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REPORT FOR 1970-71 (FY 71)
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

October 15, 1971

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I. BACKGROUND AND OVERVIEW

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 more appropriate to the seriousness of world population problems. This report is for the third year of the grant.

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."

Accomplishments are reviewed in the following sections. A quick summary indicates that the Center's organization was further strengthened by the addition of two Deputy Directors, one for programming and the other for administration. 211(d) funds were used to provide partial support for six new faculty members. Included in this group is a population economist in the School of Business Administration. Two new professional librarians supported by 211(d) funds have been assigned to the library staff.

During 1970-71, a total of 122 students were engaged in population studies at the Master's or Doctoral level through the various schools and departments of the University of North Carolina. This figure compares with 99 students last year and 45 students enrolled in the first year of the 211(d) grant. Of particular significance is the section of this report summarizing data on the 145 students who completed their studies between 1966 and 1971. All but a few of these students are now involved in population-oriented work, with one-half of the total employed in the less developed countries.

Research activities were expanded substantially, largely as a result of specific funding of new programs and projects. The Center continues to develop its research and teaching links in the international field with particular emphasis in the countries of Thailand, India, Iran, Egypt, and Ghana.

Since this report covers the third year of a five-year grant, it may be helpful to present an overview of accomplishments in terms of the total level of population and family planning expenditures on the UNC campus. This can then be compared with the amount of 211(d) funds that are being used as core funds and institution-building investments to generate a broad interest and concern for the population and family planning field at UNC. What, from a purely monetary viewpoint, has the 211(d) expenditure produced?

By way of illustration at the macro level it is estimated that some six million dollars were invested in population and family planning work on the UNC campus in FY 1971. Of this amount, roughly one-half, or three million dollars, was channeled through the Carolina Population Center. In FY 1971, core funding or institutional expenditures of the CPC were slightly in excess of one million dollars. As will be detailed in this report, 211(d) funds contributed roughly one-half of this core support for the year. In essence, then, the relation of total expenditures to 211(d) funding can be seen to be better than ten to one. By way of contrast, it is estimated that in the first year of the 211(d) grant, FY 1969, approximately two million dollars were invested in population and family planning work on the UNC campus while 211(d) expenditures were \$450,000, producing a ratio of roughly four to one.

An obvious caveat must be added that it often is difficult to establish simple and direct causative links between core funding and total expenditures for population and family planning work. Nor does the CPC hope to assume credit or responsibility for all of the work in the population and family planning field presently being carried on in the University of North Carolina. However, there is good evidence to indicate that the support given to the Carolina Population Center through the USAID 211(d) grant has materially helped in building a real concern for population and family planning problems on the UNC campus and a strong, multidisciplinary and internationally-oriented competence to respond to these problems.

211(d) expenditures this year of \$524,000 are slightly lower than last year's expenditures of \$576,000. With expenditures in the first year of the grant in the amount of \$450,000, a cumulative total of nearly \$1,600,000 has been obligated to date. In the initial obligation projections, the cumulative total through the third year of the grant came to \$1,600,000, leaving \$400,000 as the projected level of spending in each of the fourth and fifth years.

Funds directly obligated by the Carolina Population Center rose this year by 23%, to 2.80 million dollars. Of this total, the AID 211(d) grant funds provided 18.7%. Other support, mostly for project-specific grants, came from the Ford Foundation (13.9%), Rockefeller Foundation (9.0%), other U. S. government projects (52.4%), and the University and other sources (6.0%).

While the above quick review of funding sources indicates that progress continues to be made toward the 211(d) program goal of helping to generate support to the institution from other sources, it also points up the critical position of the CPC with regard to core funding in FY 1972 and FY 1973. As indicated above, the 211(d) grant projected a decreased spending level of \$400,000 in the fourth and fifth years of the grant. This projection was based on the expectation that the departments and faculties involved in the Center operation would be able, after a few years, to absorb more of their own costs for continuing work on the population and family planning related areas. Unfortunately, as a result of national economic conditions and constraints, some of the funding sources that were expected to provide monies to the various faculties have not yet materialized. State funding and some federal funding agencies have been forced to cut back on their support rather than to provide new funding. The result of these actions has been to increase the need for Center core support rather than to diminish the need for this support. It now appears obvious that the costs of providing the core services and support that are necessary to continue a vigorous population program at the University of North Carolina will exceed the presently known sources of funding.

II. ACCOMPLISHMENTS.

AID's institutional grant has continued this year to be the primary basis for the growth of the Carolina Population Center. 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 1970-71 are presented in Section III.

A. Organization

A concerted effort was made during 1970-71 to regroup and further develop the Center's basic administrative structure. This effort began in 1969 with a major study of the Center and its role on the UNC campus, its relationship to state and federal agencies and its future impact on the University program. A report was prepared by Dr. Marvin Sussman after detailed preparation including interviews with Deans and Department Chairmen and Center administrative and professional personnel. Dr. Sussman's report was studied by the Program and Budget Committee which then developed a tentative administrative structure as reported last year. Program responsibilities were divided among 3 administrative offices -- the International Programs Office, the U.S. Programs Office and the Academic Programs Office. The duties and responsibilities of these units were tentatively identified and requests were submitted to the state personnel office on the UNC campus for suitable administrative and secretarial assistance in each of these units. Also, the Program and Budget Committee appointed search committees to begin recruiting for directors for each unit. By the end of FY 71 Dr. Richmond Anderson had joined the staff as Director of the International Programs Office. Dr. Thomas Hall is serving as acting director of the U.S. Programs Office and Dr. Steven Polgar is serving as Acting Director of the Academic Programs Office.

As these units developed it became apparent that the addition of two Deputy Directors to Dr. Freymann would further strengthen the program efforts of the Center. Accordingly, Dr. Thomas Hall has been named Deputy Director with special responsibility for developing and supporting the Center's program in teaching, research and services at UNC and other institutions. Dr. Hans Krusa is serving as Deputy Director for Administration. His duties will include guidance in development of organizational support in all programs, international and UNC-based. (See Appendix 9 for a diagram of the population program organization).

The total number of faculty members on the UNC campus, at Duke University, North Carolina State University, North Carolina Central University and the Research Triangle Institute involved in population/family planning studies continues above one hundred.

The Center depends a great deal on study groups of various types, made up of concerned faculty and staff. Problem-focused study groups are formed at need and are oriented to such areas as population-policy, reproductive biology, and family planning program organization. Area-specific study groups help to plan and coordinate country-specific program interests. Presently the convenors of these groups serve as an informal cabinet for the Director of the International Programs Office.

A permanent program in Population and Environmental Education has been developed with Dr. Norton Beach, Dean of the School of Education, serving as director. Personnel involved in this program are located in the School of Education. In addition, the Center has continued to develop departmental programs with special efforts this year in Education, Political Science, Business Administration and Economics, and Nursing Education, in addition to other departments where a teaching program has been developed.

In addition to the administrative development previously described, the administrative staff which handles financial matters, personnel details and reference and information services have been more carefully coordinated with efforts made to develop a more efficient reporting function. Grant-monitoring capacities have also been increased with the addition of four project coordinators (Gattis, Fortney, Blaker and Stillman) each assigned to a specific contract. Also in two program offices -- International Programs Office and Academic Programs Office -- administrative support has been obtained for the purpose of program administration and grant monitoring. (Campbell and Hamilton). A third administrative officer has been requested of the University personnel office and will be assigned to the U.S. Programs Office. Budget operations are organized programmatically. (A report on these units will follow in section III).

Another 3,529 square feet of space has been added this year to make a total of 17,879 square feet available to the CPC, in addition to the space utilized for population-related activities by participating departments.

B. Staff Development

Broadening and stabilizing Center administration, enriching opportunities for professional growth, and extending departmental teaching programs received a concentration of effort during 1970-71.

Administration: The foregoing comments on organization reflect general concerns for administrative staff development, including in-service orientation for present staff. Additionally, the Center employed two professional librarians, Mrs. Judith Marshall and Mrs. Patricia Shipman. Mr. Arthur Jones, formerly of the North Carolina Legislature, has helped to develop educative and consultant relationships with NC State Agencies and elected officials.

For the effective execution of certain contracts, the Center has utilized the services of several professionals. Dr. Charles Faneuff is a staff member of the population education group under the direction of Dean Beach. Dr. Arnold Kaluzny represented the Center's consultant commitment in Bangkok to Mahidol University under a contract with the Rockefeller Foundation.

Miss Lynn Knauff during FY71 served as coordinator of the Center's Westinghouse Learning Corporation to provide consultants to the southeast region. Miss Knauff is now director of the O.E.O. Rural Family Planning contract. Miss Georgia Barbee and Mr. O. J. Sikes also are assigned to this contract. Dr. Joan Lingner and Dr. Garrie Losie of the Department of Biostatistics and the Carolina Population Center are assigned to the POPLAB projects. Mr. James McClure is working with the technical information group to develop the automated library. Dr. Marshall Ballou has devoted a portion of his time since retirement to developing the Center's research interests in incentives for family planning. Dr. Elihu Bergman provided administrative guidance in the development of the University Services Agreement and in the development of a political science consortium. All of these employees are supported from funds allocated to specific contracts.

Professional Growth: A thematic approach increased effectiveness of the Monday night seminars for students and faculty alike. The Center continues its program of visiting speakers. Selectively, faculty travel is financed for attending professional conferences and activities relevant to the population program.

Faculty: Dr. John Marshall has joined the teaching faculty of the Department of Anthropology. The Department of Health Education obtained the services of Dr. Louis Nidorf and the Department of Maternal and Child Health added Dr. Robert Noyes to its faculty. Support of Dr. Nidorf and Dr. Noyes is shared by the Carolina Population Center and the home department. Dr. Ali Paydarfar has joined the Department of Sociology and also serves the Center as convenor of the Iran Study Group. The School of Nursing and the Center have joined to support Miss Sandra Berry, Assistant Professor in Nursing Education. During FY 71, the Center and the Department of Economics joined forces to recruit a population economist and employed Dr. Boone Turchi to begin working in September, 1971. All of the above group are partially supported from the 211(d) grant.

The Center also benefited from visiting faculty services of Dr. Kamala Rao of the National Family Planning Institute in India.

The Center provides partial salary support from the 211(d) grant for faculty members involved in the academic program. Support was provided for a total of 21 faculty members, six less than last year as we were fortunately able to develop additional support from other fund sources. Seven of the 21 faculty members are working in the area of family planning administration, two in population statistics, two in reproductive biology and zoology, one in public health nursing, three in mental health, and one in epidemiology, one in population anthropology, two in psychology of fertility and one each in religious aspects and family life education.

C. Library and Reference Services

Support to the Center's Library and Reference Services Unit under the 211(d) grant has made possible the development of an exceptionally broad and strong program of library and bibliographical services. The Library has built a collection of more than 10,000 documents, including basic texts, reference tools, extensive reprint and Area Files collections, and subscriptions to more than 200 periodicals. Rate of acquisition for library materials now stands at roughly 50 books per month, plus 200 or more reprints and Area Files documents.

With a solid collection of documents established, the four-year-old Library has been able, during the past year, to turn more attention to development of reference and other library extension services. The number of persons using the Library per month, including local faculty, staff, students, and numerous mail requests, has almost quadrupled in the past 14 months, leading to the establishment of a full-time reference and bibliographic service. This service includes local reference service, compilation of special in-depth bibliographies, publication of the Monthly Index to Periodical Literature on Population/Family Planning, and photo-duplication and distribution of selected items requested. The Library publications program has been expanded to include, in addition to the Index and the Book Acquisition List, a Directory of Population Library and Information Resources in the U.S. and monthly lists of acquisitions for the reprint and Area Files collections. The Library mailing list includes more than 500 addresses in 30 countries, and is currently being updated and evaluated by means of a user survey. Response has been overwhelmingly in favor of the usefulness and relevance of the various indices and lists circulated. AID Population Officers are included in the mailing list and special bibliographies were prepared for several AID staff members during the past year.

In addition to its standard services, the Library has also, under a sub-contract through the Research Triangle Institute, provided bibliographic assistance to the NESB Bureau of AID. The compilation of a computerized index to population and family planning literature was completed in December 1970, and updated in May 1971, and numerous specialized bibliographies have also been compiled. In another of its special projects, the Library began, in August 1970 under a Programmatic Services grant from AID, to record its entire collection on computer tape. This is planned as the first phase in development of an automated system of storage, access and retrieval for population literature.

The Library plays a vital role in all aspects of the library and technical information research work undertaken by the Office. It provides both a model and a testing ground for the development of improved methods of classification and organization of population literature, and for improvement of book processing and reference techniques, and it gives training and other assistance to newly formed libraries.

The CPC Library also continues to play a leading role in the Association of Population Libraries and Information Centers, providing major impetus and input for the annual conferences of the Association and for the several programs of exchange and library research undertaken by the Association. Support from 211(d) funds is directly responsible for our ability to develop this capacity for leadership and for research in an area often neglected but crucial to support of population teaching and research programs wherever they may be located.

The total cost of library management and services in FY1971, was \$113,187 of which \$71,064 was from the 211(d) grant. The \$71,064 was applied as follows:

Salaries & fringe	\$61,433
Printing & supplies	2,113
Books, subscriptions, & publications	5,230
Travel	859
Equipment	854
Misc. (incl. contract typing)	575
	<hr/>
	\$71,064

D. Publications

Since 1969, the Carolina Population Center has published some 17 monographs. (See appendix 7 for a complete listing). The first printing on monographs 1 through 7 has been exhausted and it is clear that we will have to increase our press runs in the future. The last eleven of these monographs were chosen from a pool of thirty manuscripts, which speaks for the degree of selectivity employed by the publications committee.

In addition to standardizing its practices in making judgments and taking out copyrights, the publications committee has found it desirable to divide its work into two monograph series -- the blue series, which contains thoroughly documented original research, and the green series, which allows more flexibility in subject range. The latter will contain reports of workshops, advisory papers written for policy-making groups, practical descriptions of population activities around the world, and the like. The interdisciplinary monograph series has drawn subjects in the past year from such diverse fields as social welfare, anthropology, economics, psychology, systems analysis, computer simulation, epidemiology and health administration.

Several monographs deserve specific mention: Dr. Steven Polgar's Monograph 9 Culture and Population: A Collection of Current Studies was published concurrently by Schenkman Publishing Co., Inc., of Cambridge, Mass., and London. Dr. Abdel Omran's Monograph 16 The Health Theme in Family Planning has been requested for distribution to AID officers throughout the world; Dr. Anthony Measham's Monograph 17 Family Planning in North Carolina: The Politics of a Lukewarm Issue will be given condensation in the magazine Family Planning/Perspectives concurrent to its projected publication in November, 1971. Of particular interest to AID is Monograph 13, Epidemiographic Surveillance: A Symposium, based on a paper by the late AID staff member Dr. Harald Frederiksen. Eight outstanding epidemiologists from such diverse localities as Papua, Thailand, Italy, Switzerland and Israel contributed papers of comment on Frederiksen's essay, without remuneration.

A growing list of college and university libraries -- 65 in the past six months alone -- have made substantial orders of monographs, and a number of prestigious libraries have given us standing orders for all monographs in the future, among them the New York Public Library, two libraries at Harvard, and others at Princeton, Cornell, the University of Massachusetts, Duke University, California Institute of Technology, and the American Institutes for Research. The Library of Congress has requested Monographs 9 and 14 as resource material for Congressmen, and the Smithsonian Institution has used Monograph 9 as the basis for discussion at one of its conferences.

In addition to the Monographs, the publications office was responsible for the editing and limited production of Family Planning in Tewkesbury County: A Casebook in Community Health, a teaching case for family planning administration. The Center contributed another major policy report, Cracking the World Population Problem: A U. S. Goal for the 70's prepared for the Presidential Task Force on International Development, December, 1969.

A new publications enterprise was begun in November, 1970, with the offering of the first group of reprints of faculty articles pertinent to population which had appeared in professional journals elsewhere. During its first full year of operation, the reprint series will have offered thirty-six individual titles in three separate lists, a total of 6,900 reprints available to about 2,500 concerned professionals. The full list of reprints is shown in Appendix 7.

The total FY 1971 publications project obligation was \$57,219, of which \$39,452 was covered by 211(d). A further detailing of 211(d) resources shows:

Salaries & fringe	\$11,056
Honoraria for Critiques	1,375
Travel	206
Reprints	3,772
Copy editing	5,915
Newsletter	691
Printing	15,946
Art work & photos	491

	\$39,452

E. Family Planning Educational Materials Unit

The Educational Materials Unit was established in June, 1966, with a grant from the Rockefeller Foundation. The objectives of the grant were to, 1) Develop a series of prototype educational materials for family planning programs which might be widely adaptable, 2) Establish a training program, short and long term, which will serve the information and educational needs of population programs, and 3) Develop research and evaluation projects which will serve the immediate needs of program administrators.

The unit, consisting of one professional faculty member and two research assistants, was the first of its kind to be specifically charged with responsibilities in the family planning information and education field. After first making a survey of available materials (resulting in Carolina Population Center Monograph #6, "Family Planning Educational Materials: An Annotated Bibliography of Selected Items") the unit has undertaken the development of a wide variety of educational materials, including booklets, flipbooks, a film, a series of sound filmstrips and direct mail pieces. Most of these materials were developed for poorly educated groups because the need was so apparent. Two of the booklets and two flipbooks were developed under contract from the Office of Economic Opportunity and have since been reprinted and distributed in very large quantity by the Government Printing Office. Others have been made available, at printing cost, to family planning programs in the U.S. and abroad. A complete listing of these materials is included in Appendix 7.

The unit has carried out two communications training seminars. The first seminar was held in Bangkok in December, 1968, and was funded by AID. Sixteen countries in the Far East and NESAs regions were represented. A second seminar, funded by the Ford Foundation, was held in Teheran in June, 1970. Fifteen countries from the Middle-East and African regions were represented at the workshop.

With the cooperation of the Department of Health Education the first degree training program for family planning communications people was established in September, 1970. The first four graduates of this program will complete their M.S.P.H. training in December, 1971. Two of the graduates are from India, one from Iran and the fourth is from Malaysia. Two students were admitted to the program in September, 1971: one from Taiwan and one from the U.S.

Research activities have included the setting up of a distribution system of non-medical contraceptives among black youth, an evaluation of the sale of non-medical contraceptives by direct mail, and a study on the beliefs and attitudes about contraception among the poor. During the past year, the unit has been involved in a program to develop and evaluate the effect of a mass media program in four U.S. cities on contraceptive behavior and the prevention of unwanted fertility.

The Educational Materials Unit is working with AID/Washington personnel to develop a research project to test the differential effect of message

content on family planning behavior of identified audiences. We anticipate that this research project will be initiated within the next few months in three developing countries in different regional areas. Another major project now under discussion with HEW officials is to develop and test a prototype population information program for a typical American community.

F. Training Activities

Degree Programs

During 1970-71, a total of 122 students at the University specialized in population studies at the master's or doctoral levels. Student enrollment in the population program has more than doubled since 1966-67, when there were only 45 such students. A list of the students enrolled during the 1970-71 academic year is attached as Appendix 5. Students are registered in existing academic departments associated with the Carolina Population Center, but their study programs utilize a combination of population-related courses offered by 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. Through inter-university cooperation, students may also register for population-related courses offered by nearby Duke University and North Carolina State University at Raleigh.

