

AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D. C. 20523  
BIBLIOGRAPHIC INPUT SHEET

FOR AID USE ONLY

**Batch 63**

1. SUBJECT CLASSI- FICATION	A. PRIMARY	TEMPORARY
	B. SECONDARY	

2. TITLE AND SUBTITLE  
Population dynamics and family planning; annual report, 1968/1969

3. AUTHOR(S)  
(101) N.C. Univ. Carolina Population Center

4. DOCUMENT DATE 1973	5. NUMBER OF PAGES 55p.	6. ARC NUMBER ARC
--------------------------	----------------------------	----------------------

7. REFERENCE ORGANIZATION NAME AND ADDRESS  
N.C.

8. SUPPLEMENTARY NOTES (*Sponsoring Organization, Publishers, Availability*)  
(Activity summary)

9. ABSTRACT  
(HEALTH--POPULATION R&D)

10. CONTROL NUMBER <b>PN-AAD-880</b>	11. PRICE OF DOCUMENT
12. DESCRIPTORS	13. PROJECT NUMBER
	14. CONTRACT NUMBER CSD-1940 211(d)
	15. TYPE OF DOCUMENT

D-1990 211(d)  
/

REPORT FOR 1968-1969

TO THE

AGENCY FOR INTERNATIONAL DEVELOPMENT

ON THE

INSTITUTIONAL SUPPORT GRANT 211(d)

TO THE

CAROLINA POPULATION CENTER

UNIVERSITY OF NORTH CAROLINA  
AT CHAPEL HILL

## CONTENTS

	<u>Page</u>
I. BACKGROUND AND OBJECTIVES . . . . .	1
II. ACCOMPLISHMENTS . . . . .	2
A. Organization . . . . .	2
B. Staff development . . . . .	3
C. Information and reference services . . . . .	5
Library service . . . . .	5
Publications program . . . . .	5
Information retrieval . . . . .	5
Educational materials . . . . .	5
D. Educational activities . . . . .	6
Degree programs . . . . .	6
Special training services . . . . .	6
Conferences and workshops . . . . .	7
E. Research activities . . . . .	9
Population program development . . . . .	9
Demography . . . . .	9
Biomedical research . . . . .	9
Population policy . . . . .	10
Population and sex education . . . . .	10
Population theory . . . . .	10
F. Field program relationships . . . . .	10
North Carolina . . . . .	11
Thailand . . . . .	11
India . . . . .	11
Iran and UAR . . . . .	11
Latin America . . . . .	11
G. Direct services to population-related agencies . . . . .	12
AID . . . . .	12
United Nations . . . . .	12
World Health Organization . . . . .	12
Economic Commission for Asia and the Far East . . . . .	13
U.S. Department of Health, Education and Welfare . . . . .	13
Foundations . . . . .	13
Others . . . . .	13
III. EXPENDITURES BY BUDGET CATEGORY . . . . .	14
A. Salaries . . . . .	14
B. Honoraria and consultants . . . . .	15
C. Travel . . . . .	15
D. Other direct costs . . . . .	15
E. Tuition, fees and stipends . . . . .	15
F. Equipment . . . . .	15

	<u>Page</u>
IV. PLANS FOR 1969-70 . . . . .	16
A. Organization . . . . .	16
B. Staff development . . . . .	16
C. Information and reference services . . . . .	16
D. Educational activities . . . . .	16
E. Research activities . . . . .	17
F. Field program relationships . . . . .	17
G. Direct services to population-concerned agencies . . . . .	18
H. Budget projection . . . . .	18
V. GENERAL OBSERVATIONS . . . . .	19
A. The University-based Population Center . . . . .	19
B. Problems . . . . .	19
C. Progress . . . . .	21
APPENDIX 1. Diagram of organization and key of activities	
APPENDIX 2. Courses available for population students, 1968-69	
APPENDIX 3. Population students, 1968-69	
APPENDIX 4. Short-term trainees and visitors, 1968-69	
APPENDIX 5. CPC Newsletters, Fall 1968 and Spring 1969	

## I. BACKGROUND AND OBJECTIVES

The Carolina Population Center of the University of North Carolina has the task of developing and coordinating a University-wide, multidisciplinary program of research, education and service in the field of population dynamics and family planning. The Agency for International Development in 1968 provided a grant to the Center of \$2.4 million for a 5-year period, in order to intensify this program on a scale appropriate to the seriousness of the world population problem.

The objectives of this assistance were stated to be "to build the strongest possible multidisciplinary competence for research, training and service in the population and family planning field . . . . The ultimate objective will be to generate important new sources of technical knowledge, expert personnel, training capacities, and consultative support for the U.S. Agency for International Development, in its international assistance in the population and family planning field." The scope of work was stated to "involve further strengthening of the basic organizational structure of the multidisciplinary university population program at North Carolina, through augmentation of faculty strength for certain disciplines essential to the program, and through provision for space and material needs that are required for a major expansion of its services."

While observing AID's requirement that the 211(d) grant funds be utilized strictly for institution-building purposes, the Carolina Population Center over the past year has tried to anticipate and build toward those capacities which are most likely to be salient to AID's short-run and long-run program needs. While many service-related activities have been funded under the grant, we feel these are consistent with the 211(d) goal. For example, strengthening of the basic faculty helped to generate additional support from other sources, while also expanding training services to AID; production of educational materials stimulated more faculty competence for this work, while also meeting needs of AID missions; conferences on "frontier" issues in population planning have led to greater faculty involvement, while also serving the whole field; collaboration with institutions abroad has strengthened our understandings of world population problems, while also reinforcing AID's direct assistance efforts. When involvement with such work goes beyond what is immediately relevant for building Population Center capacities, then the Center has turned to AID or other funding sources for separate, special project support of these activities, as will also be noted in the following sections.

The 211(d) program also has the institution-building objective of generating support from other sources, so as to develop institutional capacities of greater permanence and of size more appropriate to population program needs. Relevant to this objective is the fact that, of the \$1.66 million obligated during 1968-69 by the Carolina population program for all activities, the 211(d) grant contribution amounted to 27.0%. Other support, mostly for project-specific grants, came from The Ford Foundation (25.4%), The Rockefeller Foundation (14.7%), other U.S. government (19.9%) and University and other sources (13.0%). Activities to which these various sources contributed will also be noted in this report.

## II. ACCOMPLISHMENTS

AID's institutional grant has been the primary basis for the growth of the Carolina Population Center during 1968-69. Without such core support, the program would have had to remain at a much lower level of activity and would have had to be less experimental and innovative. The AID assistance has not only augmented directly the competence of the Center but has also had important "multiplier" effects, through helping to initiate new activities which have then attracted separate support. The accomplishments of the Center which are directly attributable to the 211(d) grant therefore go far beyond what can be gauged from a simple account of grant expenditures. Though the narrative below notes especially those aspects most directly stimulated by the AID funds, in fact virtually every aspect of the program has benefited. More details on the AID grant expenditures in 1968-69 by budget category are presented in Section III.

### A. Organization

The Center's Director is now assisted in overall planning and operations by a Program and Budget Committee and by a group of seven Associate Directors, from major professional disciplines and interests represented in the program. The number of faculty associates, who have joint appointments in the Population Center and in University departments, have increased to 40. A larger group of faculty members on this campus and at Duke University, North Carolina State University at Raleigh and at the Research Triangle Institute have also become active participants in parts of the program, bringing the total number of professionals so involved to 94. A diagram of the current organization of the Center's program and a key to population program activities, showing general areas of interest and involvement of departmental disciplines, are attached as Appendix 1.

The program depends a great deal on special study groups which are concerned with various facets of the population field. Problem-focused study groups are concerned with such topics as population policy, reproductive biology, population education and family planning program organization. Some of these groups have progressed to the point of obtaining separate funds for special programs of research, on such subjects as population measurement and population systems analysis. Area-specific study groups provide a means of coordinating the interests of faculty members from different disciplines who share a concern with population problems in a given geographic area. Such working groups exist for North Carolina, India, Thailand, Chile, UAR and Iran. Departmental programs have also developed, as in the disciplines of anthropology, sociology, political science, biostatistics, maternal and child health and health administration, which involve special efforts to build a teaching program and research effort to focus the insights of that particular discipline on the population field.

The Center during 1968-69 has strengthened its basic administrative staff to handle financial and personnel administrative matters, information and reference services, coordination of educational programs, organization of special conferences and training activities, and publication services. Budget

operations are now organized around 60 project units of work, each having specified objectives, budget, direction, and deadlines. Standing committees from the faculty have been organized to help guide policies and procedures for the library, publications, fellowships and visitors. Another 1200 square feet of headquarters office space has been added this year, to make a total of 10,500 square feet, in addition to the space utilized for population-related activities by participating departments. The special central means for stimulation, coordination, and support of the program are now primarily financed from the AID institutional grant. Some funding comes also from University sources and from the remainder of a general grant from the Ford Foundation. Usual administrative overhead is wholly covered by the University.

The Center this year has also strengthened its relationships with the University's Institute for Research in Social Science, in connection with regional demographic studies and an international study on population policy. Areas of collaboration are being explored with the Center for Health Services Research which is newly established here. Also, joint activities are developing with the Reproduction Biology Laboratories of North Carolina State University and with the Econometric System Simulation Program of the Economics Department at Duke University. A new Advisory Council has been appointed for the Center which includes representatives from these nearby institutions.

#### B. Staff development

The faculty of the population program has been greatly strengthened during 1968-69 with the help of the AID grant, in five different ways, as noted below.

1) Recruitment of new faculty members. The AID grant funds have greatly accelerated progress of the Center's plans for balanced, new recruitment of faculty capacities for population research, teaching, and service. Nine new faculty members have been recruited with primary salary coverage from the AID funds. Even for these salaries, however, some coverage was also achieved from other special project sources during the first year. Professor Mindel Sheps joined the group to develop further her outstanding work on statistical modeling of fertility patterns and family planning program evaluation methods. Mr. Edward Trainer, in family planning program administration, will concentrate on systems analysis and operations research approaches to this field. Dr. James Allen brings a background of sociology, ethics, and family planning program experience to bear on population policy development. Professor Vaida Thompson, a social psychologist, is building basic research on the psychology of fertility and is concerned also with the psychological foundations of population policy development. Professor Betty Cogswell, a sociologist, is involved with international comparative studies on family dynamics as related to birth control and with approaches to sex education among the poor in the U.S. Dr. Marian Smallegan, who has a joint appointment in the School of Education, is concerned with training of family planning workers and with population education in schools. Professors Quentin Lindsey and Abraham David, both development economists with broad international experience, and Ching-ju Huang, an econometrician, have concentrated on developing the concept of "optimal population", with practical

policy implications for developing countries. Also, Mr. K. Pisharoti, of the Gandhigram Institute of Rural Health and Family Planning in India, served as a visiting faculty member in the Center during 1968-69 with support from the AID grant.

2) Facilitating commitment from existing faculty. For 15 other existing faculty members in the University who have talents needed by the Center and have demonstrated interest and capacity to contribute to the program, covering part of their basic salary during 1968-69 helped to disengage them from other duties and to strengthen their contribution to population research and teaching. Such new involvements during 1968-69 especially strengthened program activities related to family planning administration, family planning education, nursing and family planning, biomedical contraceptive research, population statistics and evaluation, and social science research on population dynamics. Also, on a consulting arrangement, Rehder of the UNC Business School and Naylor of Duke's Econometric System Simulation Program helped to organize the Center's studies on systems analysis approaches to population planning.

3) Supporting staff. Addition of faculty and expansion of the work of existing faculty called for substantial strengthening of staff support for research and teaching work. The AID funds provided for 12 new research-associate level positions and helped to cover the costs of another 28 secretarial- and clerical-level staff, needed to maximize effectiveness of the professional faculty.

4) Other faculty recruitment. Although funded from sources other than the AID grant, nine other professionals who became associated with the population program during 1968-69 were certainly influenced by the AID-funded activities of the Center. Dr. Trois Johnson, formerly AID's population officer for the Far East, joined the Carolina group to work on research and training on family planning program administration. Dr. Kay Omran joined the biomedical group to work on immunological approaches to contraception. Professor William Pollitzer contributed research and teaching in population genetics. Chester Insko became associated with the Educational Materials Unit's efforts to develop psychological tools to evaluate information efforts. Anders Junde has become an Adjunct Professor in population statistics. Dr. Ted Pohlman served during 1968-69 as a research associate of the Center and visiting scholar with India's Central Family Planning Institute. Professor Donald Cowgill served as the Center's demographic consultant to the Mahidol University Center for Population and Social Research in Bangkok. Also, the Center benefited during the spring of 1969 from the visiting faculty services of Dr. C. Chandrasekaran, advisor on population programs and policies to ECAFE, and Dr. P. Jhaver, of India, in contraception research.

5) Professional growth. The AID funds have also helped to strengthen the depth and breadth of competence of the existing Carolina faculty members. Study Groups assisted by the Center serve as seminars for

exchange and discussion of new developments in this field, and the Center's library and reference service also enhance faculty growth. A program of visiting speakers averages one special event a week of interest to population program faculty members. The Center during 1968-69 also selectively financed faculty travel to attend professional conferences and special courses relevant to population program interests.

### C. Information and reference services

Library service. The reference collection approximately doubled in 1968-69 to over 5,000 items, and it now receives 160 journals. The use of this service also more than doubled during the year. The library regularly prepares and distributes to faculty and collaborating libraries a list of new acquisitions and a scanning list of current journal articles relevant to population and family planning. The library has also become concerned with general problems of classification and organization of population reference materials, and has established continuing contact with other information resources in the United States and abroad. In early 1968 and again in 1969 it organized the first and second national conferences on population library and reference methods. This general expansion has been financed from the AID grant.

Publications program. The Center continued its quarterly newsletter and strengthened its addressograph system for continuing distribution of new articles and information items to faculty and students. A monograph series was also established, to help disseminate reports of longer studies or syntheses of new knowledge; this is now a great need in the population field. Such further development has also been assisted from the AID grant.

Information retrieval. The Center's work on new methods to extend, and ultimately to computerize, population information retrieval services has been assisted so far by a Rockefeller Foundation grant. This led in 1968-69 to a major new proposal to AID for extension of such work on an international scale. AID has indicated strong interest and is proposing a joint AID-NIH project for this purpose.

Family Planning Educational Materials Unit. This Unit was also initiated with Rockefeller Foundation support, and has required no help from the 211(d) grant funds. During 1968-69 it strengthened its staff and now serves as an international clearinghouse and production center for family planning mass communication materials. It provides extensive support to OEO and other domestic family planning program needs. Its products have also been acquired by AID for large-scale use in connection with population assistance programs abroad. This Unit, working with the University's Department of Radio, Television and Motion Pictures, also provides special training in mass communication aspects of family planning.

