception and effects of textural qualities on perception of size and color. Still other investigations have probed attitudes of consumers and segments of the clothing and furnishings industries,

Little research has been done on the influence of aesthetic aspects of the environment on human development. Other needed research deals with factors influencing creativity and its role in human development. These areas, due to their elusive nature, will yield new and useful knowledge only through well-coordinated approaches.

For a long time, researchers have been interested in the physical, social, and psychological development of the human being. During the past two decades, home economics researchers have focused principally on the young child.

Psychology, physiology, and medicine were responsible for most of the early research in the area of child development. Other contributors came from sociology, psychiatry, biology, morphology, economics, nutrition, and education. A significant contribution of home economics has been the organization of findings of the many disciplines into an integrated body of knowledge.

Child development research in home economics began in the late 40's and early 50's and concerned the crucial role of the family in child development, with special emphasis on the personality. Descriptive and comparative studies have characterized most investigations by home economics researchers. In the past few years intervention techniques for effecting behavioral change have also begun to play a role in child development research. Such investigations are interwoven with research in the area of family relations.

Early home economics research dealt with family life tangentially rather than directly. Some research publications in the early part of the twentieth century reflected a concern with certain psychological and psycho-social aspects of family life. In the decade preceding World War I, eugenics and biological aspects were emphasized.

After World War I, increasing numbers of investigations concentrated on economic, psychological, and sociological aspects of family living. Early family living research was somewhat segmented, largely avoiding investigations of interpersonal relationships or interrelations among factors which influence families.

These early studies did, however, provide a foundation for subsequent research in family relationships. Contributions of psychology and sociology provided a basis for the conclusion that human relationships, especially among family members, could not be regarded as something that

"just happened." Subsequent decades brought an increased awareness of the need to learn more about family interrelationships and the biological and environmental factors affecting family members.

Earlier research concentration on broken or unsuccessful family groups was reversed. Researchers began to study characteristics and functional relationship patterns of successful families. They sought cause-and-effect relations among certain factors in family life. Gradually they began to differentiate between characteristics of successful and less-successful families.

Critics branded early efforts as superficial and insisted that researchers were dealing with things everybody already knew or had no reason to know. Despite the criticisms, researchers persevered. Their continuing efforts have begun to shed light on factors predictive of successful and less-successful family relationships.

Another development of special interest and significance involves a cross-cultural look at family living patterns and resource use. Researchers and educators in American and foreign universities are presently collaborating in the search for family knowledge which has universal meaning and application.

Imaginative research approaches are needed in the field of home economics education. Since behavioral change is the result of learning and learning is the objective of all education, expanded efforts must be made in this area.

Research is also needed to determine the effect of different methods of diffusing knowledge, especially with respect to family well-being. Such efforts to evaluate the effectiveness of providing knowledge, as demonstrated by behavioral change, are critically needed in all facets of education related to the family: pre-school programs, local school systems, universities, and extension and continuing education programs of regional or national scope.

Since the late 1930's, federal legislation for vocational education has provided for research support in home economics education if states decide to include this provision in their plans. Many states have supported studies on factors related to home economics teacher qualifications, satisfactions, and effectiveness; and on homemaking education and family life aspects of home economics curricula for youth and adults. The Vocational Education Act of 1963 and its amendments in 1968 have, for the first time, earmarked funds for research in vocational education. Studies related to the gainful employment aspects of the home economics program offered in schools may be supported from these funds. Results from such research have had impact on teacher education programs and on college curricula in home economics.

As research in home economics education continues to grow, its researchers will need to cooperate more with other researchers in educa-

tion, communications, and the behavioral sciences. Home economics educators can aid research efforts by participating in experimental approaches to education. More than 30 years ago an educator spoke about such a need: "The experimental attitude must transcend that of acceptance of the traditional program, and nothing develops an experimental attitude as well as experimentation."[5] Such experimentation promises much for the future of home economics education and areas which depend on it to diffuse knowledge of their fields.

In the past 15 years the direction and emphases of research in home economics have been markedly influenced by internal and external changes. Increasing numbers of home economics faculty and administrators have recognized and supported the need to expand research efforts, especially in areas which hold the greatest promise for improving family quality of living.

The development of strong graduate and research programs in home management, child development, and family relations during this period has also shaped the overall research thrust in home economics. Until recently, knowledge and techniques adopted from the related basic disciplines largely comprised the methodology used in these areas. In the past few years, researchers in these young and developing fields have begun to evolve theory and test hypotheses in areas dealing with their special research concerns and emphases.

Although research in the traditional areas of food, nutrition, and clothing continues to grow, research in areas which have lately attained identity is particularly noteworthy. These efforts have been recognized not only for their quality of planning and design but also for their direct contribution to an understanding of the family.

