

Dr. A. Zerfas' Field Report to Kenya;  
April 15 - June 5, 1982.

Functional Implications of Malnutrition  
(CRSP), 931-1309

Trip Report

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FIELD REPORT

April 15 - June 5, 1982

Dr. Alfred J. Zerfas, UCLA  
Nutrition CRSP - Kenya Project

SITE: KENYA

PURPOSE OF TRIP: Assist in

1. Preparation and execution of preliminary survey
2. Administrative arrangements with School of Medicine, University of Nairobi
3. Other field matters, as directed by the Principal Investigator and Senior Field Staff. (e.g. liaison with USA, planning for longitudinal study)

ACTIVITIES

I. PRELIMINARY SURVEY

A. Confirm suitability of survey site in Embu District.

B. Review available secondary information in proposed site.

C. Redefine instrument

1. Revision April 17-27
2. Pretesting in Embu April 29
3. Further revision See notes May 8
4. Formatting Requirements for data entry  
(based on discussions at Chiromo)
5. Plan for further pretesting with particular emphasis on  
problem areas: migration, morbidity, mortality, clinical signs,  
food intake

D. Survey Strategy - (Planning phase-see notes)

1. Definition of Universe

- a. Mapping - available maps, aerial photography, land area surveillance.
- b. Registration (Approx. 1200 households)
- c. Redefine universe, excluding unsuitable HH
- d. Stratify universe, by polygamous/monogamous  
population density

2. Sampling (simple random within each strata)

- a. First 100
- b. Continue sampling until sufficiently valid estimates confirm  
area suitability

3. Complete survey of 600 HH

4. Select 200-250 HH of the 600 HH. For longitudinal study.

E. Personnel (planning)

1. Enumerators/supervisors (local)

- a. Initially selected for registration
- b. Final selection for training and preliminary survey based  
on performance in registration and further review (see notes).

2. Other staff for preliminary survey

In spite of several discussions with Kenyan colleagues, no formal approach for survey staff has been made. Job descriptions have been outlined. Key staff include: Kenyan - Administrator, Field Coordinator, Physician (or public health nurse), Nutritionists, Programmer and Data Entry Clerks; (Non-Kenyan - Nutritionist for food weightment, Field Coordinator (Last by Nov. 1982).

3. Review and recommendations for organizational structure

F. Resources - Field identification

1. Field training site: identified at Kararumo rural training center. Facilities exist for classroom, storage, accomodation, office, duplicating and field testing at clinic level.
2. Central Field Office: probably at Embu town (? in association with Dr. Carter's residence).
3. Field survey "sub-offices" - one for each sublocation: suggested but not yet identified.

G. Equipment and Supplies

1. Anthropometric Equipment

- a. Purchase and shipping of 6 Salter scales (25 kg) with pants and tripods, 1 tubular portable scale (5 kg) for birth weights, 1 tape with attachment for adult stature - all from London.
- b. Shipping of 10 metal tapes and hinges for height/length boards, Zerfas insertion tapes (50 of 25 cm, 50 of 65 cm) and containers for arm circumference.
- c. Initial construction of portable height/length board in Nairobi (see design). Left Ks 2995 (\$285) for added work and local purchases.

2. Other equipment/supplies

Shipping of 6 Spencer haemoglobinometers and spare parts; diet scales; stationary, office supplies, torches, tape recorder and other survey items.

3. Equipment Testing

Clarification of measurement techniques (anthropometric, haemoglobin) with field staff, including methods for quality control.

H. Training Materials

1. Presentation and review of materials with field staff based on my prior experiences in surveys in Africa.
2. Outline of training manual.
3. Review of medical research center manual for pregnancy study.

I. Data Management

1. Discussions with Field staff, Chiromo and medical research center personnel on programming, editing, data entry, analysis and report presentation.
2. Reviewed strategy for quality control by field workers, field offices and computer center.

J. Schedules

Realistic appraisal of schedules and gant goals, taking into account probable delays due to letters of clearance and subcontract.