#### D. Educational activities

Degree programs. During 1968-69, the AID grant support made possible a substantial increase in the number of course offerings, from 24 to 39 courses which focus on aspects of population and family planning. A list of these, along with 50 other, more general courses found to be of interest to population students, is presented in Appendix 2. The number of students specializing in the population field also increased by more than 50%, from 62 in 1966-67 to 98 in 1968-69. A list of these students is attached as Appendix 3. Such students are registered in existing academic departments for degree purposes, but their study programs involve a core of population-related courses selected from several departments, so that they acquire both depth in the application of a basic discipline to the population field and a grasp of the broader field. A special cross-disciplinary seminar was organized for all the population student group during the fall and spring semesters, and special lectures, lunches and other events are offered for this group weekly.

Among the students enrolled during 1968-69, about half were foreign and half from the U.S., and about half came from the health sciences and half from other fields. Some U.S. students were provided fellowship support under an NIH population training grant to the Center, and others were sent as mid-career fellows from AID and other agencies. During 1968-69, the student group included five career staff members from USAID, one from the State Department, and four Ford Foundation Mid-Career Fellows. Among the foreign trainees, eight were sent directly by AID and others came with the support of Ford Foundation, Population Council, WHO and other sources. In addition, six foreign students were provided fellowship support out of the Center's AID institutional grant; these were staff members from collaborating institutions abroad who would not otherwise come under the usual AID participant programs, but whose experience here would foster later collaborative research and training activities between this Center and the overseas institution.

Special training services. During 1968-69, short-term orientation services were provided for a total of 166 persons sent to the Center by USAID, the Ford Foundation, Population Council, Rockefeller Foundation, WHO and others. The Center's training office organizes carefully structured programs of from a day to several months' duration for such persons. During 1968-69, this involved heavy investments of faculty time, calculated at a total equivalent of nine faculty man-months of effort. This cost, plus costs of other training office special services, are primarily borne by the AID grant funds. The investment provides an important service to the international population field, but more immediately serves to strengthen faculty competence and overseas relationships. The largest number of such visitors in 1968-69 were internationally-oriented professionals from the U.S., followed by persons from India (30), Egypt (9), Nepal (9), Mexico (8), Thailand (6), Chile (5), Philippines (4), Pakistan (4), and Argentina, Australia, Ceylon, Congo, El Salvador, England, Guatemala,

Indonesia, Iran, Iraq, Jamaica, Japan, Kenya, Korea, Morocco, Switzerland, Tunisia, Turkey, Venezuela, and Vietnam (all 3 or less). A U.S. Public Health Service family planning specialist was also assigned for a year's practical experience with the Center for this one-year period. A list of short-term trainees and visitors is provided in Appendix 4.

Conferences and workshops. Another indicator of the Center's enhanced capacities during 1968-69 was the development of six conferences or workshops aiming to explore new aspects of the population field. The first three of these noted below were assisted from AID 211(d) funds, the fourth under an AID contract, and the other two from private sources.

1) Medical education and family planning: While AID/Washington was organizing an international conference on family planning in medical education, during 1968, this Center felt the need to assist in building a stronger demonstration in the U.S. of the involvement of medical students in population studies. A pilot, six-week summer program for medical students in population research was then organized, involving five faculty preceptors and nine medical students. The highly satisfactory experience from this project was available for discussion by March 1969, when AID sent 17 of the international conferees on this subject to Chapel Hill after the meeting in Washington. A summary of the experience and the resulting student papers will appear as a Population Center monograph. Funds from the Rockefeller Foundation are expected to continue this activity in the future.

2) Population systems analysis conference and seminar: To help open up systems analysis approaches to population policy and program development, the Population Center collaborated with the Institute of Management Science in a one-day meeting on this subject in October 1968. The 34 participants included national leaders in the areas of systems analysis and of demography. Issues identified at this conference became the subject of seminars later during the year, covering systems theory, management science approaches to family planning program organization, urban population planning, national population models, population policy gaming, and an analysis of the Chilean population system.

3) Health education and family planning: The Center is especially concerned with strengthening community-level education methods in international population programs. As a basic investment in building the Center's own local field base for research and training in this area, a special workshop on family planning educational methods was organized in May 1969 for health educators working in the State of North Carolina. This effort should substantially enhance the quality of field training for U.S. and foreign population students, who are regularly assigned to participate in local action programs.

4) International workshop on communications aspects of family planning programs: The Population Center and AID/Washington jointly sponsored a two-week workshop designed for family planning information

specialists working with Asian population programs, held in Bangkok during December 1968. A total of 87 persons representing 16 nations attended. While there, each country delegation produced an improved "master plan" for the mass communications component of its nation's population program. Illustrative selections from such country plans are being published as a Center monograph. Reactions to this workshop have been excellent.

5) National workshop on population library and reference services: Forty-five specialists representing 30 different national and international organizations met at Chapel Hill in April 1969 to work on problems of organizing and disseminating population research and program information and to increase the efficiency of exchange between present resources. The program also included demonstration and discussion of computer-assisted information retrieval methods which may facilitate technical information flow in the family planning field. Task groups developed at this meeting are following up on problems so identified.

6) National conference on family planning in schools of nursing: The Center is concerned with strengthening of the important roles which nursing and midwifery staff must play in family planning programs around the world. However, explorations in 1968-69 revealed a need first to consolidate U.S. experience in this matter. In collaboration with the American Nurses' Association and The Population Council, and with private funding, a three-day conference was organized in April 1969 for 90 participants from faculties of U.S. schools of nursing. The conference served to sum up current experience and problems of nursing and family planning, to identify useful U.S. resources, to propose future patterns of action in nursing education, and to provide a baseline for further work in the USA and abroad.

### E. Research activities

Research activities of the Carolina population program are funded from various special project sources rather than from the AID institutional grant. Therefore the Center's extensive research program will be only sketched here with brief comment on developments during 1968-69.

Population program development: Further exploration of the applicability of operations research approaches to family planning program problems was of special interest during 1968-69. Of great importance also during this year was the development of a project under Udry for the U.S. Children's Bureau, which helped to establish basic guidelines for the Bureau's program of special family planning grants. Professors Udry, Johnson and a collaborating faculty group also undertook a major long-term project which involves designing, funding and evaluating new family planning programs in twelve cities across the U.S. Program strategies in these cities involve different balances of service and educational inputs. Evaluation efforts include measurement of changes in incidence of undesired birth timing and excess fertility, interviews with groups including postpartum women in 60 major hospitals in these cities, and development of standardized methods for assessing the adequacy of service facilities.

Demography: Basic analyses of population dynamics in the Middle East are proceeding under Dr. Omran. Urban ecology studies continue under Hawley. Namboodiri has advanced his demographic methodological studies and is studying the process of family size norm development. An important new program of studies under Linder on theory and techniques of population measurement is underway, with NIH financing. This seeks methods whereby key demographic changes can be detected much more sensitively, quickly and cheaply in underdeveloped areas. Also, plans are underway for a major new project to build "population laboratory" situations in at least four underdeveloped areas of the world. The Carolina group, working with and through local collaborating institutions, will help to develop long-term observation systems in selected areas of approximately 50,000 population, where many dimensions of population change will be precisely determined, where improved measurement methods can be tested and widely demonstrated, and where better understanding of population dynamics under different conditions can be achieved.

Biomedical research: Studies on reversible vasectomy operation have been a main interest of Hulka, with considerable further exploration of bioengineering aspects and development of animal trials. Hulka is also working on improved techniques of tubectomy and on immunological approaches to contraception. Field studies on the applicability of the immunological urine pregnancy test to understanding of pregnancy prevalence and wastage have advanced satisfactorily. In addition to these clinical and applied research endeavors, the Carolina group has felt that greater basic research efforts are also needed, to increase the reservoir of fundamental facts and clues that could produce new contraceptive approaches. For this purpose, a major planning effort was led by Graham and Taylor of the Medical School here to develop a new Laboratory of Molecular Reproductive Biology. In

January 1969, the Rockefeller Foundation provided a grant of \$2 million to establish this facility. Dr. Stanley Bennett, Dean of Biological Sciences at the University of Chicago, has accepted the responsibility of building this important new aspect of the program.

Population policy: The Center continues its strong interest in aspects of population policy development. As a model of legislative process in this field, the political process of abortion reform legislation has been analyzed in North Carolina by Jain in 1968-69, and comparative studies are underway in three other states. These are attracting national and international interest. Katz is developing teaching materials for law students in the ethical and legal aspects of birth control. Allen has reviewed studies and experience in other fields which may be relevant to clarifying the human value bases for population policy development and is planning basic studies required for further progress in this area. Burgess is working on possible new approaches to accelerating the process of church support for family planning in Latin America. Pohlman has completed field studies related to possible extension of incentive systems for family planning, in collaboration with the Central Family Planning Institute in India.

Population and sex education: An OEO-supported field project in North Carolina, under Dr. Cogswell, is testing and demonstrating ways for introducing sex education and contraception to hard-to-reach groups of disadvantaged teen-agers. She is working with Professor Sussman of Case-Western Reserve on a large new international comparative study of family dynamics. This project, to involve collaborators in over 10 countries, seeks to identify ways in which change in fertility dynamics are related to family welfare and other aspects of human development at the family level. This could have important implications for future programs and policies.

Population theory: Advancement of general population theory continues to be very difficult, and to be very much needed. Epidemiologic studies by Omran on relationships between health factors and demographic change continue to show promise. Dr. Thompson is striving to clarify the many unexplored relationships between modern psychological theory and fertility behavior. The concept of "optimal population", dropped in frustration by many traditional economic demographers in recent years, has been the focus of work by Lindsey, David and Huang. They have sought to use newer analytic methods to identify feedback relationships between population change and aspects of economic and social growth and to test some of these ideas with the cases of North Carolina and Nepal. Also, the Systems Analysis Study Group has stimulated further planning for use of computer simulation methods to build and test more general population theory.

#### F. Field program relationships

Relationships with field program areas have also been greatly strengthened by the increase in the Carolina faculty capacities, though specific costs for such activities are borne by other than the AID 211(d) grant.

North Carolina: The Center continues to work closely with this State, as its immediate "laboratory" for service, research and teaching. During 1968-69, help has particularly been given to State welfare and health agencies for further development of their joint policies and plans for family planning service programs. Students continue to be assigned directly to state and county family planning programs for practical experience. The Center is under contract with the State Department of Administration to produce county population estimates and projections, for planning purposes. Also, the Center staff assists OEO in providing evaluation and consultative services to OEO-supported family planning projects in this area.

Thailand: Under a Rockefeller Foundation grant, the Center continues with staff development and field research support for the Center for Population and Social Research in Mahidol University, Bangkok. In addition, USAID/Bangkok has requested support from Chapel Hill for a major project to strengthen the public health and family planning faculty and the field extension activities of the Mahidol University.

India: Close relationships continue between the Carolina Population Center and Indian Government family planning officials, various Indian teaching and research institutions, and AID and Ford offices in India. During 1968-69, eight faculty members (Blake, Freymann, Johnson, Matthews, Omran, Polgar, Udry and Wells) worked in India, for periods up to five weeks, to study and assist with aspects of central family planning program administration, program evaluation efforts, development of a national population program manpower strategy, strengthening of institutions such as the Gandhigrams Institute of Rural Health and Family Planning, and development of program-related research capacities. During this year, also, Namboodiri completed the Indian census monograph on "Changing Populations of Kerala."

Iran and UAR: The Center has been invited by Iran's Under Secretary for Family Planning to provide supporting services to his office and to help develop population training and research programs in three Iranian universities. Consultative visits were made to Iran during the year by five faculty members from the Carolina group, either in connection with this request or on WHO family planning project missions. Population Center staff also maintain close contact with government officials in Egypt who are dealing with population matters and with those concerned with population studies in Cairo and Alexandria Universities and the American University in Cairo.

Latin America: A special mission of three faculty members from University of Chile (Requena, Adriasola and Gutierrez) was sent to Chapel Hill for a one-week period in connection with development of a similar, AID-assisted Population Center in Santiago, in order to study organizational methods and build to a basis for continuing collaboration. In Chapel Hill, Landsberger, formerly of the Santiago faculty, serves as a point of continuing liaison between the two centers. Some advisory assistance is now being provided from afar, and plans for faculty exchange are developing. The AID

mission in Santiago has furthermore requested a contractual service arrangement to strengthen this inter-institutional relationship. Other useful relationships in Latin America were also strengthened during 1968-69 with Mexico and Colombia.

G. Direct services to population-related agencies

A further indication of increase in the Center's capacity, largely due to the AID supporting grant, is the rise during 1968-69 in the direct participation by Center faculty in consulting missions, panels, and boards of U.S. and international agencies and associations in the population field. Such participation also strengthened the Center's competence.

AID: During 1968-69, Blake worked closely with the Population Service on mass communications programs, Flash served on an AID project site visit in Lebanon, Linder represents population interests as a member of the AID's Research Advisory Committee, and Freymann worked as a consultant with the Population Service, the Near East and South Asia Bureau, and as a member of the population panel of the AID-supported Southeast Asia Development Advisory Group. Lynton and Blake taught in the course for AID population officers operated by the Government Affairs Institute, and Hulka helped with the Foreign Service Institute's population course. Johnson and Siegal also assisted with the AID-supported AAMC International Workshop on Medical Education and Family Planning.

United Nations: The Center was asked in 1968 to prepare the basic background document of the United Nations Advisory Committee on Science and Technology, for its consideration of world needs for development in the population area. The Center's faculty prepared a 143-page report, "Approaches to the Human Fertility Problem," which reviewed the present status of knowledge, identified further research needs, and proposed possible steps for international action in five sectors of the population field: demography, biomedical aspects, population theory, demogenic policy, program organization, and education. This report, discussed by the Committee in Vienna in November 1968, led to the U.N.'s first attempt to develop joint planning for population research and program development among the many U.N. agencies concerned with this subject. The report also played a basic part in the recommendations of the United Nations Association of the U.S.A. to strengthen the U.N. mechanisms for planning population activities.

World Health Organization: During 1968-69, Polgar became a member of the Expert Advisory Panel on Human Reproduction of the WHO and worked closely in developing WHO's program policies and training projects in family planning. He has jointly authored a WHO monograph on family planning action programs. Omran served as a consultant to help develop WHO field studies on population dynamics in India and the Near East. Freymann served with WHO-sponsored population seminars in Iran and UAR. Linder spent a month as WHO advisor on health and population statistics in Thailand and also helped PAHO in Brazil.

Economic Commission for Asia and the Far East: Mathews has consulted in Bangkok on a proposed Asian seminar on family planning manpower development, Freymann on population program administration, and Wells on program evaluation.