During this same academic year, over 40 courses dealing directly with population and family planning were offered by the University. Four new population courses were offered during the period covered by this report through the School of Education, and departments of Zoology, Political Science and Health Administration. In addition, content of other general courses tended to deal more with population issues. Suggested courses and electives for population students during 1970-71 are listed in Appendix 3.

In addition to departmental courses, population faculty and students meet weekly for a general lecture-seminar. This seminar is held each Fall and Spring semester for credit and audit by population students. The program for the 1970-71 seminar is included in Appendix 4. Students and faculty also meet for special seminars and presentations.

Among the 122 students enrolled during 1970-71, approximately 40 percent were from other countries and 60 percent were from the United States; about two-thirds of the students were in research-oriented programs and one-third were in professional fields. Thirty American students were provided fellowship support under an NICHD population training grant to the Center, and others were supported primarily by federal funds through their academic departments. Among the foreign trainees, seven were sent directly by AID and others came with the support of the Population Council, Ford Foundation, World Health Organization and other private sources. In addition, five 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 research and training activities between the Carolina Population Center and the overseas institution.

Alumni of the Program

As of June, 1971, the University had graduated 145 students with a specialization in population and family planning. Six of these graduates have since enrolled for further advanced training in population studies. There are 67 graduates employed in the United States and 78 are now overseas, primarily in the lesser developed countries. Ten alumni are working in population-oriented positions with USAID, five of whom are in the overseas missions. A summary description of present positions, degrees awarded, and basic disciplines is included in Appendix 6.

Special Services

During 1970-71, short-term orientation services were provided for a total of 201 persons sent to the Center by USAID, the Ford Foundation, Population Council, World Health Organization, and others. The Center's training office organizes carefully-structured programs of from one day to several months duration for such persons. This program involves heavy investment of faculty time, calculated during 1970-71 as a total of 857 faculty man/hours of effort. Costs of the training office services plus such faculty time are primarily borne by the AID 211(d) grant funds. This investment seems justified as an international service. It also helps to build overseas relationships and to stimulate faculty and students.

The largest number of visitors to the Center were internationally-oriented professionals from the United States, followed by India (16 persons), Thailand (9), United Arab Republic (5), Philippines (5), and Afghanistan, Brazil, England, Ghana, Indonesia, Iran, Jamaica, Kenya, Korea, Kuwait, Hong Kong, Mexico, Morocco, Nepal, New Guinea, Pakistan, Sweden, Switzerland, Syria, Taiwan, Turkey and Yugoslavia (all 3 or less). A list of visitors and short-term trainees is provided in Appendix 2.

Conferences and Workshops

The Center sponsored eleven conferences or workshops during the period covered by this report. A brief description of each conference is given below.

(1) International Conference on Population Priorities and Options for Commerce and Industry, 1970-2000. International business leaders and population scientists met in Chapel Hill from October 21 to 23, 1970 to explore this area and to help further clarify issues and identify research priorities. The conference concerned itself with the social, political, economic and environmental effects of population growth and changes and their important implications for commerce and industry. More than 150 business leaders from throughout the U.S., but primarily from the Southeast, participated in this conference. It was the first occasion in the United States for joint thinking on this scale between population

scientists and key industrial leaders. The meetings created shared understandings about relationships between population growth and business responsibilities and the problems involved in meeting such responsibilities.

(2) Workshop on Social Work Curriculum Planning in Population and Family Planning. A workshop for twenty-five professionals in schools of social work assembled in Chapel Hill from November 18 to 21, 1970. The purpose of this workshop was twofold: (1) to identify and delineate those content areas in population and family planning pertinent to the profession of social work; and (2) to construct curriculum models for specialized programs of study in population and family planning for schools of social work. The workshop was held under the sponsorship of the University's School of Social Work, the School of Public Health, and the Carolina Population Center.

(3) Working Conference on Health Services to Minors in North Carolina. Twenty professionals engaged in the Center's OEO-funded North Carolina project met at the Center on December 2, 1970 to discuss projects which were underway and which were designed to insure delivery of health services to minors in North Carolina. Participants were composed of university professionals as well as family planning personnel in health-related agencies and institutions in North Carolina. Funds for this workshop came from the Center's grant from the Office of Economic Opportunity.

(4) First Annual Workshop for Political Science in Population Studies. A developmental workshop, sponsored jointly by the Department of Political Science and the Population Center, brought together twenty-five political scientists to help develop concepts, research and teaching strategies and interdisciplinary linkages in the pursuit of population studies. The workshop concerned itself with the potential utility of political science analysis for shedding light on population problems and on the utility of population studies in furthering political science itself. The workshop was held in Chapel Hill from December 10 to 11, 1970.

(5) International Population Policy Consortium. A small working conference was held from January 25 to 29, 1971 at the Center to organize a consortium concerned with international population policy. Fifteen political scientists from Carolina, Iberoamericana University in Mexico, University of Zagreb in Yugoslavia, Duke University and Florida Atlantic University met to consider: decisions on research and institutional development targets; deployment of resources; priorities; subsequent consortium activities; expansion of membership; and funding sources.

(6) Workshop for Staff of OEO/Population Center Family Planning Project. This workshop was held January 14-15, 1971 for all staff members of the Center's OEO Family Planning Project in North Carolina. The meeting was to demonstrate the improved rural family planning program methods. Thirty-five persons engaged in this project attended the workshop which dealt with the objectives of the project and the workers' roles within the project, interviewing, follow-up, maintenance, and record-keeping schemes and further training needs.

(7) University Population Program Development. Approximately twenty persons from this university, other universities, and ATD met on March 19-20, 1971, to consider general problems in development of University population studies programs in LDCs. It dealt with problems of facilitating contacts between universities engaged in developing population studies, gaining deeper understanding of the issues and processes involved at various stages of developing university population studies, and ways to help strengthen these programs.

(8) Second Annual Conference on Laboratories for Population Statistics. Twenty-seven persons engaged in the international population laboratories project met in Chapel Hill from April 19-21, 1971. Among the items considered at this conference were country project reports from Colombia, Morocco, and the Philippines; technical issues on the POPLAB projects such as site selection, unitary vs. dispersed areas, questionnaire content, interviewer training; and individual country discussion on nontechnical issues. Funding for this conference came from the POPLAB contract between ATD and the University.

(9) Fourth National Conference on Population Library and Information Services. Librarians from population-related agencies in the U.S. and overseas met in Chapel Hill from May 6 to 7, 1971 to discuss the international population library development project, retrieval and use of U.S. Census data; and foreign library and information services in Asia. Also of concern at this conference was the subject of partnership of government and private sources of population and family planning information. An international conference on population library and information resources was proposed, to be held in September, 1972.

(10) Conference on Population Education. A working conference for deans of eighteen major schools of education in the U.S., directors of departments of public instruction from six key states, and officials from the U.S. Office of Education was held here in Chapel Hill from May 9 to 12, 1971. The purposes of this conference were: to further identify ways to mobilize the interest of educational administrators in population problems; to explore useful ways for them to become involved in policy development and in advancing population education through school curricula; and to discuss possible next steps for action in the United States and abroad. The ultimate goal of this conference was to advance these activities internationally. Other conference participants included international visitors, representatives of the Population Council, the Population Reference Bureau and USAID. Funding came from the UNC-AID contract on population policy program design.

(11) Working Conference on Incentives to Family Planning. This conference was held in Chapel Hill on June 24-25, 1971. Approximately forty population scientists and government officials considered various incentives to family planning and discussed a prospective field study. Other proposals considered at this conference were family planning bonds, community incentives, and incentives to the postponement of marriage.

G. Research activities

Since research activities of the Carolina population program are funded from various special project sources rather than from the AID institutional grant, the Center's research program will be generally reviewed, indicating current developments and emerging interests.

Population program development studies

McLaughlin, Trainer and Schaefer continue efforts to evolve, formulate and test general program models designed to raise the efficiency of planning, implementation, and evaluation of population program development. Naylor, Moreland and Chu have developed a computerized management game which simulates general decision situations faced by administrators. Studies by Schultz, Trainer, McLaughlin and O'Connor seek to improve management record handling in family planning service programs. Allen is concerned with studies of interagency and other population program relationships. Udry and others are engaged in a long-term project which involves helping to design and evaluate new HEW-supported programs in 18 cities across the United States. Evaluation efforts include measurement of changes of incidence of undesired birth timing and of excess fertility and development and testing of indicators of adequacy of service activities. Hall is working at the regional level with HEW in the development of plans for the extension of family planning services throughout eight southeastern states, and discussions are underway for long-term technical assistance relationships between CPC and the Regional Office, especially on aspects of program evaluation design. At the state level, Noyes, Hall, and Knauff have collaborated closely with the State Task Force charged with the development and implementation of North Carolina's family planning program, and CPC is under contract to the State to design the evaluation system to be used. A similar contract would cover manpower training and development. A major OEO-sponsored program is testing methods for augmenting family planning services in 19 rural counties. Jain and others are analyzing data from different districts of India to study effects of different program operation characteristics on program performance. Jenk is working with the Family Planning Association of India on field operations research planning. Kessel, Cassel and others have initiated a major international comparative study of pregnancy termination methods and services. Problems of manpower analysis and development for the family planning field are of special concern to Jain, Trainer, McLaughlin, Edmands, Lynton, Hall and others. In the School of Education's new Center for Population and Environmental Education, Beach and a faculty group are now concerned with increasing research on demographic factors in educational planning, and on organizational and evaluation aspects of population education.

Biomedical studies

Reproductive biology: The Laboratories for Reproductive Biology, established in 1969 with the aid of a grant from the Rockefeller Foundation, are directed by Dr. H. Stanley Bennett, Kenan Professor of Biological and Medical Sciences. Members of the Laboratories for Reproductive Biology are active in the following research areas: (1) Neurological control mechanisms in reproduction; (2) membranes of gametes and other cells; (3) cell and molecular biology of male gametes; (4) endocrine control mechanisms in reproduction; and (5) contraceptive techniques. The Laboratories for Reproductive Biology are

administered through the Dean of the Medical School, and members of the Laboratories represent such disciplines as biochemistry, anatomy, zoology, pharmacology, pediatrics, neurology, and obstetrics and gynecology. The Reproductive Physiology Research Laboratory at North Carolina State University in Raleigh, under the direction of Professor Lester Ulberg, is active in studies of comparative reproductive physiology of mammals. This Laboratory is administered through the Department of Animal Science of North Carolina State University. Professor Ulberg and his staff are cooperating with Hulka and others of the Chapel Hill group in their research. Cooperative arrangements between the Reproductive Physiology Research Laboratory in Raleigh, the Laboratories for Reproductive Biology and the Carolina Population Center in Chapel Hill are growing.

Clinical research: In the Department of Obstetrics and Gynecology at Chapel Hill, research activities have concentrated on early pregnancy and sterilization. Hendricks and colleagues are studying prostaglandins and their analogs as abortifacients. Hulka is studying mechanical and pharmacologic ways of making dilation (for vacuum aspiration) of the pregnant cervix easier and safer. Hulka is studying improved methods for surgical sterilization, including laparoscopy, and reversible sterilization methods for females and males. Hulka and K. Omran continue studies on possibilities of inducing an immunological rejection response to the trophoblast. Another study involves stimulating the mucus glands of the cervical to secrete antibodies to sperm. A major new international program of fertility control studies, conducted by Kessel, involves the Obstetrics and Gynecology and the Epidemiology Departments at Chapel Hill, and an extensive network of international collaborators.

Van Wyk and French in pediatrics are exploring basic endocrinological factors influencing sexual maturation and fecundity. Morris and Udry have studied variations in menstruation, libido and coital frequency, and biological and social factors influencing these, the influence of oral contraceptives on such cycles and on levels of physical activity, and field studies on techniques of detecting early pregnancy and studying pregnancy loss.

Population genetics: Pollitzer's group is concerned with studies on isolated U.S. populations of different ancestry. Using genetic traits, physical measurement and demographic data, estimates of preferential matings and differential fertility among groups and phenotypes have been made. The genetic contribution of the parental populations and the role of cultural factors in gene flow are being investigated. Elston, Pollitzer and others are now searching for major genes which may underlie behavioral traits.

Demographic studies

Improved population measurement methods are the subject of a broad research program involving Linder, Wells, Greenberg, Sheps, Abernathy, Coulter, and others in biostatistics. Improved methods, utilizing longitudinal and periodic designs, are being built on basic research in survey design, investigations of non-sampling and response errors and the development of a range of mathematical population models. Another major program involving Linder, Smith, Myers, Losee and other members of the biostatistics

group aims to help local institutions in selected less-developed countries to build field "Population Laboratories." Each of these will involve demographic studies in a selected local geographic area, in order to test and demonstrate improved measurement methods and to study population dynamics under different conditions. These are now being developed in the Philippines, Columbia and Morocco.

A research program under Sheps, Greenberg, and Lachenbruch especially has aimed to develop new estimation methods for population analysis, to assess their accuracy, reliability and sensitivity, and also to study procedures for collecting appropriate data. Birth interval methods have been of special interest. To evaluate such estimators, an existing computer microsimulation model is utilized, as well as other special purpose models as necessary. In mathematical demography, Namboodiri in Sociology is continuing his studies on stable population theory and has recently undertaken studies in numerator analysis techniques.

Substantive studies of North Carolina by Hamilton and Steahr on North Carolina provide the most detailed demographic analysis ever done of a state population in the U.S. These investigators are also studying population changes in the Southern region of the U.S., including production of a summary monograph on this subject. A number of studies are underway on overseas population groups. Bauman and Kaluzny have worked in Thailand, and Burnight is now at the Population and Social Research Center in Bangkok. Omran directs a project analyzing population patterns in the Middle Eastern countries. Paydarfar is pursuing basic studies on the sociology of fertility in Iran, and Guic has undertaken population anthropology research in Isfahan. Wells and Namboodiri are collaborating with important studies of fertility and population dynamics being carried out at Gandhigram, in South India.

Hawley continues his basic work on urban ecology and his interests in the implications of population size on social organization. Purdy, in sociology, is also focusing on urban studies. The Center for Urban and Regional Studies, a research group under Dr. Shirley Weiss has become particularly concerned with new town development and the quality of urban life, and has established a field station at Columbia, Maryland.

At a fundamental level of demographic analysis, studies on basic population stabilizing mechanisms are being pursued in the context of the University's ecology program which involves faculty members in seven departments. This work deals with several species of animals and plants. The interests of Dr. Stiven and Dr. Long in zoology especially focus on the demographic characters of specific populations existing in different environmental systems, the relationship of genetic variability to environmental heterogeneity and flux, and the nature and causes of population mortality.

Psychology studies

The departmental faculty in psychology at Chapel Hill are increasingly involved in development of psychological studies relevant to better understanding of population dynamics. Explorations so far relate to attitude structures associated with family size desires (Thompson, Insko, Appelbaum), semantic differential studies of population terms (Appelbaum and Young), premarital counseling approaches to birth control and family planning (Lowman), development of educational approaches for use with delinquent populations

(Eckerman), development of educational materials concerning cross-species psychobiological correlates of reproduction and effects of crowding (Brown), consideration of psychological incentives factors related to population change (Lolordo), and crowding studies with humans (Schopler). Field studies by Insko, Blake, and others concerning attitudes toward birth control among low-income groups represent one of the first attempts to advance modern psychological theory related to fertility and contraception. A doctoral study by Kothandapani analyzing various attitude measures as predictors of birth control usage has provided the basis for a Carolina Population Center monograph. Thompson has summarized knowledge on psychological antecedents, correlates and consequences of family size. Thompson, Insko, and Appelbaum are engaged in experimental studies of attitude change approaches among persons desiring more than three children. Thompson is working with Allen and Prothro on a development of refined instruments for assessing attitudes and values relevant for population policy. The departmental group is particularly concerned with advancing further research in three areas: attitudinal and motivational factors in reproductive behavior, improved measurement of population variables, and psychological aspects of population density and migration.

Family studies

Sussman and Cogswell are engaged in a four-year program of cross-national research on family system dynamics as a linkage between aspects of societal organization and fertility behavior. Factors of concern include, for example, structural aspects, spouse interaction, influence of children already born, and socialization processes and outcomes. The project involves research collaborators in ten countries. This study is also examining different family structures with regard to their functions in identifying social options and equipping family members for alternate performance patterns, with implications for fertility and birth control behavior.

Polgar, in Anthropology, has been investigating the influence of conjugal role relationships among Black and Puerto Rican families in New York City poverty neighborhoods, as these affect the use of different methods of birth control. This work also examines effects of an additional birth during the study period on educational, economic, and health status of observed families. Coulter, in biostatistics, has studied adoption and other outcomes among a cohort of illegitimate births in the State of North Carolina. Cogswell is engaged in a study of the socialization of adolescents into sexual roles in a poverty neighborhood, their relationships with their parents, and other factors which may influence the prevention of unwanted pregnancies.

The influence of family child bearing patterns for the health of family members is a strong concern of Siegel, Morris and others in the Department of Maternal and Child Health. Omran and others in epidemiology are especially concerned with problems of research design in this subject area. Omran has developed and is coordinating a WHO-supported international program of research on relationships between fertility and family health which now involves seven countries, and soon will involve three more. These studies involve longitudinal observation of health and demographic variables and their results.

Marshall, as part of an anthropological study of decision-making about contraception in a village in India, is investigating intra-family communication networks and beliefs, values, and expectations regarding family size limitation.

Economics studies

Population research interests of the departmental faculty in economics at Chapel Hill are already substantial and are becoming more focused. Afriat, a mathematical economist and theorist, is interested in population optimization questions. Pfouts has recently worked on mathematical theory of stable populations, and Tarascio on Keynesian population theory. Grandstaff has analyzed migration in the Soviet Union, and Iden is working on economic aspects of migration in the U.S. Richter is concerned with internal migration and economic development in less developed areas. McFarland previously helped to build the General Electric TEMPO simulation model of demographic-economic interaction, and is now moving into research on the economics of population distribution and natural resource conservation. Orsagh, an economic historian, has studied aspects of geographic distribution of income and of immigrant labor. Scheffler's research in the area of human resource economics now focuses on problems of health manpower distribution. Boone Turchi has developed a micro-economic model of family size decisions and is concerned with further work on optimum decision theory in population research. It is hoped that Joseph Spengler will join the group during the year to help in advancing the above research interests, to explore further the social and economic implications of zero population growth, and to continue his studies on the implications of different population distribution patterns and approaches to achieving optimal distribution. Naylor, an associate of the Center who heads the econometric systems simulation program at Duke, is working with Chu and others on development of econometric models in Brazil and Taiwan; they especially seek to incorporate demographic factors so as to enable the study of implications of alternative growth patterns, suggest needs for additional demographic data and advance general population research concepts. At the nearby Research Triangle Institute, David and Lindsey have studied demographic components of economic development in Nepal and North Carolina.