During the past decades, research cooperation in the four geographical regions of the United States (North East, North Central, Southern, and Western) has also been productive. Early contributions came principally from the areas of foods and nutrition. More recently, new emphasis has been placed on research in management and family relations. Multidisciplinary research approaches are also beginning to be evident in regional work. Representatives from several areas and disciplines are bringing their particular competences to bear on facets of larger social problems. With this thrust, complex problem areas which have defied other approaches may begin to yield to research efforts.

Technological and social change during the past decade has encouraged research dealing more specifically with families and their concerns. Increased mobility and instant communication of local, national and world affairs have imposed on the family unit stresses not even imagined

[5]Clara M. Brown. *Appraisals of Trends in Home Economics Research.* Presented at the meeting of the Research Department of the American Home Economics Association, Kansas City, Missouri. 1937.

in past eras. For the first time, families all over the world are confronted by a young generation which questions and defies authority, tradition and long-standing cultural values and mores. In their rejection, many of the young have set out to discredit and destroy institutions and structures upon which our society has been based, including the family.

World-wide concern for the relationship between man and his ecological system also has special pertinence for research in home economics. Although massive efforts are needed to deal with our polluted air, water, and land resources, research concerning family use and disposition of resources can contribute to the solution of this problem.

The expanding population brings into focus the need for more research concerning the biological and psychological needs of man. Surely there was never a time when the potential was greater for meaningful research in areas of home economics.

Changes in the organization of government agencies, which encourage and support research efforts, have also affected research trends in home economics. In 1923 the Bureau of Home Economics was created in the U. S. Department of Agriculture and during the '20's and '30's the Bureau conducted research in clothing, housing, nutrition, household economics and equipment. In 1943 this unit became the Bureau of Human Nutrition and Home Economics. The name was changed periodically during the '50's with some program change reflected in each reorganization.

In 1961 Department-wide organizational changes occurred in Agriculture. Since that time research in home economics areas has been associated with both Agricultural Research Service (ARS) and the Cooperative State Research Service (CSRS). Following the organizational changes of 1961, titles referring to specific research areas were used to identify each division in each service, and the term "home economics" *per se* no longer appeared in any division title.

Further realignments of the functions and funding perogatives of federal departments and agencies have occurred and still other changes are in process. Many of these changes would seem to broaden the base for research support in many home economics areas. Whether they do open new avenues for home economics researchers will depend considerably on how effectively concerns and competences are communicated to the agencies and departments involved.

Present Status and Direction of Research

There has recently developed a new awareness for research which springs logically from home economics areas—research which contributes significantly to the concerns of families and the solution of their problems. A 1967 compilation of research input and the distribution of scientist-man-years gives the most recent profile of current efforts. Drawn from

inventory records of the Cooperative State Research Service at that time, this summary includes primarily research sponsored by State Agricultural Experiment Stations. It does not include a complete inventory of research supported by state funds or by other granting agencies and foundations. However, in terms of general research coverage, it best represents a large proportion of home economics research endeavors.

An analysis of the 1967 inventory of the home economics research program was reported at a National Seminar and Workshop for Home Economics Research Administrators. Because of their special relevance, three tables from this report[6] are included here. Five hundred and seventeen projects had been conducted wholly by scientists in home economics or jointly with scientists from related disciplines.

Table 1 presents the home economics program analysis by regions, including numbers of projects, the scientist-man-years[7] reported, and the degree of interdepartmental cooperation in the joint planning and conducting of projects. Slightly less than 200 scientist-man-years (SMY's) are involved, representing an estimated 425 individuals.

A continuing concern of scientists and administrators is that of program support. Ten source-of-funds categories are summarized by region in Table 2, while Table 3 presents further analysis of dollar support data. Nationally, the 1967 reported home economics program was supported by Hatch and regional funds, 36 percent; state appropriations, 42 percent; and other support, largely federal, 22 percent. In 1967, average support per station project was $10,200, totaling nationally about 5.3 million dollars. Average support per station scientist-man-year was $27,400. The latter figure is a composite of professional and subprofessional salaries, cost of facilities, and operating cost.

In the past, three measures have been used to indicate research program size in the various subject areas: number of projects, scientist-man-years and dollar support. For current-day consideration of program content and focus as distributed by the research goals and problem areas contained in this study, scientist-man-years is viewed as the most pertinent measurement. SMY's are inextricably bound to dollar support and can be so converted by multiplying individual SMY inputs by average support per SMY ($27,400 in FY 1967).

Today project numbers as a program measurement device have decreasing meaning. Granting agencies and foundations are moving

[6]Mary Beth Minden, "Programs at the State Stations," *Proceedings: National Seminar and Workshop for Home Economics Research Administrators.* Cooperative State Research Service, U. S. Department of Agriculture in cooperation with the State Agricultural Experiment Stations. Lincoln, Nebraska. 1967. pp. 38-43.