U.S. Department of Health, Education and Welfare: Development of the Children's Bureau policies for family planning assistance was assisted by Udry and Johnson. In the National Institutes of Health, Linder has served on the NICHD Committee on Population Research Policy and Freymann on a research advisory group. Namboodiri, Udry and Polgar served on special research review panels of the NICHD Center for Population Research. Wells has served as a population consultant and project officer with the National Center for Health Statistics.

Foundations: With the Ford Foundation, Hawley, Freymann, Wells, Blake, Omran, McLaughlin, and Mathews have all served advisory roles on general subject areas on country programs. With the Rockefeller Foundation, Hulka has advised on biomedical research and Udry on Thailand programs.

Others: Freymann is a Board member of the Planned Parenthood/World Population and member of the Advisory Council of the Center for Family Planning Program Development, in the U.S. Miss Edmands serves on the Population Area Committee of The American Public Health Association, and Mrs. Nash on the Board of the National Council on Family Relations. Hawley has advised on urban populations with the Department of Housing and Urban Development, and on migration with the International Biological Program. Hamilton has consulted on migration research with the U.S. Department of Agriculture. Linder chairs the management committee of The Population Association of America.

### III. EXPENDITURES BY BUDGET CATEGORY

The narrative above describes substantively the 1968-69 program progress of the Center and indicates areas of major support from the AID grant funds. Obligations of the 211(d) grant funds during the 13 months of June 1, 1968 - June 30, 1969 totaled \$450,513. This total was somewhat lower than earlier anticipated because of needs for "tooling up" and also because of a continuing appraisal of the possibilities for increase of support from other sources during the next five years. Although U.S. governmental interest in population matters is rising, the additional financial support from domestic population program sources which can ultimately help cover basic Center expenses is not yet in sight. Until this situation becomes clearer, and if the total amount of the 211(d) grant remains the same, the available grant funds may have to be used more conservatively and spread more evenly over the five-year period than would otherwise be necessary, in order to ensure the maintenance of program momentum over the whole five years. Details of the 211(d) grant expenditure for 1968-69, grouped according to the University's budget object categories, are as follows:

<u>Object Class</u>	<u>Obligations</u>	<u>Percent</u>
Salaries	\$301,031	66.8
Social security and retirement	24,439	5.4
Honoraria and consultants	13,023	2.9
Supplies	9,620	2.1
Travel	18,264	4.1
Other direct costs	50,206	11.1
Tuition and fees	2,020	.5
Stipends	17,408	3.9
Equipment	14,502	3.2
	<u>\$450,513</u>	<u>100.0</u>

#### A. Salaries--\$301,031

The total salary expenditure of the Population Center operation during 1968-69 came to \$675,000. Of this, \$301,031 or 44.6% was provided from the AID 211(d) grant resources. The other salary costs were mostly covered by task-specific contracts or grants from governmental or private agencies, or by University sources. Some salaries and research costs were also covered from a Ford Foundation grant. The AID salary funds, though less than half the total, provided the flexibility so necessary to make best use of all available resources. Of the AID 211(d) expenditures for salary, approximately \$149,000 (49.5%) were applied to cover professional faculty referred to in section II, paragraphs 1) and 2). An amount of \$127,000 (42.2%) covered costs of supporting staff required for assistance in faculty teaching, research, and service activities. The remaining \$25,000 (8.3%) was primarily used to pay for part-time assistance, particularly graduate students, in the fields of library work and statistical data processing.

B. Honoraria and consultants--\$13,023

A total of fifty-one honoraria payments were made, primarily for experts invited to lecture and consult briefly on specific aspects of the total program. This expenditure, though less than three percent of the budget, greatly enriched the Center's development.

C. Travel--\$18,264

During 1968-69 the staff of the Center made 115 domestic trips for family planning-related activities. About half of these had the primary goal of staff development, through attendance at conferences, workshops courses. About one-fourth of the trips were used for technical consultation concerning specific research, training or service programs, and the rest for exploration of additional funding support for specific projects. Three overseas trips were sponsored, with AID clearance, to develop collaborative links with institutions in Iran, India and Thailand.

D. Other direct costs--\$50,206

This University accounts category covers various other charges, which include (1) cost of the Center's publications, including photography and art work, printing, addressographing and mailing; (2) all local and long-distance communications with collaborating agencies and institutions, including written communication costs, such as typewriter maintenance, Xerox rental, postal meter rentals, air freight costs for overseas book and pamphlet distribution, and telephone tolls; (3) data processing machine time, tape rentals, and programming and consultative services related to the Center's mission; (4) fees for preparation of teaching cases and materials to be used in training courses; (5) incidental costs of conferences, seminars and workshops, including program preparation and any rentals of electronic equipment, furniture and transportation, and all other costs unascrivable to a specific account.

E. Tuition, fees and stipends--\$19,428

Of this, \$7,000 covered the developmental project for family planning in medical education noted in section II, and the remainder was applied toward tuition and living costs of selected trainees whose support was deemed important for enrichment of the population studies program.

F. Equipment--\$14,502

Costs of space requirements for the program are covered from the University and other sources. The staff augmentation during 1968-69 required the addition of some equipment items needed for faculty teaching and research activities. Of the 211(d) resources used for these requirements, 49% covered furniture and filing equipment with long-term usefulness and the remainder covered procurement of calculators and typewriters with usefulness spans of 5-12 years. Appropriate insurance, inventory and maintenance programs are in effect.

#### IV. PLANS FOR 1969-70

##### A. Organization

The basic supporting structure of the Center will not be greatly enlarged during 1969-70 but will be further stabilized, with emphasis especially on coordination among various research and teaching activities on campus, overseas activities, and service and consultation activities in the U.S. Attention will also be given to strengthening links with other institutions in the 'Triangle Universities' area. Acquiring adequate space is still a problem, and conference, library, and office facilities should be enlarged. However, the tooling up process is essentially complete and the Center is ready to move into higher gear.

##### B. Staff development

As costs of present staff can be taken over by other, project-specific funds, AID institutional grant funds can be freed for use in further building of faculty strength. The rate at which this can be done is somewhat unpredictable, but should increase. A program area which especially calls for deeper staffing is international family planning program administration; three more experienced people in this area could be immediately used. Additional talent is also needed in population education and the development of social work involvement in family planning. Strengthening of faculty in sociological demography is expected during the year, to be covered by University funds. Recruitment is also underway for the staff in the reproduction biology program, with Rockefeller Foundation financial support.

##### C. Information and reference services

Library and reference services may almost double again in 1969-70. The project to assist in building international information networks in the population field hopefully will be funded during this year. The publications program will concentrate on expanding the monograph series, which seems to meet a particular need in this field. The Center's Educational Materials Unit will continue to expand its international supporting activities, and increased emphasis will also be placed upon devising programmed instruction approaches to family planning training needs.

##### D. Educational activities

After last year's considerable expansion of course offerings, emphasis will now be placed on stabilizing and improving these. The number of degree students will also plateau during 1969-70. It is hoped that arrangements can be made this year for international internships to help graduates from the program acquire practical experience overseas preparatory to employment in international population work. Special efforts will also

aim to strengthen population-related teaching and research programs in the applied fields of social work and education, and in certain basic disciplines which still have much to offer to population planning, especially political science, psychology, and economics. During this year the demand for arrangements for visitors and short-term study programs is expected to remain about the same. Special conferences or workshops will continue to be organized by the Center to advance particular aspects of the population; these are expected to number four or five, including a regional workshop on family planning mass communication in the Near East.

#### E. Research activities

Studies on population program development during 1969-70 will focus on operations research approaches to identify, test, and demonstrate improved program and policy designs. Increasing attention will be given to working through para-governmental or private institutions and agencies abroad in order to achieve needed flexibility. In demographic research, at least four of the proposed "population laboratory" projects should be established in underdeveloped areas. Biomedical studies on sterilization will be intensified, and basic work on reproduction biology should grow steadily. The Center will encourage gradual strengthening of population genetics and behavioral genetics studies on this campus, because of their long-term importance in population policy development. The policy research area should be advanced during 1969-70 by Allen, Prothro, and Thompson's proposed international studies of human value factors underlying population policies.

#### F. Field program relationships

In the U.S., increasing involvement with DHEW and OEO-supported programs should enrich the Center's local teaching and research base. In India, 1969-70 should see stronger collaborative research and teaching relationships with the National Institute of Health Administration and Education, the Central Family Planning Institute, Allahabad University and the Gandhigram Institute of Rural Health and Family Planning. Contacts should also broaden with private groups in India concerned with family planning. In Iran, increasing faculty exchange and collaborative work should develop with concerned Iranian universities and the government population program. Continuing contact will be maintained with colleagues in the UAR. Relationships with the new population center at the University of Chile should expand, with a number of short-term faculty exchanges and possible collaborative research projects. Contacts with Colombia should also increase.

G. Direct services to population-concerned agencies

The existing participation and consulting services with AID should continue, and the faculty will place highest priority on other possible AID requests. It is hoped that more ways of helping particular AID-sponsored country programs can also be found during this year. United Nations agency contacts should continue. WHO is expected to call more on the Center's faculty this year. Some supporting services to the new AID-supported program of IPPF may also be explored during the year. Services to other U.S. government agencies concerned with population research work and domestic service programs will probably increase during the year.

H. Budget projection

For fiscal year 1969-70, projected total expenditure from the AID institutional grant will rise somewhat over last year, to a total of \$500,000. A summary outline of the breakdown of this projection is as follows:

<u>Object Class</u>	<u>Projection</u>
Salaries, social security and retirement	\$375,000
Honoraria and consultants	6,000
Travel	22,500
Stipends	25,000
Overseas project development	6,500
Other direct costs	<u>65,000</u>
Total	\$500,000

## V. GENERAL OBSERVATIONS

### A. The University-based Population Center

Experience so far confirms the validity of the objectives of the 211(d) program and of this grant: to look to the University-based population program as an important source of strength in the world population movement. The interdisciplinary approach to this very complex subject is increasingly fruitful and can most efficiently be built upon a University resource base, and the University setting is attractive to top-quality staff and students. Experience with the Carolina program indicates that an early-stage investment of time and patience to establish linkages with relevant departmental disciplines can mobilize the strengths of existing research talent and teaching programs to the special needs of the population field. Experience here indicates also that sinking such roots into the academic setting is quite consistent with aggressive development of working relationships with overseas institutions and agencies, and support to operational aspects of the world population movement. The 211(d) type of institutional development grant has also been demonstrated to be a most effective means of building upon the strengths of a university situation and rapidly augmenting teaching, research, and service capacities.

### B. Problems

Staff development: In many aspects of this new field, established expertise is very scarce. Strengthening of staff therefore often requires either recruitment of younger faculty or conversion of more senior professionals from a parallel field, and nurturing their growth. The faculty development efforts of the Population Center for the next few years will not involve simply hiring a "stable" but will constitute a most fundamental training function. Building such strong new staff, in sufficient depth, is essential for overall strengthening of training, research, and consultation services in this field, and for supply to AID of individuals who are solidly versed in the scientific and operational aspects of population planning. Development of such new faculty talent, at this and other Centers, merits the investment of money and effort at much higher levels than at present.

Research development: Research activities relevant to the most pressing problems of population program development should have a top priority for the Center. To keep these in focus, AID might help periodically to define the operational questions which it deems most crucial. At the same time, a strong population studies program has a responsibility and obligation to look ahead to tomorrow's problems, and to start now with the developmental work needed to have answers when tomorrow comes. AID's responsibilities also have such short- and long-run time dimensions. Hopefully, ways can be found to encourage more research support for projects of long-term, exploratory and developmental nature. Better availability of funds for such work could greatly re-enforce the effect of 211(d) institutional grant support.

Over-expectations: In its training efforts the Carolina group has placed highest priority on meeting the needs of AID programs. For example, admission processes were short-cut to admit AID participants up to a few days before the start of the September 1968 teaching program at North Carolina. Many special training activities with AID have been undertaken, as reported in section II. However, the most efficient use of the Center's staff and resources also requires tight advance scheduling. Therefore, when approached on very short notice to develop a major training activity, we and colleagues in AID have felt quite frustrated. We have also felt concerned that the use of less carefully planned, alternate arrangements for such services on a crash basis might ultimately be a disservice to trainees and to the advancement of AID's population assistance efforts.

The staff of the Center are sometimes also sought for employment on overseas consultation and missions during periods which are already tightly scheduled. We are embarrassed when staff seem to be unavailable, despite "having all that money"! Quick responsiveness to such requests becomes possible, in a tightly run operation, when the numbers of a particular type of specialist are sufficient to allow temporary coverage of scheduled tasks by the others when one is called away. The fact is that the present 211(d) institutional development funds alone cannot cover the salaries of specialists in each of the different aspects of the population field in such depth. If such needs are to be met more adequately, provision for a certain amount of "on hand" consulting talent of specified types might be the subject of more explicit arrangements with AID.

Under-use abroad: The Carolina group, and probably other University centers, could contribute a great deal more than at present if called upon to undertake special projects related to the work of AID population assistance programs abroad. A University-based group can work relatively unobtrusively and flexibly, and can help especially to build the institutional sources needed for research, demonstration, training and evaluation functions in population programs overseas. Some additional, specific orientation and encouragement on these possibilities would be helpful to overseas missions.

Funding: The 211(d) grant support has been a tremendous boost to this and other programs. Experience during the last year has certainly shown that such funds can be effectively used. Still, the Carolina staff spend an excessive amount of time worrying about financial support. This arises from a deep concern with the urgency and magnitude of the task to be done, and the need to stretch the available 211(d) dollars to the utmost through using them as "seed money" to generate financial support more adequate to the problems at hand. Also, there is an awareness of financial vulnerability and of the need to build a basic financial structure strong enough to protect salary obligations and hard-won momentum. This situation is of course inherent in the present stage of development of the population field. However, any possible ways of strengthening the 211(d) support, by raising the level of funding and by assurance of longer time coverage, could increase not only the magnitude but also the efficiency of operations.