Political studies

Faculty members in political science at U.N.C. are deeply concerned with development of research on population relationships with politics and government. Prothro is working with Allen and Thompson on methods to measure population-relevant value profiles among different groups, as relevant to population policy development. Lind is concerned with effects of population dynamics on psychological aspects of political participation; he and collaborators are developing a study of the political implications of metropolitanization in a nearby area. White is involved in research on effects of urban migration on politicization of migrants and on institutional structures, using the case of Japan. Flash is integrating a long-standing interest in health policy with the issues posed by population policy development and implementation. Clinton has completed a study on problems of population policy formation in developing countries with a Hispano-Catholic cultural tradition, and hopes to expand and test population policy-relevant

concepts especially through comparative work in Peru and Colombia. Lehnen is concerned with the influence of population patterns and changes on political process and governmental forms, and hopes to pursue work in this field especially in the southeastern U.S. Levine has studied comparative ethno-politics in Africa and seeks to clarify population policy issues among selected African states through comparative studies of their natality patterns, political histories and sensitivities of current regimes. He also seeks to study the interplay between institutional and personal factors in population policy development in African situations. An International Population Policy Studies Consortium has been established with co-sponsorship by U.N.C. and institutions in Mexico and Yugoslavia, as a means of facilitating internationally-oriented population and political science studies. Its secretariat is currently manned by Clinton in Chapel Hill. Papers presented at the population/politics workshop held at U.N.C. in December 1970 are being published as Political Science and Population (D. C. Heath and Company); a companion volume, Research in the Politics of Population, edited by Clinton and Godwin, will report on specific studies. Plans are underway for the second annual population/politics workshop in the spring of 1972. Other relevant activities include a study of Buddhist relationships with population programs in Southeast Asia, and Nash's continuing explorations of implications of various religious value systems for human reproduction. Kamala Rao, of India's National Family Planning Institute, worked on policy-oriented research interests in Chapel Hill during 1970-71. In the Department of Health Administration, Jain has studied the legislative dynamics of abortion law reform in the U.S. and Measham completed a study of family planning policy formation at the county level in North Carolina. Colleagues at Duke University include Kurt Back, concerned with social psychological aspects of population policy, and Halderman, concerned with international law and population programs. Stillman of Duke, with CPC support, is working on a comparative framework for understanding national population policies with reference to African countries. Keir Nash, Senior Research Associate of the Center, serves as Director of Political Studies of the Commission on Population Growth and the American Future.

H. Field Program Relationships

Various country areas of interest are listed below alphabetically, with comments identifying project activities after each. In some cases, activities are exploratory or quite limited while in others they are well established. Further details about these activities have been provided in the form of specific reports or background documents and more data can be provided as desired.

Africa

Emerging CPC involvement with AID-assisted projects in African countries will offer important new opportunities for work related to the present contract program for studies in improvement of family planning program and policy design. Such activities, for example, will involve work with the University of Ghana and other selected African universities to strengthen action-oriented family planning study programs, a major effort to strengthen family planning aspects of health teaching programs in various African countries (including building related pilot field project activities), and the development of population statistics laboratories in Morocco and perhaps other African country situations. Each of these emerging activities will also provide opportunities to explore new program and policy improvements.

Brazil

While recognizing clearly the sensitivity of the current Brazilian situation, the CPC has made a general commitment to Brazil as one of its areas of key interest. This is because of the obvious importance of Brazil's policies and programs for this hemisphere, and because of the special interests in Brazilian studies here at UNC, in connection with the Institute of Latin American Studies. The CPC will continue to strengthen informal relationships with Brazilian colleagues who are now or potentially concerned with population policy program matters, will assist in low-key and background fashion where possible and will be available for further help as Brazilians themselves take more interest. Daland at UNC, who has worked closely in Brazil in aspects of development administration, will be a key coordinator for such further interest on this campus.

Chile

Discussions with AID/Chile staff and colleagues in the University of Chile population studies group led to the arrangement last year of an AID-sponsored contract with the CPC for overall development of a population center in the University of Chile. However, because of political changes and reassignments of some of the key staff in Chile, continuation of the anticipated activities in Santiago has so far not been possible. Manpower studies related to health and family planning programs in Chile were a major interest of the Chilean group and of Hall, who was AID Population Officer in Chile at the time. Hall has joined the CPC faculty group and will continue to work on the Chilean data he helped to collect there, exploring the broader implications for family planning manpower analysis. Population policy development in Chile, especially relationships between attitudes of different elite groups and the evolution of population policies, are another major interest. E. Hall undertook a detailed study on this subject, with the help of Chilean colleagues and CELADE during 1970. She will be analyzing these data while in Chapel Hill during 1971, with continuation funding from Johns Hopkins, in cooperation with others here.

Colombia

In Colombia, collaborative pilot studies in population education have been undertaken and a new "population laboratory" project is now being developed with the Colombian National Statistical Department.

India

In India, as in other country program relationships, the CPC especially emphasizes that collaborative efforts in the population field should be truly reciprocal, with careful maintenance of mutual respect and sensitivity while exploring problems of common interest. General relationships with the Indian Department of Family Planning, GOI, are informal and friendly. The CPC faculty have benefited from sharing and testing ideas regarding analysis of population program design problems with various Indian officials, and the relationships with various institutions in India indicated below have been developed with encouragement from the Government of India leadership.

A major effort so far, under Dr. Jain, has aimed at a general and aggregate level to analyze and evaluate the current Indian family planning program. A comparative analysis of selected state and district programs in India aims at a first-stage estimation of the relative importance of (a) population characteristics, (b) program resource inputs, and (c) administrative and operational characteristics, on program performance

in different areas. Data from Indian states and from 264 districts is being used to explore relationships between certain population characteristics (age and sex, religion, levels of education, literacy and economic development indices) and the performance of family planning programs as measured by estimated use of IUD's and sterilizations, and estimated births averted.

The Administrative Staff College in Hyderabad runs a multifaceted administrative training, consulting and research program. The Staff College, with backstopping from CPC, took a first step last year toward exploring family planning administration problems through development of a teaching case program. The College is now well advanced in preparing a series of case studies on problems of family planning administration to teach program administrators and faculty of various training institutions in India how to write and use such cases. The College is now recognized as a leader in this field by the Government of India and serves as a national clearinghouse for cases in family planning administration. The College is moving further toward research and training on management of family planning programs. The CPC group has encouraged the College to share its expertise with those officials responsible for developing family planning programs in India, and the College is assuming an increasingly important role in providing consultation and training. To strengthen this work, it has requested limited technical assistance from the CPC in further faculty development, and has also expressed interest in receiving CPC interns under the Frederiksen Overseas Internship Program.

The health and family planning unit of Allahabad Agricultural University is directed by Drs. Lessel and Pramila David. The Davids were brought to Chapel Hill for advanced studies in population and family planning and were supported for an additional period in order to plan and prepare for a major field project in the Allahabad area of Uttar Pradesh. The project has a number of innovative features, including use of alternative types of field extension workers, improved staff training, different types of clinical services including voluntary pregnancy termination services, and improved record systems.

At the request of IPPF, the CPC agreed to help the Family Planning Association of India to explore ways whereby it could play a more dynamic and innovative role in the whole Indian family planning movement, and to strengthen its own internal organization as needed to play such an expanded role. A full-time staff member, Jenk, has assisted the FPAI during the last year in advancing their role with regard to improving methods of contraceptive service delivery, population education, support for innovative pilot field projects, development of new mass communications methods, sponsorship of training in contraceptive methods and in pregnancy termination techniques in anticipation of abortion law reform in India, encouragement of more involvement by industry and large employers in promotion of family planning, strengthening population library and information services, and exploring closer links between family planning and basic rural nutrition and sanitation services. The internal organization of FPAI is gradually acquiring continuing executive leadership and specialized talent for medical education, evaluation, and field organizational functions. Work is also underway to strengthen existing FPAI branches and to substantially expand the number in the future.

Pisharoti from Gandhigram Institute of Rural Health and Family Planning has developed a set of non-computer simulation materials for training family planning administrators for LDCs now used routinely with student groups. He

has also worked closely with this project for general program analysis and evaluation for the Government of India. Studies on other aspects of population program and policy design are being advanced at Gandhigram in consultation with CPC staff, including Kaluzny and McLaughlin. Namboodiri spent a month at Gandhigram in September, 1970 helping to refine measures of program effect, and helping to design further block-level studies on the impact of different patterns of family planning work and on policy-relevant, socio-economic factors. The Haryana State family planning program has been experimenting with a number of program innovations and the Secretary for Health and Family Planning has had technical discussions with the CPC group in Chapel Hill. In a June Conference with CPC staff, the Haryana experience was documented further, and the participants considered ways whereby the Haryana program could be better adapted and focused; steps were considered for a more systematic evaluation, analysis, and sharing of this experience.

Relations with the National Family Planning Institute have focused mainly on faculty exchange for mutual growth and development. Dr. K. Rao, head of the Social Research Division, completed work as a visiting scholar at Chapel Hill on a comprehensive summary and analysis of social science research in family planning programs and policies in India. In consultation with concerned staff here, she also worked on field study designs relating to aspects of family planning manpower development, improved delivery systems, University population program organization, and aspects of population policy development. McLaughlin and Jain worked to help the National Institute of Health Administration and Education group to identify faculty needs in the areas of modern management methods, methods of social and organizational research, and economic analysis related to family planning and health programs. Population economist Malhotra of NIIAE served as a consultant to the comparative study of the effectiveness of district family planning programs in India, and is currently developing a project to test the usefulness of the comparative study model in a similar study in Rohtak district. Jain continues to provide informal consultation to NIIAE faculty in relation to their various projects, which represents a unique pool of resources and talent which, if mobilized, can contribute much to analysis, planning, training and evaluation of family planning programs.

India has been a leader in exploring ways whereby the formal education system can be mobilized as part of an overall family planning movement, and CPC involvement in this effort also dates back several years. A current collaboration with Mysore State Education Department involves experiments on ways of building population education functions in selected rural schools. Also, with technical help and consultation from CPC under this contract, the FPAI is developing major interests in this field. A number of universities and institutes in India are concerned with relating their research and teaching to the national population program needs. Encouragement and help has been provided to such efforts because of their intrinsic importance and also because such institutions often have important opportunities to develop and test improved program and policy approaches. Collaborative contacts and relationships exist with the Indian Institute of Management in Calcutta, Indian Institute of Public Administration, Kerala University, Delhi University, Udaipur University, Tirupati University and others.

Iran

The faculty group concerned with population program studies in Iran is coordinated by Paydarfar. Also, six key members from Iranian agencies and institutions concerned with the population field are engaged in advanced studies in Chapel Hill and are participating in the Iran program considerations. A crucial need in the Iranian program at this time is development of pilot projects which correspond with local-level governmental units (i.e., the bakhsh) where basic methods for implementing the various components of a family planning program can be worked out, refined, and demonstrated. Paydarfar is analyzing baseline data collected in certain urban, rural, and tribal population groups in the Shiraz area, which clarifies factors related to acceptance of postpartum family planning services, husband-wife attitudes influencing family-size norms and family planning, and cultural factors which may influence program designs. Gulick and wife worked with the University of Isfahan staff and the Amin Family Planning Clinic unit to develop studies of existing program patterns in an urban service area and identifying factors which influence current acceptance, on the basis of which program improvements will be made, assessed and demonstrated. At another level, Ziai, Director-General for services in the Family Planning Division of the Health Ministry, worked at Chapel Hill during 1971 on a plan for implementing pilot and demonstration delivery system projects. A more macroscopic analysis of the Iranian program was subsequently produced early in 1971 by the United Nations team sent for this purpose, and the CPC group informally assisted in aspects of this effort. Paydarfar worked with Iranian government officials in new project areas supportive of the overall family planning program, and has now been requested by Iran's Plan Organization, with support from the United Nations, to help with consideration of designs and plans for further program and policy development.

Blake continues to follow up the workshop on Family Planning Mass Communications Methods, organized in collaboration with Iranian government in 1970. This workshop involved use of simulation models for teaching purposes and helped the participants from Iran and 14 other countries develop designs and operational plans for the communications sector of family planning programs in their own countries. Currently in Isfahan an experimental mass communication program is underway with support from the Population Council which will have further implications for the design of Iran's future programs. Gulick is collaborating with this effort, especially its evaluation aspects, in addition to his urban delivery systems studies. Finally, because of an emerging interest in building population education in the formal school system and through adult education work in rural areas, Dean Beach and others of the CPC population education group visited Iran in early 1971 and discussed with Iranian Education Ministry officials possible joint efforts in their field. The Chancellors of Tehran University, Isfahan University, and Pahlavi University in Shiraz have all indicated an interest in collaborative links to help strengthen the organization of population studies program in their own universities, in support of the national family planning program efforts. Training and consultation services related to each of these programs are now underway.

Korea

Following an exploratory visit by CPC staff last year, Dr. Jong Huh of the Seoul National University School of Public Health and USAID/Korea requested further help with formulation of a project which aims at an overall administrative analysis of the Korean national family planning program system. Trainer visited Korea in January-February 1971 to consult for this purpose. The project of Dr. Huh and his group will include examination of the national program's administrative information system, personnel policies and practices, financial structure, and various internal and external program constraints. McLaughlin has been invited to work with Huh on special data analyses for this project and Trainer is expected to return this fall to continue with consultation and support. Given the strong interest of Korean officials in this type of analysis, Trainer may be able to assist also on a second stage effort to link the Korean studies with the efforts of Jain and others to develop methods for cross-national program comparisons.

Pakistan

Because of the need to tap important experience from Pakistan in connection with the goals of this program, and with AID encouragement, Dr. Sadik, Director-general of the Pakistan Family Planning Program, spent two months with CPC. She worked on an overall analysis of the Pakistan family planning program system, looking especially at organizational lessons learned and possible methods for program strengthening.

Philippines

CPC is involved in the Philippines with development of a Population Statistics Laboratory project through Xavier University in Luzon. A consulting relationship also has existed for some time in the field of population education, and Dr. Soriano, head of the Philippine primary education system, visited Chapel Hill to discuss possible further collaboration. A group from the Philippines also participated in CPC's first intensive workshop on training of trainers in family planning in 1967. At AID's request, Gregorio Feliciano, former Minister of Social Welfare in the Philippines, worked with CPC on ideas for a proposed new national population center in Manila.

Taiwan

Dr. K. K. Chang, who served with JCRR as field director of Taiwan's family planning program for many years, has completed an analysis of the Taiwan family planning organizational structure, especially examining factors in the information and supervisory systems which could influence

program efficiency. Continuing collaboration with him is anticipated, as he plans to field test some of the leads for program improvement which he has identified. Chu and Moreland in the summer of 1970 worked with Taiwan's development planning group in the Council for International Economic Cooperation and Development. They found that, despite the heavy family planning program activity in Taiwan, national planners were not systematically considering population factors and possible population policy implications. Chu and Moreland have helped to construct a policy planning model for Taiwan which can illustrate the effects of population trends and policies. A family planning program planning game, which received preliminary testing in Taiwan last year and was refined and applied usefully in the training of family planning administrators in Chapel Hill in 1971 will receive further field testing in Taiwan with the help of Chu. His interest in pregnancy termination services will also be supported, if possible, through collaboration with the CPC International Fertility Research Program.

Thailand

Hawley developed the first rural family planning pilot projects in Thailand, and the CPC assistance to the Mahidol University Population and Social Research Center has supported field studies on the effects of family planning program inputs in the Bangkok area. During 1971, CPC was further engaged with an AID-supported arrangement for institutional development for population and health studies in Mahidol University. Kaluzny has helped to develop a new project plan, involving the Population and Social Research Center of Mahidol University and the Thailand Ministry of Public Health, to experiment with use of alternate types of field workers for family planning promotion, including volunteers and professionals. Also, plans for field trials of non-clinical contraception distribution methods are under consideration. These specific projects seem to have primary interest for the Thai government. Kaluzny has developed with the Thai officials the framework for a broader, input-output type of analysis and evaluation of program operations in different parts of the country. Wray, working with the Rockefeller Foundation but linked with the Carolina group, has developed a pilot model of an intensive family planning and health information system in a rural area near Bangkok. Stein was engaged as a consultant to explore the possibilities of a larger trial of this concept, especially relating to the malaria surveillance system. The Thai Ministry of Health has subsequently requested assistance from CPC to undertake the project. Exploratory studies relating to mobilization of Buddhist groups in support of population policies and programs in Southeast Asia--especially in Thailand--have been undertaken by Gard.

U.A.R.

Over the last few years, eight Carolina faculty members have consulted on population program development in the UAR, and a large number of key persons from the official UAR family planning program and concerned institutions in Egypt have consulted or pursued advanced studies at Chapel Hill. Close collaborative relationships exist with such institutions as Cairo University, Ein Shams University and Al Azhar University, in statistical, biomedical, and social research aspects of population studies. Especially close relationships have existed with the Social Research Center of the

American University in Cairo. Also, an AID/Nesa Bureau-supported project under Omran, to synthesize knowledge of population trends and policy development in the Near East, has strengthened basic involvements in the UAR. The American University in Cairo has developed considerable competence in social research on population dynamics. It has in various stages of the planning or development, a series of studies in selected areas of Egypt which will include clarification of basic fertility patterns, factors influencing family planning acceptance, response to family planning services, effectiveness of contraceptives, cultural factors with possible policy implications, and experimentation with educational approaches and improved organizational methods. Gadalla, associate director of the AUC Social Research Center, is in the U.S. analyzing an initial set of fertility and household data. For the purpose of completing this work and strengthening his own background for study of organizational systems and development of pilot projects to improve family planning program effectiveness, he is working closely with CPC in Chapel Hill to mobilize consulting or training resources from Chapel Hill for support of his further efforts, travelling also to Egypt during the year as needed to help advance the work there. The CPC staff has found in other instances that this type of preliminary backstopping can be very effective, to help the leader of a new operations research project tap other experience, consider alternate designs, and formulate strategies and techniques before being plunged into a sensitive system where small errors can lose great opportunities for innovation. Shanawany is author of a pioneering study of family planning policy development in Egypt and former member of the Ministry of Social Welfare and the Family Planning Association of Egypt, who is now with the AUC. She has been awarded a special social science fellowship by the Ford Foundation for advanced study abroad, and arrived to spend this period at Chapel Hill. Though not AID-funded, her presence will help substantially to advance the studies in population policy development.

United States

For studies in North Carolina and the Southeastern United States, Hamilton and others have provided basic analyses of demographic patterns, social and psychological factors important for program planning, and improved indicator systems for program evaluation. At the level of local family planning program delivery systems, analyses of basic program design problems have been made by family planning administration students and by staff members in different types of county and city situations. In several of these, exemplified by the Caswell County, North Carolina program, it has been possible to identify, test, and demonstrate a variety of improved program methods. Stimulated and assisted by the present contract program, but funded separately under an HEW contract, studies of program design problems in selected medium-sized cities across the U.S. have been developed by Udry and others, and improved program "modules" are being developed for postpartum groups, males and teenagers. An extensive experiment with strengthened mass communications approaches is now underway. Problems of family planning staff development have been studied, including the roles of the remaining indigenous midwives in the region, and nursing, medical and education staff. An OEO-supported operational study is now underway to devise and demonstrate improved designs for increasing the participation of private practitioners, in North Carolina. The problems of information retrieval and use have been studied and improved methods devised and tested in Wake County. With some support under the present contract, O'Connor of M.I.T. has been assisted in the

further development of a computerized program information system and a model which can assist with program priority and control decisions. This also has possible training uses. At the state level, problems of inter-agency relationships in development of population programs, very similar to those encountered in other countries, have also been a focus of special interest. Efforts are now in process to identify and demonstrate methods to facilitate program planning and development functions at this level. Population policy development process studies in the U.S. deserve mention here; though they have not been funded under the present contract program, they also have been stimulated as a result of it. Studies of policy process at local levels within the State, undertaken by Measham, revealed sequences quite different from what usual political science theory would predict. Generalizations regarding population policy development at the U.S. national level have been developed in a doctoral study by Bergman, and also in analyses by Keir Nash, now on the Commission on Population Growth and the American Future.