[7]Scientist-man-year represents the time of one scientist working one year on a full-time basis. Defined for university faculty as an individual at the assistant professor level or above.

Source: See footnote No. 6 on preceding page.

Table 1.—Home economics program analysis by region, 1966-67 inventory

Region	No. of projects reported	No. of projects on record but not reported[1]	No. of different problem areas	SMY's reported	No. of projects with no SMY's reported[2]	Average SMY per project	Interdepartmental cooperation (No. of projects)		
							A[3]	B[4]	C[5]
Northeastern	108	8	18	33.64	8	.31	104	3	1
North Central	186	17	25	59.25	22	.36	162	11	13
Southern	102	3	17	56.67	13	.56	78	17	7
Western	121	8	17	[6]41.97	14	.35	112	8	2
Total	517	36	[7]31	191.53	57	.37	456	38	23

[1]1967 only; largely non-Federal projects. [2]1967 only and represents 11 percent of the projects. [3]A projects: no interdepartmental cooperation reported. [4]B projects: two or more departments reported; home economics has major leadership. [5]C projects: two or more departments reported; major leadership in other than home economics. [6]26.82 without California. [7]Duplicated areas eliminated.

Table 2.—Home economics program support: Funds obligated, Fiscal Year 1967, by sources and region

Region	No. of projects reported	Funds obligated by source[1] (In thousands of dollars)								
		Hatch	RRF[2]	USDA contract or grant	Other Federal support	State appropriations	Sales of products	Industry grants and contracts	Other non-Federal funds	Total
Northeastern	108	186	75	8	105	371	5	2	44	796
North Central	186	490	146	57	167	800	4	18	23	1,705
Southern	102	412	201	18	38	334	24	8	41	1,076
Western	121	257	134	3	500	727	2	64	2	1,689
Total	517	1,345	556	86	810	2,232	35	92	110	5,266

[1]No figures are shown for "Basic Grants" and "Other CSRS" because funds from these sources were not reported.
[2]Regional research funds.

Table 3.—Home economics program support: Further analysis, by region, Fiscal Year 1967

Region	No. of projects reported	SMY's reported	Amount and source of funds, 1967				Support per project	Support per SMY	Amount and source of funds by percentages		
			Hatch and RRF	State appropriations	All other	Total			Hatch and RRF	State appropriations	All other
			Thousands of dollars						*Percent*		
Northeastern	108	33.64	261	371	164	796	7.4	23.4	32.8	47.6	19.6
North Central	186	59.25	636	800	269	1,705	9.2	28.8	37.3	46.9	15.8
Southern	102	56.67	613	334	129	1,076	10.5	18.8	56.9	31.0	12.1
Western	121	41.97	391	727	571	1,689	[1]14.0	[2]40.2	[3]22.7	[4]43.0	[5]34.3
Total	517	191.53	1,901	2,232	1,133	5,266	10.2	27.4	36.1	42.4	21.5

[1]9.7 without California. [2]28.1 without California. [3]44.9 without California. [4]42.1 without California. [5]13.0 without California.

Table 4.—Research Effort in Scientist-Man-Years Distributed by Goals and Research Problem Areas Delineated in This Study

Goals	Research Problem Areas	Scientist-Man-Years	
Goal I	1. Social-Emotional Development	3.0*	
Improve the Conditions	2. Cognitive Development	2.0	
Contributing to Man's	3. Family Structure and Function	2.0	
Psychological and	4. Roles and Role Behavior	2.0	
Social Development	5. Husband-Wife Relationships	0.0	
	6. Parent-Child Relationships	2.0	
	7. Family Planning	0.0	
	8. Social and Technological Change	3.0	
			14.0
Goal II	1. Nutrient Requirements and Metabolism	46.4	
Improve the Conditions	2. Nutritional Status	10.0	
Contributing to Man's	3. Food Quality, Composition and Safety	48.2	
Physiological Health	4. Food Patterns	7.6	
and Development	5. Health Related Variables	0.0	
	6. Food Service Systems	3.0	
			115.2
Goal III	1. Housing and Environs: Human Needs	5.6	
Improve the Physical	Cultural Aspects	0.5	
Components of Man's	2. Housing and Environs: Psycho-Socio-		
Near Environment	3. Housing and Environs: Aesthetic Aspects	0.5	
	4. Housing and Environs: Economic Aspects	0.0	
	5. Textiles and Textile Products:		
	Properties and Performance	8.7	
	6. Clothing: Human Needs	1.7	
	7. Clothing: Psycho-Socio-Cultural Aspects	4.0	
	8. Clothing: Economic Aspects	2.0	
	9. Clothing: Creation and Design	1.0	
			24.0
Goal IV	1. Consumer Service Needs	2.0	
Improve Consumer	2. Consumer Choice Making and Behavior	8.6	
Competence and Family	3. Consumer and the Marketing System	1.3	
Resource Use	4. Values and Behavior	3.0	
	5. Management and Decision Making		
	Processes and Situations	8.5	
	6. Resource Development, Allocation and Use	4.5	
	7. Levels of Living	3.0	
			30.9
Goal V	1. Community Program Needs	1.0	
Improve the Quality	2. Health, Safety and Recreation Programs	2.0	
and Availability of	3. Continuing Education Programs	2.0	
Community Services	4. Housing Programs	.5	
Which Enrich	5. Day Care Programs for Preschool Children	.9	
Family Life	6. Family Influence on and Response to		
	Public Programs	1.0	
			7.4
	Total		191.5