II. ADMINISTRATIVE ARRANGEMENTS WITH MEDICAL SCHOOL, UNIVERSITY OF NAIROBI

1. Attended all field staff meetings with Prof. Kagia and University members.
2. Assisted in documentation required for subcontract and letter from president's office clearances (e.g. involvement of Kenyan colleagues and benefits of study to Kenya, references for study).
3. Liaison with Principal Investigator, Dr. C. Neumann on progress and problems.

III. OTHER FIELD MATTER

1. Review of documentation, tags, Prof. Bwibo's debriefing from April meeting with field staff.
2. Accompanying field staff (Prof. Kagia, Dr. Carter, Dr. Cattle) throughout Embu District for selection of accomodation.
3. Liaise with P.I. on key aspects of the project.
4. Assist in involving Dr. Jansen and other personnel (e.g. S. Lakhani) with the project.

## PROGRESS AS OF JUNE 5, 1982

The delay of administrative clearances and subcontract has limited preparation and execution of the preliminary survey. Since the beginning of May, field work has been seriously restricted (e.g. further field testing, contact with key officials, reconnaissance, clarifying survey strategy, personnel selection, etc.).

Once permission to work in the area has been granted and local funds are available, field work for the preliminary survey should commence without further delay and valid data available within 10 weeks.

The arrival of Dr. C. Neumann in July to coordinate activities with Prof. Kagia, senior Kenyan and expatriate personnel should be timely.

## RECOMMENDATIONS

1. Highest priority must be continued with administrative clearances (President's office letter, import privileges, work permit for expatriate staff) and subcontract agreement.  
  
(It was for this reason that Prof. Kagia's available time for the project was devoted more to these administrative problems rather than technical aspects of the project. However concurrence was finalised for several technical items - survey strategy, instrument, equipment, resources and to some extent, personnel).
2. Once funding permits, an administrator of fairly senior status, should be soon appointed (even part-time) to assist the University of Nairobi Medical School in the project.
3. Clarification of in-country fiscal management is required. How, for example, will funds be disbursed in Embu and who is responsible?
4. At least one senior Kenyan must be hired and available full time in the field, as soon as funding permits. According to protections at least four are soon required: Coordinator, physician (or Public Health nurse), 2 nutritionists. Dr. Jansen's involvement must be clarified and secured.
5. We should hire a programmer and data entry person specifically for the project and not rely on Chiromo resources alone.
6. Purchase of the vehicle in Kenya is urgent because of the high cost of hiring. Even then, only one vehicle may be available for the preliminary survey. Logistic planning must take this into account. Also other forms of transportation (e.g. public, bicycles) should be considered.

7. Poor telephone service between Nairobi and Embu necessitates a radio linkage for adequate communications. At Dr. Carter's request, I have gathered information from Codan Company, South Australia on radio transceivers. The company has a representative in Nairobi.
8. Even before necessary clearances are finalized, useful effort can be spent in:
  - a. Preparation of training manual
    - i. for registration
    - ii. for survey
      - a. Enumerators
      - b. Added section for supervisors.
  - b. Instrument field testing and revision
  - c. Techniques for anthropometric measures, haemoglobin, clinical signs and food intake reviewed with Kenyan colleagues.
  - d. A mock-up standardization test for at least one anthropometric measure.
  - e. Finish construction of height/length boards and devise a method for adult stature measurement.
  - f. Incorporation of anthropometric subroutines into Chiromo computer. Review of basic programs for editing and analysis (using dummy data).
  - g. Construct a calendar of events
    - for children under 5 years (by month and year)
    - for adolescents and adults (by year)
9. Once clearances permit in the field area, survey strategy can be reviewed and implemented.
  - a. Of particular importance are aerial photos to facilitate detailed mapping and household (structure) identification.
  - b. Local dissemination of information barazas, etc.
  - c. Identifying sublocation "offices" and field focal points (i.e. for anthropometry, blood collection, clinical signs) "measurement stations".
  - d. Methods for quality control. Senior Kenyan and expatriate staff should work closely with supervisors until such staff are satisfied with supervisor competence and reliability.
  - e. Reimbursement for survey subjects. This should be in the form of a service to the community (generally the location in which the universe is selected). Referral and treatment for health problems may be considered, provided the project has adequate resources to attend to this. Hopefully when the project officially ceases in 3 or 5 years, this service can be continued in some form.

