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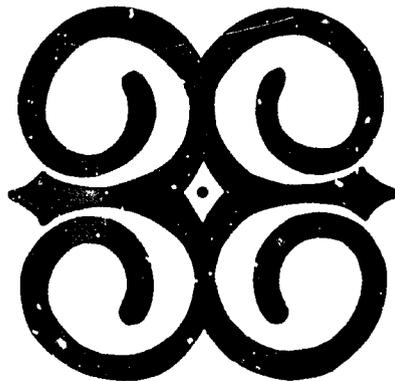
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The University of Ghana Medical School  
P.O. Box 4236  
Accra, Ghana

UCLA School of Public Health  
University of California  
Los Angeles, Ca. 90024

UCLA  
ANNUAL PROGRESS REPORT

January - December 1977

DANFA COMPREHENSIVE RURAL HEALTH  
AND FAMILY PLANNING PROJECT, GHANA

Alfred K. Neumann, M.D., M.P.H.  
Co-Director  
School of Public Health  
University of California  
Los Angeles, California 90024

## TABLE OF CONTENTS

INTRODUCTION	PAGE 1
HIGHLIGHTS OF 1977	2
SUMMARY OF ACHIEVEMENTS AND PRESENT STATUS	4
I. INVESTIGATION OF THE STATE OF THE RURAL GHANAIAI COMMUNITY	4
A. On-Going Field Surveys	4
B. Special Epidemiologic Studies	5
C. Socio-Economic Analysis	6
II. DEVELOPMENT AND STRENGTHENING OF INSTITUTIONAL CAPABILITY	6
A. Research	6
B. Teaching	7
C. Training	7
D. Development of Training Manuals	8
E. Transfer of Responsibility	8
III. DEMONSTRATION AND EVALUATION OF COST-EFFECTIVE HEALTH CARE SYSTEM MODELS	8
A. Health Services Delivery Programs	8
B. Health Education	9
C. Program Evaluation	10
IV. TRANSFER OF INFORMATION	11
A. Writing and Publications	11
B. Information Sharing	12
C. Relationships/Public Relations	12
D. Project Visitors	13
PROBLEMS	14
1. Personnel	14
2. Project Equipment	14
GENERAL ADMINISTRATION	15
1. Transfer of Fiscal Responsibility	15
2. The 1977 Project Review Meeting	15
3. Phaseout of UCLA staff	16
4. Consultant Visits (TDY)	16
PLANS FOR 1978 AND BEYOND	17
APPENDIX I: Danfa Project Manuscripts	19
APPENDIX II: Participant Trainees	38
APPENDIX III: Reprint Requests - Bibliographic Services	42
APPENDIX IV: Commodities and Shipments	43

UCLA  
ANNUAL PROGRESS REPORT  
JANUARY-DECEMBER 1977

INTRODUCTION

This is the UCLA report to the United States Agency for International Development (USAID) concerning the Danfa Comprehensive Rural Health and Family Planning Project and related activities during the calendar year 1977, as required by its contract with USAID. There are currently between 80 and 90 full-time Ghanaian faculty and staff working on the Danfa Project and between 40 and 50 additional Ghanaians working part time.

The phaseout of the UCLA team in Ghana continued in 1977 and by mid-year only the Chief of Party remained. Pertinent factors impinging on the phaseout of the Danfa Project are a current high rate of inflation in Ghana, a strike of professional workers in mid-1977 and a measure of general uncertainty and concern about the future. In spite of these factors, however, the work of the Project is going quite well. For instance:

1. The general Project purposes as outlined in the revised Danfa PROP of 1975 are being met, as are the specific targets set for 1977.
2. The effective, working collaboration between the Ghanaian members and the UCLA group continues to be productive. One highlight of the year was the week-long visit of the Dean of the University of Ghana Medical School (GMS) to the UCLA campus in October 1977. The work of the Project has continued since the phaseout of the UCLA team and basic activities are being expanded. A critical mass of trained and able Ghanaians at all levels now exists which is sufficient to continue the basic work of the project and to either expand and/or modify it without need of external assistance.
3. On a national level, significant Danfa recommendations are beginning to be implemented. These include elements of the village-based primary care program, family planning integration measures, the traditional birth attendant program and immunization procedures. Lessons learned from the vital events/demographic aspects of the Danfa Project are being put to use by the Bureau of Census. Three Danfa Project produced training manuals have been adopted and are in use at the national level, with two others under consideration and others are still in production. Finally, service delivery, evaluation and cost techniques developed in the Danfa Project are being reviewed and various aspects are beginning to be implemented nationally. The process of replication of positive recommendations of a project is at best slow and requires careful review by national level authorities, as well as the understanding, acceptance, and willingness of key senior personnel. It also requires training of interested and able individuals at the national level who can implement the new measures at the local level. The

Danfa Project has helped to establish the basis for a postgraduate community health specialty training program within the Department of Community Health of the GMS. Moreover, the Ministry of Health has developed, and is beginning to implement, plans for the recruiting and training of District Medical Officers involving the new postgraduate community health program of the Medical School.

4. International interest in the Danfa Project continues to grow as measured by the number of inquiries from different countries and the number of foreign visitors to the Project. Ghanaians and UCLA team members are frequently requested either as consultants or to deliver papers about Danfa related work in other countries and at international conferences. Specific inquiries by various members of the World Health Organization (WHO) and international foundations have also been frequent, and the Danfa Project is being considered as an organizational model for collaborative projects in other geographic areas.
5. Prognostications about the value of the Danfa experience in Ghana are optimistic. There are many individuals committed to the ideas and principles recommended by the Project and there exists a sizable number of Ghanaians in key positions in education and in the Ministry of Health who have a considerable personal commitment to the concepts and procedures promulgated by the Danfa Project.

#### HIGHLIGHTS OF 1977

1. The third and final survey rounds including the longitudinal survey, village health survey, family planning survey and the 1977 census were completed.
2. Editing, coding, keypunching, and putting on tape and editing of tape of most of the Danfa field data was also accomplished. Preparation of raw data for analysis has been carried out almost entirely by Danfa Project trained Ghanaians. This group constitutes a significant resource for the University of Ghana and will be available to help with other similar endeavors in the future.
3. There has been an accelerated information transfer program and a strengthening of the linkages with Ghanaian national level agencies. In particular this involves the Ministry of Health mainly through its Planning Unit, but also the Ministry of Finance and the National Family Planning Program group.
4. Four additional training manuals were completed and/or revised. The following three are already in national use: (1) Track 4 Family Planning Training Manual for Workers, (2) A Companion Instructors Manual, (3) A Traditional Birth Attendant Training Manual.
5. Phase two of the Training Village Health Workers Manual was completed and along with the phase one manual was sent to the Ministry of Health for official review.
6. Outline for the final report was approved and is being prepared as a joint report in which Ghanaian and UCLA principals are collaborating.

Areas of responsibility were assigned and work is proceeding. Dr. Stewart Blumenfeld is the overall editor-in-chief.

7. Planning for the final review meeting is underway. The dates were originally fixed for November 20-24, 1978 in anticipation of a full scale review meeting with a large attendance. However, by year's end it was apparent that this would be unfeasible due to time constraints. It was tentatively decided, therefore, to postpone it, allowing more time for data analysis, and then to hold a seminar type review meeting to which would be invited a limited number of African rural health care experts. Also included would be people from WHO, various foundations, and from USAID/Washington. These participants would be asked to review and comment on advanced copies of the draft of the Final Report, enhancing the value of the Final Report as a working guide for the future.
8. Phaseout of the MCH/Family Planning and Systems Analyst Advisors (UCLA) occurred and their responsibilities were transferred to colleagues in the GMS Department of Community Health. Only the Chief of Party remains in Ghana. It must also be noted that prior to the phaseout of the UCLA team members, there was a period of intense briefing and collaboration with Ghanaian colleagues. The skills and interests of the latter have facilitated the smooth transition and even expansion of basic programs.
9. With the principle of the integration of family planning into general health services having been accepted by the Ministry of Health, the 1975 Danfa PROP mandated experimentation with cost effective ways of achieving this integration. Accordingly, the work of the specialized family planning team continued to be phased out in the Health Centre whose staff was trained to provide more family planning services. At the same time, the volunteer village health workers were trained to become community family planning motivators and to distribute family planning as part of the Project's growing village based primary health care programs. A commercial contraceptive distribution program was initiated in Area II. Traditional Birth Attendants continue to be trained as family planning motivators. As of June 30, 1977 after five years of family planning program activity in Area I, approximately 34% of couples and 25% of women of reproductive age in Area I are family planning acceptors with good continuation rates.
10. Continuations: (1) training programs in family planning for clinic nurses; (2) continuation and expansion of TBA programs; (3) continuation of malaria prophylaxis and mass immunization programs; (4) continuation of MCH and family planning evaluation programs; and (5) expansion of quality of care studies.

The following section complements and supplements the material of the preceding pages. The format follows that of the new 1975 PROP.