C. Progress

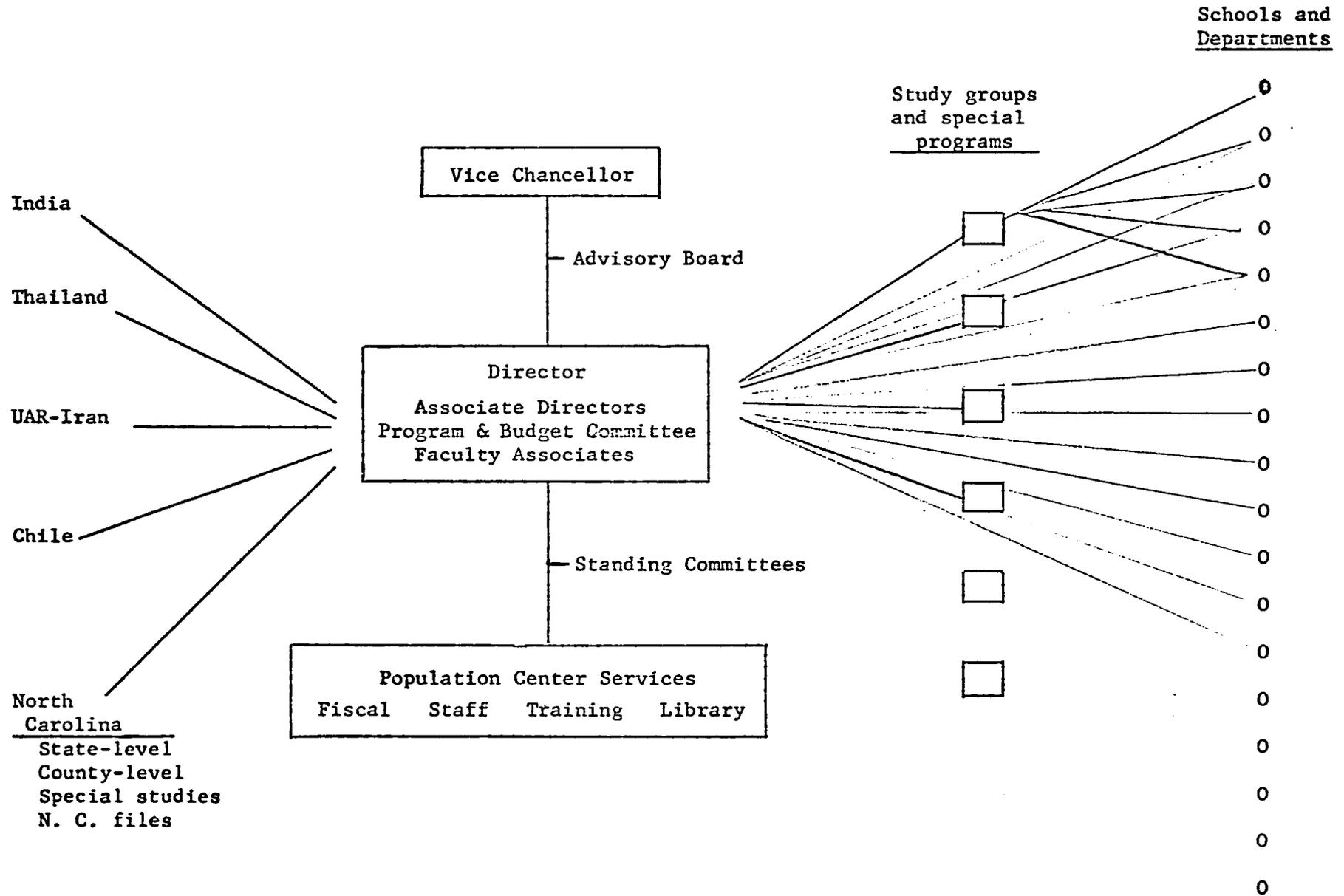
General status: All in all, the Carolina group feels that the rate of achievement of the goals of the AID institutional grant to this Center is satisfactory.

Planning: Most efficient use of the AID institutional support funds will require a continuous planning process as experience emerges, in order to maximize the growth of faculty capacities and to provide needed supporting facilities, to build strong relationships with institutions abroad without becoming too diffused, and to optimize the balance between short-range and longer-range activities. Reviewing such questions is a serious, continuing concern of the Center faculty. Periodic feedback from AID on such matters could also be helpful.

Relationships: The Center continues to receive excellent support from the University administration and from other concerned departments and institutions in this area. We have also found relationships with various AID officials concerned with population matters and with the AID contract office to be excellent. We have especially appreciated the encouragement, enlightenment and patience of AID's Office of Research and Institutional Grants.

CAROLINA POPULATION CENTER

DIAGRAM OF POPULATION PROGRAM ORGANIZATION



KEY TO POPULATION PROGRAM ACTIVITIES

University departments and other programs involved	General problem areas							Geographic studies and services					STUDENTS specializing in population field	FACULTY involvement (whole or partial)	
	Reproduction and contraception	Population measurement	Demographic analysis	Policy development and ethics	Population theory	Action program organization	Education and communication	Family life and sex education	North Carolina	India	Thailand	UAR and Iran			Chile and Latin America
Anatomy . . . . .	x													-	2
Anthropology . . . . .				x	x	x		x	x			x		9	5
Biostatistics . . . . .		x	x		x	x		x	x	x		x	x	14	7
Business Administration . . . . .				x	x	x							x	-	3
ology (Zool., Bot., Env. Sci.)			x		x			x						7	3
Economics . . . . .			x	x				x		x				-	3
Education . . . . .							x	x						2	2
Epidemiology . . . . .			x		x	x		x	x	x		x	x	5	4
Genetics program . . . . .			x		x			x	x					2	3
Geography . . . . .								x						2	1
Health Administration . . . . .				x	x	x	x	x	x	x	x	x	x	16	7
Health Education . . . . .						x	x	x	x	x	x			7	3
Journalism . . . . .							x							-	2
Maternal and Child Health . . . . .	x	x	x	x		x		x	x	x	x			13	6
Mental Health . . . . .						x		x		x	x			1	3
Obstetrics and Gynecology . . . . .	x			x	x	x		x	x			x	x	-	4
Pediatrics . . . . .	x													-	2
Pharmacology . . . . .	x													-	1
Philosophy . . . . .				x	x									-	1
Political Science . . . . .				x									x	1	1
Psychiatry . . . . .	x							x	x				x	-	2
Psychology . . . . .					x			x	x					2	2
Radio, TV and Motion Pictures						x	x	x	x	x	x			2	3
Religion . . . . .				x	x				x	x	x		x	-	2
Social Work . . . . .				x		x			x					-	2
Sociology . . . . .		x	x		x			x	x	x	x	x	x	16	7
City and Regional Planning . . . . .					x				x				x	-	2
Duke University . . . . .	x		x	x	x				x	x			x	10	5
N. C. State University . . . . .	x			x					x				x	-	3
Research Triangle Institute . . . . .	x	x	x			x					x	x		-	3

Totals: 109 94

COURSES AVAILABLE FOR STUDENTS  
SPECIALIZING IN POPULATION FIELD

1968-1969

ANTHROPOLOGY

- ANTH 115 Genetics and Human Evolution (3) (Genetics 115)  
Pollitzer.
- ANTH 120 Culture Change and Underdeveloped Areas (3) Hafer.
- ANTH 167 Urban Anthropology (3) Gulick.
- ANTH 170 Medicine and Anthropology (3) Leighton.
- ANTH 172 Applied Anthropology in Family Planning (3) Polgar.
- ANTH 230 Culture Contacts and Acculturation (3) Johnson.
- ANTH 255 Seminar in Cultural Ecology and Population (3) Polgar.
- ANTH 301 Population and Anthropology - Reading and Research (3)  
Polgar.

BIOSTATISTICS

- BIOS 120 Survey of Population (2) Coulter.
- BIOS 220 Demographic Techniques (3) Abernathy.
- BIOS 221 Health Statistics in Administration (2) Greenberg.
- BIOS 222 Statistics in Population Programs (2) Wells and Linder.
- BIOS 224 Sample Survey Theory (3) Wells.
- BIOS 241-I. Organizational and Operational Principles for Population  
Statistics (2) Linder.
- BIOS 241-II. Mathematical Demography (2) Sheps.

BUSINESS ADMINISTRATION

- BUSI 192 Introduction to Management Information Systems (2)  
DesJardins.
- BUSI 197 Fundamentals of Managerial Organization (3) Bell.
- BUSI 333 Organization Theory (3) Levin.
- BUSI 352 Interpersonal and Intergroup Behavior in Business  
Organizations (3) Adams.
- BUSI 354 Organizational Design and Development (3) Bell.

CITY AND REGIONAL PLANNING

- PLAN 106 Introduction to Urbanism and Planning (3) Brooks.
- PLAN 215 Theory of Planning I (3) Brooks.
- PLAN 223 Planning Problems (3) Staff.
- PLAN 227 Urbanism Seminar (3) Chapin.
- PLAN 241 Environmental Planning (3) Hufschmidt.
- PLAN 265 Social Policy Planning (3) Brooks.

ECONOMICS

- ECON 163 Economic Development (3) Appleyard.
- ECON 316(D) Seminar in Demographic, Population and Resource Problems  
(3) Spengler.

ENVIRONMENTAL SCIENCES AND ENGINEERING

- ENVR 101 Elements of Environmental Hygiene (2) Chanlett, Weidenkopf.
- ENVR 111 Man and His Environment (3) Shiffman
- ENVR 212 Planning and Development of Environmental Hygiene Programs  
(3) Shiffman.
- ENVR 226 Ecological and General Systems Theory (3) Odum.

---

(D) Course offered at Duke University, Durham, North Carolina.



HEALTH EDUCATION

- HEED 130 Introduction to Communication and Group Dynamics  
(3) Mathews.
- HEED 205 Principles of Public Health Education (2) Staff.
- HEED 206 Education and Social Change in Population Planning  
(2) Mathews.
- HEED 110 Introduction to Community Development (3) McMahan.

JOURNALISM

- JOUR 251 Media Research Methods (3) McCombs.
- JOUR 356 Seminar in International Communication (3) Adams.

MATERNAL AND CHILD HEALTH

- MHCH 103 Reproductive Physiology and Conception Control (2)  
Hulka.
- MHCH 200 Introduction to Maternal and Child Health I (2)  
Chipman, Peters, Siegel.
- MHCH 201 Introduction to Maternal and Child Health II (2)  
Stocking, Edmands (for students with medical and  
nursing backgrounds).
- MHCH 212 Social Problems and Services for Children and Their  
Families (2) Gourley, Udry.
- MHCH 300 Research in Maternal and Child Health (2) Udry, Staff.

MENTAL HEALTH

- MENH 130 Assessment of Individual and Community Mental Health  
(3) Leighton.
- MENH 135 Human Behavior (2) Filley.
- MENH 210 Foundations for Mental Health Practice (2) Cline.
- MENH 257 Cross Cultural Consultation (3) Lynton.

POLITICAL SCIENCE

- POLI 210        The Public Administrator in Contemporary Society (3)  
Cleaveland.
- POLI 211        Administrative Theory (3) Cleaveland.
- POLI 212        Public Administration and Policy Making (3) Cleaveland.
- POLI 341        Political Science and Population -- Reading and Research  
(3) Flash.

PSYCHOLOGY

- PSYC 133        Introduction to Social Psychology (3) Thibaut, Thompson.
- PSYC 165        Communication and Opinion (3) Danielson.
- PSYC 300        Population and Psychology -- Reading and Research (3)  
Thompson.

RADIO, TELEVISION AND MOTION PICTURES

- RTVMP 151       Introduction to Mass Communication Research (3) McCombs.
- RTVMP 190       Social Aspects of Mass Communication (3) Wallace.

RELIGION

- RELI 91         Christian Ethics and the Population Problem (3) Allen.
- RELI 140        Comparative Religion, Public Policy and Population  
Control (3) Nash.
- RELI 321        Religion and Population -- Reading and Research (3)  
Nash.

SOCIOLOGY

- SOCI 168        The City (3) Hawley.
- SOCI 186        Population (3) Hawley, Namboodiri.
- SOCI 187        Migration and Population Distribution (3) Hawley.

SOCIOLOGY (cont'd)

- SOCI 189        Socio-Economic Factors in Fertility (3) Namboodiri.  
SOCI 197        Demographic Techniques (3) Namboodiri.  
SOCI 218        Human Ecology (3) Hawley.  
SOCI 301        Population -- Reading and Research (3) Hawley.  
SOCI 243(D)     Population Dynamics and Social Change (3) Hartford.

ZOOLOGY

- ZOOL 108        Ecology (4) Stiven and Leigh.  
ZOOL 122        Human Genetics (3) Whittinghill.  
ZOOL 226        Ecological and General Systems Theory (3) Odum.  
ZOOL 255        Seminar in Ecology (2).

INTERDISCIPLINARY SEMINAR (Cross-listed in Departments)

- Fall 1968        Survey of Population Sciences (Faculty)  
Spring 1969     Survey of Population Planning (Faculty)

---

(D) Course offered at Duke University, Durham, North Carolina.

THE UNIVERSITY OF NORTH CAROLINA  
AT  
CHAPEL HILL

CAROLINA POPULATION CENTER  
UNIVERSITY SQUARE  
CHAPEL HILL, NORTH CAROLINA 27514

TELEPHONE: AREA 919, 966-2157  
CABLE: POPCENTER, CHAPEL HILL, N. C.

November 1, 1968

Training Office  
966-2155 & 966-2156

POPULATION STUDENTS: 1968-1969 ACADEMIC YEAR

<u>DEPARTMENT</u>	<u>STUDENT</u>	<u>NATIONALITY</u>
<u>Anthropology</u> (9) 8 - United States 1 - India	*Altman, Diana	United States
	Bond, James	United States
	*Brooks, Jane	United States
	Gamble, George	United States
	*Lowenbach, Trude	United States
	*Rakshit, Sipra	India (Calcutta)
	Riley, James	United States
	*Warlick, Carole	United States
	*Youngs, Mary	United States
<u>Education</u> (2)	Farag, Zaher	United States
	Frothingham, Nathaniel	United States
<u>Genetics</u> (2)	Basu, Amitabha	India (Calcutta)
	Namboodiri, K.K.	India (Kerala)
<u>Political Science</u> (1)	*Jones, Mair	United Kingdom
<u>Psychology</u> (2)	Kothandapani, V.	India (Secunderabad)
	*Shaud, Karen	United States
<u>RTVMP</u> (2)	Bashar, K.	Pakistan (East)
	*Khan, Razia	Pakistan (West)
<u>Sociology</u> (16) 11 - United States 1 - Egypt 1 - England 1 - China 1 - India 1 - Peru	*Aldige, Virginia	United States
	*Biggar, Jeanne	United States
	*Diefenbach, Nancy	United States
	*Flynn, Cynthia	United States
	Kasarda, John D.	United States
	Khalifa, Atef M.	Egypt
	Kukuk, Cris R.	United States
	Lalu, N. M.	India (Kerala)
	Lee, Che-Fu	China
	Long, John	United States
	*Massengill, Karen L.	United States
	Millen, James S.	England
	Morris, John W., Jr.	United States
	Packtor, Daniel	United States
Van Valey, Thomas	United States	
Vascones, Jorge	Peru	