I. Direct Services to Population-Related Agencies

The increase in the Center's overall capacity, largely due to the AID supporting Grants, was further reflected during 1970-71 in the amount of direct participation by CPC faculty in consulting missions, panels, and boards of U.S. and international agencies in the population field. This participation, in turn, helped further to strengthen the Center's competence.

AID

During 1970-71, Freymann and Linder served with an advisory group on population matters to AID's Technical Assistance Bureau. Linder served as a member of AID's Research Advisory Committee, and several faculty members consulted with AID's Population Office, Near East and South Asia Bureau, and served as members of the population panel of the AID-supported South East Asia Development Advisory Group. Lynton assisted with AID-sponsored training courses operated by the Government Affairs Institute and Hulka helped in the Foreign Service Institute's courses. With AID missions abroad, Linder and others of the FOPLAB program consulted in several countries on approaches to improving population measurement.

United Nations System

Continuing, informal contacts and exchange were maintained with staff of the U. N. Fund for Population Activities and the U. N. Population Division in New York. Linder consulted with WHO on aspects of population statistics, Freymann assisted a WHO Expert Committee on Family Planning Administration, Polgar served as a member of the WHO Expert Advisory Panel on Human Reproduction, and Omran served on the WHO Scientific Group on Human Development and Public Health in Geneva. UNESCO utilized Burleson and Blake in connection with population education and mass communications, and Buckner was used by WHO and ECAFE on aspects of library and information resource development in Korea and Taiwan. The CPC staff also assisted the U. N. Advisory Committee on the Application of Science and Technology to Development.

International Planned Parenthood Federation

Jenk continued an assignment to the Family Planning Association of India to help in matters of administrative reorganization, planning an expanded program, formulation of innovative new project units, and interpretation of these developments for new IPPF funding.

Department of Health, Education and Welfare

The National Institutes of Health population research program was assisted by Linder, Udry, Polgar, Namboodiri and others as members of advisory and review committees. Linder chairs the United States National Committee on Health and Vital Statistics, and Wells continues to serve as a project officer with the National Center for Health Statistics. Freymann worked for a period during 1971 as Special Assistant to the Assistant Secretary for Health and Scientific Affairs on planning for population program development in the USA.

Others

With the Ford Foundation, Mathews and others served in advisory roles on general subject areas or country programs. Pulka assisted the Pathfinder Fund and Rockefeller Foundation in biomedical research strategy. Freymann is a board member of Planned Parenthood-World Population; Polgar and Blake are members of the National Advisory Council. Edmonds and Allen serve on population and family planning committees of the American Public Health Association, and Allen serves with the Board of General Social Concerns of the United Methodist Church. Freymann serves on the Advisory Committee on Population Dynamics, Pan American Health Organization and as a member of the Executive Committee of the Southern Regional Demographic Group. Hawley advised on migration with the International Biological Program. Many other members of the Center's faculty have served with regional and state programs concerned with population and family planning.

III. EXPENSES CLASSIFIED BY BUDGET AND PROGRAM CATEGORIES

The preceding narrative attempts to provide a picture of the accomplishments of the Carolina Population Center in FY1971. As is readily seen, these accomplishments far exceed what might be expected from a simple accounting of 211(d) expenditures. As indicated earlier, the specific 211(d) grant expenditures have an important "multiplier" effect. For accounting purposes however, a listing and an analysis of expenditures follows in this section of the report.

Expenditures are classified in this section in two ways. The first classification follows the traditional accounting categories of salaries, supplies, etc. The second classification follows a more functional or programmatic approach, showing program expense areas and indicating the contribution of 211(d) funds to these functional areas.

A. Expenditures by Budget Category

The FY1970 report forecast obligations of \$550,000 for FY1971. Total obligations of 211(d) funds in the FY1971, July 1, 1970 through June 30, 1971, were actually \$524,262. Details of this 211(d) grant expenditure, grouped according to the University's budget object categories are as follows:

	<u>FY71 Forecast</u>	<u>FY71 Actual</u>	<u>Over (under) Projection</u>
Salaries	350,000	319,611	(30,389)
Social Security & Retirement	35,000	32,465	(2,535)
Honoraria & Consultant	16,000	23,796	7,796
Supplies	20,000	16,627	(3,373)
Travel	20,000	26,150	6,150
Other Direct Costs	76,000	70,157	(5,843)
Stipends, Tuition & Fees	28,000	28,073	73
Equipment	5,000	7,383	2,383
	<hr/> \$550,000	<hr/> \$524,262	<hr/> (25,738)

1. Salaries -- \$319,611

The total salary expenditure of the Population Center program, administered through the Center during 1970-1971, came to \$1,317,797. Of this, \$319,611 or 24.2% was provided from the AID 211(d) grant resources. The other salary costs were largely covered by task-specific contracts or grants from governmental or private agencies, or by University sources. Ford Foundation grants covered 13.4% of salaries, Rockefeller Foundation grants 9.1%, NIH grants 4.7% and the remaining 48.6% came from the University and other sources. Of the 211(d) expenditures for salary, approximately \$162,042 (50.7%) were applied to cover professional faculty referred to in Section II above and detailed by department in the following functional breakdown of expenses. An amount of \$144,794 (45.3%) covered costs of supporting staff required for assistance in faculty teaching, research and service activities. The remaining \$12,785 (4.0%) was used to pay for part-time assistance, particularly graduate students, in the fields of library work and statistical data processing.

2. Honoraria and Consultants -- \$23,796

A total of 79 honoraria payments were made, primarily for experts invited to lecture and consult briefly on specific aspects of the total program, to provide critiques of proposed publications and to provide assistance and guidance on specific program problems. Fees paid for such visitation and consultation averaged \$301.00 each, but the actual payment varied, depending on factors such as the consultation requirements, preparation needed, duration, and the professional standing of the consultant. Of 79 payments, 37 were under \$100, 29 were between \$100 and \$300, 8 were between \$300 and \$1,000, and 5 were over \$1,000.

3. Travel -- \$26,150

During 1970-1971, the Center covered costs of 251 domestic trips of local staff, consultants, population students and visiting lecturers at an average cost of \$104.18 per trip. The travel was for such purposes as professional conferences, Center sponsored seminars, student field training, staff and student recruitment, and technical consultations. The Center did not, in FY1971, sponsor any foreign travel from 211(d) funds. Such travel was covered under international agency consultancies or specific projects. However, because a record of CPC foreign travel may be of interest to the reader, Appendix 1 presents a summary of this travel for 1970-71.

4. Other direct costs -- \$70,157

This University account 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. For FY1971, these costs are more specifically detailed as follows:

Telephone	\$17,409
Printing monographs	17,000
Xerox rental and related costs	17,220
UNC duplicating, printing & photo service	6,413
Editing, art work & contract typing	3,244
Library subscriptions	2,654
Bibliographic service (for India Population related studies)	1,800
Conference expenses	1,668
Office machine maintenance	737
Data processing	520
Stamps	198
Other miscellaneous items too numerous to reference individually	1,294
	\$70,157

5. Tuition, fees and stipends -- \$28,073

The following expenditures were applied to trainees whose presence especially contributed to the Carolina Population Center's institutional capacity and fostered useful relationships with institutional collaborators abroad. Payments were made with AID approval through the Institute of International Education:

<u>Student</u>	<u>Stipend</u>	<u>Tuition & fees</u>	<u>Total</u>
Kappalamadagu Sastry	4,943	745	5,688
C. M. Suchindran	3,110	705	3,815
Firooz Azordegan	3,041	1,180	4,221
Krishna Bhatnagar	3,691	1,121	4,812
M. Thangadorai	3,976	1,180	5,156
P. K. Jain	3,201	1,180	4,381
	21,962	6,111	28,073

6. Equipment -- \$7,383

Costs of space requirements continue to be covered from the University and other sources. The staff augmentation during 1970-1971 required the addition of some equipment items. Such items procured from 211(d) are of long term usefulness and are listed below. Insurance, inventory and maintenance programs are in effect.

<u>Item</u>	<u>Cost</u>	<u>Manufacturer</u>	<u>Purpose</u>
Recorder/transcriber	\$ 999	Teletran	CPC Dir. Mgt. & Res.
Electric Typewriter (2)	721	IBM	Libr. & Publs. projs.
Electric Mailing machine	1,242	Pitney-Bowes	Service Unit
Mailing scales	278	Pitney-Bowes	Service Unit
Card catalogue	249	Myrtle	Dvlpmt. office
Desks (11)	1,541	Alma	For new staff
Chairs (15)	1,033	Boling	For new staff
Stacking chairs (36)	430	Krueger	Conference room
Dictating machine	197	Norelco	Library project
File cabinets (5)	693	Miscellaneous	Fac./staff offices
bookcases (2)			
Telephone stands (2)			
etc.			

\$7,383

B. Expenditures by Programmatic Category

Organizational studies in 1970-71, directed toward strengthening CPC administration, resulted in the identification of four general areas of operation: Academic Programs, US Programs, International Programs, and Administration (See Appendix 9). Whereas the previous section reported expenditures by budget category, the breakdown below provides a programmatic profile in explicit on of 211(d) expenditures as a part of the CPC overall program, sub-totalled by the general areas of responsibility of the four operational divisions.

	CPC Expenditures	From 211(d)
GRAND TOTALS	\$2,877,775	\$524,262
	755,621	249,860

1. ACADEMIC PROGRAMS

This division is concerned with identifying and encouraging University faculty research and teaching in population matters. Upon application, CPC funds are provided departments at Chapel Hill in partial support of special study programs within departmental disciplines directed to the population and family planning field, and with relating such parts of the curriculum to the overall population program. Departmental coordinators advise students with interest in the population field, assist in developing courses of study and field experience, and in maintaining liaison with the department, population-related activities of other departments, and with the Academic Programs Office. The total amount allocated for this purpose decreased in 1970-71 -- as did the portion drawn from 211(d) -- as departments absorb and take responsibility for continuing work stimulated by this support. As noted in Section I of this report, economic factors continue to influence the pace at which departments are able to dispense with this support. Amounts provided departments during FY71 are tabulated below:

	Total	211(d)		
a. Anthropology	41,046	15,097	278,232	152,136
b. Biostatistics	26,462	2,426		
c. Epidemiology	11,485	3,774		
d. Health Administration	34,915	23,680		
e. Health Education	4,143	3,666		
f. Maternal and Child Health	18,289	767		
g. Mental Health	10,786	9,545		
h. Nursing, P. H.	26,839	19,493		
i. Nursing, School of	6,323	5,673		
j. Obstetrics-Gynecology	12,812	11,344		
k. Political Science	10,211	7,170		
l. Psychology	25,792	18,534		
m. Religion	14,230	12,593		
n. Social Work	11,179	10,048		
o. Sociology	20,345	5,326		
p. Zoology	3,375	3,000		

q. <u>Demographic Research and Services Unit. Steahr.</u>	78,427	34,155
<p>This unit seeks to (1) facilitate interdisciplinary studies of population dynamics; (2) provide testing grounds for new research in preparation for development abroad; (3) maintain cumulative base information for assignment of research trainees from LDCs and the US in field study methods; (4) provide data needed for action-research on family planning program and policy development (basic demographic data, plus information on agency structures, population program and policy developments, results of past and current research studies, and other relevant materials are incorporated into a population research and teaching file system, which serves all concerned population students and faculty); (5) provide consultations on access and use of various data sources on research methods and data processing assistance; and (6) continue cooperative efforts with academic departments of UNC and the staff of Research Triangle Institute to further development of estimation theory and methods useful in demography and population research.</p>		
r. <u>Problem-Focused Study Groups. Freymann</u>	-	-
<p>Faculty members concerned with topics of population policy, reproductive biology, population education and family planning organization meet in problem-focused groups to review present knowledge and to plan for strengthened research and training.</p>		
s. <u>Training Programs and Fellowships</u>	212,996	46,874
<p>See Section III of this report.</p>		
t. <u>Medical Students Summer Workshop. Hulka.</u>	14,637	-
<p>Summer workshops provided a two-week program on population and human reproduction for 15 medical students from across the nation, sponsored jointly by CPC and the UNC Medical School, with Rockefeller Foundation support, one purpose of which is to cultivate population career interests.</p>		
u. <u>Contraception and cultural change. Polgar.</u>	7,785	5,453
<p>Anthropological studies continued on the cultural aspects of family planning, with emphasis on factors influencing age of marriage and birth-timing in non-industrial societies, and the acceptance of different methods of birth control.</p>		
v. <u>Family dynamics and population. Cogswell.</u>	17,433	11,242
<p>A program concerned with family dynamics and population emphasized development of research, teaching and service activities in the area of family, family life, and sex education. This was a long term program from which numerous others were spawned.</p>		

w. <u>Variations in cognitive style.</u> Cogswell.	46,563	-
A study is underway to ascertain cognitive styles of professional personnel who present sex information and the adolescent youth who receive such information, to determine the effects - or lack thereof - of cognitive congruity on the communication process.		
x. <u>Family Planning Clinical Research Unit.</u> Hulka	40,986	-
A clinical research unit with the Department of Obstetrics-Gynecology at UNC School of Medicine, aimed at involving medical students in the field of reproduction research, has concentrated on cyro-surgery, reversible sterilization, laproscopy, norgestrol implant studies, and antigenicity of the trophoblast and the uterine cervix as potential local antibody secretor. Units engaged in basic reproductive biology studies collaborate.		
y. <u>Family Planning Clinical Demonstration Services.</u> Hulka.	58,562	-
Through means of a family planning clinic, administrators, residents, nurses, attending and referring physicians, and students have been brought together in a demonstration family planning program in the Medical School and Memorial Hospital at UNC. This involves a contraceptive clinic, hospitalization for sterilization, medical abortion services, and psychiatric evaluations.		
2. <u>INTERNATIONAL PROGRAMS</u>	1,112,656	22,856
This division came into being as FY71 closed. It will coordinate international program development, country study programs, and overseas fellowships, including the Frederiksen Fellowship program of internships providing opportunities for work experience in overseas institutions and agencies conducting population and family planning activities. Interns hold master's or doctoral degrees from North American universities and are oriented toward professional careers in the population field.	30,025	-
Many international programs were already well established in 1971, and these will be enumerated by country as falling programmatically into the international area of CFC involvements.		
a. <u>Africa</u>	34,509	250
Agreements were reached with the University of Ghana -- to be extended to up to four selected African universities		

through the development and use of population centers.

A further survey is underway to identify several African medical schools and associated or related paramedical training institutions for present or possible interest in family planning curriculum center, to describe how this might be accomplished, and on the basis of findings to prepare a proposal. Countries surveyed were Ethiopia, Kenya, Tanzania and Morocco.

b. Chile

CPC consultants sought to give technical advice and assistance to improve the capacity of the Center of Population Studies of the Department of Public Health of the University of Chile to conduct population-related training and research.

c. India

A major study of relationship between population characteristics and family planning programs in India analyzes data from Indian states and districts relative to age, sex, religion, education, literacy and economic development. Refining of the format will be followed by a series of Indian government studies of approximately 25 district family planning programs, back-stopped by CPC assistance with data analysis and collaboration, as requested.

With CPC assistance, the Administrative Staff College, Hyderabad, is well advanced in preparing a series of case studies on problems of family planning administration. The College is now considered a leader in this field and serves an national clearing house for cases in family planning administration, and is assuming an increasingly important role in providing consultation and training. To strengthen this work, it has requested limited technical assistance from CPC. Another staff member went, at Ford request, to consult on the overall design of the training system for Indian family planning manpower development.

Two members of the Allahabad Agricultural University faculty came to Chapel Hill for advanced work in population and family planning. With CPC staff assistance, they prepared a major field project extending to improved staff training, innovative types of clinical services, and improved record systems, and the project has been funded through Indian agencies.

A CPC staff member has worked with the India Family Planning Association with the objective of advancing the role of FPAI in voluntary family planning, particularly through involvement by industry, through enlarged population library and information services, and through linking

179,870

3,940

family planning to established rural services. The internal organization of FPAI has been broadened and strengthened, and an amended constitution has been developed, affording freedom to test and innovate in field programs.

Gandhigram Institute, with continuing collaboration of CPC staff, has developed a summary report of experiences with improved program operating methods associated with decline in fertility rates, and has underway a workshop to analyze and project implications of field experiences from various parts of India. Dr. Kamala Rao, head of the Social Research Division of the National Family Planning Institute, worked with CPC staff in Chapel Hill on a comprehensive summary and analysis of social science research in family planning programs and policies in India for her personal - and the Institute's - enrichment.

During 1971, work was completed on a critical annotated bibliography on population, family planning, and health behavior in India which will be valuable for teaching and reference purposes.

d. Iran

122,623

Analysis continues of baseline data collected in rural, urban, and tribal population groups in the Shiraz area, seeking to identify cultural factors influencing family planning and program design. The director-general for services in the Family Planning Division of the Health Ministry worked in Chapel Hill on a plan for implementing pilot and demonstration delivery systems, and in over-all analysis of the structure of Iran Family Planning. The CPC group in Iran informally assisted a UN team sent for a broad analysis of the Iranian program, and Iran's Plan Organization subsequently requested CPC help with consideration of design and plans for further program and policy development. A workshop on Family Planning Mass Communications Methods was held in collaboration with the Iranian government, with participants from fourteen additional countries, and in Isfahan an experimental mass communications program is underway with implications for Iran's future programs. Iranian Education Ministry officials discussed with a CPC educational group possible joint efforts in building population education into the formal school system and into adult education work in rural areas. A CPC member served as visiting faculty at the University of Isfahan, where study was carried out in close cooperation with Iranian colleagues on existing cultural patterns to find indications of systematic change, which could be developed into a cultural environment conducive to low fertility, and on thought and behavior which - unless changed - would impede development of such an environment. It is hoped that a continuing relationship will develop between CPC and various institutions in Iran concerned with that country's population problems.

e. Near Eastern Countries

31,664

-

Work continues in a comprehensive analysis of population problems in Near Eastern countries. When completed, it will be the first compilation and synthesis thus far of birth control programs in these countries, an essential adjunct to national family planning policies and program development in the Near East.

f. Taiwan

8,758

-

A former field director of Taiwan's family planning program completed an analysis of the Taiwan family planning organizational structure with particular attention to the information and supervisory factors which could influence program efficacy. CPC anticipates further collaboration in field tests. A modest scale study and analysis of the prospective value of incentives in the family planning field evaluated practical experience in Taiwan, and in Pakistan. Work continues toward identifying incentive patterns worthy of further testing in LDCs.

g. Thailand

82,634

-

Two projects of primary interest to the Thai government -- 1) experiments with use of alternate types of field workers for family planning promotion, and 2) field trials of non-clinical contraceptive distribution methods -- have involved CPC personnel in analysis and evaluation of program operations in different parts of the country.