SUMMARY OF ACHIEVEMENTS AND PRESENT STATUS

Project Purpose I

1. Investigation of the state of the rural Ghanaian community, concentrating on factors associated with health and family planning behavior.
  - A. On-Going Field Surveys - all work completed.
    - (1) Final round longitudinal survey
      - a. Village health survey - need few statistics as to the number of subjects, number of villages.
      - b. Longitudinal survey - again same details as above. The following have been accomplished: review of the 1976 second round survey outputs; questionnaire revision; examination of the morbidity survey; and interviewer staff training.
      - c. Family planning follow-up survey was completed in May and June of 1977. Information was obtained from approximately 400 family planning acceptors and an equal number of controls concerning: lifetime pregnancy history, contraceptive behavior, continuation rates, breastfeeding patterns, nutritional status of respondents' children under five years of age, and socioeconomic characteristics of acceptors and controls. The impact of the family planning program on fertility, child survival and nutritional status is to be ascertained.
      - d. A household health-related survey which began in late 1976 was completed in 1977. This was the primary responsibility of the health education group. All villages in Areas I, II, and III were involved in the survey except villages with fewer than 50 inhabitants. Detailed analysis of data is still underway but tentative findings indicate that the best way to transfer a health-related educational message is via close integration with ongoing service programs including preventive and curative services such as well-child clinics in the villages, family planning clinics, prenatal services, etc. Isolated, uncoordinated discussion activities and demonstration programs carried out as free-standing activity by the health education aides are of lesser value than the former and also less cost effective.

(2) Annual Census

During the year results of the 1976 census became available. By August 31, 1976 the population of the four areas in order stood at 17,370, 15,293, 20,956 and 19,360. These figures represent 1 year percentage changes of 5.7%, 15.2%, 13.5% and 11.7%, respectively, and compound annual increases over 5 years of 6.9%, 8.0%, 9.0% and 7.3%. As noted in earlier

reports, annual rates of change have fluctuated rather widely, but extensive discussions with our field staff plus regular employment of a 10% sample check on field accuracy lead us to believe that our field methodology is satisfactory and is not a cause of major error in the census. The data therefore will be examined in depth by a demographic consultant so as to validate (or modify) these results since they constitute the basis for many of the denominators employed in calculating rates in all components of the Project.

The 1977 census was begun as usual in April and ended on schedule at the end of August. The regular 10% field sample check was finished in September. Editing and coding of these data occupied part of the Legon staff for the rest of 1977, a timetable not dissimilar to previous censuses. It is estimated that the work will be completed during the first half of 1978. It appears that the total manpower used for the census will again have been in the range of 110 to 120 man-months. This includes the efforts not only of field staff, but also of Legon based senior supervision and data processing staff. Preliminary sample checks for Area I indicated that coverage error was 2.3% broken down as 2/3 under-enumeration and 1/3 over-enumeration. This is a rate comparing favorably to results of previous years. It is to be noted that productivity of the staff continued at very satisfactory levels but there was some slippage due to a reduction in staffing level and there have been a few problems due to computer downtime.

### (3) Vital Events Registration

The work of the vital events registration assistants again continued to be most satisfactory with a low error rate. Vital events data are collected in two ways. The continuous registration scheme for which costs are cited in the previous paragraph is wholly attributable to vital events. The annual census, on the other hand, while contributing to the collection of vital events can by no means be fully attributed to that part of the Project since the census data are used as input to many other parts of the Project. In consultation with the senior Legon staff, it was decided that 10% would be a reasonable figure for attributing that portion of the census to the vital events program, including personnel and transport. This comes to \$2,579 (\$2,243). Since this constitutes only 7% of the total cost of \$35,488 (\$30,859), it may be seen that the actual cost of running the vital events program as is presently organized is not very sensitive to our "guesstimate" about the census.

## B. Special Epidemiologic Studies

The Project's epidemiologic studies were designed to identify major health problems, detect age groups at special risk and clarify factors affecting the distribution of diseases. Epidemiologic work initiated or completed includes studies involving:

- (1) Results of serologic tests of preschool children for previous infection with measles, pertussis, tetanus and polio.
- (2) Investigation of infectious hepatitis, arbovirus infections and toxoplasmosis.
- (3) Patterns of prevalence of malnutrition and mortality especially for preschool children.
- (4) Factors affecting attendance in the Village Health Survey, the malaria prophylaxis program, and the 1974 mass immunization campaign.

The acquisition of competent programmers and the successful adaptation of a package computer program for Legon computer facilities has considerably enhanced the flow of epidemiological data output in 1977.

#### C. Socio-Economic Analysis

There continues to be interest at the University of Ghana's Institute of Statistical, Social and Economic Research (ISSER), but unfortunately, during 1977 no staff were available at ISSER to effectively analyze the rather voluminous socio-economic data in hand. This is an extremely important area of investigation, very pertinent to the final evaluation of the Danfa data. Ways will have to be found in the last year of the Project to complete this work.

### Project Purpose II

Strengthening the institutional capability of the Ghana Medical School to conduct research and train physicians and other health workers in the delivery of health and family planning services.

#### A. Research

The capability to conduct research within the University of Ghana Medical School and the Ministry of Health has been strengthened by the Danfa experience. Skills in mapping and house numbering have been developed and scores of interviewers, editors, coders and programmers have been trained. Also developed have been skills in research design, data analysis, program costing and evaluation. Some of the new capability is due to efforts of the UCLA team and consultants, but much of it is due to the inputs received from other sources in Ghana, as well as to the intrinsic interest, motivation and talent of the Ghanaians who have been involved in the project. In fact, the bulk of the final year's fieldwork in Ghana and at its University in data interpretation and analysis is being carried out mostly by Ghanaian members of the team.

## B. Teaching

The pattern of activities established during the earlier years continued but were carried out for the most part by the Ghanaian members of the Danfa team.

## C. Training

### (1) Completed Training in 1977

- a. Dr. Reginald Amonoo-Lartson obtained his Masters in Public Health (M.P.H.) at UCLA, concentrating on MCH, family planning, nutrition, and health planning and management. Arrangements were made for Dr. Amonoo-Lartson to return to Ghana for July-August 1977 in order to carry on with the quality of care operations research study on which he was working with the UCLA Co-Director. Later when Dr. Amonoo-Lartson departed Ghana for UCLA, arrangements were made by UCLA/Ghana for a travel program of observation in some of the West African countries outside of Ghana. After a final quarter of study at UCLA in the Fall of 1977, he returned to Ghana in December and it is expected that he will make a good contribution to the Danfa Project, the Department of Community Health and the Ministry of Health.
- b. Mr. K. Kwabia, who obtained his Masters in Public Administration (M.P.A.) with concentration in health administration from the University of Southern California, returned to Ghana in early July 1977. Receiving high honors at graduation, Mr. Kwabia has assumed some of the responsibilities of the systems analyst and now heads up the Legon local research staff operation.

### (2) Training Begun in 1977

- a. Miss Edith Fordjor, from the Danfa Health Education Program, was sent by the GMS Department of Community Health (through USAID) to the University of California at Berkeley to obtain her M.P.H. in Health Education.

### (3) Remaining to be Trained

- a. Mr. K. Tipong-Annor, the project computer programmer, will go to UCLA in August or September 1978 for training in Computer Science for a Masters of Science degree.

- (4) The In-Service Training Program in Family Planning for Ministry of Health workers continues, with a manual for the instructor of trainers having been completed and the first training program given by Danfa Project personnel.

(5) Other training programs continuing in 1977 include:

- a. In-service training program for health center staff in family planning.
- b. In-service training for data analysts and computer programmers.
- c. Training for various categories of paramedical workers.
- d. Continued in-service training, general administrative, fiscal and budget control measures for the Ghana Medical School project funded accountant/administrative assistant.

D. Development of Training and Procedure Manuals

Four manuals were completed in 1977 and three are already in use as has been mentioned earlier on. A list of completed and projected training manuals and/or procedure manuals is included in the appendix.

The manuals address themselves to specific Ghanaian needs, are written largely by Ghanaians who have recognized those needs and who in part are responsible for the programs to which the manuals address themselves. There has been a close ongoing involvement of officials in the Ministry of Health as well as in the National Family Planning Programme.

Monographs 9, 10 and 11 are being adapted in order to produce the necessary procedure manuals (Please see page 34).

E. Transfer of Responsibility

The transfer of responsibility is being carried out in detail. In the case of each UCLA advisor, the process of transferring responsibility, knowledge and skills was initiated long before the actual physical departure. A generous transition period was allotted during which time the Ghanaian counterparts assumed full responsibility and the UCLA team members served as consultants. This was done in order to help the Ghanaians understand the nature and details of the UCLA advisors' roles and thus to be able to assume these roles themselves.

Project Purpose III

Demonstration of several cost effective health care system models to include family planning as an integrated component suitable to the Ghanaian context.

A. Health Services Delivery Programs

Programs previously established and showing the most promise for cost effective health care delivery were expanded. These included:

- (1) Village based primary care program
- (2) The training of TBAs
- (3) The delivery of family planning services by Health Centre staff

## (4) Mass immunization

Before mid-year these activities were under the direction of Ghanaian staff trained in the Danfa Project and specifically under the direction of physician participant trainees who returned to new positions in the University of Ghana Medical School, Department of Community Health. One physician is in charge of the integrated services in Area I and another is in charge of Areas II and III. Service programs continue in Area I at the Danfa Health Centre and its satellites, in Area II at the Amasaman Clinic, and in Area III at the new health post at Obum. Family planning services are being integrated into the programs of each of these centers. In addition, general outpatient services are provided through the new mental health hospital in the southern part of Area I.