Because malaria and intestinal parasites are potential confounders of the study, we might consider mass prophylaxis, at least for those 250 HH in the longitudinal phase.

Knowledge that an intervention (e.g. immunization) is planned after 3 years will probably be insufficient in itself to motivate regular attendances.

Before a decision is made (and announced) on the precise services the project will offer, we must have a clear knowledge of what such services might be expected and what we are able to offer.

A strategy for the preliminary survey may not be the same as for the continuing longitudinal.

- f. Provisional schedules must be continuously reviewed. These include the duration of preliminary survey components
  - :census/morbidity/mortality/reproductive
  - :anthro/blood/clinical
  - :food intakeallowing time for travel; checks; revisits due to non-responders or questionable data.
- g. Field "messengers: will be extremely valuable as
  - communicators
  - announcing impending enumerator visit to the household
  - checking on non-responders
- h. We discussed whether all enumerators should know and utilise all survey components or not (i.e. have a core group for anthro etc., another for food intake).

We could consider the following strategy -

1. All should know census, morbidity, mortality, reproductive.
2. Those teams (or individuals) performing best at trials might be selected for the "measurement stations" for anthropometry and haemoglobin estimation.
3. Clinical signs (apart from oedema) might best be done by selected personnel (if available) or as 2 above.
4. Qualitative diet recall, 24 hour recall would depend on training results.
5. Food weightment would be done by a selected group only. If at all done on the preliminary survey it would probably be for validation purposes only.

#### 10. Secondary Source Information

- a. Some have already been reviewed by Drs. Cattle and Carter (e.g. April 13 memo).
  - 1979 census :Populations + Densities.
  - 1978 survey in Kathunivire/Kasafari. By University of Nairobi.
    - o Showed at least 30% underweight-for-age
    - Height not done
    - Arm circumference done, not analysed
    - Method of age determination unclear
    - o Showed marked differences in SES, sanitation and water facilities between Kathunjure & Kasafari. (For this reason and because of the relatively sparse population density, I suggested Kasafari be not included in the survey universe, but Kanthanguri be selected instead).
    - Local information, maps

- b. A recent survey by the Kenya Blindness Prevention Project, which included a district adjacent to Embu, suggested that
    - signs of vitamin A deficiency in young children was rare
    - mild to moderate anaemia was common
    - mild to moderate underweight-for-age in young children was common.Data had been collected on oedema & goitre prevalence, but results not presented in the report.
  - c. Records and interview with the nurse-in-charge, Kathanjuri dispensary suggested that since September, 1982, only 3 or 4 children with measles were seen monthly. Commonest presenting conditions were malaria & "worms" (each unconfirmed by laboratory tests).
  - d. Antenatal, delivery and postnatal records at the Runyenjes Health Center may be useful in determining seasonal influence on nutritional status by
    - i. birthweights
    - ii. weight of mothers' post delivery.
  - e. Growth charts at this health centre have already been inspected by Dr. Carter. Apart from the problem they are take-home charts, the reliability and regularity of weightment may suggest this method would be unsuitable for seasonal fluctuations. The attending population is probably self-selecting.
  - f. Data from Kyeni Mission Hospital may be unsuitable as payment is generally required for services. However, further questioning may be useful if a reliable data base is available to indicate seasonal fluctuations, rather than absolute levels of undernutrition.
  - g. For seasonal changes, it is suggested that the project, if possible, support the data gathering facilities in at least one place (? Runyenges, Kathanjuri) for continuous monitoring. This would include stature as well as weight measurement.
  - h. An indication of the prevalence of "worms" and malaria in the study area might be possible if basic lab tests were to be done at such facilities. The project must provide a technician and basic equipment/ supplies. (assuming such a study is not feasible in the preliminary survey).
  - i. Further disaggregated data from the 1979 census (e.g. on occupation, "family" structure, etc) may clarify differences between sublocations polygamous/monogamous households, variation in "family" size, etc. such census data would also be a useful and objective baseline for long term (3 years) migration patterns.
11. Contact with central bureau of statistics & census information was limited due to lack of clearances. This should be reinstated for collaboration of methods (training, supervision, quality control, etc.) and data output, where readily available and feasible.