\*female students

<u>DEPARTMENT</u>	<u>STUDENT</u>	<u>NATIONALITY</u>
<u>Zoology</u> (7)	Burns, Lawrence	United States
7 - United States	Gaud, William	United States
	Kelly, Robert	United States
	Moore, Allan	United States
	*Roberts, Martha	United States
	Smythe, Robert	United States
	*Swaim, Jean	United States
<u>Public Health Administration</u> (16)	Allan, James E.	United States
9 - United States	*Bradshaw, Lois	United States
1 - Ireland	Brown, Donald	United States
1 - China	Burgess, Paul	Ireland
1 - Liberia	Chang, K.K.	China
1 - Belgium	David, Lessel H.	India (Allahabad)
1 - Canada	Dukuly, James	Liberia
2 - India	Gamon, David	United States
	Kangas, Lenni	United States
	Landry, A.S.	United States
	Layton, Robert	United States
	Lecomte, Jean	Belgium
	MacCorquodale, D.W.	United States
	Measham, Anthony	Canada
	Pisharoti, K.A.	India (Kerala)
	Ruoff, Edward	United States
<u>Epidemiology</u> (5)	Blumenstock, Edward	United States
4 - United States	Fetouh, S.A.	Egypt
1 - Egypt	Hern, Warren M.	United States
	Mulvihill, Michael	United States
	*Peck, Pamela	United States
<u>Maternal &amp; Child Health</u> (13)	Adams, Jacob	United States
6 - United States	*Boyd, Joan	United States
1 - Thailand	Chandorkar, Kusum	India (New Delhi)
1 - Australia	Chasiri, Suphot	Thailand
5 - India	*David, Pramila	India (Allahabad)
	Davis, Lee	United States
	*Knauff, Lynn	United States
	Richardson, Russell	United States
	*Russia, Kunjitham G.	India (Madras)
	Sampoornam, Nagamma	India (Madras)
	Sastry, K.R.	India (Bengal)
	*Shuttleworth, Clare	Australia
	*Snell, Dorothy	United States
<u>Health Education</u> (7)	*Chowdhury, R.S.	Pakistan (East)
1 - United States	*Early, Carolyn	United States
3 - Pakistan	Khan, Jahangeer	Pakistan (West)
2 - India	Okediji, Z.B.	Nigeria
1 - Nigeria	Patel, V.M.	India (Ahmedabad)
	*Qureshi, Bilqis	Pakistan (West)
	Selvaraj, M.K.	India (Madras)

<u>DEPARTMENT</u>	<u>STUDENT</u>	<u>NATIONALITY</u>
<u>Geography (2)</u>	Enberg, Dennis P.	United States
	Rengert, George F.	United States
<u>Biostatistics (14)</u>	Agrawal, R.D.	India (Mathura)
	Bhatia, P.S.	India (New Delhi)
	Fergany, Nader	Egypt
	Folsom, Ralph	United States
	Kachirayan, M.	India (Madras)
	Kanade, V.R.	India (Bombay)
	*Mendell, Nancy	United States
	Pandit, V.Y.	India (Bombay)
	*Porapakkham, Y.	Thailand
	Ramarao, D.	India (Adilabad)
	Sarma, R.S.S.	India (Andhra)
	Sehgal, Jag M.	India (New Delhi)
	Suchindran, Chirayath M.	India (Kerala)
	Talwar, P.P.	India (New Delhi)

\*female students

---

DISTRIBUTION OF STUDENTS BY COUNTRY

Australia	1
Belgium	1
Canada	1
China	2
Egypt	3
England	1
India	24
Ireland	1
Liberia	1
Nigeria	1
Peru	1
Pakistan	5
Thailand	2
United Kingdom	1
United States	53
<b>TOTALS</b>	<b>15 countries</b>
	<b>98 students</b>
	29 female students
	69 male students

SHORT-TERM TRAINEES AND VISITORS

July 1968

- Dr. Mel Thorne, Resident Medical Advisor in Tunis  
The Population Council, 245 Park Avenue, New York, New York
- Mr. Frank Wilder, Consultant in Mass Communication  
The Ford Foundation, 55 Lodi Estates, New Delhi, India
- Dr. Shanta S. Rao  
Reproductive Physiology Unit, Indian Council of Medical Research,  
Central Clinical Laboratory, Seth G.S. Medical College, Parel,  
Bombay-12, India
- Dr. Jorge Rosselot, M.C.H. Consultant  
PAHO, Zone III, Guatemala City, Apartado 383, Guatemala
- Mr. William R. Montgomery, Director of Community Organization  
Planned Parenthood Center of Pittsburgh, 526 Penn Ave., Pittsburgh, Pa.
- Dr. Ozzie Simmons, Consultant  
The Ford Foundation, Chile
- Miss June Orr, Reporter  
Raleigh News & Observer, Raleigh, North Carolina
- Dr. Gordon Perkin, Population Program Advisor  
The Ford Foundation, P. O. Box 436, Bangkok, Thailand
- Dr. (Mrs.) A. Kiani, Head  
Department of Social Work & Sociology, University of Karachi,  
Karachi, Pakistan
- Mr. Peter F. Geithner  
The Ford Foundation, 55 Lodi Estates, New Delhi, India
- Dr. (Miss) S. Hashmi, student  
Johns Hopkins University, 615 North Wolfe Street, Baltimore, Maryland
- Dr. M. Alfred Haynes, Project Director  
National Medical Association Foundation, Inc., Washington, D. C.
- Dr. Franz Rosa, Chief  
Maternal & Child Health Division, World Health Organization, Geneva,  
Switzerland

August 1968

- Dr. Fouad Hefnawi, Head  
Reproductive Biology Unit, National Research Centre, Cairo, Egypt
- Mr. Il-Gon Kim, Assistant Professor and Chief  
Academic Affairs, College of Business, Pusan National Univ., Pusan, Korea
- Father Joseph Boute  
University of Lovanium, C.E.P.A.S., P. O. Box 3096, Leopoldville, Congo
- Dr. Jose Cuyegkeng, Dean  
Medical School of the University of the East, Quezon City, Philippines

September 1968

- Miss Lynn Knauff (Prospective Student in Dept. of Maternal & Child Health)  
Little Falls, New Jersey
- Dr. Potenciano R. Aragon, Dean  
Institute of Hygiene, University of the Philippines, Manila, Philippines
- Mr. Lewis H. Thornton  
Governmental Affairs Institute, 1619 Massachusetts Ave., N.W.,  
Washington, D. C.
- Dr. Donald T. Rice, Consultant in Training  
The Ford Foundation, New Delhi, India
- Dr. (Mrs.) Pacita Feliciano, Pediatrician  
953 E. delos Santos Avenu, Philamlife Homes, Quezon City, Philippines
- Dr. George Brown, Resident Advisor  
The Population Council, Morocco
- Dr. Kamal El-Din Shawky, Professor & Chairman  
Department of Public Health, Ein Shams - Faculty of Medicine, Cairo
- General William H. Draper, Jr., National Chairman  
Population Crisis Committee, 1730 K St., N.W., Washington, D. C.
- Mrs. Phyllis Plotrow, Executive Director  
Population Crisis Committee, 1730 K St., N.W., Washington, D. C.
- Dr. K. T. Hosain, Chairman  
Department of Economics, Dacca University, Dacca, Pakistan

October 1968

- Dr. H. Curtis Wood, Medical Consultant  
Association for Voluntary Sterilization, Inc., 14 West 40th Street,  
New York, New York
- Dr. Joseph Cavanaugh, Chief  
Manpower & Research Division, Population Service, Agency for Inter-  
national Development, Washington, D. C.
- Dr. Kirk Mosley, Consultant  
The Ford Foundation, 8 Rawdon Street, Calcutta 16, India
- Dr. M. C. Balfour, Consultant  
The Population Council, 245 Park Avenue, New York, New York
- Dr. R. K. Anderson, Director  
Technical Assistance, The Population Council, 245 Park Ave., New York, N.Y.
- Dr. Kamal El-Din Shawky, Professor & Chairman  
Dept. of Public Health, Ein Shams - Faculty of Medicine, Cairo, Egypt
- Mr. William R. Ramsay, Director  
Resource Development Project, Southern Regional Education Board, Atlanta, Ga.
- Mr. Robert Sigmon, Coordinator  
Resource Development Project, Southern Regional Education Board, Atlanta, Ga.
- Mr. Ram Parkash Dhawan, Health Educator/Mass Education Officer  
Dept. of Family Planning, Ministry of Health, Family Planning & Urban  
Development, New Delhi, India
- Mr. Amrik Singh Kapoor, Sub-Editor  
Dept. of Family Planning, Ministry of Health, Family Planning & Urban  
Development, New Delhi, India
- Dr. James Brackett, Deputy Chief  
Population Program Analysis Division, Agency for International Develop-  
ment, Washington, D. C.
- Mr. Samuel Baum  
U.S. Census Bureau, Washington, D. C.
- Mr. David Shaw  
U.S. Census Bureau, Washington, D. C.
- Dr. Norman Ryder  
Office of Population Research, Princeton University, Princeton, N. J.

- Dr. Joe E. Wray  
The Rockefeller Foundation, G.P.O. Box 2453, Bangkok, Thailand
- Dr. Robert G. Burnight  
Department of Sociology, Brown University, Providence, Rhode Island
- Dr. Allan G. Rosenfield  
Technical Assistance Division, The Population Council, New York, N.Y.
- Mr. Hem Hamal, Health Educator  
Dept. of Health, Family Planning Project, His Majesty's Government of  
Nepal, Bhaktapur, Nepal
- Mrs. Sabitri Joshi, Public Health Nurse  
His Majesty's Government of Nepal, Bhaktapur, Nepal
- Miss Chandra Shrestha, Public Health Nurse  
His Majesty's Government of Nepal, Bhaktapur, Nepal

November 1968

- Dr. Norma McArthur, Professional Fellow  
Australian National University
- Mrs. Taty Marjono, Director  
The Directorate for Community & Family Welfare, Djakarta, Indonesia
- Dr. David Burleson  
Center for Studies in Education and Development, Graduate School of  
Education, Harvard University, Cambridge, Massachusetts
- Miss Reba Karmacharya, Anchal President (Kosi)  
Women's Organization, Kosi Anchal, Dharan, Nepal
- Mrs. Savitri Thapa, Administrative Officer  
Nepal Red Cross Society, Kathmandu, Nepal
- Dr. Soad H. El-Hodieby, Pediatrician  
Director of Polio Institute, Cairo University Hospitals, Cairo, Egypt
- Dr. Aly Marey Hassanein Makhlouf, Chairman  
Dept. of Obstetrics & Gynecology, Ein Shams University, Cairo, Egypt
- Dr. Hira Devi Tamrakar, Medical Officer  
His Majesty's Government of Nepal
- Dr. Jyotsna Kumari, Medical Officer  
his Majesty's Government of Nepal

- Dr. Shanti Banerjee, Medical Officer  
His Majesty's Government of Nepal
- Dr. Savitri Pahari, Medical Officer  
His Majesty's Government of Nepal
- Mr. Eugene Staples, Program Officer  
Asia & Pacific Program, The Ford Foundation, New York, New York
- Mr. John Bresnan, Program Officer  
South Asia Program, The Ford Foundation, New York, New York
- Dr. Kenneth Boulding, Professor  
Dept. of Economics, University of Colorado, Boulder, Colorado
- Dr. Erb na-Bangxang, Director General  
Department of Public Health, Bangkok, Thailand

December 1968

- Dr. (Mrs.) Vijaya Rahmathullah, Civil Asst. Surgeon  
Cantonment Hospital, Wellington, Nilgiris, Madras State, India
- Dr. Hari Awasthi, District Family Planning & Maternal and Child Health Officer  
Kanpur, Uttar Pradesh, India
- Mr. Elihu Bergman, Assistant Representative  
The Ford Foundation, Mexico, D.F.
- Dr. Tu Uyen, Secretary General for Family Planning  
Vietnam Ministry of Health, Vietnam
- Dr. (Miss) Gul B. Kripalani, Medical Officer  
All India Institute of Hygiene and Public Health, Calcutta, India
- Dr. Gopal Anant Panse, Assistant Director of Public Health  
Government of Maharashtra, Bombay, India
- Eight Indian Students: Dr. K. Kadirappa; Dr. I. Singh; Miss Abichandaney;  
Mr. Desai; Mr. Saxena; Mr. Dutta; Mr. Mitra; Mrs. Vaswami

January 1969

- Dr. Theodore K. Ruprecht  
Division of Social Sciences, Humboldt State College, Arcata, California
- Dr. Massoud Rouhani, Director of Health  
Iranian National Oil Company, P. O. Box 1863, Teheran, Iran
- Dr. David T. Allen, Family Planning Consultant  
Maternal Health Service, Department of Public Health, Atlanta, Georgia
- Mr. Arnold D. Gooder, Communications Director  
Division of Family Planning & Education, Univ. of Washington, Seattle, Wash.
- Dr. Mariano Requena, Head  
Population Studies Program, School of Public Health, Univ. of Chile,  
Santiago, Chile
- Dr. Guillermo Adriasola, Special Consultant  
Population Studies Program, School of Public Health, University of Chile,  
Santiago, Chile
- Mr. Hector Gutierrez, Demographer  
Dept. of Biostatistics, School of Public Health, University of Chile,  
Santiago, Chile
- Mrs. Purai na Bangxang, Hon. Secretary General  
Family Planning Association of Thailand, Bangkok, Thailand
- Mr. Peter Mann, Director  
Public Information Program, Southern Regional Education Board, Atlanta, Ga.
- Dr. Rex Campbell  
Dept. of Rural Sociology, University of Missouri, Columbia, Missouri
- Dr. Leonard Singerman (Prospective Ford Mid-Career Fellow)  
Greenridge Lane, Louisville, Kentucky
- Mrs. Dorothy Millstone, Associate Director  
Information and Education, Planned Parenthood-World Population, New York, N.Y.
- Dr. Carlos Gomez-Rogers, Professor & Director  
University of Chile Maternity Hospital, Univ. of Chile, Santiago, Chile
- Mr. Elihu Bergman, Assistant Representative  
The Ford Foundation, Reforma 243, Mexico 5, D.F.