Commercial contraceptive distribution was initiated in Area II. It was felt that a commercial program was not necessary in Areas I and III because of the broad availability of family planning services through existing government sponsored facilities.

## B. Health Education

- (1) There is a steady expansion in the child weighing program and in the use of Morley Cards as the child's growth, immunization and general health status record.
- (2) The family planning education program has been integrated with the general health program, especially that associated with the maternal and child health services.
- (3) The health educators in the Department of Community Health are now primarily in the position of advising other established health sector service specialists and agricultural extension workers.
- (4) Nutrition education activities are now carried out by the agricultural extension officer and by the community health nurses, public health nurses and the individuals staffing the child health clinics.
- (5) The work of establishing and strengthening Village Development Committees has continued.

The value of health education has been established and it has been reaffirmed that the most cost effective way of implementing good health education is to make it the community's concern rather than that of a separate detached health education group. The health education aides will be phased out and experienced health educators will advise senior health workers. The latter will work with village development committees and be responsible for the evaluation of health related education efforts.

### C. Program Evaluation

- (1) The task of integrating the data of the first two rounds of the longitudinal survey was completed. This integration was done to facilitate a study of the successive responses to any one single instrument by a given individual. The final round longitudinal survey information will be added to this same file in 1978.
- (2) The new electronic data processing (EDP) techniques for processing and analyzing the patient encounter card continues. This is to simplify recordkeeping and facilitate new evaluative studies. The card facilitates study of staff work patterns, and the format allows both adult and general child case visits to be recorded on the same form.
- (3) Cost analysis studies were primarily carried out by the UCLA systems analyst/cost analyst who departed from Ghana in July 1977. Unfortunately no cost data are available for all of 1977. Thus the Project ends with four years of cost experience for the years 1973-1976, during which period the cost of care at the Danfa Rural Health Centre rose approximately 195%. This is in contrast to the general consumer price index which, according to government figures, rose 140% in the same period. Most of the rise in costs at the Health Centre was due to increases in salaries rather than drugs and supplies, and to a 10% decrease in patient load without a concomitant decrease in the size of the Health Centre personnel contingent. This further points up the clear overstaffing of some of the rural health centers which results from specifying a more-or-less standard staff pattern; the problem is particularly noticeable in that group of staff which is not involved in direct patient care, e.g., craftsmen and laborers.
- (4) Data processing - A schedule of priorities in data processing was left with the data processing staff in the middle of the year. This included target dates for keypunching the data from all of the surveys done earlier in the year, cleanup of the data decks, commission of the data to tape and transfer of duplicate tapes to UCLA. In addition, a number of analyses were initiated on behalf of senior Ghanaian colleagues. These were gone over in great detail with both the cognizant researcher and the programmer so as to facilitate obtaining the data in the most useful format with the least waste of programmer, research and computer time. The work was completed within an acceptable timeframe and duplicates of data began to flow to UCLA in the last quarter of 1977.
- (5) The monitoring of medication expense at Danfa continued. Excessive use of medications, especially chloroquine, has been cut back.

- (6) Projected pilot functional analysis/operational research study of Danfa Health Centre and satellites. A quality of care project was initiated and completed in the summer of 1977 by one of the participant trainees together with the UCLA Co-Director as part of the field work requirements leading to the M.P.H. degree at UCLA.

#### Project Purpose IV: Transfer of Information Derived from Project

##### A. Writing and Publications

- (1) The majority of efforts of the senior Danfa staff (both UCLA and Ghanaian) has been devoted to analysis, interpretation and writeup of the voluminous data during the course of the project. Much work had already been done in the area of data analysis, interpretation and writeup as the attached list of publications shows. The most interesting data, however, have been acquired in the last stages of the project and analysis of the longitudinal studies can only be properly initiated after the final round information had been obtained and transferred to usable form on computer tape. The senior Ghanaian/UCLA staff published 8 project reports and papers on subjects such as polio, mass immunization, traditional birth attendants and family planning (see Appendix I for titles).
- (2) The special effort to produce training manuals and procedure manuals is underway as mentioned earlier. (See Appendix I.)
- (3) Danfa Project Final Report - In the period May/June/July, a series of meetings were held with regard to the final report of the Project in preparation for the departure of Drs. Nicholas and Blumenfeld. Their departures signified that Danfa data analysis would henceforth be carried on in two widely separated locations. It was essential that careful plans be laid to assure that all aspects of the project would be covered in the Final Report and individual responsibility be pinpointed for sections of the report and the underlying analysis. As part of the exercise, a system of communication between the University of Ghana Medical School and UCLA groups was established to facilitate interaction on data analysis, interpretation or results and writeup. It is important to maintain close communication so that both groups have maximum input in all major aspects of the final report. To help maintain this coordinated effort, Dr. Frederick Wurapa, the Ghanaian field coordinator since the inception of the project, elected to spend his sabbatical year at UCLA working on data analysis. In addition, Dr. Peter Lamprey spent more than seven weeks in November and December working with Project staff at UCLA. Three or four Ghanaian Danfa senior staff are expected to be coming to UCLA in the first half of 1978 for periods ranging from one week (in the case of the Ghanaian Co-Director in connection with other work in the United States) to two months. The UCLA systems analyst/cost analyst is scheduled to

spend approximately four weeks in Ghana in the first part of 1978 to help with details of data analysis and coordination of analysis.

#### B. Information Sharing

- (1) During the year, data were handed over to the National Health Planning Unit for use in the development of the new scheme for delivery of primary health care services in the rural areas. The data included information on morbidity and mortality, health services utilization and vital events.

In addition, the systems analyst/cost analyst was called upon for consultation by the National Health Planning Unit in the design of a data acquisition/feedback system to be used for acquiring and processing data for epidemiologic and health services management purposes.

- (2) The Danfa Project committee met during the year as well as the Danfa Joint Executive Committee.
- (3) The main channels for officially presenting Danfa Project information for national level consideration and possible implementation were through the Ministry of Health and the National Family Planning Programme. The information transfer is effected by sharing official Project papers and reports, presentations at seminars and conferences, informal gatherings at social functions, and occasionally via Geneva WHO personnel who have heard about the Project, and are visiting in Ghana.

#### C. Relationships/Public Relations

The relationships established with health sector agencies in Ghana and also with institutions outside of Ghana continue to be strengthened. Specifically:

- (1) The Department of Community Health of the University of Ghana Medical School continues to be the main base for the Danfa Project in Ghana. Staff continue to return from participant training programs, and they are filling new positions and accepting increasing responsibility for project operations through 1977.
- (2) The Ministry of Health - Cooperation continues with the Ministry of Health, especially with the National Health Planning Unit and with the epidemiology and health education divisions.
- (3) Ghana National Family Planning Programme (GNFPP) - Cooperation continues and it is hoped to see an even greater use of the Danfa results by the GNFPP in conjunction with the development of their programme in Ghana.

- (4) Institute of Statistical, Social and Economic Research - All space allocated in the new ISSER extension to the Danfa Project in the last quarter of 1976 was put into full use in 1977. The Project in turn was able to install four air conditioners in some of the rooms at the Legon facility, making them more comfortable for the staff and thereby increasing their work efficiency. Relationships with the staff remain cordial.
- (5) The Ghana Medical School - Working relationships with the medical school at all levels have been strengthened. The visit of the Dean of the University of Ghana Medical School to UCLA during the last quarter of 1977 has been mentioned earlier.
- (6) The University of Ghana - Cooperation and cordial relationships exist among staff at all levels of the University. Of particular importance to the Project is the University computer center where Danfa Project data processing staff have been allocated time. The University has assumed responsibility for the maintenance of the tape drive installed by the Project at Project expense. It was presented as a gift to the University from Project funds in 1975.
- (7) USAID/Ghana and Washington - The strong relationships established in earlier years continue and are regarded as a great source of support for the Project. The new health, population and medical officer of the USAID/Ghana program is continuing a tradition of aid and constructive criticism on behalf of the Project instituted by his predecessor.
- (8) There has been an intensification of data reduction, analysis, interpretation, writeup and effective dissemination. This will occupy the bulk of the energies of the Project senior staff for the remainder of the Project.
- (9) World Health Organization (WHO) - A systematic and fairly frequent contact is maintained with WHO officials including the country representative in Ghana. An information exchange continues to be maintained with the WHO project concerned with community involvement in solving local health problems in an area of the Brong-Ahafo Region. Visits of Ghanaian and UCLA Danfa team members at the WHO headquarters in Geneva also facilitate communication.
- (10) Other agencies and foundations continue to send observers at irregular intervals to follow up on Danfa Project activities.

#### D. Project Visitors

Among the considerable number of visitors from all over the world who visited the Project area in 1977, the following individuals are noted:

- (1) USAID Administrator, Governor John J. Gilligan; U.S. Ambassador to Ghana, Robert P. Smith; and Mr. Irvin D. Coker, USAID/G Director: a visit was paid to the Danfa Health Centre,

the village of Adenkrehi near the Berekuso satellite clinic for a nutrition demonstration and family planning teaching session, and Berekuso itself where the chief held a court reception for his prominent visitors. The visits, though brief, gave the visitors an insight into some of the Project's activities as well as the culture of the Project area.