The Center for Population and Social Research, Mahidol University, Bangkok, is working with CPC assistance to conduct program-oriented research on population related problems from a public health perspective, with the objective of developing technical competence and program-relevant knowledge necessary for design and evaluation of family planning programs.

Cooperation between the Faculty of Public Health, Mahidol University and CPC seeks to develop faculty and programs in family planning related areas. Field demonstration sites in Korat province and Bangkok are used for overall project clarification and evaluation. CPC members seek to improve methods of trainee selection, teaching methods and objectives, curriculum development, and follow-up of trainees after return to their agencies. Work is being done to help build capacity to produce audiovisual training aids and to devise, test, and demonstrate mass-information materials. Coordination is being developed between faculties of the School of Public Health, the Population and Social Research Center, and the Faculties of Medical Science (Mahidol) in related population and family planning programs of teaching, community services, research, and evaluation.

h. UAR

2,919

With coordinated relationships between CPC members and key persons in official UAR family planning programs in Egypt, studies of fertility patterns, family planning acceptance, cultural factors with policy implications, and improved educational and organizational methods all are going forward simultaneously, with encouragement from UAR officials.

High priority is given to collaborative efforts with the Social Research Center at the American University of Cairo, because of its established leadership in social research related to family planning efforts. Consultative and collaborative work continues with the Statistical Institute of the Population Center of Cairo University and the Departments of Gynecology in the Universities of Cairo, Ain Shams, and Alexandria.

The Associate Director of the UAR Social Research Center began a year's work at CPC for the purpose of completing and strengthening work on pilot projects to improve family planning program effectiveness, and for mobilizing consultative and training support for his further efforts in Egypt.

i. International Fertility Control Research. Kessel.

150,530

Pilot studies confirmed the feasibility of a central data analysis service to evaluate chemical and surgical abortion techniques, and an international group of study contributors has been organized. Ob-Gyn and Epidemiologic departments at UNC cooperate for field testing and training programs for newer methods of fertility control, including pregnancy termination, IUDs, sterilization and steroidal methods. Coming together in this program are studies on the effect of the system of medical care delivery on pregnancy termination complications and fertility control acceptance; professionals' resistance to abortion; and simplified systems of contraceptive effectiveness evaluations.

j. Comparative Population Policy Studies. Flash.

64,028

This project area seeks to enhance understanding of the political processes and human value factors involved as a national group delves the dimensions of its population problems and evolves policy responsive to them. Basic data gathered in Chile by Dr. F. Hall will be analyzed to measure

the reactions, awareness and understanding by key groups and by the general public in relation to various policies relevant to birth control and population growth. Methods will be developed for extension to other LDCs.

An international population policy consortium has been formed to foster an international network of population policy studies, to increase interest and capacity for such studies, and to disseminate relevant new knowledge to policymakers.

A study by Allen, Thompson and Prothro, with the Institute for Research in Social Science, UNC, seeks to refine methods of measurement of knowledge and attitudes of legislators, key leadership groups and their constituencies toward certain types of policies relevant to control and population planning; to identify underlying value structures relevant to expressed attitudes which potentially influence population policy decisions; to explore attitude and value congruences between legislators, key leadership and constituent groups, and to design further studies, as needed to clarify this field, at national and international levels.

k. Manual for International Community Medicine. Curran. 22,183

With sponsorship of the National Library of Medicine, work continues on compilation of a manual on community medicine for use especially by medical students and health personnel studying in or intending to work in LDCs. Particular emphasis is given family planning and population dynamics.

l. Management Information Systems in Population Programs. McLaughlin. 54,179

The objectives of several individual studies involve application of modern management techniques to family planning program administration, especially in LDCs. Consultations were held with Korean national family planning council to assist in formulating overall administrative analysis. Interest has been generated in applying to other family planning agencies a computer-based system which simulates family planning clinic care flow process in a multi-agency program

m. Family Planning Teaching Materials Development. Jain. 11,296

The project aims to build teaching materials for family planning personnel, using and developing capacities to devise, test, and demonstrate unproved training methods in interested institutions in several countries. In addition to facilitating development of high quality teaching cases, simulating, and games, a clearing house facility for processing, producing and distributing materials is being developed.

n. Non-clinical Contraceptive Distribution Systems 31,417

A feasibility study of the hypothesis that private resources can be utilized as an effective supplement to existing family planning services in LDCs for promotion and supply of non-medical contraceptives in rural areas led to a proposal for further investigation in Kenya. Study and demonstration in other world areas are to be sought.

o. Population Field Laboratories. Linder. 54,395

Projects underway in Columbia, the Philippines, and Morocco are directed toward establishing population field laboratories with a central permanent office in Chapel Hill where data will be collated and analyzed on a continuing basis. Each POPLAB will undertake ad hoc methodological or substantive studies, selected from study protocols prepared by the central UNC unit. Data will be built by defining the specific geographic area, conducting periodic census and ecological surveys, perfecting (or devising) vital registration systems, and encouraging interchange of technical findings between laboratories. An informal consortium of American universities who may wish to participate in extensions of a network of laboratories is a possible future development. Thus, the program may be considered part of a worldwide effort to improve measurement of population changes. It presents a problem-solving approach to basic and applied research and recognizes the essentiality of building on traditional methods, testing new approaches, and facilitating exchange among disparate laboratories.

p. Population education program design. Beach. 85,362

In addition to the academic programs listed above, a Center for Population and Environmental Education has been developed in the UNC School of Education which aims to pursue (1) the problems of mobilization and adaptation of traditional educational structure and (2) the task of developing and demonstrating curriculum content and methods in formal educational systems in this country and in LDCs. Deans of Schools of Education, state directors of education, and representatives from concerned international agencies gathered in Chapel Hill to share experiences and strengthen the base of work here. Opposite numbers in Thailand, India, and Iran have been consulted regarding related experiences and possible projects involved in policy development and advancing population education through school curricula.

q. Reversible sterilization. Hulka. 41,242

A program was completed on plastic prosthetic devices and other experimentation with vasocclusion.

<p>r. <u>Epidemiographic surveillance.</u> Kessel.</p> <p>This project aims to develop field trials using the epidemiographic surveillance method of obtaining information on disease, births, deaths, migration, and family planning clients in selected areas, in order to facilitate extension of basic health and family planning services to hitherto unserved rural areas, particularly in LDCs.</p>	12,886	-
<p>s. <u>Population priorities and options for commerce and industry.</u> Freyman.</p> <p>An international conference to help identify relationships between population patterns and various aspects of commercial development brought together more than 150 participants in October 1970. This group is important not only for population policy development but also for their direct contributions to dissemination of family planning services to employees, dependents, and the communities they serve, and to the support of general programs through mobilization of advertising and distribution channels. The next step will be accumulation of specific examples of industry's involvement with development of population policies and programs, and intensive efforts applied to broader dissemination of such knowledge and experience through channels likely to be acceptable to these groups.</p>	45,530	18,666
<p>t. <u>Population policy planning models.</u> Naylor.</p> <p>Several programs are directed toward identifying relevant factors and relationships, synthesizing existing knowledge, and developing models which can help policy makers and administrators visualize factors which must be taken into account, and possible implications of different course of action. This work involves principally economic planners and high level family planning administrators, with the objective of providing them with better understanding of the effects of alternative population policies on the socio-economic system. CPC associates in the Department of Economics, at Duke, and at RTI continue theoretical work in economic implications of population growth in the US and LDCs.</p>	46,586	-
<p>3. <u>U.S. PROGRAMS</u></p>	334,504	33,144
<p>This division provides a mechanism to maintain liaison with state and regional agencies in the Southeast, and with national agencies concerned with U.S. population and family planning. It administers OEO funds for research on family planning delivery systems in North Carolina, assists the state government in population program and policy planning, and helps coordinate and facilitate field research and teaching activities at county and state levels, relating interests of faculty, students, and LDC collaborating institutions. Problems of inter-agency relationships in development of population programs, very similar to those encountered in other countries, have been a focus of special interest.</p>	10,602	-

a. <u>Action-research and training at county level</u>	15,177	5,526
<p>Programs in North Carolina have provided an open laboratory for research and research training. Two action-oriented studies and training on the administrative and educational aspects of family planning program development which have received some monetary support from CPC have now Services are paid for by the local governments. It is anticipated that these sites will continue to provide training opportunities for students, presenting situations relevant to LDCs.</p>		
b. <u>Policy action-research and training at state level</u>	31,349	27,618
<p>Relationships have been established wherein US and LDC students are able to engage in practical studies on the actual process of population policy and program development at higher governmental levels. Limited technical assistance was provided agencies involved in order to accelerate development of population programs and policies, and staff supervision of students assigned to the areas is provided.</p>		
c. <u>Rural family planning services studies and demonstrations</u>	256,655	-
<p>Working with local practitioners to devise and demonstrate improved family planning staff development, the roles of indigenous mid-wives, nursing, medical, and education staff have been studied. Improved methods of information retrieval and use have been devised and tested; and progress has been made in further development of a computerized information system and a model that can assist with program priority and control decisions.</p>		
d. <u>OEO Family Planning Consultation (Westinghouse Learning Project)</u>	(1,999)	-
<p>Consultative services involved CPC appraisal of family planning project plans in Southeastern U.S., and assistance to local service staffs.</p>		
e. <u>Health Information Project. Cogswell.</u>	22,720	-
<p>Experimental family planning services for adolescent men in an inner-city area sought to determine whether young males would be willing to share the responsibility for preventing unwanted births, if given a chance to do so.</p>		

4. ADMINISTRATION

675,014

218,402

The core operations at the Carolina Population Center received approximately 41 percent of the \$524,262 expended from 211(d) in 1970-71. This is consistent with effort and intent to stimulate by supporting services inter-disciplinary population studies in UNC.

	<u>Total</u>	<u>211(d)</u>
a. Center Administration	364,081	68,566
b. Development and Special Projects	42,393	38,102
c. Library and Reference Service	113,187	71,064
d. Educational Materials Unit	98,134	1,218
e. Publications Program	57,219	39,452

IV. PLANS FOR 1971-72

A. Organization

During 1971-72, a main goal will be to staff the Academic Programs Office and the U. S. Programs Office with permanent rather than acting directors. Search committees are now seeking the best qualified persons for these posts. The Center's Deputy Director, who is presently acting as head of the U. S. Programs Office, should be freed to spend more time in overall development and coordination functions.

Administrative support of programs and projects will be further strengthened through the management services unit now attached to the Center's International Programs Office, and the establishment of a similar unit in the U. S. Programs Office. Another goal in the International Programs Office will be further to regularize the country program coordinators' relationships with faculty interested in serving various country programs and with AID, other international agencies and LDC agencies and institutions.

The Center's relationships with faculty participants in the population studies program should be somewhat more formalized this year. Up to now, to facilitate utmost faculty involvement and explore a variety of relationships, criteria for faculty association with the Center have been loosely defined. Now that considerable momentum has been gained, more explicit definitions of criteria and responsibilities of associates of the Center will be useful.

The Leadership Council of the Center, made up largely of interested business leaders, will be further involved especially in strengthening relationships in the southeastern U. S. and in Center development.

B. Staff Development

Capacities in the field of economic demography hopefully will be strengthened with the addition of Dr. Joseph Spengler. Gulick's return from a period of population research studies in Iran will strengthen training and research capacities in population and anthropology. In obstetrics and gynecology and in epidemiology, substantial strengthening of staff should occur in connection with the new International Fertility Control Research Program. In health and family planning administration, the addition of Dr. Hall's concerns with manpower studies will be welcomed this year. In the School of Business Administration, it is hoped that a marketing expert will be added who has special interest in aspects of family planning program development. For existing faculty members, further help in deepening their orientation and involvement into population-related research, teaching and research work should continue. During 1971-72, this further involvement should especially occur in population education and nursing, and in the research fields of economics, political science and psychology.

C. Library and Information Services

The Library will concentrate on further refinement and expansion of its reference service capacity, and on improvement of methods of subject access and of selection and acquisition of relevant, high-quality

materials. The country-specific information files will be further developed to deal with problems of acquisition of fugitive and unpublished foreign materials. The Area Files Librarian will work closely with the Area Study Groups of the International Programs Office in acquisitions, development of mechanized systems of access and retrieval, and compilation of special bibliographies for quarterly and annual publication. Annotated indices and acquisitions lists are planned which describe publications and also indicate their relation to other literature in the field.

When the Library's computerized card catalogue is in operation, literature searches and bibliographies will be circulated, and book catalogues provided to non-local users for a fee. Staffing will be slightly increased to cover the expanded program of Area Files development and for extension of evening and weekend hours. The number of formal exchange programs between the CPC Library and others in the U.S. and abroad should be increased beyond the ten exchange programs already in operation with focus on new libraries in less developed countries. A training program for foreign students of library and information science will be developed in time for the fellowship students planned for 1973.

D. Publications

In the monograph series, the number of publications is planned to increase to 12 during 1971-72. The Blue Series hopefully will be sponsored by the UNC Press, with added advantages of visibility and guaranteed distribution. The reprint series for technical articles will be continued and increased. In addition, other publications series related to special project areas should be strengthened and coordinated, including those related to studies in population program and policy design, case studies for family planning administrators, population statistics, and the international fertility control studies. The publications office will continue also to provide editorial consultation to faculty and students to help facilitate technical publication. Plans are also being made for development of a special series, tentatively named Population Policy Reports.

E. Demographic Research and Services Unit

This Unit should strengthen its capacities to give on-going consultation to faculty, students and collaborating groups, especially those newly entering the population field, on sources of demographic data, methods of data processing, and aspects of research design, analysis and interpretation. Computer programming services, including help in identifying and using existing software, will be strengthened with the development and storage of special programs suitable for population study needs.

F. Training Activities

During 1971-72, about 150 graduate students will specialize in population and family planning studies at the University. Of these, about 65 will complete their studies by the end of the year. Seven new courses of special interest to population students are planned to be offered. A new population teaching program will be added to the Undergraduate Honors Curriculum. The content of existing, postgraduate population training should be especially strengthened in the areas of economics, political science, and psychology. Efforts will be made to strengthen teaching

quality by increasing attention to relevance of content and to teaching methods, including case study materials, simulation exercises, and field studies. The weekly lecture-seminar series for all population students and faculty should be stronger by experience gained during the past two years, and through placing major responsibility for its organization during 1971-72 on the population student group itself.

Special training activities now proposed during 1971-72 will include a workshop during the summer of 1972 on family planning program administration. This should especially be geared to top-level administrators and policy-makers in national family planning programs, aiming at increasing their awareness and skills in systems approaches to population program planning and implementation, trying to draw on existing experience and using simulation and case study methods. Another special workshop will be organized for leaders in nursing education from less developed countries, under an AID-sponsored project, to involve them in the development of stronger curricula to equip nurses for leadership in family planning work. Also, the International Population Policy Study Consortium, of which the Population Center is one of the sponsors, will have a major meeting in mid-1972 to sum up progress and map out further activities including arrangement of seminars for policy researchers and national leaders. The Political Science Department will organize in the spring of 1972 the second annual workshop on Population and Political Science Research; to review and stimulate further studies in this area. The Department of Psychology, jointly with NIH and the American Psychological Association, will sponsor a conference in October on methods to strengthen teaching and research on population issues among psychology faculties. The Center will also assist the American Home Economics Association in conducting an international conference in November in Chapel Hill for some fifty leaders in home economics, from the U.S. and abroad, to explore ways for promoting family planning and population interests through this field.

A special interest during 1971-72 will be to continue the efforts initiated last year to generate greater support for population program and policy development among business and industrial leaders throughout the world. This should especially aim at more involvement of the international financial community. Also, the Center will continue its earlier efforts to develop more international involvement among social welfare educators and policymakers, collaborating with the new AID-sponsored project of the International Association of Schools of Social Work.

Beyond the above activities, other short-term orientation services of various types are expected to be provided during 1971-72 for approximately 150 to 200 visitors from U.S. and overseas agencies.

G. Research Activities

In the biomedical area, studies on improved contraception methods will be intensified by the new International Fertility Control Research Program, including further studies on prostaglandins and other agents through the Department of Obstetrics and Gynecology and on problems of clinical application through the Department of Epidemiology, and the development of an extensive international network of collaborators. In

the demographic area, strengthening of POPLAB projects should occur in the Philippines, Colombia, and Morocco, and an additional POPLAB collaborative project abroad should be added. In the area of family life and sex education, the new Center for Population and Environmental Education should establish a broader, systematic program of studies and demonstrations in this field. In family planning program administration, the present operational studies should continue and deepen especially in the areas of manpower analysis and planning. In the field of population policy, work sponsored through the International Population Policy Consortium should help to clarify needs and open new opportunities. Research interests emerging in the Political Science and Economics Departments, regarding implications of population change on political and economic development, should also provide a sounder basis for policy considerations. Also, problems affecting the efficiency of international assistance in the population and family planning field will be of special concern during 1971-72, especially ways of facilitating expansion of population activities through the United Nations system.

II. Field Program Relationships

In the U.S., closer relationships with the planning evaluation, and training aspects of the new North Carolina state family planning program are evolving. The Center is also being asked to provide major technical support in further development of HEW-assisted family planning services in the eight-state southeastern region of the U.S. An important new development is the emergence of a Southern Growth Policies Board, which represents an inter-state compact to help establish population and development policies in the southern region of the U.S. The Center has been behind this movement from the beginning and hopes to play an increasing, supportive role. In addition, the Center will continue to provide consulting services to U.S. national family planning program efforts. It should be noted that new projects such as these which aim to support various aspects of population and policy development in the U.S.A. are not paid for by 211(d) grant funds, but will be supported on a contract basis from concerned U.S. agencies. They do benefit from the general institutional development of the Carolina program which is assisted by the AID funds; conversely, they also help to enrich the teaching, research and demonstration capacities and the acceptance of the Center for work in LDCs.

In Thailand, the Center's work with Mahidol University will especially seek to strengthen links between University sources and national population program efforts. In India, informal relationships will be maintained and supporting activities provided, as called for, with colleagues in central government agencies, state governments, various institutions, and the Family Planning Association of India. In Iran, present links with the three universities in Tehran, Isfaha, and Shiraz should be strengthened, and collaborative work also will be explored in the areas of population statistics and mass communications. In Egypt, technical exchange will be fostered, especially in relationship with the population research and demonstration work at the American University in Cairo. In Africa, the association with the University of Ghana will be strengthened and further efforts developed relevant to family planning training in health institutions in other parts of Africa. In Brazil, assistance will be provided in strengthening the demographic components of economic planning studies at the Vargas Foundation, and possibilities will be further explored of assisting with family planning program developmental work of BEMFAM.