February 1969

- Dr. Chamseddine Mofidi, Dean of the Faculty  
School of Public Health & Director of the Institute for Public  
Health, University of Teheran, Teheran, Iran
- Mr. George B. Simmons  
Department of Economics, Univ. of California at Berkeley, Berkeley, Calif.
- Dr. Sripati Chandrasekhar, Minister of State, Family Planning and Urban  
Development, Government of India, New Delhi, India
- Ambassador S. Jagannathan, Executive Director for India to the World Bank  
Washington, D. C.
- Dr. Douglas Ensminger, Representative in India  
The Ford Foundation, 55 Lodi Estate, New Delhi 3, India
- Mr. Harold L. Oram, President  
Harold L. Oram, Inc. (Fund Raising Organization), 677 Fifth Ave., New York, N.Y.
- Dr. John M. Weir, Director  
Medical and Natural Sciences, The Rockefeller Foundation, 111 W. 50th St.,  
New York, New York
- Dr. Joan P. Mencher, Associate Professor of Anthropology  
Hunter College, New York, New York
- Professor Luciano Hernandez, Educational Consultant  
American Friends Service Committee, Ignacio Mariscal 132, Mexico 1, D.F.
- Lic. Federico G. Lugo, Rector  
Universidad Autonoma de Tamaulipas, Matamoros 8 Y 9, Ed. Victoria, Tamps.,  
Mexico
- Lic Alfonso Rangel Guerra, Secretario General Ejecutivo  
Asociacion Nac de Universidades, Oficinas Tecnicas, Ap. Postal 70-230,  
Ciudad Universitaria, Mexico 20, D.F., Mexico
- Lic. Guillermo Medina de los Santos, Rector  
San Luis Potosi University, Jacarandas No. 131, S.L.P., Mexico
- Dr. Eliseo Mendoza, Director  
Centro de Estudios Economicos Y Demograficos, El Colegio de Mexico,  
Guanajuato 125, Mexico 7, D.F., Mexico
- Dr. Robert D. Wright  
Dept. of International Health, Johns Hopkins Univ., 615 North Wolfe St.,  
Baltimore, Maryland
- Dr. Malck M. Nomrossey, Director  
Research & Evaluation Section, Egypt's Family Planning Program, 37 Ibn Sander  
Street, Qubbeh Palace, Cairo, U.A.R.

March 1969

- Dr. Shiv Gupta  
Wharton School of Finance, Univ. of Pennsylvania, Philadelphia, Pa.
- Mr. Joel Montague (Ford Mid-Career Fellow), Europe/Asia Program Officer  
CARE Inc., 660 First Avenue, New York, New York
- Mr. Oliver Moles  
Evaluation Division, O.E.O., 1200 19th St., N.W., Washington, D. C.
- Dr. C. Chandrasekaran, Regional Advisor on Population  
Policies and Programs, United Nations ECAFE, Sala Santhitham, Bangkok, Thailand
- Dr. Nicholas H. Wright, Resident Advisory  
Population Council-Ford Foundation Project, Colombo, Ceylon
- Dr. Ronald Freedman  
Population Studies Center, Univ. of Michigan, Ann Arbor, Michigan
- Dr. Malek M. El-Nomrossey, Director  
Research & Evaluation Section, Egypt's National Family Planning Program,  
Cairo, U.A.R.
- Mr. Philip Harvey, Deputy Director (Prospective Ford Mid-Career Fellow)  
CARE Inc., New Delhi, India
- Mrs. Carol Hogue (Prospective Student)  
301 Woodlawn Pike, Knoxville, Tennessee
- Mr. Robert T. McLaughlin, Program Officer (Prospective Ford Mid-Career Fellow)  
The Ford Foundation, 320 East 43rd Street, New York, N. Y.
- Mr. Eugene Baird, Latin American Consultant to the Peace Corps (Prospective Ford  
Mid-Career Fellow), Rm. 816, 806 Connecticut Ave., Washington, D. C.
- Dr. David Wolfers, Director  
Population Bureau, Eland House, Stag Place, London, England
- Mr. Nizamuddin  
Communications Research, Sweden-Pakistan Family Welfare Project, 21/E,  
Block 6, PECHS, Karachi, Pakistan
- Mr. Emerson Foote, Chairman  
Campaign to Check the Population Explosion, New York, New York
- Miss Asia Al-Turaihi, Editor  
Iraqi News Agency

- Dr. Lee Bean, Assistant Director for Demographic Research  
The Population Council, 245 Park Ave., New York, New York
- Dr. Norman A. Hilmar, Chief  
Program Liaison Branch, Center for Population Research, National Institute  
of Child Health and Human Development, NIH, Bldg. 31, Rm. 4A-47,  
Bethesda, Maryland
- S. B. Agha, M.D. (Mrs.), Assistant Director General  
Ministry of Health, Islamabad, West Pakistan
- Ruben Apelo, M.D., Associate Professor of OB-GYN  
College of Medicine, Univ. of the Philippines, 547 Herran St., Manila,  
Philippines
- Dr. Robert W. Babione, Associate Director  
Div. of International Medical Education, Association of American Medical  
Colleges, 1346 Connecticut Avenue, N.W., Washington, D. C.
- Dr. Miguel Barrios  
Asociacion Mexicana de Facultades y Escuelas de Medicina, A.C.,  
Avenida V. Carranza No. 870, Despacho 31, San Luis Potosi, S.L.P., Mexico
- Dr. Dipak Bhatia, Commissioner for Family Planning  
New Delhi, India
- Dr. Alfredo Diaz-Bruzual, Professor Asociado De Ginecologia  
Universidad Central de Venezuela, Clinical Razetti, Caracas, Venezuela
- Dr. Julio Ceitlin, Executive Director  
Argentine Association of Medical Schools, Buenos Aires, Argentina
- Dr. Jacob Chandy, Editor  
Indian Journal of Medical Education, Vellore, India
- Dr. Ahmed El-Sayed Darwish  
Faculty of Medicine, Alexandria University, Alexandria, Egypt
- Dr. Juan Jose Fernandez  
Facultad de Medicina, Universidad Autonoma de El Salvador, Calle Arce #1439,  
San Salvador, El Salvador
- Dr. Nusret H. Fisek, Director  
Hacettepe Institute of Population Studies, Ankara, Turkey
- Colonel S. A. Jafarey, Director General  
Family Planning Council, Block 55, Karachi, Pakistan
- Dr. Jason Likimani, Director of Public Health  
Nairobi, Kenya

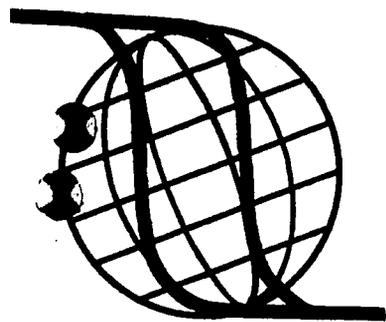
- Dr. Ei Matsunaga  
Japan Institute for Genetics, Mishima, Japan
- Dr. JaJaval Osathanondh, Rector  
University of Medical Sciences, Bangkok, Thailand
- Dr. B. Rasad, Dean  
University of Indonesia, School of Medicine, 6 Salembra, Djakarta, Indonesia
- Karl A. Smith  
Epidemiological Research Unit, Univ. of West Indies, Mona Bay, Jamaica
- Dr. Jae Moe Yang, Professor  
Preventive Medicine, Yonsei University, Seoul, Korea

April 1969

- Dr. Paul Demeny, Associate Director  
Population Studies Center, University of Michigan, Ann Arbor, Michigan
- Dr. Ronald O'Connor  
U.S. Public Health Service, Georgia State Health Dept., Atlanta, Georgia
- Dr. Alan F. Guttmacher, President  
Planned Parenthood-World Population, 515 Madison Avenue, New York, N.Y.
- Mr. Fred Jaffe, Director  
Center for Family Planning Program Development, Planned Parenthood-World  
Population, New York, New York
- Mrs. Nadene Stockard, Program Development Officer  
Near East South Asia Regional Branch, AID, Washington, D. C.
- Mr. John Nagel  
The Ford Foundation, 320 E. 43rd St., New York, New York
- Dr. William Moore  
The Population Program, The Ford Foundation, 320 E. 43rd St., New York, N.Y.
- Dr. Sidney Newman  
Grants Program, NICHD, Washington, D. C.
- Dr. A. E. Sarhan, Dean  
Institute of Statistical Studies & Research, Cairo Univ., 5, El-Goheiny St.,  
Dokki, Cairo, U.A.R.
- Mrs. Jane Browne, Senior Fellow  
Adlai Stevenson Institute of International Affairs, Chicago, Illinois

May 1969

- Mr. Peter Tamblyn  
Communicable Disease Center, Dept. of HEW, Public Health Service,  
1600 Clifton Road, Atlanta, Georgia
- Mr. Edward Hawkins, Division Chief  
Population Studies Div., International Bank for Reconstruction and  
Development (World Bank), 1818 H Street, N.W., Washington, D. C.
- Mr. Roger Williams  
Time Magazine, 1020 Rhodes Haverly Bldg., Atlanta, Ga.
- Mr. B. L. Ahuja, Health Secretary  
Government of Haryana, Chandigarh, India
- Mr. D. N. Chaudri, Deputy Secretary  
Ministry of Family Planning, Government of India
- Lt. General A. K. Dev, Additional Director of Health Services  
Government of West Bengal, Calcutta, India
- Dr. B. Prasad, State Family Planning Officer  
Bihar State, Patna, India
- Mrs. Jeannie Rosoff, Director  
Washington Branch, Planned Parenthood-World Population, 1660 L St.,  
Washington, D. C.
- Mr. Robert Carr, Public Policy Analyst  
Planned Parenthood-World Population, 1660 L St., Washington, D. C.
- Mr. Raymond Belsky  
The Population Council, 245 Park Avenue, New York, N. Y.
- Dr. Ghodratollah Movasaghi, Staff Member  
Surgical Department, Iran Social Insurance Organization, Teheran, Iran
- Dr. T. V. Avandhani, Professor & Chairman  
Statistics Department, Andhra University, Waltair, India
- Dr. Ashish Bose, Visiting Lecturer  
Center for International Studies, Duke University, Durham, North Carolina
- Dr. Donald Huisinsh, Assistant Professor of Plant Pathology  
North Carolina State University, Raleigh, N. C.
- Miss Frances Breed, Former Associate Director of SIECUS  
134 West 58th Street, New York, New York
- Mr. Alvaro Garcia-Pena, Director  
Latin American Department, Population Reference Bureau, Washington, D. C.



# Carolina Population Center

## NEWS

CAROLINA POPULATION CENTER • UNIVERSITY SQUARE • CHAPEL HILL, N. C.

Volume 2, Number 3

Fall, 1968

### New Faculty Join Center

Seven new faculty members this fall joined the staff of the Carolina Population Center, with joint appointments in University departments ranging from Religion to Preventive Medicine.

Professors Quentin Lindsey, Abraham David and Ching-ju Huang have joined the Center with joint appointments in the Department of Economics. The three are currently engaged in an intensive exploration of the population theory as related to optimal population concepts and economic development.

Dr. Lindsey has recently served as Economic Advisor and Ford Foundation Project Leader to His Majesty's Government of Nepal and as Economic Advisor to the Union of Burma.

Dr. David has also served as a Ford Foundation Advisor to Nepal's Ministry of Economic Planning, and he worked at the University of North Carolina last year as a Ford Foundation Mid-Career Fellow in Population.

Econometrics is a major interest for Dr. Huang, who spent two years engaged in research on linear and non-linear programming. He was formerly an Instructor in the University's Department of Statistics.

Dr. Betty E. Cogswell has joined the Carolina Population Center with joint appointments in two departments, as Assistant Professor of Preventive Medicine and as Assistant Professor of Mental Health. She will be working on theoretical development and field studies in the area of sex and family life education.

Dr. Vaida Thompson will work with Population Center and as an Assistant Professor of Psychology to develop psychological concepts and methods related to study of family size norms and fertility change. She comes to U.N.C. from Duke University,

Cont'd p. 3, Col. 3

### Thailand Workshop To Explore Family Planning Communications

Bangkok has been selected as the site for a two-week communications workshop in December to be conducted by the Carolina Population Center in collaboration with the Population and Social Research Center and the School of Public Health at Bangkok's University of Medical Sciences.

The workshop, which will focus on communication aspects of family planning programs, is sponsored by the U. S. Agency for International Development. Information specialists will attend from 15 nations in the Near East-South Asia region.

The international faculty selected to conduct the workshop includes three from the University of North Carolina: Robert R. Blake, Director of the Carolina Population Center's Educational Materials Unit and Lecturer, Department of Radio, Television and Motion Pictures; Dr. Wesley H. Wallace, Chairman, Department of Radio, Television and Motion Pictures; and Mrs.

Deborah W. Stirling, Publications Specialist for the Carolina Population Center and Lecturer, Department of Radio, Television and Motion Pictures.

Others who will travel to Bangkok to conduct sessions at the workshop include Dr. Wilbur Schramm, Director of the Institute of Communication Research, Stanford University; Dr. Donald J. Bogue, Director of the University of Chicago Community and Family Study Center; William B. Johnson, Population Branch, U.S.A.I.D.; Harry L. Levin, Technical Assistance Division, The Population Council, New York; and Emerson Foote, Foote, Cone and Belding Advertising Agency.

The faculty will also include representatives from many of the nations invited to send participants.

The workshop has been carefully designed to provide intensive, practical training for information specialists serving health ministries and family

Cont'd p. 3, Col. 1

### Group Designs Model Programs

What are the ingredients of a successful family planning program? This is the prime concern of a 16-member interdisciplinary planning committee at the University of North Carolina, chosen to design a set of "model" family planning programs under a U. S. Children's Bureau grant.

Meeting since last March under the direction of Dr. J. Richard Udry, Associate Professor of Maternal & Child Health and Associate Professor of Sociology, members of the planning group have made site visits to more than a dozen outstanding family planning programs in the United States.

From six to nine model programs will be designed, based partly on these observations, to incorporate the

most successful elements for achievement of program goals.

An on-going and comprehensive evaluation of each program will be made to measure the extent to which that program is achieving its goals and to determine which elements are responsible for success. The evaluation will also include analysis of cost-effectiveness in order to estimate the probable cost of alternative means of attaining the same goals.

The model programs will be established by agencies qualified to carry them out effectively in different geographic regions, each with a population base large enough for evaluation purposes but small enough to be served by one program.