*Figures rounded to nearest .5
Source: Cooperative State Research Service, USDA Inventory Data for Fiscal Year 1967

away from one-man grants and are looking with favor upon broad program "packages." These are generally multidisciplinary in nature, giving breadth and depth to the research, and combining basic and applied problem approaches. This stance is also evident in Experiment Station allocation of funds.

The 1967 research effort measured in scientist-man-years has been reallocated according to the five goals and 36 research problem areas delineated in this study (Table 4). The assignment of scientist-man-years to research problem areas was made by judgmental crosswalks between contents of the home economics RPA's and home economics inputs to agricultural RPA's.

Scientist-man-year inputs to Goal I account for 7 percent of the total effort; for Goal II, 60 percent; Goal III, 13 percent; Goal IV, 16 percent; and for Goal V, 4 percent. Scientific manpower input to two of the 36 RPA's, to Nutrient Requirements and Metabolism and to Food Quality, Composition and Safety, total 94.6 SMY's with the remaining 96.9 SMY's distributed widely among 30 other RPA's. No SMY input from the 1967 summary can be related to four RPA's: Husband-Wife Relationships, Family Planning, Health Related Variables, and Housing and Environs: Economic Aspects. Four other RPA's were assigned less than 1 SMY.

Some questions become apparent as Table 4 is studied. Information in this table can provide a basis for deliberation and planning at the regional, state and local levels.

Increasing the contribution of home economics to the national scientific effort requires a concerted movement to increase scientist-man-year input. Inherently, dollar support parallels these increases. At the same time, *numbers* of projects may be expected to decrease. And this is seen as a healthy climate for future research direction and effort.

In the 1966 Agricultural Study, SMY projections were made for each of their RPA's on a five and ten year basis. The AES Regional Directors indicated the usefulness of these projections was limited. The projection of increases or decreases in SMY input is, in actuality, a method of assigning priority to RPA's, a determination which can be more meaningfully made at the local institutional level.

For the first time in its history, home economics has the program planning tools afforded by the identification of major research goals and delineation of research problem areas. Given these concise goals and RPA's, plus priorities as viewed by research leadership, administrators and their faculties now have better bases than ever before for judgments regarding program planning and support.

The mission-oriented research goals which evolved from this study afford unlimited opportunities for various disciplines to engage in individual and cooperative research focused on significant societal concerns.

The projected goals and research problem areas provide a broader structure and base for traditional areas of specialization to view their research contributions in relation to other inputs. Both basic and applied approaches to research are also implicit in the goals. The setting and need for research in the coming decades holds more promise and challenge for home economics than has any era of the past.

SELECTED REFERENCES ON RESEARCH PROGRESS AND PROJECTION

The following publications, representative of a more comprehensive list, provide a more detailed background of the development and contributions of research in the several specialized areas in home economics. It is included here as a convenient reference for those intrested in further information about rsearch in the field.

Adams, Georgian. A Backward Glance and a Forward Look: Fifty Years of Home Economics Research. *Journal of Home Economics*, Vol. 51, No. 1, pp. 12-18. January 1959.

Anspach, Karlyne. Clothing Research in Home Economics, 1925-58. *Journal of Home Economics*, Vol. 51, No. 9, pp. 767-770. November 1959.

Beveridge, Elizabeth. The Contribution of Household Equipment Research. *Journal of Home Economics*, Vol. 51, No. 10, pp. 858-860. December 1959.

Chittenden, Gertrude and Gould, Flo. A Challenge to Child Development and Family Relationships. *Journal of Home Ecoonmics*, Vol. 51, No. 2, pp. 97-99. February 1959.

Donaldson, Beatrice. Achievements and New Directions: Research in Institution Administration. *Journal of Home Economics*, Vol. 51, No. 10, pp. 849-852. December 1959.

Gross, Irma H. Research in Home Management. *Journal of Home Economics*, Vol. 51, No. 4, pp. 260-263. April 1959.

Hawkes, Glenn R. Current Developments and a Look Ahead in Family Relations and Child Development. *Journal of Home Economics*, Vol. 51, No. 7, pp. 573-576. September 1959.