I. Direct Services to Population-Concerned Agencies

Supportive services will continue to be available to various parts of AID as desired, from members of the Carolina group. Participation and support will also probably increase in respect to domestic population research and family planning program development activities, as noted above. Internationally, the present consulting relationship with IPPE will be maintained, which is now focused in India but subject to review during the year. During 1972-75 the Center will especially aim to encourage and support further development of United Nations system involvement in family planning and population affairs. The Center maintains close contact on population matters with the U.N. Advisory Committee on the Application of Science and Technology to Development and with the U.N. Fund for Population Activities. The Carolina group also expects to be participating in various capacities during the year with such United Nations groups as the U.N. Population Division, the World Health Organization, UNESCO, FAO, ILO, and ECAFE. Carolina staff members have also been requested so far to participate during 1971-72 in World Bank-sponsored studies in India, Iran, and Malaysia.

J. Budget Projections

Cumulative expenditures so far under the 211(d) grant have reached the target of the original budget projections, leaving a total of about \$500,000 for the next two years. For fiscal year 1971-72, expenditures are now projected to be \$525,000, the same level as the expenditures during 1970-71. The original projection, however, indicated a decline to \$400,000 during the fourth year and maintenance at \$400,000 also for the fifth year. The current projection of \$525,000 in the fourth year will leave only \$325,000 available for the fifth year. Actual needs for the fifth year will be at least at the current level, which means that supplementary funding of about \$300,000 must be generated for FY1973.

Why have expenditures not been able to decline in the later years of the grant as originally projected? The main factor is the continuing pressure of efforts to build training, research and service activities required by world population problems, all of which require concomitant strengthening of the underpinning of core services and program planning, coordination and management capacities. Even with this expansion, however, the 211(d) expenditures have not grown proportionately. Total obligations channeled directly through the CPC during the last two years have increased about one-third each year, so that the 211(d) budget support during FY69 represented 27 percent of direct expenditures and during FY71 represented only 18 percent of direct expenditures. When based on the budget of the total Carolina population program, including projects for which funds are not necessarily channeled through CPC but which are still stimulated, assisted and coordinated by CPC, the proportion of 211(d) expenditure has fallen from 23 to 9 percent.

At the same time, the expected support from U.S. government domestic program sources for development of population centers has not been forthcoming. U.S. government domestic funds for population research and training, which could help in supporting core services that are relevant also for internationally oriented work, have also been kept at a low level. The present national economic situation further restricts the outlook for such funding for the current

and following year at least. Foundation help is also cut by the effects of Federal funding limitations, because of pressures on them to continue support of efforts which would have otherwise been picked up by governmental sources. The State of North Carolina and the University are doing their utmost to provide support through basic salary assumption and providing general services, but this capacity is also currently much more limited than it was a few years ago. The Center is especially trying to generate more local support, and a special bill was introduced in the state legislature this year for this purpose. Also, other support from smaller foundations is being sought. However, if the program is not now to lose momentum and is to reap the advantages of the tooling up achieved so far, the continued help of AID is essential to provide the core support which makes possible the rest of the program.

A breakdown of the 1971-72 budget project is indicated below, followed by a five-year summary of projections and obligations.

Budget Projection 1971-72

Salaries	\$400,000
Social Security & Retirement	40,000
Honoraria and Consultants	15,000
Supplies	10,000
Travel	15,000
Other Direct Costs	40,000
Tuition, fees & stipends	2,000
Equipment	3,000
	<u>\$525,000</u>

Summary of Projections and Obligations

	<u>Initial Obligation Projections</u>	<u>Cumulative Totals</u>	<u>Obligations Incurred Totals</u>	<u>Cumulative Totals</u>	<u>Revised Obligation Projections</u>	<u>Cumulative Totals</u>
FY69	650,000	650,000	450,513	450,513	450,000	450,000
FY70	500,000	1,150,000	575,597	1,026,110	576,000	1,026,000
FY71	450,000	1,600,000	524,262	1,550,372	524,000	1,550,000
FY72	400,000	2,000,000	--	--	525,000	2,075,000
FY73	400,000	2,400,000	--	--	325,000	2,400,000

APPENDICES

- Appendix 1 Foreign travel summary, 1970-71
- Appendix 2 Short-term trainees and visitors, 1970-71
- Appendix 3 Suggested courses and electives for population students, 1970-71
- Appendix 4 Student-faculty lecture-discussion series, 1970-71
- Appendix 5 List of population students, 1970-71
- Appendix 6 Alumni, 1966-71, and present positions
- Appendix 7 Publications and educational materials produced by the Center
- Appendix 8 Diagram of population program organization

CAROLINA POPULATION CENTER

FOREIGN TRAVEL - FISCAL YEAR 1971

(No 211(d) funds used)

Ahuja, B.L., Dr.	May-June 71	India-RDU-return: Secretary of Family Planning, Government of Haryana, India, CPC visitor
Allen, James, Dr.	Feb. 71	Puerto Rico: To attend American Public Health Association Meeting
Beach, Norton, Dr.	Jan.-Feb. 71	Ghana, Kenya, Thailand, India, Italy & France: To confer with educational leaders with regard to implementation of POP/ED programs; attend National Conference on Population Education, Mangalore, sponsored by FPAT
Blackburn, Jack, Dr.	Jan.-Feb. 71	Ghana, Kenya, Thailand, India, Italy & France: To confer with educational leaders with regard to implementation of POP/ED programs; attend National Conference on Population Education, Mangalore, sponsored by FPAT
Blake, Robert R.	Nov.-Dec. 70	Tokyo, Taipei, Bangkok, New Delhi, Teheran & Paris: Consultations on information, education, and communication activities in family planning programs
	May-June 71	Bangkok, Thailand: Consultant to School of Public Health at Mahidol University
Brankama, Jelle, Dr.	April 71	Amsterdam, Stockholm & London: Consultations regarding use of prostaglandins
Buckner, Bates, Ms.	July-Sept. 70	India & Thailand: WHO Library Conference in New Delhi; visits to population library personnel
Burleson, Noel-David, Dr.	July-Aug. 70	Geneva & Paris: Consult with WHO and UNESCO
	Sept.-Oct. 70	Chile & Colombia: Development of population education in U.S. and Latin America
	Nov. 70	Colombia: Attend First National Population Education Seminar of the Republic of Colombia
	Dec.-Jan. 71	London & Geneva: Consultations with Population Reference Bureau, IPPF, WHO, UNESCO and World Council of Churches as regards role of population education
Chanlett, Eliska, Ms.	August 70	Bogota, Colombia: POPLAB negotiations
	Feb. 71	Bogota, Colombia: POPLAB negotiations
Chitamber, B., Dr.	Nov. 71	Allahabad, India-RDU-return: Consultations on use of agricultural extension educators in family planning programs

Cogswell, Betty, Dr.	Sept. 70	London & Bulgaria: Attend International Family Research Seminar and International Sociological Association Meeting
	Nov. 70	Rome, Belgrade, Zagreb, Ljubljana and Cologne: Attend Cross-National Research Meetings
	Jan. 71	Italy & Spain Consultations on Cross-National
	May 71	Puerto Rico: Consultations on Cross-National
Cousineau, Lise, Ms.	Mar.-April 71	Rabat, Morocco and Republic Democratique du Congo: Feasibility study for project relating to family planning in African Health Training Institutions
Crocker, Cyril, Dr.	Feb.-Mar. 71	Ethiopia, Kenya & Tanzania: Feasibility study to improve the teaching capacity in the area of family planning in Africa
Dolan, Margaret, Ms.	May-June 71	Bangkok, Thailand: Consultations with Mahidol University
Dooley, Samuel (Univ. Berkeley)	April 71	Kenya: Feasibility study to improve the teaching capacity in the area of family planning in Africa
Faneuff, Charles, Dr.	Sept.-Oct. 70	Bangkok, Geneva & Paris: To attend UNESCO Population Education Workshop
	Jan.-Feb. 71	Ghana, Kenya, Thailand, India, Italy & France: To confer with educational leaders with regard to implementation of POP/ED programs; attend National Conference on Population Education, Mangalore, sponsored by FPAI
Felligi, Ivan, Dr.	Feb. 71	Rabat, Morocco: Consultations with POPLAB Morocco
	Mar. 71	Rabat, Morocco: Consultations with POPLAB Morocco
Fischman, Susan, Dr.	Feb.-Mar. 71	Ethiopia, Kenya & Tanzania: Feasibility study to improve teaching capacity in the area of family planning in Africa
Garland, Steven	June 71	Puerto Rico: Collaborative research at the Institute for Social Research for the programmatic grant
Gulick, Margaret, Ms.	Sept. 70	Isfahan, Iran: Research assistant to NSF project related to Iran's Family Planning Program
Hankinson, Richard	May 71	Paris, France-RDU-return: Participant in the Carolina Population Center's Fourth National Conference on Population Library and Information Services
Hounshell, Peter, Dr.	Jan.-Feb. 71	Ghana, Kenya, Thailand, India, Italy & France: To confer with educational leaders with regard to implementation of POP/ED programs; attend National Conference on Population Education, Mangalore, sponsored by FPAI
Hulka, Barbara, Dr.	July 70	England & Yugoslavia: Attend pregnancy termination sessions for Indian physicians

Hulka, Jaroslav, Dr.	July 70	London: Consultations with IPPF and AID
Min, Sagar, Dr.	Aug.-Sept. 70	London & India To initiate a field study of effective and non-effective family planning programs in India
	Jan. 71	India: To present a comparative study report to the Ministry of India
	March 71	India: To attend a workshop and to negotiate with the Indian Institute of Public Administration and NIHAE
Jenk, Jorgen	Aug.-Sept. 70	Tokyo, Seoul, Hong Kong & Bombay: Consultations with PPAI and IPPF
	Sept.-Dec. 70	India: Consultations with PPAI and IPPF
	April 71	New Delhi-London-Copenhagen-RDU-return: To consult with IPPF-London, DANIDA and the CPC
Johnson, Trois, Dr.	Nov.-Dec. 70	Mahidol University, Thailand: Implementation of family planning program
Kaluzny, Arnold, Dr.	Aug.-Sept. 70	Tokyo, Taipei, Formosa, Hong Kong, Bangkok & New Delhi: Visiting professor of NIHAE to be located in New Delhi
Kapor-Stanulovic, Nela, Dr.	Mar.-Apr. 71	Belgrade, Yugoslavia-London-return: Consultations on attitudes towards surgical pregnancy termination
Kasarn, Dr.	April-May 71	Bangkok, Thailand-RDU-return: Discussions regarding the implementation of POP/ED program at Mahidol University
Kessel, Elton, Dr.	July-Aug. 70	London & Yugoslavia: Attend pregnancy termination sessions for India physicians
	Sept.-Oct. 70	England, Switzerland, Sweden, India, Iran & Yugoslavia: Developing institutional relationships in accordance with AID contract
	Nov.-Dec. 70	Accra, Ghana: Explore possibility of developing institutional relationships with the University of Ghana
	Feb.-Mar. 71	Ethiopia & Kenya: Feasibility study to improve the teaching capacity in the area of family planning in Africa
Krotki, Karol, Dr.	Dec. 70	Rabat, Morocco: Confer with AID and Moroccan officials on POPLAB Morocco
	May 71	Rabat, Morocco: Assume position as Resident Advisor with POPLAB Morocco
Labbe, Eugenia, Ms.	May 71	Santiago, Chile-RDU-return: Participant in the CPC's Fourth National Conference on Population Library and Information Services
Lachenbruch, Peter, Dr.	Nov.-Dec. 70	Accra, Ghana: Explore possibility of developing institutional relationships with the University of Ghana
Levine, William, Dr.	Nov.-Dec. 70	Accra, Ghana: Explore possibility of developing institutional relationships with the University of Ghana

Liberman, Milton	June 71	Teheran, Iran-RDU-return: Consultations with Iran Study Group as UN Population Programs Officer in Iran
Linder, Forrest, Dr.	Feb.-Mar. 71	Bogota, Colombia & San Jose, Costa Rica: Negotiations on POPLAB contract
Losee, Garrie	Aug. 70	Bogota, Colombia: Discussions with USAID & DANE
	Sept. 70	Bogota, Colombia: To assume post as CPC's Population Laboratory Resident Representative to DANE
	April 71	Bogota, Colombia: Attend POPLAB Spring Conference and PAA Meeting
Martin, Jean, Dr.	Mar.-April 71	Switzerland, Morocco & Republic Democratique du Congo: Feasibility study for project relating to Family Planning in African Health Training Institutions
Mathews, Betty Dr.	July-Aug. 70	New Delhi & Bangkok: Consultations with FORD
Mayes, Fred, Dr.	Nov. 70	Indonesia, India & Thailand: Consultations regarding family planning
Miller, C. Arden, Dr.	Nov.-Dec. 70	Accra, Ghana: Explore possibility of developing institutional relationships with the University of Ghana
	April 71	Bangkok, Thailand: Consultations with Mahidol University
	May 71	Accra, Ghana: Consultations with the University of Ghana
Moreland, Scott,	June-Sept. 70	Taiwan & Korea: Consultations with USAID officials
Myers, George, Dr.	Dec. 70	Bogota, Colombia: Consultations with POPLAB Resident Advisor in Colombia
Myers, Robert, Dr.	Sept.-Oct. 70	Rabat, Morocco: Participant in PGE Conference and consultations with POPLAB Morocco
	Dec. 70	Paris, France and Rabat, Morocco: Consultations with AID and Moroccan officials
	March 71	Paris, France and Rabat, Morocco: Confer with AID and Moroccan officials, and UNESCO in Paris
Noyes, Robert, Dr.	June 71	France: To attend meeting of United Nations Group on Population Research

Omran, Abdel, Dr.	Feb. 71	Beirut, Ankara & Geneva: To attend conferences
	April-May 71	Geneva: To attend Scientific Group Meeting sponsored by WHO
Omran, Khaira, Dr.	Jan. 71	Vallarata, Mexico: Present paper at North American Conference on Fertility and Sterility
Oven-Ogrinc, Ms.	Jan.-Feb. 71	Zagreb, Yugoslavia-RUD-return: Training in pregnancy termination study
Parr, Earl, Dr. (Harvard)	May 71	Boston-Ankara, Turkey-return: Consultations regarding pregnancy termination study
Paydarfar, Ali, Dr.	Feb.-Mar. 71	Iran: Explore feasibility of collaborative population, research, demonstration and training development
Polgar, Steven, Dr.	Dec. 70	Canada: Lecture at Dalhousie University
	May 71	Accra, Ghana: Consult with University of Ghana
Porter, Cedric, Dr.	March 71	London, Geneva, Yugoslavia: Research on International Fertility Control Study
Rao, K.N., Dr.	April 71	New Delhi-RDU-return: To confer on future activities Population Council, India version
Rumford, John	May 71	Monrovia, Liberia-Europe-RDU-Bogota, Colombia-return: Consultations for Colombian POPLAB Project
Sabagh, George	Sept. 70	Rabat, Morocco: Attend FGE Conference and consult with AID and Moroccan officials
	Dec. 70	Rabat, Morocco & Paris, France: Confer with AID and Moroccan officials, and UNESCO in Paris
Sagiroglu, Nuri, Dr.	May 71	Ankara, Turkey-London-Ankara: To attend the Fourth International Cytology Congress in London
Samuel, John	April-Sept. 71	India: To conduct population education research in the Mysore State School System
Siegel, Earl, Dr.	May-July 71	Bangkok, Thailand: Consultations with Mahidol University
Sitterson, J. Carlyle, Dr.	Nov. 70	Accra, Ghana: Explore possibility of developing institutional relationships with the University of Ghana
Stein, George	Aug.-Sept. 70	Tokyo, Bangkok, Teheran: Implementation of CPC's Epidemiographic Surveillance Program

Sussman, Marvin, Dr.	Oct. 70 of paper	Puerto Rico: Field consultations and presentation
	Nov. 70 and research	Italy, Yugoslavia, Germany & Ireland: Consultation
	Jan.-Feb. 71	Italy & Spain: Consultations on Cross-National
	March 71	London, Rome, Belgrade, Ljubljana and Brussels: Consultations with Cross-National Research collaborators
Trainer, Edward	Jan.-Feb. 71	Korea: Consultations on family planning services with Seoul University
Trudeau, Robert	June 71	Puerto Rico: Collaborative research at the Institute for Social Research for the programmatic grant
Udomsakdi, Yupha, Dr. (SPH, Mahidol)	Feb. 71	Bangkok-Mangalore-return: To attend the National Conference on Population Education sponsored by FPAI
	April-May 71	Bangkok-RDU-return: Discussions regarding implementation of POP/ED program at Mahidol
Vikar, K.D., Dr.	June-July 71	Bombay-RDU-return: Training and orientation in use of prostaglandins
Nadia, Avabai, Ms.	Sept. 70	Bombay-RDU-return: Consultations regarding FPAI
Yamarat, Charas, Dr.	Aug. 70	Bangkok, Thailand: Mahidol University

CAROLINA POPULATION CENTER

SHORT-TERM TRAINEES AND VISITORSJuly 1970

- Mr. James J. Bausch, Program Officer
The Ford Foundation, 320 East 43rd Street, New York, New York
- Dr. John H. Farley, Associate Professor
Graduate School of Business, Columbia University, New York,
New York
- Dr. Singahadej Orapindh, Staff Member
Center for Population and Social Research, University of Medical
Sciences, Bangkok, Thailand
- Dr. George J. Stein, Acting Chief Malaria Advisor
United States Operation Mission, Bangkok, Thailand
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- Dr. Andrew P. Haynal, Associate Professor of Public Health and Chairman
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- Mr. Lee Hougen, Chief
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- Dr. Franz Rosa, Chief Medical Officer
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Demographic Training and Research Centre, Chembar, Bombay, India
- Dr. Mir Ghulam Maher, President of Preventive Service
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- Dr. Abdul Ghani Afzal, Adviser to the Minister and Acting Director
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- Mr. Lenni Kangas, Deputy Director
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- Dr. Alvin Roseman, Assistant Director for Population
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- Dr. G.N. Pandya, Medical Consultant
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- Dr. Alexander Kwapong, Vice Chancellor
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- Dr. Nelson Addo, University Research Fellow & Lecturer in Demography
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- Mr. Michael Jordan, Program Specialist
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- Dr. Roberta Savitz, Project Director
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- Dr. Fleetus Gobble, Medical Director
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Family Planning Program, Winston-Salem, North Carolina
- Miss Gloria Love, Field Coordinator
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- Mrs. Wanda Harbrook, Clinic Counsellor
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- Mr. Donald Tickle, Social Worker
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- Miss Barbara Chard, Nurse
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- Miss Kerstin Trone, First Secretary
Swedish International Development Authority, Stockholm, Sweden
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- Dr. Saad Gadalla, Associate Director
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- Dr. Charas Yamarat, Dean
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- Dr. Jajaval Osathanonda, Chancellor
Mahidol University, Bangkok, Thailand
- Mr. Robert Snowden, International Fellow
Pathfinder Fund, Boston, Massachusetts
- Dr. Otto R. Emig, Program Advisor in Population
The Ford Foundation, Rio de Janeiro, Brazil
- Mr. S.P. Godrej, President
Indian Merchants Chamber of Commerce, and Managing Director
Godrej and Boyce Manufacturing Company, Ltd., Bombay, India
- Sr. Rubens Vaz da Costa, President
Northeast Bank of Brazil, Fortaleza, Brazil

VISITORS (Continued)