## Recent Visitors Represent 15 Nations

**Paul R. Ensign**  
The Ford Foundation  
Ahmedabad, India

**Dr. M. R. N. Prasad**  
Professor of Zoology  
University of Delhi

**Dr. George A. Saxton**  
American Friends Service Committee  
Kampala, Uganda

**Dr. A. P. Haynal**  
Associate Professor of  
Public Health Practice  
Loma Linda University—Calif.

**Dr. Moni Nag**  
Asst. Prof. of Anthropology  
Columbia University

**Dr. James Brown**  
Department of Sociology  
University of Kentucky

**Robert Gillespie**  
The Population Council  
New York

**Dr. Jorge Rosner, Director**  
Latin American Institute for  
Human Reproduction  
Salvatore University  
Buenos Aires, Argentina

**Dr. Mel Thorne**  
Resident Medical Advisor  
The Population Council  
Tunis, Tunisia

**Frank Wilder**  
Consultant in Mass Communication  
The Ford Foundation  
New Delhi

**Dr. Shanta S. Rao**  
Reproductive Physiology Unit  
Seth C.S. Medical College  
Bombay, India

**Dr. Jorge Rosselot**  
Pan American Health Organization  
Guatemala City, Guatemala

**William R. Montgomery**  
Director of Community Organization  
Planned Parenthood of Pittsburgh

**Dr. Ozzie Simmons**  
The Ford Foundation  
Chile

**Dr. Gordon Perkin**  
Population Program Adviser  
The Ford Foundation  
Bangkok, Thailand

**Dr. A. Kiani, Chairman**  
Dept. of Social Work & Sociology  
University of Karachi  
Karachi, Pakistan

**Peter F. Geithner**  
The Ford Foundation  
New Delhi, India

**Dr. M. Alfred Haynes**  
Project Director  
National Medical Association  
Foundation, Inc.  
Washington, D. C.

**Dr. Franz Rosa, Chief**  
Maternal & Child Health Division  
World Health Organization  
Geneva, Switzerland

**Dr. Fouad Hefnawi, Director**  
Reproductive Biology Unit  
National Research Centre  
Cairo, Egypt

**Il-Gon Kim**  
Chief of Academic Affairs  
College of Business  
Pusan National University  
Pusan, Korea

**Father Joseph Boute**  
University of Lovanium  
Leopoldville, Congo

**Dr. Jose Cuyegkeng**  
Dean of the Medical School  
University of the East  
Quezon City, Philippines

**Dr. Potenciano R. Aragon**  
Dean, Institute of Hygiene  
University of the Philippines

**Dr. George Brown**  
The Population Council  
Morocco

## CPC Designs Materials For O.E.O. Programs

A series of simply written, well illustrated materials is currently being developed by the Educational Materials Unit of the Carolina Population Center for use in family planning programs funded by the Office of Economic Opportunity, Washington, D. C.

Under a contractual arrangement with O.E.O., the Unit will produce and pretest two brochures and three flip charts at the fourth grade reading level, designed to assist community outreach workers in neighborhood educational activities.

The Unit will also prepare a teaching manual describing how each of these pieces can be used most effectively.

The materials include: a 12-page brochure addressed to both men and

Cont'd p. 4, Col. 3

## Committee Stimulates New State Activities

The N. C. Committee on Population and the Family has set up three subcommittees which may provide new impetus to family planning activities in the state. One subcommittee is concerned with review of existing family planning and family health services to help identify gaps and to extend and strengthen the integration of such services. Another group will be concerned with public education to help increase public awareness and ease of communication about aspects of population planning and family life in the state. A third subcommittee will focus on population policy development to consider broad trends in size and distribution of the population, to consider how these will affect human values as well as social and economic development in the state, and to suggest ways of influencing such trends.

## Population Program Attracts 100 Students

An orientation program and reunion hosted by the Carolina Population Center officially marked the beginning of a new academic year for an evening one hundred students from 14 nations concentrating in the population field.

The number of graduate and post-doctoral students specializing in population studies totaled 26 in 1966 and 66 in the 1967-68 academic year. Of the present hundred students, 55 are from the United States and 45 are from other countries.

A breakdown of the students' disciplines in the population program shows that the departments of Sociology, Health Administration and Biostatistics sponsor nearly half, or 46 percent, of the students.

Maternal and Child Health, Zoology and Anthropology rank next with 32 percent. The other participating departments with the remaining 22 percent of the population students are: Education; Genetics; Political Science; Psychology; Radio, Television and Motion Pictures; Epidemiology; Health Education and Geography.

In addition to their academic course work in the population field, the students participate in a regular program of evening lecture-discussions which provide initial coverage of basic facts of population dynamics and world population problems, as viewed by various disciplines.

### WORKSHOP (Cont'd from p. 1)

planning agencies. Such training is especially needed for development of adequate information support to population programs and activities in those countries which have only recently begun programs in the field, as well as those where public interest in family planning is in the beginning stages.

The program will include lectures and practice sessions directed to planning and implementing three levels of information support geared to the differing needs of the countries involved.

The first level consists of initial information work in countries where officials are anxious to foster formation of population policies that do not yet exist.

Information work at the second level is geared to those countries and situations where broader public understanding and support are officially desired in order to strengthen already announced policies and facilitate expanded action in the population field.

At the third level is information work in countries where program officials desire vigorous promotional and educational support for the existing program.

Each group of information specialists from a participating country will develop a draft plan during the workshop outlining suggested information support for existing family planning programs in their own nation.

The plan will take into consideration the broad aspects of public educational programs in family planning as well as the specific personnel, equipment and budget required for its implementation.

### Pop. Students Discuss N. C. Field Experience

Fourteen students in Family Planning Administration, who worked closely with county agencies in the state during the past year, summarized their observations and suggestions in a report to the North Carolina Committee on Population and the Family. The students, deeply concerned and involved with aspects of family planning program development at the grass roots level, discussed their views in an informal meeting with key members of the Committee, including Rep. Arthur Jones, N. C. State Legislature; Dr. Jacob Koomen, Director of the N. C. State Board of Health; Col. Clifton Craig, Commissioner of the N. C. Department of Public Welfare; Mrs. Kate Garner, President of the N. C. Family Life Council; and Dr. Robert M. Dinkel of Greensboro, N. C.

### Center Sponsors Medical Student Research Program

Nine medical students, coming to Chapel Hill from as far away as California, last summer participated in a highly successful research program sponsored by the Carolina Population Center.

The special eight-week program was designed to offer the students an educational and research opportunity to explore career possibilities in the field of population, or simply to become better informed about this challenging professional area.

Following a week-long orientation to world population growth and family planning programs, each student spent the summer working on a research project of his own selection under the guidance of a faculty preceptor who is a member of the University Population Program.

The students did an outstanding job exploring the following topics:

**"The Respect Dimension in Family Planning Clinics."**

**"Non-Utilization of the Family Planning Clinics by the Poor White of Raleigh, N. C."**

**"Study of Sexual Behavior Patterns in the Lower Class Negro Female Adolescent."**

**"A Sex Education Filmstrip for Teen-agers: Method of Development and Evaluation."**

**"An Overview of the Problem of Abortion as Reflected in the Literature."**

**"Health and Disease in a Changing Population (North Carolina)."**

**"The Family Size Preferences of Teen-age Girls Viewed from a Role-Taking Perspective."**

**"Correlation Between Psychosomatic Tendency and Continuance of Family Planning."**

The Carolina Population Center may publish the student papers in monograph form. It is hoped that this special program for medical students can be repeated in the summer of 1969.

### Hold Family Life Meeting

"It's Happening: The Urban Impact" was the theme of the recent Annual Conference of the N. C. Family Life Council, where Dr. Earl Siegel, Chairman of UNC's Department of Maternal and Child Health, led a workshop discussion on family planning. Dr. Franz Rosa of the World Health Organization in Geneva also attended the conference to see his mother, Mrs. Bess N. Rosa, receive the Sperry Award for outstanding service to N. C. families.

### FACULTY (Cont'd from p. 1)

where she was an Assistant Professor in the School of Nursing.

Dr. James Allen has joined the Center as a Lecturer in the Department of Religion, while also pursuing studies in Family Planning Administration. A Methodist minister who has been active in the family planning movement in Massachusetts and Iowa, Dr. Allen holds a Ph.D. in Sociology in addition to his degree in Theology. His new association with the Center will enable him to pursue further his studies of human values as they relate to population policy and program development.

Edward S. Trainer has become an Instructor in Health and Family Planning Program Administration, to work especially with county family planning programs and to help develop student field assignments in these counties. He will also be working with systems analysis approaches to family planning program design in North Carolina. Mr. Trainer, who has worked as an investment counselor in New York, received a Master of Science in Public Health degree last year at the University.

### Discuss Population Library Resources

Twenty-three participants from 16 organizations came to Chapel Hill last spring to attend the first national Workshop on Library and Bibliographic Resources in the Population Field, sponsored by the Carolina Population Center.

The participants represented an impressive variety of organizations in the population field. Eight university population programs were represented, in addition to the United Nations Population Division, the National Institutes of Health, Planned Parenthood-World Population, the Population Reference Bureau, the National Institute for Child Health and Human Development, The Population Council, the Pan American Health Organization and The Ford Foundation.

The workshop focused principally on development of a standard subject classification listing, improvement of communications and exchange between interested libraries and organizations, and the integration into population library work of the computer and mechanized techniques for information storage and retrieval.

Future workshop programs have been planned to include "continuing education" sessions in information and library science, working groups and lectures.

## *General Draper Discusses Food, Population Crisis*

Government support of family planning programs, supplemented by ongoing and intensive work by private agencies, is vital to solution of world population problems, according to General William H. Draper, Jr., Chairman of the Population Crisis Committee.

In a recent speech to Carolina Population Center faculty and students, former Under-Secretary of the Army Draper noted that the developing nations currently face a more critical situation than at any time in the past five years. In 1960 the U. S. Government had such a tremendous volume of surplus food that warehouse storage costs alone came to \$100 million annually, he said.

Distribution of the U. S. Government surplus in addition to the "Food for Peace" program has been the only factor preventing mass starvation in many areas. However, population growth has now outstripped food production increase and depleted the U. S. surplus, he said, so that developing nations find themselves in need of simultaneous, massive programs both to increase agricultural production and to lower population growth rates.

General Draper was accompanied on his visit to Chapel Hill by Mrs. Phyllis Piotrow, Executive Director of the Population Crisis Committee. Headquartered in Washington, D. C., the Committee was founded in 1965 to act as a catalyst with government agencies and private groups to spur establishment of family planning programs.

*Carolina Population Center  
University Square  
Chapel Hill, N. C. 27514  
U.S.A.*

The United Nations Economic and Social Council, through its Office of Science and Technology, has requested the Carolina Population Center to provide an expert report on needs for study and action on the population problem in the world today. This report will be considered by the U.N. Advisory Committee on Application of Science and Technology to Development, which meets in November.

## **Determine State's "Excess" Births**

Almost one-third of all births in North Carolina in 1966 may be considered "excess" from the standpoint of maternal and child health, according to a study by Dr. C. Horace Hamilton, Associate Director of the Carolina Population Center and Visiting Professor of Sociology and Biostatistics.

Dr. Hamilton's definition of "excess" births includes all children born to women below the age of 15 and above the age of 40. In between these ages, Dr. Hamilton's method is based on a conservative estimate of the maximum number of births compatible with health of the mother, depending on her age.

The county differences in the number and percentage of excess births, indicative of the need for family planning, also reflect differences in the social, economic and educational characteristics of the population. Counties with high percentages of farm people have high percentages of excess births; the large urban and metropolitan counties have relatively low percentages of excess births.

By combining data on births by age of mother and birth order for several years, a more complete picture of the overall need for family planning in a county can be derived.

MATERIALS (Cont'd from p. 2)  
women emphasizing the benefits of planning family size; a flip chart covering basic facts of conception and contraception with accompanying teaching notes for use in group instruction; a brochure instructing readers in the use of contraceptive methods; a three-color flip chart addressed to post-partum mothers; and a flip chart covering reasons for child spacing for use by family planning outreach workers.

## **Explore Systems Approach**

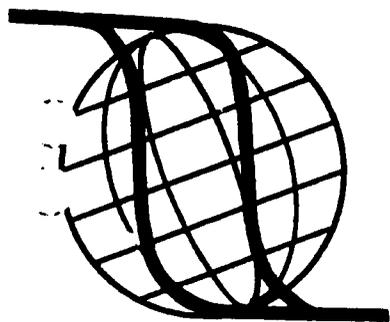
Some of the best minds in the U. S. in the area of systems analysis, demography and population program development were brought together at an October workshop to consider how systems approaches can better be applied to population planning.

Conducted by the Center's systems simulation program, the workshop was held in connection with a three-day symposium on computer simulation techniques sponsored by Duke University, together with the Institute of Management Sciences and the Institute's College on Simulation and Gaming.

## **Collect Data on State**

A major reference resource on current developments in the population field throughout North Carolina is being developed at the Carolina Population Center, assisted by a contract with the State Department of Administration. The Center is working closely with relevant state departments to collect and synthesize information on population and family planning in each of the state's 100 counties. The items of information cover such matters as population growth trends, vital statistics summaries and agency activities in the field of family planning and family life education.

Non-Profit Organization  
U. S. POSTAGE  
PAID  
Chapel Hill, N. C.  
Permit No. 105



# Carolina Population Center

# NEWS

CAROLINA POPULATION CENTER • UNIVERSITY SQUARE • CHAPEL HILL, N. C.

Volume 3, Number 1

Spring, 1969

**APPROACHES TO THE HUMAN FERTILITY PROBLEM**, a 150-page report prepared by the Center in October, 1968 for the United Nations Advisory Committee on the Application of Science and Technology to Development, is available at a cost of \$3.00 from the Carolina Population Center, University Square, Chapel Hill, N. C. 27514.

## New Contraceptive Methods Sought

The Rockefeller Foundation has selected the University of North Carolina as the site for a \$2 million program in molecular reproductive biology for research into new and more effective methods of contraception.

Dr. H. Stanley Bennett, prominent biologist and anatomist, now director of the University of Chicago Medical School's Laboratory for Cell Biology, has accepted the University's invitation to direct the new center. In addition, Dr. Bennett will be chairman of the Department of Anatomy.

In announcing the \$2 million appropriation, Rockefeller Foundation president Dr. J. George Harrar pointed out that experience with newer contraceptives in mass birth control campaigns has convinced increasing numbers of field workers and population specialists of the need to return to the laboratory for better contraceptive methods.

"The need now is to find a contraceptive method that can be easily used, will be acceptable to a large majority, and which will be received with confidence in all societies and lands with government support wherever possible," Dr. Harrar said.

It is anticipated that a research staff of eight to ten investigators will eventually work on a variety of aspects of reproductive biology, including sperm motility, penetration of sperm into ovum, endocrine relationships, male and female secretory systems, immunology and implantation.

Dr. Bennett has taught at Harvard  
Cont'd p. 2, col. 1

## Family Planning Nurse Educators Hold First National Conference

"We are in a period in nursing-medical skills in which we have to replace misunderstanding with knowledge," Planned Parenthood-World Population President Dr. Alan Guttmacher told more than 90 nurse educators who came to Chapel Hill in April to attend the first national family planning conference for faculty members in university schools of nursing.

In his keynote address, "Family Planning: A New Challenge to the Health Professions," Dr. Guttmacher also noted: "Our nursing schools must include a deep analysis of human sexuality, but we cannot expect our nurses to give advice about such problems unless they understand them."

The participants came from all over the United States to attend the three-day conference, which was sponsored by the American Nurses Association, the American Public Health Association,

Planned Parenthood-World Population, the Population Council and the Carolina Population Center.

Conference co-chairmen Elizabeth M. Edmands, UNC Associate Professor of Public Health Nursing, and Mrs. Miriam Manisoff, Director of Professional Education for Planned Parenthood-World Population, selected participating schools by sampling to include representation by region of the country and religious affiliation.