- (2) Ambassador Marshall Green, the Coordinator of Population Affairs for USAID/W, accompanied by his son, Dr. Edward Green - Professor of Social Anthropology at the University of West Virginia, visited the Project on August 3, 1977. He was given a preliminary briefing by both the UCLA Co-Director and the Chief of Party and a more intensive briefing on the morning of August 3. Ambassador Green found the visit very stimulating and commented favorably upon the Project's work. He was particularly pleased to learn of the relationship of the University of California with that of the University of Ghana and pointed out the importance of such relationships.
- (3) Between September 1-9, 1977, Mr. Jim Davis videotaped various Project activities - including the Danfa Health Centre, all the satellite clinic operations, a village pit latrine construction project, a nutrition village session, a family planning teaching session, a village baby weighing session, an extended family planning village program, the Legon research operations meeting, a visit to the data processing unit at Legon and the computer center, etc. He also spent time interviewing the Ghanaian Field Coordinator, the UCLA Chief of Party, the medical officer for Area I and the Dean of the Ghana Medical School. Unfortunately, due to the illness of the Ghanaian Co-Director, it was not possible for Mr. Davis to interview him.
- (4) The Lincoln Community School science class of students visited the Project on October 3. From their comments they apparently found the visit both useful and thought provoking with respect to health problems in Ghana.

#### PROBLEMS

1. Personnel: As anticipated, there was an accelerated attrition of personnel during 1977 due to the fact that temporary employees were seeking permanent employment where possible. This eventuality had been anticipated in the previous year and therefore the completion of the field work was almost on schedule. The latter was carried out by hiring a larger number of new staff when vacancies warranted in order to insure that an adequate number would be available. In addition, the Ministry of Health, the Medical School and the University have been helpful about seconding permanent staff to the Project.
2. Project equipment: There were a few major (in one case prolonged) breakdowns of the computer in Ghana necessitating or creating some unfortunate delays in data processing.

## GENERAL ADMINISTRATION

Administration of the Danfa Project involves a great deal of fiscal, personnel, logistical, communication and organizational activity. The smooth operation of such an extensive, complex and long-term project is dependent upon an optimum of coordinated effort between the Los Angeles-based Danfa support operation and the joint UCLA-Ghanaian effort in Ghana. Appropriate cooperation has been achieved and continues to be a very positive force for the production of efficient work. Many of the activities of 1977 have been detailed elsewhere in this report.

### 1. Transfer of Fiscal Responsibility

As indicated in the introduction to the GMS, the Department of Community Health continues to assume the responsibility for some of the major and more costly items of fiscal responsibility and management which had formerly been under the UCLA/G auspices. The approximately \$80,000 provided for FY 1977 and \$63,000 for FY 1978 have been and will continue to be applied against local personnel costs, maintenance of field vehicles, provision of salary and fringe benefits for the mechanic who had been transferred in 1977 from the UCLA payroll to the GMS, and for the provision of stationery supplies for the field research operations and Legon offices.

### 2. The 1977 Project Review Meeting

The meeting was held at the GMS on February 24, 1977. Once again, as in 1976, it had been agreed that this review meeting should last for one day only and not be in the form of a scientific symposium, but rather be more reportorial in character.

After some remarks by the Dean of the GMS, Ghanaian Co-Director of the Project and the UCLA Co-Director (the latter read by the Chief of Party as the Co-Director could not attend in person), two sections of activities were held. In Section A, which took most of the morning, the past activities were reviewed in MCH/FP, Health Education and the Area I program. In the late morning, Section B was started, concerned with the new directions of the Project - and this continued (after lunch) into the late afternoon. The new approach (under the revised PROP) for Areas II and III was presented, as well as a discussion of the various field surveys being carried out. The Section B discussions were concluded with a review of the new administrative arrangements entered into from the aspect of the GMS Department of Community Health and of the UCLA team in Ghana.

The closing session consisted of remarks by the Dean of the GMS and the Director of the USAID/Ghana.

The meeting included a very good statement read into the record by the new Health Development Officer at USAID/G concerning the values of the Danfa Project and the stimulus it was providing in the development of health care systems.

### 3. Phaseout of UCLA Staff

- a. Dr. David D. Nicholas and family were repatriated to UCLA on July 6, 1977. This departure from post completed more than five years of superior work in Ghana. Dr. Nicholas has been a valuable member of the team and is now carrying out final data analyses and writeup at UCLA.
- b. Dr. Stewart N. Blumenfeld departed from Ghana on July 21, 1977. His family had departed some weeks before. Dr. Blumenfeld's excellent contributions in Ghana will be continued at UCLA, where he is coordinating the Final Report of the Project as well as analyzing data.
- c. In connection with the plan to speed up the phaseout of the UCLA staff as formulated in late 1975, it had originally been proposed that the Chief of Party (Dr. Irvin Lourie) and the Administrative Assistant (Mrs. Harriet Lourie) would depart from post and return to UCLA in December 1977 or January 1978. However, both the Health Development Officer and the Director of USAID/G insisted that the UCLA presence should continue into 1978. Therefore, while the UCLA Co-Director was still in Ghana in August 1977, an agreement in principle was reached to have the Chief of Party remain on until April 1978. Later on the USAID/G Mission Director requested that the UCLA presence be maintained throughout 1978; i.e., by having Dr. Lourie go to UCLA on TDY after April 1978 and then return to post in early July 1978. At year's end there was some question as to whether this prolonged stay of Dr. and Mrs. Lourie to the end of 1978 should be carried out. The USAID/G Director was to have some followup meeting on this subject with the GMS.

### 4. Consultant Visits (TDY)

- a. Dr. Alfred K. Neumann, UCLA Co-Director of Danfa Project, made one visit to Ghana in 1977 - from July 10th to August 16th. He worked with Dr. R. Amonoo-Lartson on a quality of care operations research study, as well as cooperating in planning for the final review meeting and development of the final report. He was involved in many conferences and discussions at the GMS, USAID/G and with the Chief of Party.
- b. Mr. William B. Ward, health education consultant, was in Ghana for Project duty from January 12 to February 12, 1977, cooperating with the Ghanaian Health Educator in connection with health education field research and data analysis.
- c. Mr. Phillip Douglas and Mr. Eugene Ward were in Ghana from September 22 to 27, 1977. Mr. Douglas was making his final inspection of the UCLA Danfa fiscal records before his retirement from UCLA, in preparation for their takeover by Mr. Eugene Ward, also of the Finance Office at UCLA. They turned over to the UCLA team in Ghana a large quantity of fiscal records up through the USAID audit date of June 30, 1976 for transfer back to UCLA. Subsequently, a metal box containing these records was airshipped to Mr. Eugene Ward at UCLA.

PLANS FOR 1978 AND BEYOND

1. Preparations for the Final Review Meeting - Although initially begun early in 1977, and then picked up again in July, little preparation for the Final Review Meeting began to occur until October 1977. A number of meetings were held at the Department of Community Health with the Ghanaian Health Educator acting in the capacity of Acting Field Coordinator and representing the Ghanaian Co-Director, but meetings were also held at USAID/Ghana.

These dates were originally fixed for November 20-24, 1978 with the idea of holding a full review meeting with a large attendance. USAID/G had previously agreed to set aside in the UCLA contract budget a sum of \$50,000 to pay for the transportation and per diem of approximately 40 African representatives coming from 15-20 African countries, plus some other costs. The GMS was to provide most of the local facilities (e.g., meeting site, bus transportation, simultaneous interpretation, etc.) at a cost of approximately 12,000 to 14,000 cedis. Work had progressed well with respect to the African countries to be invited, the types of persons to represent these countries, the format of the invitations, the meeting site, etc.

However, by year's end it was apparent that there were concerns at the GMS with respect to the time of the meeting, the size of the meeting, the ephemeral value of the Final Review Meeting as compared to the lasting value of the Final Report, etc. Thought was being given to postponing the meeting to early 1979, furthermore, to making the meeting a kind of in-depth seminar.

To the latter would be invited a limited number (about 8) African rural health care experts, as well as a few persons from outside Africa (e.g., from WHO Headquarters, USAID/Washington, D.C. and some of the foundations). The smaller meeting could therefore be shorter, e.g., three days instead of five, and would permit in-depth examination and discussion of the Danfa data with carefully recorded recommendations as to their use (to be later incorporated into the Final Report). This type of meeting would also require a smaller meeting site (the GMS itself could be used) and thus, costs to the GMS could be considerably reduced. The USAID/G also appeared to favor this smaller type meeting. It appears, therefore, that this is the direction the further discussions and planning in 1978 will take.

2. A decision is to be made with respect to the final phaseout of the Chief of Party. If this is to be April 1978, a decision is to be made whether he is to return on TDY - in August or September - to help with the final preparations for the review meeting, to cooperate with USAID/G and to "clean up" a number of remaining fiscal matters (which will have been delegated to the chartered accounting firm of Pannell Fitzpatrick and Company upon the phase out of the Chief of Party).
3. There is also a need to further intensify efforts (with the backing and persuasion of USAID/G) to have Danfa data and results used to a greater extent by the Ghana National Family Planning Programme, and the Ministry of Health Planning Unit for development of rural health

care in Ghana. This transfer of information is essential, but the implementation of the Danfa findings is even more important. It has been stated at USAID/G that the Danfa Project has been "overproductive and underutilized." The overproductiveness, as pointed out by the Chief of Party to USAID/G is a "plus," but the underutilization is a feature to be corrected by the Planning Unit in conjunction with the GMS and the Department of Community Health.