Hoffman, Doretta S. Interdisciplinary Approach to Research in Home Economics. *Journal of Home Economics*, Vol. 61, No. 3, pp. 159-163. March 1969.

Honey, Ruth R. The New Directions for Research. *Journal of Home Economics*, Vol. 51, No. 9, pp. 761-762. November 1959.

Labarthe, Jules. Current Developments and a Look Ahead in Textiles and Clothing. *Journal of Home Economics*, Vol. 51, No. 7, pp 587-590. September 1959.

Leverton, Ruth M. Speeding the Application of Research Findings. *Journal of Home Economics*, Vol. 61, No. 4, pp. 247-251. April 1969.

McCullough, Helen E. Housing Research in Home Economics. *Journal of Home Economics*, Vol. 51, No. 10, pp. 853-857. December 1959.

McGrath, Earl J. and Johnson, Jack T. *The Changing Mission of Home Economics.* Institute of Higher Education. New York: Teachers College Press, Columbia University. 1968.

Minden, Mary Beth. Home Economics Research in the Experiment Stations. *Journal of Home Economics*. Vol. 54, No. 1, pp. 32-35. January 1962.

Montgomery, James E. Current Developments and a Look Ahead in Housing and Household Equipment. *Journal of Home Economics*, Vol. 51, No. 7, pp. 581-586. September 1959.

Morgan, Mildred I. The Contributions and Needs of Home Economics Research in the Area of Family Relations. *Journal of Home Economics*, Vol. 51, No. 5, pp. 358-361. May 1959.

Personius, Catherine J. Objectives and Philosophy and Home Economics Research. *Journal of Home Economics*, Vol. 51, No. 2, pp. 94-96. February 1959.

Personius, Catherine J. The Current Situation and Trends Pertinent to the Future Development of Food and Nutrition. *Journal of Home Economics*, Vol. 51, No. 7, pp. 577-580, 586. September 1959.

Spitze, Hazel Taylor. Utilizing HEIH Members on Research Teams. *Journal of Home Economics*, Vol. 61, No. 5, pp. 366-368. May 1969.

Staab, Josephine H. Historical Development and Trends of Research in Family Economics. *Journal of Home Economics*, Vol. 51, No. 4, pp. 257-260. April 1959.

Vail, Gladys E. The Home Economist's Contribution to Food Research. *Journal of Home Economics*, Vol. 51, No. 6, pp. 445-448. June 1959.

A National Program of Research for Agriculture. Report of a Study Sponsored Jointly by: Association of State Universities and Land Grant Colleges and U. S. Department of Agriculture. October 1966.

A National Program of Research for Rural Development and Family Living. Prepared by a Joint Task Force of the U. S. Department of Agriculture and the State Universities and Land Grant Colleges. November 1968.

A National Program of Research for Food and Nutrition. Prepared by a Joint Task Force of the U. S. Department of Agriculture and the State Universities and Land Grant Colleges. December 1967.

A National Program of Research for Food Safety. Prepared by a Joint Task Force of the U. S. Department of Agriculture and State Universities and Land Grant Colleges. November 1968.

Areas of Home Economics Research: Reports to the Committee on Research. Division of Land Grant Colleges and State Universities, 1947-1956. (mimeographed) Assembled April 1958.

Community-Family-Consumer Research. *Agricultural Science Review.* Cooperative State Research Service, U. S. Department of Agriculture. Vol. 2, No. 4, Fall 1964.

Home Economics in Land Grant Colleges and Universities: A Statement of Objectives and Future Directions. Prepared by Home Economics Development Committee, Division of Home Economics, American Association of Land Grant Colleges and State Universities. 1959.

Proceedings: National Seminar and Workshop for Home Economics Research Administrators. Sponsored by the Cooperative State Research Service, U. S. Department of Agriculture, in cooperation with State Agricultural Experiment Stations. University of Nebraska, Lincoln. April 5-7, 1967.

Progress Report of the Consumer and Food Economics Research Division. Agricultural Research Service, U. S. Department of Agriculture, Hyattsville, Maryland. Distributed annually in July.

Progress Report of the Human Nutrition Research Division. Agricultural Research Service, U. S. Department of Agriculture, Beltsville, Maryland. Distributed annually in July.