- Mr. G. Irvin Aldridge, Director
Department of Local Affairs, State Government of North Carolina,
Raleigh, North Carolina
- Dr. Joseph D. Beasley, Professor and Chairman
Department of Family Health and Population Dynamics, Tulane
University, New Orleans, Louisiana
- Dr. George H. Brown, Director
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- Mr. Richard Brown,
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California
- Dr. Earl Cook, -Assistant Dean
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- Dr. George Contis, Director
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- Mr. Graham Claytor, President
Southern Railway Company, Washington, D.C.
- Dr. John Kerr, Associate Professor of Marketing
School of Business, Florida State University, Tallahassee, Florida
- Mr. John Feild, Director
Center for Policy Analysis, National League of Cities/U.S.
Conference of Mayors, Washington, D.C.
- Mr. Leo Fanning, Director
Family Planning Section, Westinghouse Learning Corporation,
Bladensburg, Maryland
- Mr. Philip G. Hammer, President
Hammer, Greene, Siler Associates, Inc., Washington, D.C.
- Mr. Shearon Harris, Chairman and President
Carolina Power and Light Company, Raleigh, North Carolina
- Dr. Philip M. Hauser, Director
Population Research Center, University of Chicago, Chicago, Illinois
- Mr. Victor S. Johnson, Jr., Chairman and President
Alladin Industries, Inc., Nashville, Tennessee

VISITORS (Continued)

- Mr. Halbert M. Jones, President
Waverley Mills, Inc., Laurinburg, North Carolina
- Mr. John Keppel, Chief
Operations Staff, United Nations Fund for Population Activities,
United Nations, New York, New York
- The Honorable Ronald B. Lee, Assistant Postmaster General
U.S. Post Office Department, Washington, D.C.
- Dr. James L. Liverman, Associate Director
Biomedical and Environmental Sciences, Oak Ridge National
Laboratory, Oak Ridge, Tennessee
- Dr. F. Ray Marshall, Chairman
Department of Economics, University of Texas and
Project Director, Center for the Study of Employment, University
of Texas, Austin, Texas
- Mr. Lawrence A. Mayer, Board of Editors
Fortune Magazine, New York, New York
- Mr. Edwin Newman
National Broadcasting Company, New York, New York
- Mr. Jack Riley, Vice President for Public Affairs
Carolina Power & Light Company, Raleigh, North Carolina
- The Honorable Robert W. Scott, Governor
State of North Carolina, Raleigh, North Carolina
- Dr. Paul N. Ylvisaker, Professor
Department of Public Affairs and Urban Planning, Princeton
University, Princeton, New Jersey and Commissioner, New Jersey
Department of Community Affairs, Princeton, New Jersey
- Dr. Everett S. Lee, Professor of Sociology
University of Georgia, Athens, Georgia
- Lord Richard Llewelyn-Davies, Chairman of the Board
British Center for Environmental Studies, London, England
- Mr. J. Wilson Newman, Chairman of the Executive Committee
Dun & Bradstreet, Inc., New York, New York
- The Honorable Robert W. Packwood, U.S. Senator (Oregon)
United States Senate, Washington, D.C.
- Mr. Paolo Soleri, Architect
Consanti Foundation, Scottsdale, Arizona

VISITORS (Continued)

- Dr. Charles Westoff, Executive Director
President's Commission on Population Growth and the American
Future, Washington, D.C.
- Mr. H.G. Young, Secretary and Assistant to the Managing Director
Edison Electric Institute, New York, New York
- Dr. Udon Poshakrishna, Dean
Faculty of Medicine, Siriraj Hospital, Bangkok, Thailand
- Mr. Michael Katz
Program in Law and Social Sciences, Northwestern University,
Evanston, Illinois
- Mr. James Brackett, Deputy Chief
Population Program Analysis Division, U.S. Agency for International
Development, Department of State, Washington, D.C.

November 1970

- Dr. Khalil Mazhar, Chairman of the Executive Board
The Supreme Council for Family Planning, Dokki, Cairo,
United Arab Republic
- Miss Fernanda Alves-Diniz
Nursing Office, World Health Organization, Geneva, Switzerland
- Miss Eugenia Gale, Fellowships Secretary
The Population Council, New York, New York
- Dr. T. Paul Schultz, Director
Population Research, Economics Department, The Rand Corporation,
Santa Monica, California
- Miss Lois Brady, Peace Corps Volunteer
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- Dr. Thomas Hall, Associate Professor
Department of International Health, School of Hygiene and Public
Health, Johns Hopkins University, Baltimore, Maryland, and
Public Health Advisor, U.S. Agency for International Development,
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- Dr. Frank W. Notestein, President Emeritus
The Population Council, New York, New York
- Mr. Timothy Sprehe
Technical Assistance Population Research Section, U.S. Agency
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VISITORS (Continued)

Mr. Steven Nelson, Executive Director
Planned Parenthood Association of Columbus, Columbus, Ohio

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December 1970

Mr. Adnan Habbab, Director
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Mrs. Mouna Habbab, Head
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- Mr. Boona A. Turchi, Doctoral Student
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- Dr. Donald Bogue, Director
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- Mr. Frank Brechin, Prospective Student
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- Dr. John Buettner-Janusch, Professor
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- Mr. Charles Blackman
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- Mr. Leo Crespi, Director of Research
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- Mr. Stephen Salyer, Member
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- Dr. Reimert T. Ravenholt, Director
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- Mrs. Majda Oven, Statistician
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- Dr. Robert Barnight, Professor
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March 1971

- Mr. Carl Flemister, Executive Director
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- Dr. William J. Moore, Population Advisor
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- Dr. K.N. Rao, Secretary-General
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- Mr. Paul K. Morris, Foreign Service Officer
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- Mr. Paul Foster
Auditor General's Office, U.S. Agency for International Development,
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Mr. Arthur Handley
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April 1971

Dr. Ralph X.F. Reynolds, Assistant Director
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Dr. Nafis Sadik, Director General
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Dr. Suchinda Udomsakdi
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- Mr. B.L. Ahuja, Commissioner and Secretary
Family Planning, Health & Education, Haryana State, India
- Dr. W. George Povey, Assistant Professor
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- Mr. Niels Poulsen, Population Officer
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- Dr. Prodipto Roy, Director of Research
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- Dr. Gregorio Feliciano, Secretary
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- Mr. Milton Lieberman, Population Program Officer
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- Dr. L.P. Chow, Director
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- Dr. Eva Maeller
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- Dr. Edward W. Pohlman, Professor
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- Dr. Everett Rogers, Professor of Communications
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CAROLINA POPULATION CENTER
UNIVERSITY OF NORTH CAROLINA
Chapel Hill, N.C.

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Fall and Spring: 1970-1971

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- ANTH 55 Introduction to the Civilization of India & Pakistan (3) Marshall.
- ANTH 170 Medicine and Anthropology (3) Leighton.
- ANTH 224 Seminar on Cross Cultural Research (3) Daniels.
- ANTH 230 Culture Contacts and Acculturation (3) McEvoy.
- ANTH 255 Seminar in Cultural Ecology and Population (3) Polgar.

BIOSTATISTICS

- BIOS 100 Public Health Statistics (3) Greenberg, Ruebler.
- BIOS 145 Principles of Experimental Analysis (3) Symons.
- BIOS 164 Sample Survey Methodology (3) Koch.
- BIOS 221 Role of Health Statistics in Administration (2) Coulter.
- BIOS 270 Demographic Techniques I (3) Fergany.
- BIOS 271 Demographic Techniques II (3) Sheps.
- BIOS 274 Seminar in Population Statistics (3) Abernathy.
- BIOS 275 Statistics in Population Programs (3) Abernathy.
- BIOS 277 Mathematical Models in Demography (3) Sheps.

BUSINESS ADMINISTRATION

- BUSI 159 Research Methods for Organizations (3) Rosen.
- BUSI 196 Social Psychology of Organizations (3) Adams, Wall.
- BUSI 208 Simulation Theory (3) DesJardins.
- BUSI 232 Management Information Systems (2) DesJardins.
- BUSI 351 Individual Behavior in Organizations (3) Jerdee.
- BUSI 352 Interpersonal and Intergroup Behavior in Business Organizations (3) Rosen.
- BUSI 354 Organizational Design and Development (3) Bell.

CITY AND REGIONAL PLANNING

- PLAN 106 Introduction to Urbanism and Planning (3) Parker.
- PLAN 174 Urban Economics (3) Knox.
- PLAN 178 Regional Science Techniques (3) Richter.
- PLAN 215 Theory of Planning I (3) Brooks.
- PLAN 227 Urbanism Seminar (3) Chapin
- PLAN 241 Environmental Planning (3) Andrews, Bower.
- PLAN 247 Housing Market Dynamics (3) Stegman.
- PLAN 264 Social Policy Planning (3) Brooks.
- PLAN 267 Participatory Planning (3) Godschalk.
- PLAN 268 Planning and Social Structure (3) Mayer.

EDUCATION

EDUC 147 Cultural Constraints on Educational Development (3) Burleson.

ENVIRONMENTAL SCIENCES AND ENGINEERING

ENVR 101 Elements of Environmental Hygiene (2) Weidenkopf.
ENVR 111 Man and His Environment (3) Shiffman.
ENVR 217 Systems Analysis in Environmental Planning (3) Moreau.

EPIDEMIOLOGY

EPTD 161 Epidemiology in Population Dynamics and Family Planning
(3) Ocran.
EPTD 162 Epidemiology in Environmental Health (2) Tyroler, Ocran.
EPTD 168 Behavioral Science Measurement in Health Programs and
Research (3) Jenkins, Zyzanski.
EPTD 231 Measurements of Quality in Medical Care (3) Hulka.
EPTD 262 Epidemiology of Program Acceptance (2) Patrick.
EPTD 264 Culture and Health (3) Kaplan.
EPTD 266 Epidemiological Investigation (3) Tyroler.

GEOGRAPHY

GEOG 132 World Agricultural Patterns (3) Hawley.
GEOG 150 Population Geography (3) Nash.
GEOG 153 Political Geography (3) Eyre.

HEALTH ADMINISTRATION

HADM 100 Concepts of Health Administration (3) Schaefer.
HADM 101 Political, Economic and Social Perspectives on Health
Administration (2) Flash.
HADM 140-142 Problems in Health Administration (Family Planning) (2),
Jain, Allen.
HADM 160 Seminar in Population Policy (2) Jain, Freymann.
HADM 200 Community Health Planning I (3) Schaefer.
HADM 203 Seminar in Economics and Population. Rulison.
HADM 206 Field Work (3) Summer (Population/Family Planning)
HADM 260 Family Planning Program Development (3) Freymann, Jain, Allen.
HADM 360 Research in Organization and Administration of Population
Programs (2) Jain, Freymann, Allen.

HEALTH EDUCATION

HEED 130 Interpersonal and Group Relations (2) Mathews, Lynton, Suallegan.
HEED 206 Education and Social Change in Population Planning (2) Mathews.

JOURNALISM

JOUR 146 International Communication and Comparative Journalism
(3) Bishop
JOUR 151 Introduction to Mass Communication Research (3) McCombs.
JOUR 165 Communication and Opinion (3) Shaw.
JOUR 251 Media Research Methods (3) McCombs.

MATERNAL AND CHILD HEALTH

MCH 103 Reproductive Physiology and Conception Control (2) Hulka.
MCH 140-42 Problems in Maternal and Child Health (Family Planning)(1) Staff.
MCH 200 Introduction to Maternal and Child Health I (2) Siegel.
MCH 212 Social Problems and Services for Children and Their
Families (2) Gourley.

MENTAL HEALTH

- MENH 170 Mental Health Seminar I (Introduction to Community Mental Health)(2).
MENH 230 Evaluation of Mental Health Programs (3) Brogan, Wilson.
MENH 257 Cross Cultural Consultation (3) Lynton, Smallegan.

POLITICAL SCIENCE

- POLI 212 Public Administration and Policy Making (3) Howard.
POLI 277 Research in Psychological Factors in Political Behavior (3) Lind.
POLI 305 Seminar in Application of Political Science Behavior Research to Public Problems (Population Policy)(3) Flash.
POLI 330 Seminar in Development Administration (3) Daland.

PSYCHOLOGY

- PSYC 132 Introduction to Social Psychology (3) Thibaut, Thompson.
PSYC 328 Psychology and Population (3) Thompson.

PUBLIC HEALTH

- PUBH 101 Interdisciplinary Seminar in Population and Family Planning (1) Freymann & Staff.

RADIO, TELEVISION & MOTION PICTURES

- RTVMP 151 Introduction to Mass Communication Research (3) McCombs.

RELIGION

- RELI 91 Christian Ethics and Modern Problems (Population)(3) Allen.
RELI 140 Comparative Religion, Public Policy and Population Control (3) Nash.

SOCIOLOGY

- SOCI 54 Population Problems (3) Kasarda
SOCI 168 The City (3) Smith.
SOCI 186 Population (3) Hawley, Namhoodiri.
SOCI 287 Migration/Population Distribution (3) Hawley.
SOCI 289 Socio-Economic Factors in Fertility (3) Namhoodiri.

ZOOLOGY

- ZOOL 122 Human Genetics (3) Whittinghill.
ZOOL 200 Population Ecology (3) Stiven.
ZOOL 208 Ecology (4) Staff.

Duke University Courses

ECONOMICS

- ECON 317 Seminar in Demographic, Population and Resource Problems
(3) Spengler.
ECON 319 Economic Growth (3) Rottenberg.
ECON 234 Urban Economics (3) Black.

POLITICAL SCIENCE

- POLI 249 Comparative Political Analysis and Political Development.
(3) Braibanti.

SOCIOLOGY

- SOCI 145 Urban Sociology (3) Myers.
SOCI 243 Population Dynamics and Social Change (3) Myers.
SOCI 302 Seminar on Urbanization and Migration (3) Myers.
SOCI 304 Demographic Techniques II (3) Hartford.

CAROLINA POPULATION CENTER
UNIVERSITY OF NORTH CAROLINA
CHAPEL HILL, N.C.

Student-Faculty Lecture-Discussion Series

Fall 1970-71

7:30-9.00 p.m. each Monday at the Newman Center, 218 Pittsboro Street

<u>Date</u>	<u>Topic</u>	<u>Speaker</u>
September 28	The Family and Fertility	Dr. Marvin Sussman Chairman, Department of Sociology Case Western Reserve University Cleveland, Ohio and Academic Affairs Consultant Carolina Population Center University of North Carolina at Chapel Hill
October 5	The Biosphere	Dr. Frank McCormick Associate Professor of Botany University of North Carolina at Chapel Hill
October 12	The Interrelationships of the Population Problem and Genetics	Dr. Harold O. Goodman Professor of Medical Genetics Bowman Gray School of Medicine Wake Forest University Winston-Salem, North Carolina
October 23	Population Policy Development in the United States	The Honorable Robert W. Packwood, United States Senator from Oregon Washington, D. C.
October 26	Birth Control and the Law	Mr. Michael Katz Doctoral Candidate Program in Law and Social Sciences Northwestern University Chicago, Illinois
November 2	Politics and Population Planning	Mr. Arthur H. Jones Consultant on Population Policy Carolina Population Center University of North Carolina at Chapel Hill

Student-Faculty Lecture-Discussion Series (Continued)

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|-------------|---|--|
| November 9 | An Economist's View of the Population Problem | Dr. T. Paul Schultz
Director of Population Research
Economics Department
The Rand Corporation
Santa Monica, California |
| November 16 | The Problem of Slowing Population Growth and Decline | Dr. Frank W. Notestein
President Emeritus
Population Council
New York, New York |
| November 23 | Why Psychology in Population? | Dr. James T. Fawcett
Staff Associate
The Population Council
New York, New York |
| November 30 | Progress in Research Toward the Regulation of Fertility | Dr. Jaroslav Hulka
Associate Professor
Department of Maternal and Child Health
Department of Obstetrics and Gynecology
Associate Director of the Carolina Population Center
University of North Carolina at Chapel Hill |
| December 7 | Population Theory: Anthropological View | Dr. Steven Polgar
Associate Professor of Anthropology
Associate Director of the Carolina Population Center
University of North Carolina at Chapel Hill |
| December 14 | The Environmental Consequences of Man's Quest for Food | Mr. Lester R. Brown
Senior Fellow
Overseas Development Council
Washington, D. C. |
| January 4 | New Developments in Communication for Family Planning | Dr. Donald J. Bogue
Professor of Sociology and Director
Community and Family Study Center
University of Chicago
Chicago, Illinois |
| January 11 | An Anthropologist Takes a Critical Look at the Ideologies of Populationists | Dr. John Buettner-Janusch
Professor
Departments of Anatomy and Zoology
Duke University
Durham, North Carolina |

CAROLINA POPULATION CENTER
UNIVERSITY OF NORTH CAROLINA
CHAPEL HILL, N. C.

STUDENT-FACULTY LECTURE-DISCUSSION SERIES

Spring 1971

7:30 - 9:00 P.M. each Monday at the Wesley Foundation, 214 Pittsboro

<u>DATE</u>	<u>General Topic</u>	<u>Speaker</u>
February 1	Family Planning and Foreign Assistance; Interrelationships; Strategies, Problems and Insights	Dr. Reinert T. Ravenholt, Director Office of Population, U. S. Agency for International Development, Washington, D. C.
February 8	Government Sponsored Family Planning Programs and Social Welfare: Panacea or Genocide?	Dr. Warren G. Robinson Professor of Economics Pennsylvania State University
February 15	Health and Population Policy--- The India Case	Dr. Carl Taylor Professor and Chairman, Department of International Health Johns Hopkins University
March 1	Family Planning in U. S. Cities: A Focus on the Black Perspective of Family Planning	Mr. Carl Flewister Executive Director -- Planned Parenthood, New York City
March 8	The Effect of an Intensive Mass Media Program on Contraceptive Behavior and Prevention of Unwanted Fertility	Mr. Robert Blake, Director of Family Planning Educational Mat'ls. Carolina Population Center UNC, Chapel Hill, N. C.
March 15	The Role of the Consultant in Program Evaluation	Dr. William J. Moore Population Program Advisor The Ford Foundation - Mexico
March 22	Planning for Population Educa- tion in the Developing World	Mr. Stephen Viederman, Ass't. Director, Demographic Division The Population Council, New York
April 5	Family Planning Program Evalua- tion: Modified Systems Analysis in Theory and Practice	Dr. Ralph (Jack) Reynolds Assistant Director International Institute for Study of Human Reproduction Columbia University, New York
April 12	International Policy: The UN as an Expediter and Systematizer of Policy	Dr. Halvor Gille Associate Director, United Nations Fund for Population Activities New York

April 19	Developmental Human Ecology-- A New Frame for Viewing Popu- lation Problems	Dr. Gerald Winfield Associate Chief, Manpower U. S. Agency for International Development, Washington, D. C.
April 26	Operations Research in Family Planning Programs	Dr. Curtis McLaughlin Associate Professor of Business Administration and Associate of Carolina Population Center, UNC and Mr. Edward Trainer, Research Associate, Health and Family Planning Administration Carolina Population Center, UNC
May 3	Population Policies in the Developing World	Dr. David Sills, Director Demographic Division The Population Council, New York
May 10	U. S. Government Family Planning Policies and Programs: Issues and Prospects	Dr. Louis Hellmann Deputy Assistant Secretary for Population Affairs Department of Health, Education and Welfare, Washington, D. C.