4. The Chief of Party is to arrange the travel plans to UCLA of at least two or three more Department of Community Health Danfa Project senior staff for the purpose of helping to prepare the Final Report.
5. It is hoped that the Ghanaian Co-Director will spend some weeks at UCLA to work with the UCLA Co-Director in preparing the Final Report.

## APPENDIX I

DANFA PROJECT MANUSCRIPTS

Including Those Published or Accepted in 1977,  
Invited Papers, Manuals

DANFA PROJECT MANUSCRIPTS

A. PUBLISHED PAPERS

1. Sai, F.T., Wurapa, F.K., Quartey-Papafio, E. "The Danfa/Ghana Comprehensive Rural Health and Family Planning Project - A Community Approach." Ghana Medical Journal, Vol. 11, No. 1, Pp. 9-17, March 1972.
2. Neumann, A.K., Prince, J., Gilbert, E.F., Lourie, I.M. "The Danfa/Ghana Comprehensive Rural Health and Family Planning Project - Preliminary Report." Ghana Medical Journal, Vol. 11, No. 1, Pp. 18-24, March 1972.
3. Ashitey, G.A., Wurapa, F.K., Belcher, D.W. "Danfa Rural Health Centre: Its Patients and Services 1970-71." Ghana Medical Journal, Vol. 11, No. 3, Pp. 266-273, September 1972.
4. Kpedekpo, G.M.K. "The Planning and Design of Sampling Surveys with Particular Reference to the Epidemiological Survey of the Danfa Project in Ghana." Ghana Medical Journal, Vol. 11, No. 4, Pp. 377-382, December 1972.
5. Kwansa, E.V.G., Cannon, J.A., Belcher, D.W., Hosu-Porbley, M. "Perception and Comprehension of Health Education Visual Aids by Rural Ghanaian Villagers." Ghana Medical Journal, Vol. 11, No. 4, Pp. 387-396, December 1972.
6. Neumann, A.K., Sai, F.T., Lourie, I.M., Wurapa, F.K. "A New Trend in International Health Work: The Danfa Project." Focus: Technical Cooperation, International Development Review, Pp. 11-14, 1973/2.
7. Neumann, A.K., Ampofo, D.A., Nicholas, D.D., Ofosu-Amaah, S., Wurapa, F.K. "Traditional Birth Attendants - A Key to Rural Maternal and Child Health and Family Planning Services." Journal of Tropical Pediatrics and Environmental Child Health (Monograph #32), Vol. 20, No. 1, Pp. 21-27, February 1974.
8. Neumann, A.K., Sai, F.T., Dodu, S.R.A. "Danfa Comprehensive Rural Health and Family Planning Project: Ghana, Research Design." Journal of Tropical Pediatrics and Environmental Child Health (Monograph #32), Vol. 20, No. 1, Pp. 39-54, February 1974.
9. Neumann, A.K., Dodu, S.R.A. "Danfa Project" Letter to Lancet, March 30, 1974.
10. Wurapa, F.K., Belcher, D.W., Neumann, A.K., Lourie, I.M. "An Approach to Illness Measurement in a Rural Community - A Questionnaire Sample Survey of Households in the Population of the Danfa Comprehensive Rural Health and Family Planning Project in Ghana." Ghana Medical Journal, Vol. 13, Pp. 98-105, June 1974.

## Published Papers (continued)

11. Belcher, D.W., Wurapa, F.K., Ward, W.B., Lourie, I.M. "Guinea Worm in Southern Ghana - Its Epidemiology and Impact on Agricultural Productivity." American Journal of Tropical Medicine and Hygiene, Vol. 24, No. 2, Pp. 243-249, March 1975.
12. Wurapa, F.K., Belcher, D.W., Ward, W.B. "A Clinical Picture of Guinea Worm Disease in Southern Ghana." Ghana Medical Journal, Vol. 14, Pp. 10-15, March 1975.
13. Belcher, D.W., Wurapa, F.K., Ward, W.B. "Failure of Thiabendazole and Metronidazole in the Treatment and Suppression of Guinea Worm Disease." American Journal of Tropical Medicine and Hygiene, Vol. 24, No. 3, Pp. 444-446, May 1975.
14. Belcher, D.W., Nicholas, D.D., Ofosu-Amaah, S., Wurapa, F.K., Blumenfeld, S.N. "Factors Influencing Utilization of a Malaria Prophylaxis Programme in Ghana." Social Science and Medicine, Vol. 9, Pp. 241-248, May 1975.
15. Belcher, D.W., Neumann, A.K., Wurapa, F.K., Nicholas, D.D., Ofosu-Amaah, S. "The Role of Health Survey Research in Maternal and Child Health/Family Planning Programs: Danfa Project, Ghana." Journal of Tropical Pediatrics and Environmental Child Health. Vol. 21, No. 4, Pp. 173-177, August 1975.
16. Belcher, D.W., Afoakwa, S.N., Osei-Tutu, E., Wurapa, F.K., Osei, L. "Non-Group-A Streptococci in Ghanaian Patients with Pyoderma." Lancet, P. 1032, November 22, 1975.
17. Wurapa, F.K., Derban, L.K.A., Belcher, D.W., Chinery, W.A., Asante, R.O. "A Survey of Parasitic Infections in Rural Ghana." Ghana Medical Journal, Vol. 14, No. 4, Pp. 282-288, December 1975.
18. Kpedekpo, G.M.K., Wurapa, F.K., Lourie, I.M., Belcher, D.W., Neumann, A.K. "A Modified Myburgh's Formula for Estimating the Expectation of Life at Birth from Survival Data Derived from Vital Registration Records." Sankhya: The Indian Journal of Statistics, Vol. 37, Series B, Pt. 1, Pp. 106-113. 1975.
19. Johnson, O.G., Neumann, A.K., Ofosu-Amaah, S. "Health Information System Installation -- Principles and Problems." Medical Care, No. 3, Pp. 210-222, March 1976.
20. Neumann, A.K., Ofosu-Amaah, S., Ampofo, D.A., Nicholas, D.D., Asante, R.O. "Integration of Family Planning and MCH in Rural West Africa." Journal of Biosocial Science, Vol. 8, Pp. 161-173, April 1976.
21. Belcher, D.W., Wurapa, F.K., Neumann, A.K., Lourie, I.M. "A Household Morbidity Survey in Rural Africa." International Journal of Epidemiology, Vol. 5, No. 2, Pp. 113-120, June 1976.

Published Papers (continued)

22. Belcher, D.W., Pobee, J.O.M., Larbi, E.O., Occran, K., Wurapa, F.K. "Non-Response Factors in a Rural Health Examination Survey in Ghana." Public Health Reports, Vol. 91, No. 4, Pp. 368-372, July-August 1976.
23. Belcher, D.W., Neumann, A.K., Wurapa, F.K., Lourie, I.M. "Comparison of Morbidity Interviews with Health Examination Survey in Rural Africa." American Journal of Tropical Medicine and Hygiene, Vol. 25, No. 5, Pp. 751-758, September 1976.
24. Belcher, D.W., Wurapa, F.K., Atuora, D. "Endemic Rabies in Ghana - Epidemiology and Control Measures." American Journal of Tropical Medicine and Hygiene, Vol. 25, No. 5, Pp. 724-729, September 1976.
25. Neumann, A.K., Ward, W.B., Pappoe, M., Boyd, D. "Education and Evaluation in an Integrated MCH/FP Project in Rural Ghana: The Danfa Project." International Journal of Health Education, Vol. 18, No. 4, Pp. 233-244, 1976.
26. Ampofo, D., Nicholas, D., Ofosu-Amaah, S., Neumann, A.K. "The Danfa Family Planning Program in Rural Ghana." Studies in Family Planning, Vol. 7, No. 10, Pp. 266-274, October 1976.
27. Wurapa, F.K., Belcher, D.W. "A Tuberculin Skin Test Survey in a Rural Ghanaian Population." Tropical and Geographical Medicine, Vol. 28, Pp. 291-296, 1976.
28. Nicholas, D.D., Ampofo, D.A., Ofosu-Amaah, S., Asante, R.O., Neumann, A.K. "Attitudes and Practices of Traditional Birth Attendants in Rural Ghana: Implications for Training in Africa." WHO Bulletin, Vol. 54, Pp. 343-348, 1976.
29. Belcher, D.W., Wurapa, F.K., Nicholas, D.D., Ofosu-Amaah, S., "The Role of Health Examination Surveys in Planning Rural Medical Services. I. Planning and Conducting Rural Health Surveys." Ghana Medical Journal, Vol. 15, Pp. 86-92, June 1976.
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31. Pobee, J.O.M., Larbi, E.B., Belcher, D.W., Wurapa, F.K., Dodu, S.R.A. "Blood Pressure Distribution in a Rural Ghanaian Population." Transactions of the Royal Society of Tropical Medicine and Hygiene, Vol. 71, No. 1, Pp. 66-77, 1977.
32. Nicholas, D.D., Kratzer, J.H., Ofosu-Amaah, S., Belcher, D.W. "Is Poliomyelitis a Serious Problem in Developing Countries? 1. The Danfa Experience." (This is a companion paper to #33). British Medical Journal, Pp. 1009-1012, April 16, 1977.