Advisory Group Members

*DR. PEARL J. ALDRICH
Associate Dean
College of Human Ecology
Michigan State University
East Lansing, Michigan 48823

DR. GERTRUDE BLAKER
Department of Food Science and Nutrition
College of Home Economics
Colorado State University
Fort Collins, Colorado 80521

DR. BERTHA M. BRESINA, Chairman
Department of Home Economics
Arizona State University
Tempe, Arizona 85281

DR. FLOSSIE M. BYRD, Dean
School of Home Economics
Prairie View A&M College
Prairie View, Texas 77445

DR. MARY CRENSHAW, Dean
School of Home Economics
University of Alabama
University, Alabama 35486

DR. RUTH E. DEACON, Chairman
Management, Housing and Equipment Division
School of Home Economics
Ohio State University
Columbus, Ohio 43210

MISS ELLEN-ANN DUNHAM
Vice President
General Foods Corporation
250 North Street
White Plains, New York 10600

DR. CECILE EDWARDS, Head
Department of Home Economics
North Carolina A&T College
Greensboro, North Carolina 27400

MISS MARY C. EGAN
Chief, Nutrition Section
Children's Bureau
Social and Rehabilitation Service
U.S. Department of Health, Education, and Welfare
Washington, D. C. 20201

DR. VERA ELLITHORPE
Area Extension Specialist in Home Management and Housing
930 Lindenwood
Topeka, Kansas 66600

DR. RUTH L. GALBRAITH, Head
Department of Clothing and Textiles
School of Home Economics
Auburn University
Auburn, Alabama 36830

DR. ELIZABETH DYAR GIFFORD, Dean
College of Home Economics
Colorado State University
Fort Collins, Colorado 80521

DR. MARY ROSE GRAM, Head
Department of Nutrition
College of Home Economics
University of Tennessee
Knoxville, Tennessee 37916

DR. MARY NELL GREENWOOD, Director
Continuing Education for Women
Cooperative Extension Service
University of Missouri
Columbia, Missouri 65201

*Steering Committee Member

*MRS. MARGARET M. HARD,
Chairman
Home Economics Research Center
Washington State University
Pullman, Washington 99163

DR. LAURA JANE HARPER, Dean
College of Home Economics
Virginia Polytechnic Institute
Blacksburg, Virginia 24061

*DR. DORETTA S. HOFFMAN,
Dean
College of Home Economics
Kansas State University
Manhattan, Kansas 66504

†DR. LOIS A. LUND
Associate Dean and Director
School of Home Economics
Ohio State University
Columbus, Ohio 43210

DR. DOROTHY S. LYLE
National Institute of Drycleaning
909 Burlington Avenue
Silver Spring, Maryland 20900

†DR. WILLIAM H. MARSHALL
Associate Dean and Director
School of Family Resources
and Consumer Sciences
University of Wisconsin
Madison, Wisconsin 53706

DR. MARY BETH MINDEN,
Director
Human Nutrition and Consumer
Use Division
Cooperative State Research Service
U. S. Department of Agriculture
Washington, D. C. 20250

DR. JAMES E. MONTGOMERY,
Head
Department of Management,
Housing and Family Development
College of Home Economics
Virginia Polytechnic Institute
Blacksburg, Virginia 24061

†DR. LURA M. ODLAND, Dean
College of Home Economics
University of Tennessee
Knoxville, Tennessee 37916

DR. RONALD POWERS, Head
Department of Family Environment
College of Home Economics
Iowa State University
Ames, Iowa 50010

DR. BARBARA REAGAN
Department of Economics
Southern Methodist University
6815 Prestonshire
Dallas, Texas 75225

DR. WILLIAM W. McKEE
Vice President
Merrill-Palmer Institute
71 East Ferry Avenue
Detroit, Michigan 48202

DR. MARY LOU ROSENCRANZ,
Chairman
Department of Textiles, Clothing
and Related Art
School of Home Economics
University of Connecticut
Storrs, Connecticut 06268

DR. HELEN J. SOUDERS
Nutrition, Consumer and
Industrial Use Research
Agricultural Research Service
U. S. Department of Agriculture
Washington, D. C. 20250

*Steering Committee Member
†Task Force Chairman

MISS EDITH E. TAITTONEN
Director of Home Economics
Community Services Society
of New York
105 East 22nd Street
New York, New York 10010

DR. VIRGINIA Y. TROTTER, Dean
College of Home Economics
University of Nebraska
Lincoln, Nebraska 68503

MR. DAVID B. VAN DOMMELEN
Family Housing and Home Art
College of Human Development
Pennsylvania State University
University Park, Pennsylvania 16802

DR. ETHEL L. VATTER
Assistant Coordinator of Research
New York State College of
Human Ecology
Cornell University
Ithaca, New York 14850

MISS BLAIR WILLIAMS,
Chairman
Department of Home Economics
College of Agriculture and
Home Economics
University of Vermont
Burlington, Vermont, 05401

Director:
DR. JEAN D. SCHLATER
College of Human Ecology
Michigan State University
East Lansing, Michigan 48823

AAHE Research Projection Workshop[1] Participants

*†ALDRICH, PEARL J., Associate Dean, College of Human Ecology, Michigan State University, East Lansing.

BIVENS, GORDON, Professor, Family Economics, School of Home Economics, University of Missouri, Columbia.

BLACKWELL, SARA E., Acting Chairman, Department of Community Service Education, College of Human Ecology, Cornell University, Ithaca, New York.