CAROLINA POPULATION CENTER
UNIVERSITY OF NORTH CAROLINA
CHAPEL HILL, N.C.

POPULATION STUDENTS: ACADEMIC YEAR 1970-71

<u>DEPARTMENT</u>	<u>STUDENT</u>	<u>COUNTRY</u>
<u>Anthropology (15)</u>	Axelrod, Paul	United States
12 - United States	Bond, James T.	United States
1 - United Kingdom	Brooks, Jane T.	United States
1 - U.A.R.	Davis, Dona L.	United States
1 - China	Davis, Dorothy	United States
	Eisenman, Theresa	United States
	Gamble, George	United States
	Grosmith, Christopher	United Kingdom
	Hebert, Mayling S.	United States
	Khattab, Hind A.S.	U.A.R.
	Lowenbach, Trude S.	United States
	Morris, Susan B.	United States
	Riley, James	United States
	Settlemyre, Thomas	United States
	Wang, Jen-ying	China (Taiwan)
<u>Education (6)</u>	Bhatnagar, K. M.	India
3 - United States	Fox, Virginia A.	United States
1 - Thailand	Holme, Paul G.	United Kingdom
1 - India	Prapapan, Susan	Thailand
1 - United Kingdom	Saltonstall, Caroline	United States
	Williams, Sara A.	United States
<u>Geography (4)</u>	Benz, Charity	United States
4 - United States	Enberg, Dennis	United States
	Jones, Mary S.	United States
	Rengert, George	United States
<u>Political Science (11)</u>	Bergman, Elihu	United States
9 - United States	Brockett, Charles D.	United States
1 - Nepal	Clinton, Richard L.	United States
1 - U.A.R.	Gitlitz, John	United States
	Humberger, Edward	United States
	Khattab, Moushira	U.A.R.
	McCarthy, John	United States
	Sainju, Mohan Man	Nepal
	Schoultz, Lars G.	United States
	Stubbs, Anne D.	United States
	Vezner, Karl	United States
<u>Psychology (2)</u>	Erickson, Bonnie	United States
2 - United States	Rall, Marilyn	United States

<u>DEPARTMENT</u>	<u>STUDENT</u>	<u>COUNTRY</u>
<u>Sociology (18)</u>		
13 - United States	Ehrlich, William	Canada
1 - Canada	Flynn, Cynthia	United States
3 - India	Frisbie, Parker	United States
1 - United Kingdom	Gilbert, Sammy F.	United States
	Godley, Carol J.	United States
	Hiday, Virginia	United States
	Howard, William G.	United States
	Hurst, Betty L.	United States
	Kasarda, John D.	United States
	Kulok, Cris	United States
	Lalu, N. M.	India
	Long, John	United States
	Millen, James S.	United Kingdom
	Packter, Daniel	United States
	Radha Devi, D.	India
	Sastry, K. P.	India
	Sory, Margaret H.	United States
	Wardwell, John M.	United States
<u>Zoology (8)</u>		
8 - United States	Burns, Lawrence	United States
	DeSiz, Jean	United States
	Hunter, James T.	United States
	Kelly, Robert	United States
	Outen, Ronald	United States
	Roberts, Martha	United States
	Saythe, Robert B.	United States
	Wright, George	United States
<u>Biostatistics (21)</u>		
6 - United States	Azordegan, Firooz	Iran
1 - Chile	El Khorazaty, Mohamed	U.A.R.
2 - Colombia	Gil, Angelina	Colombia
4 - India	Gupta, Ram K.	India
1 - Iran	House, Dennis	United States
1 - Pakistan	Jain, P. K.	India
1 - Nepal	Johnson, Bradford	United States
1 - Turkey	Lasprilla, Enrique	Colombia
3 - U.A.R.	Lessier, Judith	United States
1 - Vietnam	Mustafa, Ahmed	U.A.R.
	My, Vu Thi	Vietnam
	Nour, El-Sayed	U.A.R.
	Rajbanshi, Bhabani, S.	Nepal
	Rodriguez, German	Chile
	Sehgal, Jag M.	India
	Siddique, Muhammed C.	Pakistan
	Thomas, Michael R.	United States
	Tolley, H. Dennis	United States
	Yesilcay, Yasar	Turkey
	Young, John	United States

<u>DEPARTMENT</u>	<u>STUDENT</u>	<u>COUNTRY</u>
<u>Epidemiology (2)</u>		
1 - United States	Hogue, Carol J.	United States
1 - Iran	Nadin, Abolhassan	Iran
<u>Health Administration (17)</u>		
9 - United States	Asayesh, Khalil	Iran
1 - China	Chang, K. K.	China (Taiwan)
2 - India	Gibson, Betty	United States
3 - Iran	Greene, Brian	United States
1 - Pakistan	Jalali, G. H.	Iran
1 - Switzerland	Khan, Jahangir	Pakistan
	Loddengaard, Robert	United States
	Martin, Jean	Switzerland
	Merrill, Henry D.	United States
	Nelson, Theodore	United States
	Pisharodi, K. A.	India
	Russell, Jerry M.	United States
	Sarkar, Khuku	India
	Trainer, Edward S.	United States
	Van Wic, William	United States
	Yarnell, Peter	United States
	Ziai, Lotfollah	Iran
<u>Health Education (11)</u>		
5 - United States	Fassai Rezhad, Oranus	Iran
3 - India	Fulchiero, Anita	United States
1 - Iran	Hashim, Yunus Bin	Malaysia
1 - Korea	Haynes, Thornton	United States
1 - Malaysia	Jacobs, Judith	United States
	Kyle, Richard	United States
	Shah, Ketki	India
	Sudersanam, Vijay	India
	Thungadorai, M.	India
	Yun, Sung Hee	Korea
<u>Maternal & Child Health (8)</u>		
4 - United States	Chaichana, Suvanavejh	Thailand
1 - Chile	Djahnur, Martaadisoebrata	Indonesia
1 - Indonesia	Gnecco, Gilda	Chile
1 - Pakistan	Hibbard, Harland D.	United States
1 - Thailand	Land, Sandra H.	United States
	McNellis, Donald	United States
	Sheikh, Maqbool	Pakistan
	Tompkins, Forrest	United States

DISTRIBUTION OF STUDENTS BY COUNTRY

Canada	1
Chile	2
China (Taiwan)	2
Colombia	2
India	13
Indonesia	1
Iran	6
Korea	1
Malaysia	1
Nepal	2
Pakistan	3
Switzerland	1
Thailand	2
Turkey	1
United Arab Republic	5
United Kingdom	3
United States	75
Vietnam	1
	<hr/>
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CAROLINA POPULATION CENTER

ALUMNI, 1966-1971, and their
PRESENT OCCUPATIONAL ACTIVITIES

This appendix provides a summarized description of the disciplines studied, degrees awarded, and present occupational activities and locations of the 145 alumni of the University of North Carolina Population Studies Program who had completed their studies between 1966 and June, 1971. Persons whose training program was in no way related to the Carolina Population Center have been excluded from this tabulation.

TABLE I.
DEGREES AWARDED, 1966 - June, 1971

<u>Degree</u>	<u>Total</u>
Ph. D.	23
Dr. P.H.	3
M.A.	11
M.S.	2
M.P.H.	23
M.S.P.H.	70
No Degree	<u>13</u>
	145

TABLE II. Departmental Major at the University of North Carolina

Departmental Major	Number	Departmental Major	Number
Anthropology	0	Journalism	6
Biostatistics	23	Maternal & Child Health	25
Economics	1	Mental Health	1
Education	1	Political Science	2
Epidemiology	10	Psychology	1
Genetics	2	Radio, Television	3
Geography	1	Sociology	15
Health Administration	37	Zoology	3
Health Education	14		

TABLE III. Country of Current Employment (1971)

Country	Number	Country	Number
Australia	1	Liberia	2
Bolivia	1	Mauritius	1
Canada	1	Pakistan	8
China (Taiwan)	2	Panama	1
Columbia	3	Peru	1
Dominican Republic	1	Philippines	2
Germany	1	Thailand	8
Ghana	2	Trinidad & Tobago	1
India	25	United Arab Republic	9
Iran	2	United Kingdom	1
Ireland	1	United States	67
Korea	3	Vietnam	1

72 Alumni are employed in economically advanced countries and 73 in less developed countries.

TABLE IV. Summary of Current (1971) Activities of UNC Population Alumni

Type of Work	Number	
	In United States	Overseas
In population and/or family planning policy-making positions on the national level of government	14	24*
In Population and/or family planning policy-making positions on state and local levels of government	3	7
In population positions in educational institutions:		
Engaged in research & teaching	25	29
Administrators	7	1
Below University Level		1
Total in educational institutions	32	31
Family planning professionals in clinical positions	1	6
Affiliated with private, population-oriented foundations and agencies:		
Administrators	7	4
Researchers	1	5
Enrolled in advanced degree programs in population studies	5	1
In non-population-oriented positions	4	0
GRAND TOTAL	67	78

* includes 6 U. S. graduates employed by United States government overseas

PUBLICATIONS PRODUCED BY THE
CAROLINA POPULATION CENTER

Monographs: (Blue Series)

- 1 - Therapeutic Abortion, A Chapel Hill Symposium (February 1969)
Jeroslav F. Hulka, M.D.
- 2 - North Carolina Abortion Law 1967, A Study in Legislative Process
(February 1969)
Sagar C. Jain, Ph.D. and Steven W. Sinding
- 3 - Final Report, International Workshop on Communication Aspects of Family
Planning Programs (June 1969)
Robert R. Blake, Editor
- 4 - Medical Students and Population Research (July 1969)
Charles B. Arnold, Editor
- 5 - Beliefs and Attitudes About Contraception Among the Poor (August 1969)
Robert R. Blake, Chester A. Insko, Robert B. Cialdini, Alan L. Chaikin
- 6 - Family Planning Educational Materials: An Annotated Bibliography of
Selected Items (September 1969)
Robert R. Blake, Editor
- 7 - A Report on the First National Family Planning Conference for Nurse
Educators in Baccalaureate Schools of Nursing (1970)
Elizabeth M. Edmonds, Editor
- 8 - Implementation of Family Planning Policy by Public Welfare (October 1970)
Patricia B. Gustafson
- 9 - Culture and Population: A Collection of Current Studies (January 1971)
Steven Polgar, Editor
- 10 - Potential Socioeconomic Consequences of Planned Fertility Reduction:
North Carolina -- A Case Study (January 1971)
A. S. David and R. S. Sarma
- 11 - Incentives and Compensations in Birth Planning (March 1971)
Edward Pohlman
- 12 - Qualitative Evaluation of Family Planning Proposals and Programs:
A Systems Approach (April 1971)
Curtis P. McLaughlin and Edward S. Trainer
and
POPSIM, A Demographic Microsimulation Model
D. G. Horvitz, F. G. Giesbrecht, B. V. Shah and P. A. Lachenbruch

Monographs continued

- 13 - Epidemiographic Surveillance: A Symposium
Harald Frederiksen with F. L. Dunn, Sidney L. Kark, Kenneth W. Newell,
E. J. Pampana, Anthony J. Radford, Carl E. Taylor, Joe D. Wray and
John B. Wyon
- 14 - Declining Population Growth Revisited
Joseph J. Spengler (May 1971)
- 15 - Prediction of Contraceptive Behavior - A Three Dimensional Approach
Virupaksha Kothandapani (August 1971)
- 16 - The Health Theme in Family Planning (October 1971)
Abdel Ocran
- 17 - Family Planning in North Carolina: The Politics of a Lukewarm Issue
Anthony Measham (December 1971)

Carolina Population Center Papers: (Green Series)

- 1 - Final Report: International Workshop on Communications in Family Planning Programs
Robert Blake, Editor
- 2 - Approaches to the Human Fertility Problem -- Prepared for the United Nations Advisory Committee on the Application of Science and Technology to Development
- 3 - The Ahoor Experience: Implications for a Statewide Family Planning Program
Kateor Pisharoti, a joint publication by the Carolina Population Center and the Institute of Rural Health and Family Planning, Gandhigram, India

Reprint Series:

- 1 - J. Richard Udry and Naomi M. Morris. Frequency of Intercourse by Day of the Week, The Journal of Sex Research (1970).
- 2 - J. Richard Udry. The Effect of the Great Blackout of 1955 on Births in New York City, Demography (1970).
- 3 - N. Krishnan Namboodiri. On the Relation Between Economic Status and Family Size Preferences When Status Differentials in Contraceptive Instrumentalities are Eliminated, Population Studies (1970).
- 4 - J. Richard Udry and Naomi M. Morris. Behavioral Effects of Contraception, Journal of Medical Education (1969).
- 5 - Frederick S. Jaffe and Steven Polgar. Family Planning and Public Policy: Is the "Culture of Poverty" the New Cop-Out?, Journal of Marriage and the Family (1968).
- 6 - Naomi M. Morris and J. Richard Udry. Variations in Pedometer Activity During the Menstrual Cycle, Obstetrics-Gynecology (1970).

Reprint Series continued

- 7 - Ethel M. Nash and Lois M. Loudon. The Premarital Medical Examination: What Patients Desire, *The Journal of the American Medical Association* (1969).
- 8a N. Krishnan Namboodiri. A Method for Comparative Analysis of Fertility Dynamics Represented by Sequences of Fertility Schedules, *Demography* (1970).
- 8b N. Krishnan Namboodiri. A Statistical Exposition of the "Before-After" and "After-Only" Designs and Their Combinations, *American Journal of Sociology* (1970).
- 9 - A. S. David. Nepal: National Development, Population, and Family Planning, *Studies in Family Planning* (1969).
- 10 - Steven Polgar and Frederick S. Jaffe. Evaluation and Record-keeping for U.S. Family Planning Services, *Public Health Reports* (1968).
- 11 - J. Richard Udry, Naomi H. Morris, Karl E. Bauman, and Charles L. Chase. Social Class, Social Mobility, and Prematurity: A Test of the Childhood Environment Hypothesis for Negro Women, *Journal of Health & Social Behavior* (1970).
- 12 - Oscar J. Sikes. Introducing Family Planning in a Rural Setting, *International Journal of Health Education* (1970).
- 13 - Karl E. Bauman. Selected Aspects of the Contraceptive Practices of Unmarried University Students, *American Journal of Obstetrics and Gynecology* (1970).
- 14 - Ali A. Paydarfar and Mahmood Saxram. Differential Fertility and Socioeconomic Status of Shirazi Women: A Pilot Study, *Journal of Marriage and the Family* (1970).
- 15 - James E. Allen. How Catholics Are Making Up Their Minds on Birth Control, *The Christian Century* (1970).
- 16 - J. Richard Udry and Naomi M. Morris. Effect of Contraceptive Pills on the Distribution of Sexual Activity in the Menstrual Cycle, *Nature* (1970).
- 17 - T. O. Ling. Buddhist Factors in Population Growth and Control: A Survey Based on Thailand and Ceylon, *Population Studies* (1969).
- 18 - John B. Graham. Population Studies: A Paradigm of Biomedical Research in the Coming Age, *Alabama Journal of Medical Sciences* (1969).
- 19 - T. H. Naylor. Systems Research in Organization and Management: A Systems Analysis Approach to Population Control, *Global Systems Dynamics* (1969).

Reprint Series continued

- 20 - Chester A. Insko, Robert B. Cialdini, Robert R. Blake, and Stanley A. Mulaik. Attitude Toward Birth Control and Cognitive Consistency: Theoretical and Practical Implications of Survey Data, *Journal of Personality and Social Psychology* (1970).
- 21 - Ethel M. Nash. The Physician's Role as Counselor: When, Where and How To Make Referrals, *Clinical Obstetrics and Gynecology* (1970).
- 22 - Richard W. Taylor. Hindu Religious Values and Family Planning, *Religion and Society* (1969).
- 23 - Earl Siegel, Donald Thomas, Robert Tuckill, Elizabeth Coulter, and Sidney Chipman. Factors Associated with Involvement of Low-Income Women in a Public Family Planning Program, *American Journal of Public Health* (1970).
- 24 - James Allen. *Your Sexual Self*, Christian Action (1971).
- 25 - James Allen. *Population Control: A Bibliographic Overview*, Choice (1971).
- 26 - Charles H. Hendricks. Pregnancy Termination: The Impact of New Laws, *The Journal of Reproductive Medicine*, (1971).
- 27 - Steven Folgar and Frances Rothstein. Family Planning and Conjugal Roles in New York City Poverty Areas, *Social Science & Medicine* (1970).
- 28 - J. Richard Udry, Srisomang Keovichit, Robert Burnright, Donald O. Cogill, Naomi M. Morris, and Charas Yamarat. Pregnancy Testing as a Fertility Measurement Technique: A Preliminary Report on Field Results, *American Journal of Public Health* (1971).
- 29 - A. E. Keir Nash. Going Beyond John Locke? Influencing American Population Growth, *Milbank Memorial Fund Quarterly* (1971).
- 30 - J. J. Spengler. Population Control: Multidimensional Task, *Vanderbilt Law Review* (1971).
- 31 - J. Richard Udry, Karl Bauman, and Charles Chase. Skin Color, Status and Mate Selection, *American Journal of Sociology* (1971).
- 32 - Naomi Morris and J. Richard Udry. Sexual Frequency and Contraceptive Pills, *Social Biology* (1971).
- 33 - N. Krishnan Namboodiri and N. M. Lalu. The Average of Several Simple Regression Estimates as an Alternative to the Multiple Regression Estimate in Postcensal and Intercensal Population Estimation: A Case Study, *Rural Sociology* (1971).

Reprint Series Continued

- 34 - Arnold S. Nash. Food, Population and Man's Environment, Technology and Social Justice (1971).
- 35 - Steven Polgar. United States: The PPEA Mobile Service Project in New York City, Studies in Family Planning (1966).
- 36 - David Burleson. 13,200 Hours of Specialized Sitting, Idea (1971).

EDUCATIONAL MATERIALS
PRODUCED BY THE
CAROLINA POPULATION CENTER

I. Films:

16 mm film, "Under One Roof", color, 26 minutes

II. Sound filmstrips:

"How Babies Begin", 35 mm, color, 13 minutes

"Doctor Methods of Birth Control", 35 mm, color, 13 minutes

"Drug Store Methods of Birth Control" and "Ineffective Methods of Birth Control", 35 mm, color, 13 minutes

III. Booklets:

"The Right Way to Birth Control"

"Is Your Family Complete?"

"Fertility Tests and Treatments"

"Birth Control Foam and How to Use It"

"Facts About the Loop"

"You and the Pill"

"Family Planning Means . . ."

"If You're Not Ready for Another Baby"

"Planning Your Pregnancy"

"Elephants and Butterflies"

"Tubal Ligation"

"Vasectomy"

"Laparoscopy"

IV. Flipbooks:

"Why People Plan Pregnancy"

"How People Plan Pregnancy"

V. Mail Pieces:

"Congratulations on Your Recent Marriage"

"Congratulations on Your New Baby"

"How Long Would You Like to Wait Between Babies?"

The University of North Carolina at Chapel Hill

CAROLINA POPULATION CENTER

Diagram of Population Program Organization