Published Papers (continued)

33. Ofosu-Amaah, S., Kratzer, J.H., Nicholas, D.D. "Is Poliomyelitis a Serious Problem in Developing Countries? 2. Lameness in Ghanaian Schools." (This is a companion paper to #32). British Medical Journal, Pp. 1012-1014, April 16, 1977.
34. Ampofo, D.A., Nicholas, D.D., Amonoo-Acquah, M.B., Ofosu-Amaah, S., Neumann, A.K. "The Training of Traditional Birth Attendants in Ghana: Experience of the Danfa Rural Health Project." Tropical and Geographical Medicine, Vol. 29, Pp. 197-203, 1977.
35. Belcher, D.W., Afoakwa, S.N., Osei-Tutu, E., Wurapa, F.K., Osei, L. "Endemic Pyoderma in Ghana: A Survey in Rural Villages." Transactions of the Royal Society of Tropical Medicine and Hygiene, Vol. 71, No. 3, Pp. 204-209, 1977.
36. Bruce-Tagoe, A., Belcher, D.W., Wurapa, F.K., Turkson, P., Nicholas, D., Ofosu-Amaah, S. "Haematological Values in a Rural Ghanaian Population." Journal of Tropical and Geographical Medicine, Vol. 29, Pp. 237-244, 1977.
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38. Belcher, D.W., Nicholas, D.D., Ofosu-Amaah, S., Wurapa, F.K. "A Mass Immunization Campaign in Rural Ghana - Factors Affecting Participation." Public Health Reports, Vol. 93, No. 2, Pp. 170-176, March/April 1978.

B. CONFERENCE PRESENTATIONS

1. Wurapa, F.K. "Rapid Population Growth and Rural Development." Published in The Teaching and Practice of Family Health - Proceedings of the Conference sponsored by the Association of Medical Schools in Africa; Kampala, Uganda, November 29 - December 3, 1971.
2. Wurapa, F.K., Lourie, I.M. "The Danfa Rural Health and Family Planning Project." Published in the Proceedings of the African Regional Population Conference, sponsored by the IUSSP and ECA; held in Accra, Ghana, December 13-17, 1971.
3. Sai, F.T. "A Rural Health Model: Danfa, Ghana." In Health Care For Remote Areas, An International Conference, sponsored by Kaiser Foundation International, Bellagio, Italy, May 1972. (James Hughes, Editor).
4. Wurapa, F.K., Lourie, I.M. "Population Growth and Rural Health." Presented at the West African Regional Seminar on Population Studies, December 1-4, 1972. Published in the Proceedings of the Seminar.
5. Wurapa, F.K., Lourie, I.M. "Focusing on Family Health in the Rural Communities." Published in The Teaching and Practice of Family Health - The Proceedings of a Regional Seminar, sponsored by the Association of Medical Schools in Africa; Accra, Ghana, January 8-12, 1973.
6. Wurapa, F.K. "Community Approach to the Organization of a Comprehensive Rural Health Care System - the Danfa Experience." Paper presented at the Conference on Health of the Family Unit, University of Sierra Leone, September 1973, Published in the Proceedings.
7. Neumann, A.K. "Management Issues in the Organization and Delivery of Family Health/Family Planning Services." Paper presented at the Second Interuniversity Workshop in Family Planning Administration, March 1974. Published in the Proceedings.
8. Wurapa, F.K., Belcher, D.W., Neumann, A.K. "Morbidity in Rural Communities - The Questionnaire Interview Approach to Providing Useful Data for Health Planning." Paper presented to the Inaugural Conference of the Population Association of Africa, University of Ibadan, May 1974, Published in the Proceedings.
9. Britt, P.M., Blumenfeld, S.N., Wurapa, F.K., Kpedekpo, G.M.K., Neumann, A.K. "A Case Study in Computer Applications for Developing Countries - The Danfa Comprehensive Rural Health and Family Planning Project, Ghana." Paper presented at the Second Jerusalem Conference on Information Technology, July-August, 1974, Published in the Proceedings.

Conference Presentations (continued)

10. Belcher, D.W., Wurapa, F.K., Nicholas, D.D. "Health Care and Family Planning." Presented at the International Health/Family Health Conference, Washington, D.C., October 1974.
11. Ward, W.B., Enberg, L., Belcher, D.W. "Preliminary Report of Efforts to Develop Social Indicators to Guide and Assess Rural Development." University of Ghana, May 1974.
12. Neumann, A.K., Neumann, C.G., Ward, W.B. "The Design and Implementation of an Integrated Nutrition Health and Family Planning Program in Rural African Villages." Presented to the 19th Annual Meeting of the African Studies Association, Boston, Massachusetts, November 3-6, 1976.
13. Neumann, A.K. and Wurapa, F.K. "Strategies for Strengthening Health Services Infrastructure." Presented at the Latin American Studies Association-African Studies Association Annual Meeting, Houston, Texas, November 4, 1977. (See #3 of Section D)
14. Neumann, A.K. "Integration of Rural MCH/Nutrition/Family Planning Services - The Danfa/Ghana Project as a Model." Prepared for IUNS Working Conference in Hyderabad, India, October 7-21, 1977 on the theme: Community Action - Family Health Programme Delivery An Integrated Package.
15. Neumann, A., Neumann, C., Ofosu-Amaah, S. "Integration of MCH, Family Planning and Nutrition Programs from a Managerial Perspective." Presented to the XVth International Congress of Pediatrics, New Delhi, India, October 1977.
16. Wurapa, F.K. "Institutional Organization: Assessment of Alternatives." Presented at the Conference on the Future of Academic Community Medicine in Developing Countries. April 10-14, 1978.

C. PAPERS IN PRESS

1. Belcher, D.W., Nyame, P.K., Wurapa, F.K. "The Prevalence of Inguinal Hernia in Adult Males." To be published in the Journal of Tropical and Geographical Medicine. (Accepted in August 1977)
2. Ward, W.B., Sam, M., Nicholas, D., Pappoe, M.E. "Impact of Family Planning Information at a Ghanaian Rural Health Post." To be published in the International Journal of Health Education. (Accepted in May 1978)

D. PAPERS SUBMITTED

1. Ward, W.B., Belcher, D.W., Wurapa, F.K., Pappoe, M.E. "Perception and Management of Guinea Worm Disease Among Ghanaian Villagers: A Framework for Differential Health Planning." Submitted to the Journal of Tropical and Geographical Medicine in February 1978.
2. Neumann, A.K., Ofosu-Amaah, S., Wurapa, F.K., Lourie, I.M. "Strategies for Strengthening Health Service Infrastructure." Submitted to Social Science and Medicine on January 30, 1978.
3. Belcher, D.W., Nicholas, D.D., Ofosu-Amaah, S., Kratzer, J. "A Comparison of Methods for Estimating the Frequency of Paralytic Poliomyelitis in Developing Countries." Submitted to WHO Bulletin in March 1978 (Re-submitted to WHO Bulletin with suggested revisions by journal in May 1978.)
4. Lamptey, P., Nicholas, D., Ofosu-Amaah, S., Lourie, I. "The Significance of Male Contraception in Rural Ghana." Submitted to Studies in Family Planning in March 1978.

E. MONOGRAPHS

1. Kpedekpo, G.M.K., Belcher, D.W., Wurapa, F.K., Neumann, A.K., Lourie, I.M. "Results of the Analysis and Evaluation of Vital Registration Data from the Four Project Areas." (Vital Events 1 - Monograph Series, Number 1.) 1975
2. Kpedekpo, G.M.K., Wurapa, F.K., Lourie, I.M., Belcher, D.W., Neumann, A.K. "Estimates of Indices of Mortality from Registration Data." (Vital Events 2 - Monograph Series, Number 2.) 1975.
3. Kpedekpo, G.M.K., Nicholas, D.D., Ofosu-Amaah, S., Wurapa, F.K., Belcher, D.W. "Estimates of Indices of Fertility from Registration Data." (Vital Events 3 - Monograph Series, Number 3.) 1975.
4. Kpedekpo, G.M.K., Wurapa, F.K., Lourie, I.M., Neumann, A.K., Belcher, D.W. "Some Results and Problems on the Estimation of Vital Rates in a Rural African Setting via Multiple Methods." (Vital Events 4 - Monograph Series, Number 4.) 1975.
5. Kpedekpo, G.M.K., Wurapa, F.K., Lourie, I.M., Neumann, A.K., Belcher, D.W. "Migration Patterns, Population Growth and Change in the Project Areas of Danfa." (Vital Events 5 - Monograph Series, Number 5.) 1975.
6. Kpedekpo, G.M.K., Lourie, I.M., Wurapa, F.K., Belcher, D.W., Neumann, A.K. "The Basic Demographic Characteristics of the Danfa Project Areas - An Analysis of the Population Size, Age/Sex Distribution." (Demography 1 - Monograph Series, Number 6.) 1975.
7. Kpedekpo, G.M.K., Wurapa, F.K., Belcher, D.W., Neumann, A.K., Lourie, I.M. "The Basic Demographic Characteristics of the Danfa Project Areas - An Analysis of Marital Status, Education, Ethnic, Religious and Occupational Composition." (Demography 2 - Monograph Series, Number 7.) 1975.
8. Kpedekpo, G.M.K., Asuming, K., Blumenfeld, S.N., Wurapa, F.K., Belcher, D.W. "An Analysis of the Characteristics of Households, Household Size, Household Heads and the Relationship within the Households." (Demography 3 - Monograph Series, Number 8.) 1975.
9. Belcher, D.W., Wurapa, F.K., Nicholas, D.D., Kpedekpo, G.M.K., Ofosu-Amaah, S., Derban, L.K., Asante, R.O. "Conducting a Rural Health Survey: Experience from the Village Health Survey, Danfa Project, Ghana." (Monograph Series, Number 9.) 1975.
10. Belcher, D.W., Kpedekpo, G.M.K., Wurapa, F.K., Lourie, I.M. "Mapping and House Numbering Methods in a Rural Health Project." (Monograph Series, Number 10.) 1976.
11. Belcher, D.W., Wurapa, F.K., Lourie, I.M., Kwabia, K., Avle, S. "Experience in Selecting, Training and Supervising Interviewers in a Rural Health Project." (Monograph Series, Number 11.) 1976.