*BLAKER, GERTRUDE, Associate Professor, Food Science and Nutrition, College of Home Economics, Colorado State University, Fort Collins.

*BRESINA, BERTHA M., Chairman, Department of Home Economics, Arizona State University, Tempe.

BROWNING, GEORGE M., Regional Director, North Central Agricultural Experiment Station Directors, Iowa State University, Ames.

BUCHANAN, MARK T., Director-at-Large, Western Agricultural Experiment Station Directors, University of California, Berkley.

CHAMPOUX, ELLEN, Associate Professor, Home Economics Education, School of Home Economics, University of North Carolina, Greensboro.

COMBS, MAY, Associate Professor, Housing and Family Economics, College of Home Economics, Colorado State University, Fort Collins.

COMPTON, NORMA H., Dean, School of Home Economics, Auburn University, Auburn, Alabama.

*CRENSHAW, MARY, Dean, School of Home Economics, University of Alabama, University.

DAVISON, SUZANNE, Chairman, Textiles and Clothing Department, School of Home Economics, University of Minnesota, St. Paul.

DAY, SAVANNAH S., Associate Professor, Department of Home and Family Life, School of Home Economics, Florida State University, Tallahassee.

*DEACON, RUTH E., Chairman, Management, Housing and Equipment Division, School of Home Economics, Ohio State University, Columbus.

DE LONG, MARILYN, Assistant Professor, Department of Textiles and Clothing, College of Home Economics, Iowa State University, Ames.

DENSMORE, BARBARA E., Associate Professor, Clothing and Textiles, College of Human Development, Pennsylvania State University, University Park.

DUNSING, MARILYN, Professor, Family Economics, Department of Home Economics, University of Illinois, Urbana.

*EDWARDS, CECILE, Head, Department of Home Economics, North Carolina A&T College, Greensboro.

EHRENKRANZ, FLORENCE, Chairman, Household Equipment, School of Home Economics, University of Minnesota, St. Paul.

*ELLITHORPE, VERA M., Area Extension Specialist, Home Management and Housing, Kansas State University, Topeka.

---

[1]Held at Conrad Hilton Hotel, Chicago, March 11-13, 1970
*Advisory Group Member
†Steering Committee Member

ESTEROS, GERTRUDE, Chairman, Related Art, School of Home Economics, University of Minnesota, St. Paul.

FALSETTI, JOSEPH, Associate Professor, Department of Housing and Interior Design, School of Home Economics, University of Missouri, Columbia.

FOX, HAZEL M., Chairman, Department of Foods and Nutrition, College of Home Economics, University of Nebraska, Lincoln.

*GALBRAITH, RUTH L., Head, Department of Clothing and Textiles, School of Home Economics, Auburn University, Auburn, Alabama.

GATES, RUTH E., Associate Professor, Clothing, Textiles and Related Arts Department, School of Home Economics, Oregon State University, Corvallis.

*GIFFORD, ELIZABETH DYAR, Dean, College of Home Economics, Colorado State University, Fort Collins.

GLENN, HORTENSE M., Dean, School of Home Economics, Florida State University, Tallahassee.

*GREENWOOD, MARY NELL, Director, Continuing Education for Women, Cooperative Extension Service, University of Missouri, Columbia.

*†HARD, MARGARET M., Chairman, Home Economics Research Center, Washington State University, Pullman.

*HARPER, LAURA JANE, Dean, College of Home Economics, Virginia Polytechnic Institute, Blacksburg.

HETTLER, FRANCES M., Dean, College of Home Economics, South Dakota State University, Brookings.

*†HOFFMAN, DORETTA S., Dean, College of Home Economics, Kansas State University, Manhattan.

HORN, MARILYN J., Professor, Clothing and Textiles, School of Home Economics, University of Nevada, Reno.

KELLEY, ELEANOR, Associate Professor, Textiles and Clothing, School of Home Economics, Louisiana State University, Baton Rouge.

KRAEMER, HAZEL, Assistant Dean, Human Resources Development, College of Tropical Agriculture, University of Hawaii, Honolulu.

LANE, DORIS, Assistant Director, Home Economics Extension, University of Connecticut, Storrs.

LAPITSKY, MARY, Acting Chairman, Textiles and Clothing Division, School of Home Economics, Ohio State University, Columbus.

LISTON, MARGARET I., Professor, Department of Family Environment, College of Home Economics, Iowa State University, Ames.

LUND, LILLIAN O., Professor, Textiles Research, College of Home Economics, South Dakota State University, Brookings.

*LUND, LOIS A., Associate Dean and Director, School of Home Economics, Ohio State University, Columbus.

*MARSHALL, WILLIAM H., Associate Dean and Director, School of Family Resources and Consumer Sciences, University of Wisconsin, Madison.