General conference sessions were devoted to providing background information about the world population crisis and its implications; medical, social, economic, psychological and religious aspects of family planning; educational objectives for the community, the professions and the family; and community organization for service. Discussion sessions focused primarily  
Cont'd p. 2, col 3

## Students Cover State For Field Work

Spring field work assignments have taken 16 population students majoring in Public Health Administration to ten county health departments in North Carolina as well as to the State Board of Welfare, the Office of Comprehensive Health Planning, the State Office of Economic Opportunity and the North Carolina Committee on Population and the Family.

An important component of the total program, field assignments supplement a broad program of study both at Master's and doctoral levels designed to prepare students for state, national and international responsibilities in family planning administration.

During the spring semester students spend one day a week at an assigned field site in North Carolina selected

on the basis of its ability to provide effective learning opportunities for the student, as well as the possibilities which exist at that institution to advance the level of service.

The spring field work experience is designed to provide the student with an in-depth understanding of the complex organizational nature of family planning service delivery systems. The student is also expected to gain some expertise in a selected problematic aspect of program organization, administration or delivery system.

The students return to the same field site for the first six-week summer session, where they spend the entire semester developing abilities and skills in helping the agency gain an insight in-  
Cont'd p. 3, col. 1

GRANT (Cont'd from p. 1)  
University Medical School, Massachusetts Institute of Technology, the University of Washington and the University of Chicago.

The Center is revising and updating **FAMILY PLANNING EDUCATIONAL MATERIALS: AN ANNOTATED BIBLIOGRAPHY OF SELECTED ITEMS.** Organizations wishing to list printed or audio-visual materials for public educational or training purposes should send them to 407 Pittsboro Street, Chapel Hill, N. C.

## Sponsor Systems Analysis Series

Exploration of population problems within a systems framework is the focus of a systems analysis workshop series sponsored by the Carolina Population Center this spring.

Designed to make population an active area of interdisciplinary research, the workshop series brings together professors and graduate students from the University of North Carolina, Duke University and the nearby Research Triangle Institute. In addition, visiting experts related to population dynamics from all over the world are invited to attend the series.

The systems concept allows a common framework within which different disciplines can relate to problems of population planning. Panel presentations and open discussions, which also serve to focus doctoral research, center on such topics as "Application of Management Science to Family Planning Organizational Problems," "Urban Population Planning Models" and "A Policy Game for Population Planning."

The systems analysis approach has been useful in clarifying other complex problems in a wide variety of physical, biological, social and management sciences. There is need now to apply this technique to analyzing the complex problems of population policy and program development.

This approach seeks to identify the many factors that may directly or indirectly influence a certain outcome and gradually to develop a better understanding of the network of interrelationships between such factors.

By this process a conceptual "model" of the system is produced that can be tested for its predictive value against real life situations and further improved accordingly. Ultimately, this increased understanding of the way the system works can provide a basis for building much more efficient public programs to deal with problems of population.

## Center Announces Publication Of First Monographs

The Carolina Population Center is pleased to announce publication of the first two monographs in its series—both, by coincidence, dealing with the subject of abortion.

Edited by Jaroslav F. Hulka, M.D., the first monograph is a collection of presentations by 14 physicians, religious leaders and politicians representing a cross section of the views of nearly 100 professionals attending a July, 1967 symposium on therapeutic abortion.

*Therapeutic Abortion: A Chapel Hill Symposium* examines in depth some of the medical, social and psychological factors which must be taken into account in this complicated and emotion-charged area of decision making. Individual contributions to the monograph focus on such subjects as teenage pregnancies, ethical considerations and new methods of abortion, including the vacuum aspiration technique.

The second monograph, *North Carolina Abortion Law 1967: A Study in Legislative Process*, was based on more than thirty lengthy interviews with legislators, witnesses and others closely involved in the proceedings which led to the North Carolina Legislature's unusually smooth passage of the 1967 Abortion Bill.

In addition, authors Sagar C. Jain, Ph.D. and Steven W. Sinding examined documents relating to the bill's progress during the "mark-up" stages, several of which are reproduced as appendices to the monograph. Written speeches and testimony given by central legislative figures and witnesses were also studied, as were newspaper accounts of the proceedings.

The authors hope the monograph may be useful to those interested in the passage of similar legislation in other states.

Copies of Monograph 1—*Therapeutic Abortion: A Chapel Hill Symposium*, Monograph 2—*North Carolina Abortion Law 1967: A Study in Legislative Process* and Monograph 3—*International Workshop on Communications Aspects of Family Planning Programs: Selected Papers* are available at a cost of \$1.50 each from the Carolina Population Center, 407 Pittsboro Street, Chapel Hill, N. C. 27514.

NURSING (Cont'd from p. 1)  
on the implications of population problems for nursing involvement and education.

Speakers and nurse discussion leaders selected from outstanding authorities in their particular fields include H.E.W. Assistant Secretary for Population and Family Planning Mrs. Katherine Oettinger, who spoke at the dinner meeting on "Government Legislation and its Effect on Family Planning Programs."

Four nursing leaders presented a panel on "Nursing Roles and Responsibilities in Family Planning—the Opportunities and the Issues."

Other speakers included Arthur Campbell, Deputy Director, Center for Population Research, National Institute of Child Health and Human Development; Dr. Paul Demeny, Associate Director, Population Studies Center, University of Michigan; Dr. E. James Lieberman, Chief, Center for Studies of Child and Mental Health, National Institute of Mental Health; Dr. Johan Eliot, Center for Population Planning, University of Michigan; and Frederick Jaffe, Vice President, Planned Parenthood-World Population.

Others attending the conference included graduate students and faculty from the UNC School of Public Health and School of Nursing, as well as nursing consultants from the North Carolina State Health Department.

## State Group Planning New, Active Projects

The North Carolina Committee on Population and the Family has requested staff support from the Carolina Population Center for its Subcommittee on Coordination as it becomes increasingly active in efforts to promote general public awareness of population problems and family planning programs in North Carolina. The Committee was appointed by former Governor Dan Moore in October, 1967.

Among its projects the committee hopes to develop a bimonthly newsletter to include articles on population-related problems in North Carolina; information on relevant innovative activities; hints for improved program planning, administration and evaluation; research findings and guest editorials.

The committee also plans to collect and distribute selected technical materials and to sponsor a series of one-day orientation sessions for groups state and local levels which are, or should be interested in family planning policy and program development.

Cont'd p. 4, col. 3

## STUDENTS (Cont'd from p. 1)

to its organizational and administrative problems and preparing it to take suitable corrective action. The student's major paper, submitted at the end of the summer, is an analysis of this field experience.

## Student Conference Focuses On World Population Crisis

The physician must consider as paramount the contraceptive needs of his patient, regardless of her age, marital status or his own moral feelings, Dr. J. F. Hulka, Associate Director of the Carolina Population Center, told an audience of over 400 high school students who came to Chapel Hill in March to attend the 19th Annual Conference on World Affairs.

"The World Population Crisis" was selected as the theme for this year's conference, sponsored by 25 state-level political, religious, educational and service organizations in cooperation with the University Extension Division's Bureau of Residential Adult Education.

Dr. Hulka, who spoke on "The Population Problem: A Medical View," said that the physician also has the responsibility to be active in disseminating sex education, including birth control, to couples who are risking unwanted pregnancy. Physicians must also conduct research to find more universally acceptable methods of contraception, he said. Dr. Hulka is an Associate Professor in the Department of Maternal & Child Health and Obstetrics & Gynecology.

Dr. Quentin W. Lindsey, Visiting Professor of Economics and a member of the Carolina Population Center, addressed the group on "Population, Power and Prospects for Peace."

Leaders of the less developed nations will decide over the next 10-15 years that they must change the structure of world power in order to deal with population pressures and meet the challenge to develop and create a better life for their people, Lindsey told the group.

On the other hand, people of developed countries must try to visualize a better world order and work to create it, he said, rather than lining up armaments and trying to use strength to preserve the present structure. Moderation of fertility is likely to be the key to design of the future world structure.

## Biostatisticians Employ "Gadget" In Study To Estimate Abortion Rates

Use of a small, transparent plastic box filled with colored balls has helped to determine estimates of induced abortion rates in urban North Carolina, according to a study recently completed by the UNC Department of Biostatistics, under the direction of Drs. James R. Abernathy and Bernard G. Greenberg.

The procedure is called "randomized response," because the respondent selects a question on a probability basis from two or more questions without revealing to the interviewer which question has been chosen.

The randomized response device used in this study consisted of a transparent plastic box with two questions printed on the front side of the cover: 1) I was pregnant at some time during the past 12 months and had an abortion which ended the pregnancy, and 2) I was born in the month of April.

### Respondents Answer

The first printed question had a small red ball in front of it; the second question had a blue ball in the same location. Inside the box were 35 red and 15 blue balls. The respondent was asked to shake the box of balls thoroughly and to tip the box, allowing one of the freely moving balls to appear in a window clearly visible to the respondent. The color of the ball appearing in the window determined which of the two questions the respondent was expected to answer.

The respondent then answered either "yes" or "no", with confidence that the interviewer did not know which question she was answering. Pooling answers for the entire group of respondents provided useful information for determining the approximate proportion of women having an abortion in the past year.

A second randomized response device used in another sample was designed exactly like the other, except that the first question related to abortion during the lifetime: "At some time during my life I had an abortion which ended the pregnancy."

### Select Sample

A probability sample of approximately 1,300 women aged 18-44 was selected from five metropolitan areas of central North Carolina to field test the first randomized response device and obtain estimates of the proportion of women having an abortion in the

year prior to the interview. A sample of 1,600 women 18 years or over was selected from the same metropolitan areas to field test the second device and to estimate the proportion of women ever having an abortion.

The proportion of women born in April was obtained from a distribution by month of birth of live births occurring to North Carolina residents from 1924-1950. This time span was selected because it includes the year of birth of all respondents from 18-44 years of age.

Assuming that the proportion of women born in April was known, factors which went into the estimating equation included the proportion of red to total balls in the box, the proportion of yes to total answers, and the size of the sample.

### Estimate Abortions

Preliminary estimates of abortion during the past year in the ever married population are higher for women under 31 years of age than for those in the 31-44 age group. Estimates by education level indicated high rates among women with less than nine years of schooling and among those with 13 or more years of schooling, with a relatively low rate for the 9-12 group.

The estimates based on lifetime were higher for nonwhite women, for never married women and for women with a history of five or more pregnancies. As age increased, the proportion of women having an abortion during their lifetime increased, probably because the older women had been exposed to the risk longer. As the educational level of the respondents increased, the proportion of women having an abortion during their lifetime declined.

### Find Higher Rates

The study also estimated that approximately one out of seven conceptions among whites and almost one out of three among nonwhites resulted in an illegal abortion.

When based on total conceptions surviving the first four weeks of gestation, the abortion rates were estimated to be approximately 10% greater than when based on total conceptions. The illegal abortion rate per 100 conceptions was estimated to be 14.9 for whites and 32.9 for nonwhites, while the rate per 100 conceptions surviving the four-week gestation period rose to 16.4 for whites and 35.6 for nonwhites.

## Recent C.P.C. Visitors From Many Nations

**Dr. Paul Demeny**  
Population Studies Center  
University of Michigan

**Dr. Alan F. Guttmacher, Pres.**  
Planned Parenthood-World Population

**Dr. C. Chandrasekaran**  
United Nations Economic Commission  
for Asia and the Far East  
Bangkok, Thailand

**Dr. Ronald O'Connor**  
U. S. Public Health Service  
Atlanta, Georgia

**Dr. A. E. Sarhan, Dean**  
Institute of Statistical Studies  
& Research  
Cairo University

**Mrs. Jane C. Browne**  
Adlai Stevenson Institute of  
International Affairs  
Chicago, Ill.

**Dr. Malek El-Nomrossey, Dir.**  
Research & Evaluation Section  
National Family Planning Program  
Cairo, U.A.R.

**Philip Harvey, Deputy Dir.**  
CARE, Inc.  
New Delhi, India

**Dr. Nicholas H. Wright**  
The Population Council  
Colombo, Ceylon

**Dr. Ronald Freedman**  
Population Studies Center  
University of Michigan

**Dr. David Wolfers, Dir.**  
Population Bureau  
London, England

**Mr. Nizamuddin**  
Sweden-Pakistan Family Welfare Project  
Karachi, W. Pakistan

**Emerson Foote, Chairman**  
Campaign to Check the Population  
Explosion  
New York

**Miss Asia Al-Turaihi, Editor**  
Iraqi News Agency

*Carolina Population Center  
University Square  
Chapel Hill, N. C. 27514  
U.S.A.*

**Dr. Norman A. Hilmar, Chief**  
Program Liason Branch  
Center for Population Research  
National Institute of Child Health  
and Human Development

**Dipak Bhatia, M.D.**  
Commissioner for Family Planning  
New Delhi, India

**Jason Likimani, M.D.**  
Director of Public Health  
Nairobi, Kenya

**Ei Matsunaga, M.D.**  
Japan Institute for Genetics  
Mishima, Japan

**Jajaval Osathanondh, M.D., Rector**  
University of Medical Sciences  
Bangkok, Thailand

**Nusrat H. Fisek, M.D., Dir.**  
Hacettepe Institute of Population  
Studies  
Ankara, Turkey

## COMMITTEE (Cont'd from p. 2)

A Population Information Center will be established by the Committee to serve as a clearinghouse for state population data. As part of this project, a library is being developed which contains both general and specific information on population and family planning activities in all 100 counties in the state. In addition to tables on education and income levels for various socioeconomic groups in each county, the library will contain descriptive analyses of family planning programs active in each county and the agencies which sponsor them.

## Population Librarians Study Information Retrieval Systems

Demonstration of a computer-assisted information retrieval system highlighted an April conference sponsored by the Carolina Population Center and the UNC School of Journalism. More than 60 librarians and information specialists from nearly 30 organizations in the population field attended the two-day meeting.

This year's conference served as a follow-up to the spring, 1968 "Workshop on Library and Bibliographic Resources in the Population Field," attended by 23 information people from 16 organizations.

Speakers at the conference included Dr. Mary Stevens, Center for Computer Sciences and Technology, National Bureau of Standards, U. S. Department of Commerce; Gerald Salton, Professor of Computer Science, Cornell University; and Edwin Parker, As-

sociate Professor of Communication, Stanford University.

The conference was designed primarily to acquaint librarians with retrieval techniques currently planned or in actual operation which may facilitate the job of supplying information to the scholar or field worker.

The small population information retrieval system the group saw demonstrated has been developed in the School of Journalism, under the general direction of the Carolina Population Center, as a result of a three-year project funded by the Rockefeller Foundation.

Working sessions also provided participants with opportunities for cooperative effort and informal exchange toward solution of some immediate problems facing both the librarian and information scientist working in the population field.

Non-Profit Organization  
U. S. POSTAGE  
PAID  
Chapel Hill, N. C.  
Permit No. 105