F. ANNUAL OR SEMI-ANNUAL PROGRESS REPORTS

1. Semi-Annual Progress Report - January-June 1971.
2. Semi-Annual Progress Report - July-December 1971.
3. Semi-Annual Progress Report - January-June 1972.
4. Semi-Annual Progress Report - July-December 1972.
5. Annual Progress Report - January-December 1973.
6. Annual Progress Report - January-December 1974.
7. Annual Progress Report - January-December 1975.
8. Annual Progress Report - January-December 1976.

G. PROCEEDINGS OF THE ANNUAL REVIEW MEETINGS

1. Proceedings of the Fifth Annual Review Meeting. February 26-28, March 1, 1974. Accra, Ghana.
2. Proceedings of the Sixth Annual Review Meeting. March 17-18, 1975. Accra, Ghana.
3. Proceedings of the Seventh Annual Review Meeting. February 12, 1976. Accra, Ghana.
4. Proceedings of the Eighth Annual Review Meeting. February 24, 1977. Accra, Ghana.

H. PAPERS IN PROGRESS

1. "A Mass Multiple Antigen Immunization Program in Rural Ghana." Senior Author: Dr. D. Nicholas.
2. "Prevalence of Seizure Disorders in Danfa Area of Rural Ghana." Senior Author: Dr. D. Nicholas.
3. "Plannning a District MCH Program for Rural Ghana." Senior Author: Dr. S. Ofosu-Amaah.
4. "The Status of Maternal and Child Health in the Danfa Area of Rural Ghana." Senior Author: Dr. S. Ofosu-Amaah.
5. "A Follow-Up Survey of Family Planning Acceptors in Rural Ghana." Senior Author: Dr. D. Nicholas.
6. "Nutritional Status of Children in the Danfa Areas of Rural Ghana." Senior Author: Dr. S. Ofosu-Amaah.
7. "A Serological Survey of Children in the Danfa Project Area." Senior Author: Dr. D. Nicholas.
8. "Malaria Prophylaxis in Rural Ghanaian Children Using Volunteer Distributors." Senior Author: Dr. D. Nicholas.
9. "Relationship of Acceptance to Accessibility of Family Planning Services." Senior Author: Dr. S. Ofosu-Amaah.
10. "Current Concepts of Immunization for Ghana." Senior Author: Dr. D. Nicholas.
11. "The Use of the Road to Health Card in a Rural Health and Family Planning Project in Ghana: Description of a Pilot Under-Fives Program." Senior Author: Mr. W. Ward.
12. "The Health Education Assistant: An Evaluation of Efforts and Accomplishments, 1973-1975." Senior Author: Mr. W. Ward.
13. "The Health Education Assistant: A New Approach to Extending Health Services in Rural Ghana." Senior Author: Mrs. M. Pappoe.
14. "The Role of the Supervisor in a Community Health Program in Ghana." Senior Author: Mr. W. Ward.
15. "The Effects of Parity and Birth Interval on Child Health and Nutritional Status and Maternal Health." Senior Author: Dr. S. Ofosu-Amaah.
16. "Description of Child Health Practices in Rural Ghana I: Baseline." Senior Author: Dr. S. Ofosu-Amaah.
17. "Comparison of Female and Male Knowledge, Attitudes and Practices in Reference to Family Planning in Rural Ghana." Senior Author: Dr. A. Neumann.

Papers In Progress (continued)

18. "Analysis of Family Planning Initial Acceptors: Socioeconomic Characteristics." Senior Author: Dr. A. Neumann.
19. "The State of Rural Health in Ghana and Change Over Time and Differential Inputs - Danfa Project." Senior Author: Dr. A. Neumann.
20. "The Policy Relevance of Socioeconomic Research in the Danfa Project Area." Senior Author: Dr. A. Neumann.
21. "Descriptive Studies of Socioeconomic Characteristics of the Danfa Project Area." Senior Author: Dr. C. Hopkins.
22. "A Rural Primary Health Care Program - The Danfa Experience 1970-1977." Senior Author: Dr. P. Lamptey.
23. "Village Based Primary Health Care in Rural Ghana; Selection, Training and Supervision of Village Health Workers." Senior Author: Dr. P. Lamptey.
24. "Patterns of Contraceptive Use in Rural Ghana." Senior Author: Dr. D. Nicholas.
25. "Does Family Planning Affect the Nutritional Status of the Child? Senior Author: Dr. P. Lamptey.
26. "Impact of the Danfa Family Planning Program on Fertility: Results of the 1977 Family Planning Acceptor Follow-Up Survey." Senior Author: Dr. D. Nicholas.
27. "Nutrition as Part of an Integrated Family Planning and Health Project: The Danfa Project." Senior Author: Dr. S. Ofosu-Amaah.
28. "Short and Long Run Outcomes of Alternative Population Policies: A Simulation for Ghana." Senior Author: Dr. C. Hopkins.
29. "The Use of Operational Research in Improving Quality of Health Care." Senior Author: Dr. R. Amonoo-Lartson.
30. "Role of the Laboratory in a Rural Health Center." Senior Author: Dr. I. Lourie.
31. "Use of Medications and Control of Dispensing in a Rural Health Primary Care Center." Senior Author: Dr. R. Amonoo-Lartson.
32. Rural Health Operations Research: The Danfa Example." Senior Author: Dr. A. Neumann.
33. "Manual: How to Plan, Organize and Implement Rural Health Care Operations Studies." Senior Author: Dr. R. Amonoo-Lartson.

Papers In Progress (continued)

34. "Evaluation of a Traditional Birth Attendant Training Program." Senior Author: Dr. A. Neumann.
35. "A Malaria Survey in the Danfa Project Area." Senior Author: Dr. F. Wurapa.
36. "The Effect of Breastfeeding on Fertility." Senior Author: Dr. S. Ofosu-Amaah or Dr. P. Lamptey.
37. "A Survey of Yellow Fever Immunity in the Danfa Project Area." Senior Author: Dr. F. Wurapa.
38. "Naturally Acquired Immunity to Tetanus in Rural Ghana." Senior Author: Dr. D. Nicholas.
39. "Control of Intestinal Helminthes in the Danfa Project Area." Senior Author: Dr. L. Osei.
40. "Cause of Death Study in the Danfa Project." Senior Author: Dr. F. Wurapa.
41. "Institutionalising Technical Assistance Projects." Senior Author: Dr. A. Neumann.

## I. TRAINING MANUALS IN PROGRESS

1. A Programme Manual for Traditional Birth Attendants: Organization, Training and Evaluation. (Final Draft - December 1977)
2. Family Planning (Trainee's Manual; Draft tested 1977)
3. Family Planning (Instructor's Manual; Draft tested 1977)
4. Village Health Worker (Draft tested 1976)

(Planned)

1. Multipurpose Health Education Fieldworker

## PROCEDURE MANUALS

(Drafted)

1. Health Center MCH Worker Manual
2. Village Health Survey (to be adapted from Monograph No. 9 - Conducting a Rural Health Survey)
3. Monograph No. 10 - Mapping and House Numbering Methods in a Rural Health Project - to be adapted
4. Monograph No. 11 - Experience in Selecting, Training and Supervising Interviewers in a Rural Health Project - to be adapted

(Planned)

1. Mass Immunization Program
2. Health Center Functional Analysis/Operations Research
3. Vital Events Registration in Rural Areas\*
4. Cost Monitoring in Rural Health Center\*
5. Malaria Prophylaxis

\*Planned if time and circumstances permit.