MAXWELL, JOSEPH H., Head, Department of Family and Child Development, School of Home Economics, Auburn University, Auburn, Alabama.

---

*Advisory Group Member
†Steering Committee Member

McCORMICK, NAURINE HIGGINS, Assistant Director, Home Economics Cooperative Extension Service, Ohio State University, Columbus.

*McKEE, WILLIAM W., Vice President, Merrill-Palmer Institute, Detroit, Michigan.

*MINDEN, MARY BETH, Director, Human Nutrition and Consumer Use Division, Cooperative State Research Service, U. S. Department of Agriculture.

*MONTGOMERY, JAMES E., Head, Department of Management, Housing and Family Development, College of Home Economics, Virginia Polytechnic Institute, Blacksburg.

MOORE, AIMEE, Director, Department of Nutrition and Dietetics, Medical Center, University of Missouri, Columbia.

*ODLAND, LURA M., Dean, College of Home Economics, University of Tennessee, Knoxville.

PACKETT, LEONARD V., Chairman, Department of Nutrition and Food Science, School of Home Economics, University of Kentucky, Lexington.

PADGETT, ROSE, Professor, Department of Clothing and Textiles, School of Home Economics, Southern Illinois University, Carbondale.

*POWERS, RONALD, Head, Department of Family Environment, College of Home Economics, Iowa State University, Ames.

PRATT, DAN, Associate Professor, Department of Foods and Nutrition, School of Home Economics, Purdue University, Lafayette, Indiana.

RAY, ELIZABETH, Professor, Department of Home Economics Education, College of Education, Pennsylvania State University, University Park.

RICE, ROBERT R., Chairman, Department of Human Environment and Design, College of Human Ecology, Michigan State University, East Lansing.

RITCHEY, SANFORD J., Head, Department of Human Nutrition and Foods, College of Home Economics, Virginia Polytechnic Institute, Blacksburg.

RIVERS, JERRY M., Associate Professor, Department of Human Nutrition and Food, College of Human Ecology, Cornell University, Ithaca, New York.

*ROSENCRANZ, MARY LOU, Chairman, Department of Clothing, Textiles and Related Art, School of Home Economics, University of Connecticut, Storrs.

SAILOR, PATRICIA, Associate Professor, Department of Textiles, Clothing and Design, College of Home Economics, University of Nebraska, Lincoln.

SCHVANEVELDT, JAY, Assistant Professor, Department of Family and Child Development, College of Family Life, Utah State University, Logan.

‡SCHLATER, JEAN D., Professor, Department of Family Ecology, College of Human Ecology, Michigan State University, East Lansing.

SHEEHAN, EDWARD, Assistant Professor, Division of Foods and Nutrition, School of Home Economics, University of Arizona, Tucson.

*Advisory Group Member
‡Director

SITTON, MARGARET, Professor and Assistant Dean, College of Home Economics, Texas Tech University, Lubbock.

*SOUDERS, HELEN J., Assistant to Deputy Administrator, Nutrition, Consumer and Industrial Use Research, Agricultural Research Service, U. S. Department of Agriculture.

SPORAKOWSKI, MICHAEL, Assistant Professor, Family Relations, Department of Home Economics, University of Illinois, Urbana.

STOVER, MARY SUE, Research Associate, Clothing, Department of Home Economics Research, Texas A&M University, College Station.

*TROTTER, VIRGINIA Y., Dean, College of Home Economics, University of Nebraska, Lincoln.

*VAN DOMMELEN, DAVID B., Associate Professor, Family Housing and Home Art, College of Human Development, Pennsylvania State University, University Park.

*VATTER, ETHEL L., Assistant Coordinator of Research, College of Human Ecology, Cornell University, Ithaca, New York.

VAUGHN, JANET, Assistant Professor, Department of Home Management and Family Economics, Purdue University, Lafayette, Indiana.

VIVIAN, VIRGINIA M., Professor, Nutrition, School of Home Economics, Ohio State University, Columbus.

WAKEFIELD, LUCILE, Head, Department of Foods and Nutrition, College of Home Economics, Kansas State University, Manhattan.

WALTERS, JAMES, Professor, Department of Family Relations and Child Development, Division of Home Economics, Oklahoma State University, Stillwater.

*WILLIAMS, BLAIR, Chairman, Department of Home Economics, College of Agriculture and Home Economics, University of Vermont, Burlington.

WINAKOR, GEITEL, Professor, Textiles and Clothing Department, College of Home Economics, Iowa State University, Ames.

WOODBURN, MARGY, Head, Foods and Nutrition Department, School of Home Economics, Oregon State University, Corvallis.

*Advisory Group Member

Additional copies may be obtained for $3.00 (USA) from:

Bulletin Office, Box 231
Information Services
Michigan State University
East Lansing, Michigan 48823

Checks should be made payable to Michigan State University