J. PAPERS PUBLISHED AND/OR ACCEPTED IN 1977

1. Ampofo, D.A., Nicholas, D.D., Amonoo-Acquah, M.B., Ofosu-Amaah, S., Neumann, A.K. "The Training of Traditional Birth Attendants in Ghana: Experience of the Danfa Rural Health Project." Tropical and Geographical Medicine, Vol. 29, pp. 197-203, 1977.
2. Belcher, D.W., Afoakwa, S.N., Osei-Tutu, E., Wurapa, F.K., Osei, L. "Endemic Pyoderma in Ghana: A Survey in Rural Villages." Transactions of the Royal Society of Tropical Medicine and Hygiene, Vol. 71, No. 3, pp. 204-209, 1977.
3. Belcher, D.W., Nyame, P.K., Wurapa, F.K. "The Prevalence of Inguinal Hernia in Adult Males." To be published in the Journal of Tropical and Geographical Medicine. (Accepted in August 1977.)
4. Bruce-Tagoe, A., Belcher, D.W., Wurapa, F.K., Turkson, P., Nicholas, D.D., Ofosu-Amaah, S. "Haematological Values in a Rural Ghanaian Population." Journal of Tropical and Geographical Medicine, Vol. 29, pp. 237-244, 1977.
5. Nicholas, D.D., Kratzer, J.H., Ofosu-Amaah, S., Belcher, D.W. "Is Poliomyelitis a Serious Problem in Developing Countries? 1. The Danfa Experience." (This is a companion paper to #6). British Medical Journal, pp. 1009-1012, April 16, 1977.
6. Ofosu-Amaah, S., Kratzer, J.H., Nicholas, D.D. "Is Poliomyelitis a Serious Problem in Developing Countries? 2. Lameness in Ghanaian Schools." (This is a companion paper to #5). British Medical Journal, pp. 1012-1014, April 16, 1977.
7. Pobee, J.O.M., Larbi, E.B., Belcher, D.W., Wurapa, F.K., Dodu, S.R.A. "Blood Pressure Distribution in a Rural Ghanaian Population." Transactions of the Royal Society of Tropical Medicine and Hygiene, Vol. 71, No. 1, pp. 66-77, 1977.
8. Proceedings of the Eighth Annual Review Meeting. February 24, 1977. Accra, Ghana.

K. PROJECT STAFF INVITED TO PRESENT PAPERS IN 1977

1. Neumann, A.K. and Wurapa, F.K. "Strategies for Strengthening Health Services Infrastructure." Presented at the Latin American Studies Association-African Studies Association Annual Meeting, Houston, Texas, November 4, 1977.
2. Neumann, A.K. "Integration of Rural MCH/Nutrition/Family Planning Services - The Danfa/Ghana Project as a Model." Prepared for IUNS Working Conference in Hyderabad, India, October 7-21, 1977 on the theme: Community Action - Family Health Programme Delivery - An Integrated Package.
3. Neumann, A.K., Neumann, C., Ofosu-Amaah, S. "Integration of MCH, Family Planning and Nutrition Programs from a Managerial Perspective." Presented to the XVth International Congress of Pediatrics, New Delhi, India, October 1977.
4. Neumann, A.K. "Strategies for Prevention and Management of Malnutrition in Pre-School Children in the Community." Presented to the XV International Congress of Pediatrics, New Delhi, India, October 1977.

L. PROJECT STAFF INVITED TO CONFERENCES IN 1977

<u>Date</u>	<u>Staff Member</u>	<u>Conference</u>	<u>Place</u>
March 1977	Dr. G.A. Ashitey Dr. L. Osei	WHO seminar on country health planning	Kintempo
April 1977	Dr. Peter Lamptey Mr. E. Quartey-Papafio	Seminar on problems of primary health care in developing countries	Sussex, England
June 6-10 1977	Prof. S. Ofosu-Amaah Dr. F.K. Wurapa	Scientific working group on epidemiology	Geneva
June 7-10 1977	Dr. F.K. Wurapa	Advisory Council on Medical Research Pre (ACMR) Consultation	Geneva
July 1-10 1977	Mrs. M. Pappoe	I.P.P.F. conference on health education and family planning	Bellagio, Italy
August 8-13 1977	Dr. F.K. Wurapa	International Union for the Scientific Study of Population (IUSSP) Congress	Mexico City
Sept. 17-23 1977	Dr. F.K. Wurapa	International Epidemiology Assoc. 8th scientific meeting	Puerto Rico
Nov. 2-5 1977	Dr. F.K. Wurapa	Joint African Studies Assoc. and Latin American Studies Assoc. Meeting	Houston, Texas
December 1977	Prof. S. Ofosu-Amaah	Consultant of evaluation of primary health care	Sussex, England

APPENDIX II

PARTICIPANT TRAINEES

Table 1

## AID/Danfa Project Participant Trainees: Training Outside of Ghana

<u>Name</u>	<u>University Training Field &amp; Degree</u>	<u>Initiated</u>	<u>Termination Date</u>	<u>Present Status</u>
1. Odai, Joshua K.	Data processing and records non-degree certificate	March 1970	June 1970	Staff - I.S.S.E.R.
2. Ashitey, Gilford	Field experience - communi- cable disease control non-degree certificate	June 1970	October 1970	Faculty, Dept. of Community Health Ghana Medical School
3. Dovlo, Daniel K.	Data processing and records non-degree student	January 1971	August 1971	Substantial portion of the time devoted to DRHP staff I.S.S.E.R.
4. Asuming, K.	Data processing and records MPH degree (UCLA)	October 1971	June 1972	Was Statistician Programmer for the Danfa Project - re- signed late 1973 to obtain more education
5. Asante, Dr. R.	MCH-MPH degree (UCLA)	October 1971	September 1972	Supervising physician Danfa Health Center and Ghana Ministry of Health, Accra Re- gional Office
6. Pappoe, Mrs. M.	Health education - MPH degree (UC Berkeley)	September 1971	October 1972	Health Educator in Dept. of Community Health, Ghana Medi- cal School & Health Educator for Danfa Project
7. Gadzekpo, J.	Cytotechnology non-degree certificate Johns Hopkins University	September 1971	September 1973	Technologist, Korle Bu Teaching Hospital

Table 1

## AID/Danfa Project Participant Trainees: Training Outside of Ghana

<u>Name</u>	<u>University Training Field &amp; Degree</u>	<u>Termination Date</u>	<u>Present Status</u>
8. Quartey-Papafio, E.	Health education/behavioral sciences - B.A. (San Fernando Valley State College, Ca.)	June 1973	Faculty, Dept. of Community Health, University of Ghana Medical School
	Community organization - M.S. University of Missouri, Columbia, Mo.	March 1975	
9. Abedi, O.	Data processing & records non-degree student	January 1973	Research Analyst (Asst. Statistician) resigned September 1974 to enroll in Univ. of Ghana programming course
10. Kwabia, K.	Data processing & records non-degree student	January 1973	April 1973
	Health services management & data management - MPA degree (University of Southern California)	January 1976	December 1977
11. Addy, Dr. H.	MCH/Nutrition - MPH degree (UCLA)	September 1973	November 1974
12. Lamptey, Dr. P	MCH/FP/Nutrition - MPH (UCLA)	September 1974	November 1975
13. Mensah, Dr. E.	Epidemiology - MPH (UCLA)	September 1974	November 1975
			Ministry of Health Advisor in MCH/FP/Nutrition
			Medical Officer Danfa Project, Area I
			Medical Officer Danfa Project, Areas II and III

Table 1

## AID/Danfa Project Participant Trainees: Training Outside of Ghana

<u>Name</u>	<u>University Training Field &amp; Degree</u>	<u>Initiated</u>	<u>Termination Date</u>	<u>Present Status</u>
14. Avle, S.	Health records/biostatistics data management (UCLA)	March 1975	August 1975	Principal Research Assistant, Dept. of Community Health, Ghana Medical School
15. Osei-Tutu, Dr. E.	MCH/FP/Nutrition - MPH degree (UCLA)	July 1975	October 1976	Epidemiologist under training WHO Schis- tosomiasis Project, Anyabone Eastern Region, Ghana
16. Osei, Dr. L.	MCH/FP/Nutrition - MPH degree (UCLA)	July 1975	October 1976	Lecturer, Dept. of Community Health, Ghana Medical School
17. Amonoo-Lartson, Dr. R.		August 1976	December 1977	Deputy Director of Medical Services in charge of hospital services
18. Fordjor, Edith	Health education - MPH degree (University of California at Berkeley)	April 1977	Present	

## APPENDIX III

## REPRINT REQUESTS - BIBLIOGRAPHIC SERVICES

Approximately 6,000 reprints from Project publications have been requested and sent. Another 5,000 reprints have been dispatched in Ghana for distribution there and elsewhere.

Requests for medline searches in various areas of community and tropical medicine were carried out at UCLA. In particular, these areas included searches in malaria, poliomyelitis, schistosomiasis, nutritional status, etc. Requests for information somewhat declined in connection with the phasing out of the Project.

As in previous years, various books and journal subscriptions were ordered. As part of the phase out, hundreds of books and journals were turned over to the Department of Community Health at the University of Ghana Medical School.

## APPENDIX IV

### COMMODITIES AND SHIPMENTS

Major commodities purchases in 1977 via UCLA and shipped to Ghana for Danfa Project use:

Auto parts for Valiant cars  
Oral contraceptive - Lo-Estrin  
Office supplies - standing orders  
1 Sony cassette recorder  
8 computer tapes (blank)

Shipment statistics - number and weight

1 air freight shipment - 22 lbs.  
1 surface pouch\* shipments - 6 lbs.  
114 air pouch\* shipments - 2089 lbs.

\*Note: Through the kindness of USAID the Project has been able to use the State Department pouch for the shipment of official Danfa Project supplies, small equipment, small repair items, small replacement items, manuscripts, reprints and similar items. This has meant a great financial savings to the Project and there have been no losses of shipments thus far.